Exhibit No.:	
Issue:	Rate of Return
Witness:	Kathleen C. McShane
Type of Exhibit:	Direct Testimony
Sponsoring Party:	Laclede Gas Company
Case No.:	GR-2001-629

LACLEDE GAS COMPANY

GR-2001-629

DIRECT TESTIMONY

OF

KATHLEEN C. MCSHANE

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I. INTRODUCTION AND CONCLUSIONS

Q. Please state your name and business address.

A. My name is Kathleen C. McShane, and my business address is 4550 Montgomery Avenue, Suite 350N, Bethesda, Maryland 20814.

Q. What is your occupation?

A. I am a Senior Vice President of Foster Associates, Inc., an economic consulting firm founded in 1956.

Q. What are your educational background and experience?

A. I hold a Masters in Business Administration with a concentration in Finance from the University of Florida (1980) and am a Chartered Financial Analyst (1989). My professional experience is detailed in Appendix A to this Exhibit.

Q. What is the purpose of your testimony?

A. I have been asked to render an opinion on the fair rate of return on equity for Laclede Gas Company applied to an original cost rate base.

My analysis and conclusions regarding the fair return follow; the statistical support for the studies I have conducted is contained in 13 Schedules attached.

II. PRINCIPLES AND SUMMARY OF CONCLUSIONS

Q. What standards underpin your determination of the cost of common equity?

A. There are three standards governing the determination of a fair return which have been articulated in landmark court decisions,[1] as well as numerous utility regulatory decisions. These standards call for a regulated firm and its equity investors to be provided the opportunity to earn a return on the value of its property which:

(1) is commensurate with that of comparable risk enterprises;

(2) assures confidence that the firm can maintain its financial integrity; and,

(3) is adequate to attract capital on reasonable terms.

The legal standards reflect the economic criteria encompassed in the "opportunity cost" principle, which holds that the equity investors should be afforded the opportunity to earn a return commensurate with the returns they could achieve on equity investments of similar risk. The opportunity cost principle is consistent with the fundamental premise on which regulation rests, namely that regulation is intended to act as a surrogate for competition and provide a fair return to investors. Simply put, numerous entities compete for capital and investors will invest to maximize return on their investment. Entities that provide inadequate returns will have difficulty obtaining investor capital necessary to sustain the business.

[1] Bluefield Water Works & Improvement Co. v. Public Service Commission of West Virginia (262 U.S. 679, 1923) and Federal Power Commission v. Hope Natural Gas Company (320 U.S. 391, 1944).

Three methodologies have typically been utilized in the regulatory forum to estimate the return required to meet the standards: comparable earnings, discounted cash flow and equity risk premium tests.

Q. Please summarize the results of your studies using the three tests.

A.

Comparable Earnings Test	13.5-13.75%
Discounted Cash Flow Test	11.5-13.5%
Equity Risk Premium Test	11.25-13.25%

Q. What factors did you consider in arriving at a final recommendation?

A. My recommendation takes into account the following considerations:

(1) No single test result should be given exclusive weight; each test provides a different perspective and has its own strengths and weaknesses which vary with both the business cycle and stock market conditions.

(2) Both the equity risk premium and discounted cash flow tests (DCF) are market-related tests for measuring the cost of attracting capital by reference to market value. By contrast, the comparable earnings test, which reflects returns on book equity, addresses the fairness standard set forth by the courts.

(3) The DCF test estimates the return required on the market value of common equity. However, regulatory convention applies that return to the book value. When the market value of the stock is close to its book value, the DCF test result can be directly applied to book value. The further the market value of equity is above book value, the greater the extent to which an unadjusted current DCF cost

of equity understates the fair return on book equity. To illustrate, a required return of 10% on equity whose value is 175% of book value is not equivalent to a 10% return on the original cost book value. Assuming a stock price of $17.50, a 10.0% return is equal to an expected cash flow to the equity investor of $1.75; a 10.0% return applied to a book value of $10.00 is a cash flow of only $1.00. Without an adjustment to the DCF cost rates to recognize the significant deviation between current market value and book value, the application of the DCF test will, by definition, significantly understate the return on original cost book value that investors require.

(4) Estimates of the cost of attracting capital derived from the equity risk premium tests also tend to understate a fair return on book equity for reasons similar to those applicable to the DCF model. However, historic risk premiums which form part of the assessment of the required (forward-looking) risk premium are calculated independently of current stock market prices. Historic premiums may comprise returns which exceeded the minimum requirement of equity investors. Therefore, an appropriate market/book adjustment lies between a minimal financing flexibility allowance, which is sufficient only to maintain the market value equal to book value in the event new equity is raised, and one which is compatible with a longer-term equilibrium market/book ratio.

(5) In principle, the comparable earnings test is most compatible with regulation on an original cost book value rate base. Under current capital market conditions, characterized by relatively high market valuations, it is of paramount importance to give significant weight to the results of the comparable earnings test.

The above considerations, in conjunction with the results of the three tests, led me to conclude that a fair return on equity for Laclede is in the range of 12.5-13.0%.

III. ECONOMIC TRENDS

Q. Please summarize the recent economic capital market trends that impact on the cost of capital.

A. The discussion below summarizes trends in growth, inflation, interest rates, and the equity markets.

A. ECONOMIC GROWTH

Fueled by strong equity market performance, real GDP rose sharply in both 1998 and 1999, underpinned by strong consumer spending and corporate investment. Growth continued to be robust through the first half of 2000, increasing by 4.8% and 5.6% (quarter over prior quarter at annualized rates). Addressing concerns that the economy was growing too rapidly, the Federal Reserve began raising rates in June 1999. By mid-2000, the Fed had raised interest rates six times for a total increase in the Federal Funds rate of 175 basis points in an effort to lead the economy into a soft-landing.

Since mid-2000, the economy has decelerated sharply, as increasing interest rates and rising energy prices began to put a squeeze on profit margins and reduce business spending. Signs of a slumping economy spilled over into the equity markets, which were widely viewed as overvalued. The Dow Jones Industrials average has fallen 17% since its January 2000 peak; the technology-laden NASDAQ has plummeted by over 60%.

As equity markets weakened and the public's net worth shrank, in early 2001, consumer confidence dropped to its lowest level in four years. Faced with lower net worth, higher energy costs and high interest rates, consumer spending has slowed.

Growth in the third and fourth quarters of 2001 slowed to 2.2% and 1.0% respectively (annualized, quarter over prior quarter). The Fed has taken steps to reverse the economic slide of the economy, lowering interest rates three times, by 100 basis points in January 2001 and a further 50 basis points in March. Since interest rate cuts take time to have a significant effect on the economy, growth in the first and second quarters of 2001 is expected to be 0.9% and 1.4% respectively (Blue Chip *Economic Indicators*, April 2001).

The economic slowdown is not expected to turn into a recession, nor is it expected to be prolonged. With further interest rate cuts (75 basis points) anticipated by economists (Blue Chip *Economic Indicators,* April 2001), growth is expected to recover to just over 3.0% by the fourth quarter 2001, and average 3.2% in 2002.

For the long-term, real growth is forecast at 3.4% (Blue Chip *Economic Indicators*, March 2001), well above the 2.5% that has historically been viewed as sustainable. The higher long-term growth estimates reflect the increasingly accepted view that technology-driven productivity gains will allow higher long-term growth without producing higher inflation.

B. INFLATION

The Consumer Price Index (CPI) rose 3.4% in 2000, reaching a cyclical high, and is forecast to increase by 2.9% in 2001 and by 2.4% in 2002 (Blue Chip *Economic Indicators*, April 2001).

Despite high energy prices and low unemployment rates (unemployment in February 2001 was 4.2%), inflation has remained relatively subdued; core inflation (minus the more volatile food and energy prices) has remained below 3%. Concern that a tight labor market would trigger a wage-price spiral has not been realized. The continued high level of business investment in new technology has resulted in increased efficiency, reduction

of costs, and an increase in work force productivity. Large gains in productivity have kept inflation in check as gains in output have covered higher employment costs.

Over the long-term, inflation, as measured by the CPI, is expected to average 2.6%, and, as measured by the GDP Deflator, 2.1% (Blue Chip *Economic Indicators*, March 2001).

C. INTEREST RATES

During much of 1999-2000, the concerns that the economy was growing too quickly led the Federal Reserve to a tightening of monetary policy. As noted above, between mid-1999 and May 2000 the Fed raised interest rates six times, for a total of 1.75%. As a result, Treasury Bill yields rose by more than 150 basis points during the same period. Responding to the economic slowdown, the Fed slashed interest rates by 100 basis points in January 2001 alone, followed by a further 50 basis point cut in late March. Treasury Bill yields have declined by 200 basis points from their November 2000 peak, to 4.2% at the end of the first quarter of 2001.

As monetary policy tightened during 1999, the yield curve flattened and eventually inverted, with short-term rates rising and long-term rates declining. Between January 2000 and December 2000, 10-year Treasury notes declined from 6.7% to 5.1%. By December 2000, 90-day Treasury Bills were almost 80 basis points higher than 10-year Treasury note yields (5.9% versus 5.1%).

With the subsequent Federal Reserve rate cuts in 2001, the yield curve has resumed its typical upward slope. At the end of March 2001, 90-day Treasury Bills were trading at a yield of 4.2% and 10-year Treasury notes were trading at 4.9%.

In early 2000, following an announcement by the Federal Government that it would be scaling back 30-year Treasury bond sales, the spread between 10-year and 30-year government bonds became, atypically, negative. The demand for the outstanding 30-year

bonds created an imbalance between buyers and sellers of those securities, producing a "scarcity premium" in the price of the 30-year issues. Ten-year Treasuries quickly became the benchmark for investors seeking safe, long-term, liquid investments to protect their capital and make a continuing series of payments. In May 2000, the *Wall Street Journal* announced that it would use the 10-year note as its main gauge of the U.S. bond market.

Although the 10/30-year government bond yield spread has returned to positive territory, there remains considerable evidence that the yields on the entire long-end of the government bond maturity spectrum are abnormally low as a result of the declining supply of U.S. government securities. The recent spread between Moody's AAA rated corporate bonds and 10-year Treasury notes has been over 200 basis points, compared to the long-term (1926-2000) historic average spread of close to 100 basis points. Because the economy is currently in a slump, a portion of that wider spread is undoubtedly a result of the greater perceived default risk for corporate bonds in a cyclical downturn. Nevertheless, the magnitude of the current spread is significantly greater than during any recent recession or slump. The widest spread between Moody's AAA corporates and 10-year yields during any prior economic slump or recession since 1957 was only 122 basis points (December 1991).

The April 1, 2001 consensus Blue Chip *Financial Forecasts* anticipates that ten-year Treasury yields will average 4.9% for the remainder of 2001, and then rise slightly in 2002 to 5.1%. The corresponding forecasts for 30-year Treasuries are 5.3% for the remainder of 2001, rising to 5.5% by the third quarter 2002. The most recent long-term consensus forecast anticipates 10-year notes to yield, on average, 5.7% over the period 2003-2012 (Blue Chip *Economic Indicators,* March 2001). The corresponding long-term 30-year Treasury forecast would be close to 6.0%, based on historic 10/30-year Treasury yield spreads.[2]

[2] Blue Chip *Economic Indicators* does not provide a 30-year forecast.

For purposes of the equity risk premium test, I have relied on a forecast of long Treasury bond yields of 5.5%, consistent with the consensus forecast for 2001/2002. However, due to the abnormally low yields resulting from the reduced supply of government bonds, the resulting equity risk premium result is a conservative estimate of the required return on equity.[3]

D. EQUITY MARKETS

With respect to the equity markets, the economy's strength has been assisted by a stock market that has delivered double digit returns to investors throughout most of the last decade. The annual average (compound) market return on the S&P 500 between 1990 and 2000 was 18.4%; despite the negative return in 2000, the S&P 500 return from 1995-2000 averaged 20%. Rising consumer wealth from stock market gains fueled consumer spending; the strength in the stock market has also supported significant increases in business investment.

The rise in the stock market was underpinned by strong corporate earnings, relatively low inflation and interest rates, combined with higher productivity. Corporate profits rose, on average, 7.2% annually from 1995-2000. For 1997-2000, corporate profits as a percent of Gross Domestic Product (GDP) were close to 6.3%, in comparison to 5.0% during the early half of the 1990s. The return on equity for the S&P 500 averaged 20.7% from 1996-1999, compared to 13.3% in 1990-1995.

With high consumer debt (and the first negative savings rate since the Great Depression), high energy prices and slowing economic growth, investors have pulled back from the high flying valuations that have characterized a significant part of the equity market over the past five years. During the first three and a half months of 2001, the S&P 500 price

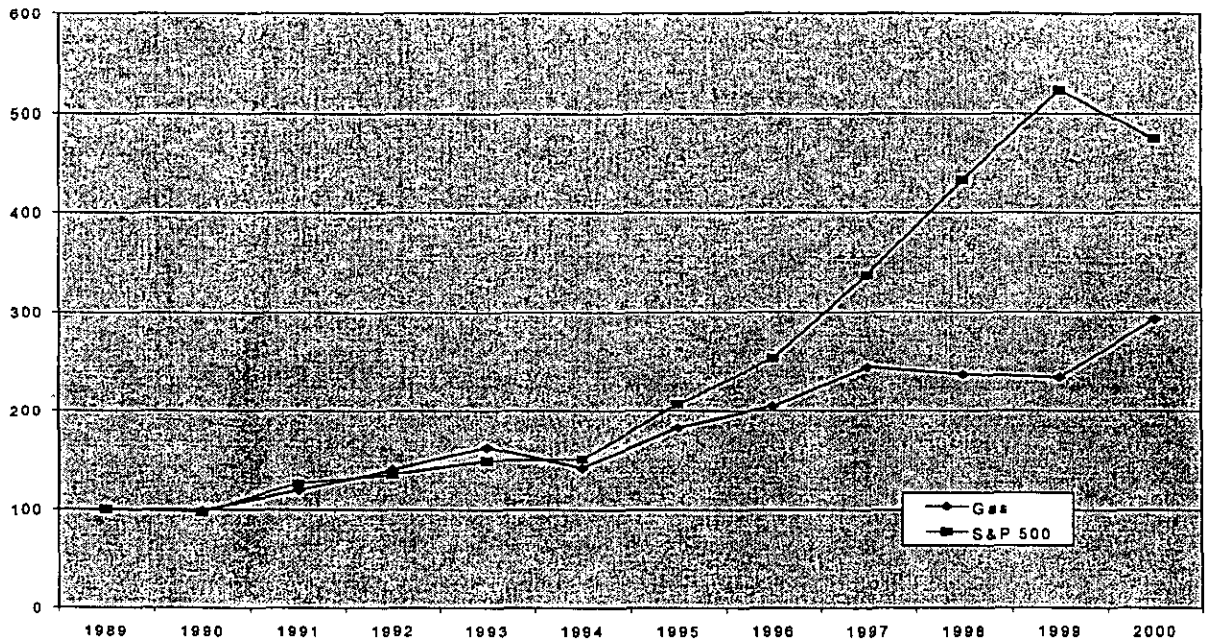
[3] The forecast yields on AAA rated corporate bonds of 7.5% through the third quarter 2002 reflect a continuation of the abnormally high spreads with 10-year Treasuries, expected to average 260 basis points over the next six quarters (2001[2Q]-2002[3Q]).

index has declined by just over 11%. While some analysts predict that a "hard landing" will bring a further market retreat, many Wall Street analysts anticipate that the Fed rate cuts in the beginning of 2001 will help energize the stalled equity market.

In comparison to the overall market, over the past decade, utility stocks have not fared as well, on a risk-adjusted basis. The average compound return on Moody's Gas Distribution Index from 1990-2000 was 11.9%, compared to the S&P 500's 18.4%. Over the period 1995-2000, the average (compound) Gas Distribution Index return was 10.3%, compared to 20% for the S&P 500.

Figure 1 below highlights the divergence between the returns provided to investors in LDC shares and in the S&P 500 market since 1994.

FIGURE 1
SHAREHOLDER WEALTH INDEX FOR MOODY'S
GAS DISTRIBUTORS AND THE S&P 500



The generally lackluster market for utility shares over the past decade has primarily been the result of superior risk/return opportunities in other industries. Interest rates have declined over the past decade, as have allowed returns for electric and gas utilities, from 12.7% in 1990 to 10.7% in 1999, and 11.4% during 2000. The impact of the decline in interest rates on competitive firms' returns has been just the opposite. As noted above, the returns on book equity for the S&P 500 rose from 13.3% during 1990-1995 to close to 20% during 1996-1999. The divergence between the returns of regulated and competitive firms suggests that recent utility returns have not been commensurate with those of alternative investments. The opportunity to earn such returns can be provided by making the appropriate adjustments to the cost of attracting capital tests and by giving weight to the comparable earnings test.

IV. PROXY FIRMS FOR ESTIMATION OF THE FAIR RETURN ON EQUITY

Q. To what companies have you applied the three tests you employ to estimate the fair return on equity to be applied to Laclede?

A. For purposes of applying the equity risk premium and discounted cash flow tests, I relied on a sample of local gas distribution utilities (LDCs) intended to serve as a proxy for Laclede.

Q. How did you select the sample of LDCs?

A. I started with all companies classified by *Value Line* as a natural gas distributor and then selected only those that met the following criteria:

- At least 85% of 1999 year-end assets devoted to natural gas distribution operations.
- Standard & Poor's debt rating of A- or better.
- Consensus earnings growth rate forecasts available from I/B/E/S International and Zacks' from at least three analysts.[4]

Application of these criteria yielded a sample of eight LDCs. Schedule 3 lists those LDCs, percentage of assets devoted to natural gas distribution operations, and debt ratings. This sample was used to apply both the discounted cash flow and equity risk premium tests. Laclede was not included in the sample, to avoid circularity.

[4] The requirement that there be at least three analysts' forecasts ensures that the growth estimates represent a market consensus, not the views of a single analyst.

Q. To what companies did you apply the comparable earnings test?

A. I relied on a sample of low risk consumer-oriented industrials for purposes of applying the comparable earnings test. Application of the test to utilities would be circular. The difference in investment risk between the industrials and the proxy LDCs was accounted for by an adjustment to the industrials' returns based on relative betas. The sample selection process and the list of industrials in the resulting sample are found in Appendix B.

V. BUSINESS, FINANCIAL AND INVESTMENT RISK OF LACLEDE

Q. Please define business, financial and investment risk.

A. Risk refers to the probability that the actual return will fall short of the expected return, and of losing part or all of the invested capital. The total risk of a common stock investment is comprised of both the business and financial risks to which the stockholder is exposed.

The business risks to which a common shareholder in a utility is exposed are those which reflect the basic operating characteristics of the firm and its industry, which can lead to variations in operating income or the inability to recover a return of, and on, the entire capital investment made.

Financial risk relates to the use of leverage which results in fixed charges that must be met before the common shareholder is entitled to any compensation. The degree of leverage that a firm should reasonably assume is directly related to the level of business risk that it faces. For a public utility, which has an obligation to serve, the capital structure should allow access to the capital markets on reasonable terms.

Investment risk comprises the total business and financial risk to which the shareholders are exposed.

Q. What are the key elements of business risk to which a local gas distribution utility are exposed?

A. The key elements of an LDC's business risk are demand/market, supply/operating and regulatory risks.

Q. Please summarize the principal factors that characterize Laclede's business risk profile

A.

- Laclede is a relatively small gas distribution utility (assets of $832 million compared to an average of $1,627 million for the proxy sample). It faces a highly saturated market, relatively low growth prospects compared to its peers, and declining per customer usage. The low growth prospects limit the Company's ability to enhance returns to its shareholders from its regulated operations.

- The Company's market continues to be dominated by a customer profile which is temperature sensitive. Temperature-sensitive load accounts for over 90% of net utility revenues. The Company's exposure to the vagaries of weather results in considerable annual earnings volatility.

- Laclede's earnings have continued to be negatively impacted by warmer than normal weather, due in part to the long-term average of degree days relied upon for the specification of "normal" and due in part to the absence of a weather normalization mechanism. In fiscal year 2000, the actual return on equity of 9.1% fell short of the weather-normalized return by 200 basis points and was close to 150 basis points lower than the allowed return of 10.5%. The cumulative effect of warmer than normal weather over the past five years has resulted in millions of dollars of forgone earnings.

- Warmer than normal weather, and the resulting reduction in earnings per share, pushed the Company's dividend payout ratio to 98% in fiscal year 2000. In order to achieve a more prudent payout ratio (i.e., closer to 70%), Laclede will likely be required to restrict dividend increases unless earnings levels are improved.

- The Company's regulated depreciation rates have been reduced; removal and site restoration costs are to be recovered as these circumstances arise. Low

depreciation rates/deferral of recovery of negative salvage expose the Company to risk of underrecovery of invested capital.

- Laclede's earnings include a relatively large component related to non-cash pension income. The non-cash nature of pension income reduces the Company's quality of earnings.

Q. How does Laclede compare to the proxy sample of LDCs with regard to the level of business risk faced?

A. Laclede faces, on balance, a similar level of business risk to the proxy sample. Standard & Poor's ranks Laclede's business profile "3" (out of 10, with 10 being the riskiest), identical to the average business risk ranking of the sample.

Q. What is Laclede's financial risk position?

A. Laclede's debt ratings are as follows:

Standard & Poor's	AA-
Moody's	Aa3
Fitch	A+

Standard & Poor's guidelines for an AA rating for a utility with a business risk rank of 3, along with Laclede's values for 1997-1999 (average) and 2000 are as follows:

	S & P Guidelines	Laclede	
		1997-1999	2000
Funds from Operations to Total Debt	26.0-31.5%	24.0%	24.4%
Funds from Operations Interest Coverage	3.9-4.5 times	4.1 times	3.7 times
Pre-Tax Interest Coverage	3.4-4.0 times	3.2 times	2.7 times
Total Debt to Total Capital	42.0-47.5%	50.8%	56.0%

Source: Standard & Poor's *Global Sector Review*, Standard & Poor's Research Insight.

As the comparisons of Laclede's actual financial performance to the guidelines indicate, the Company's financial parameters have been weak relative to the guidelines.

As a result of continued deterioration in Laclede's key financial measures, S&P revised its outlook for Laclede from "stable" to "negative" in November 2000. S&P concluded that the negative outlook reflects the challenges that the Company faces to reduce debt leverage and improve credit protection measures over the near-term. S&P further stated that a failure to improve the Company's financial position will likely result in an adverse rating action.

Q. How does Laclede's financial position compare to its peers'?

A. In comparison to its peers', Laclede's total debt ratio at the end of 2000 was slightly higher than the average for the sample (56.0% for Laclede versus 54.1% for the sample; see Schedule 4, page 2 of 2). Based on total permanent capital only (i.e., exclusive of short-term debt), Laclede's long-term debt ratio was also higher than the average of the proxy sample (45.2% versus 41.8%; see Schedule 4, page 1 of 2).

With respect to pre-tax interest coverage ratios, Laclede's ratios consistently lagged those of its peers' over the 1995-2000 period, averaging only 3.2 times, compared to the sample's 3.7 times. Since 1996 Laclede's coverage ratios have declined steadily, from 3.85 times in 1996 to 3.0 times in 1999, dropping further in 2000, to 2.7 times.

On balance, Laclede's financial risk is somewhat higher than that faced by the proxy sample.

Q. What capital structure does Laclede propose to utilize for ratemaking purposes?

A. Laclede proposes to utilize its 2/28/2001 capital structure.

The ratios are as follows:

Debt	49.6%
Preferred Stock	0.3
Common Equity	50.1

The proposed capital structure includes a debt ratio that is slightly higher than the S&P 47.5% total debt/total capital guideline for an AA rated utility with a business risk rank of 3. The proposed ratios are within the range of those maintained by the LDCs in the proxy sample (Schedule 4).

Q. How does Laclede compare to the proxy sample on the basis of overall investment risk?

A. Based on *Value Line* measures, Laclede faces similar total investment risk to its peers. Its "Safety"[5] rating of "2" is identical to the sample average; its Earnings Predictability

[5] *Value Line's* definition of Safety Rank is:

measure of 65 lies between the sample's median of 60 and average of 68. Its Financial Strength ranking of B++ is also equal to the sample average. While Laclede's beta, at 0.50, is lower than the sample average of 0.60, the difference is likely attributable to relatively thin trading rather than to any fundamental risk differences.[6]

"A measure of potential risk associated with individual common stocks rather than large diversified portfolios (for which Beta is a good risk measure). Safety is based on the stability of price, which includes sensitivity to the market (see Beta) as well as the stock's inherent volatility, adjusted for trend and other factors including company size, the penetration of its markets, product market volatility, the degree of financial leverage, the earnings quality, and the overall condition of the balance sheet. Safety Ranks range from 1 (Highest) to 5 (Lowest). Conservative investors should try to limit purchases to equities ranked 1 (Highest) or 2 (Above Average) for Safety."

[6] To put this in perspective, in 2000 slightly over 35% of Laclede's total outstanding common shares traded, compared to close to 65% for the sample of LDCs, which in turn, compares to close to 90% turnover (1999) for the Dow Jones Industrials.

VI. FAIR RETURN ON COMMON EQUITY

Q. Please discuss the application of the three tests you have used to determine a fair return on equity for Laclede.

A. The sections below summarize the conceptual underpinnings, the specific techniques that were used, and the results of each of the three tests.

A. COMPARABLE EARNINGS TEST[7]

Q. Please discuss the conceptual underpinnings of the comparable earnings test.

A. The comparable earnings test provides a measure of the fair return based on the concept of opportunity cost. Specifically, the test is derived from the premise that capital should not be committed to a venture unless it can earn a return commensurate with that available prospectively in alternative ventures of comparable risk. Since regulation is intended to be a surrogate for competition, the opportunity cost principle entails permitting utilities the opportunity to earn a return commensurate with the levels achievable by competitive firms of similar risk. The comparable earnings test, which measures returns, in relation to book value, is the only test that can be directly applied to the equity component of an original cost rate base without an adjustment to correct for the discrepancy between book values and current market values.

The concept that regulation is a surrogate for competition implies that the regulatory application of a fair return to an original cost rate base should result in a value to investors commensurate with that of similar risk competitive ventures. The fact that a return is applied to an original cost rate base does not mean that the original cost of the assets is the appropriate measure of their fair market value. The comparable earnings

[7]Detailed discussion in Appendix B.

standard, as well as the principle of fairness, suggests that, if competitive industrial firms of similar risk are able to maintain the value of their assets considerably above book value, the return allowed to utilities should likewise not foreclose them from maintaining the value of their assets as reflected in current stock prices.

Q. Please summarize your application of the comparable earnings test.

A. The application of the comparable earnings test began with the selection of a sample of industrials of reasonably comparable risk to LDCs.

The returns for the sample of the 36 selected industrials were measured over the most recent business cycle measured from 1990-1999. Since these returns were achieved over a period during which the average rate of inflation and economic growth can be reasonably assumed to be representative of future economic conditions, the measured earnings are a good proxy for future earnings. The returns for the sample were as follows:

Average	Median	Average of Annual Medians
17.3%	17.0%	16.7%

The results indicate that a low risk industrial may be expected to earn a return of approximately 16.75-17.25%.

Since the industrials are of somewhat higher risk than the sample of LDCs, as measured by the betas, the earnings were adjusted for differences in relative betas to arrive at a fair return on book equity. The risk-adjusted return on book equity is in the range of approximately 13.5-13.75%.

Q. Why are the results of the comparable earnings test relevant if the sample itself is not precisely of the same risk to the LDCs?

A. There is no legal or economic requirement that the sample of competitive firms be equal in risk to the regulated company. What is required is the application of appropriate adjustments to the results so that the return is compatible with the risk profile of the regulated firm. That adjustment has been made.

Since the objective of regulation is to simulate competition, it is critical that the determination of a fair return explicitly consider the returns achievable by competitive firms on a risk-adjusted basis. This avoids the circularity which a focus on only other regulated companies entails and ensures that the objective of regulation is achieved.

B. DISCOUNTED CASH FLOW TEST[8]

Q. Please summarize the basis for the discounted cash flow (DCF) test.

A. The DCF test is based on the proposition that the price of a common stock is equal to the present value of future cash flows to the investor. If the price of the stock can be observed, the current cash flow (i.e., the dividend) is known, and the growth in cash flows can be inferred, the investor's required return on equity can be derived.

[8]A detailed discussion of the application of the DCF test is contained in Appendix C.

Q. Please describe the DCF model you have used.

A. I have used the constant growth model, which is expressed as follows:

$$\text{Cost of Equity (k)} = \frac{D_o (1+g)}{P_o} + g$$

In words, the cost of equity is equal to the dividend yield plus the expected constant growth rate. The dividend yield component is equivalent to the next expected dividend divided by the recent price.

Q. What growth rates did you rely on to estimate investor expectations?

A. I relied on the consensus of analysts' forecasts of normalized earnings growth published monthly by I/B/E/S International, Inc. and Zacks' Broker Research Service. Consensus analysts' growth expectations have become virtually a standard input to DCF models. In the longer run, earnings, dividends, book value, and stock price should grow in tandem; hence, long-term earnings growth expectations are a proxy for long-term dividend growth expectations. Because free cash flow estimates are one of the principal methodologies of valuing utilities, I also relied upon forecast growth in cash flow per share, as provided quarterly by *Value Line*.

Q. To what companies did you apply the DCF model?

A. I applied the model to the sample of eight LDCs, whose selection was described in Section IV of my testimony.

Q. Did you apply the DCF model directly to Laclede?

A. No, I did not apply the model directly to Laclede. Any DCF estimate which relies on data for a single company is not only subject to measurement errors, but entails considerable circularity.[9]

Q. Please summarize the results of your application of the DCF model to a proxy sample of LDCs.

A. The long-term earnings growth expectations, based on all three sources, are both in the range of 5.75-6.75%, or a mid-point of approximately 6.25% (March 2001). The current dividend yields (recent dividend/average price for the three months ending March 31, 2001) were in the range of 4.7-4.8%, based on the average and the median for the sample.

The dividend yield needs to be adjusted to be compatible with the constant growth model. The dividend yield component of the model

$$\frac{D_o (1 + g)}{P_o}$$

requires that the current dividend yield be raised to reflect the long-term growth expectation. An adjustment for one-half the long-term growth, to recognize that the

[9]For a utility, the growth component of the DCF cost is integrally linked to the allowed ROE. As noted in *Regulatory Finance: Utilities' Cost of Capital* by Dr. Roger Morin (Arlington, Va: Public Utilities Reports, 1994),

> "To estimate what ROE resides in the minds of investors is equivalent to estimating the market's assessment of the outcome of regulatory hearings. Expected ROE is exactly what regulatory commissions set in determining an allowed rate of return. If the ROE input required by the model differs from the recommended return on equity, a fundamental contradiction in logic follows. In other words, the method requires an estimate of return on equity before it can even be implemented. Common sense would dictate the inconsistency of a return on equity recommendation that is different than the expected ROE that the method assumes the utility will earn forever. For example, using an expected return on equity ROE of 13% to determine the growth rate and using the growth rate to recommend a return on equity of 11.5% is inconsistent. It is not reasonable to assume that this company is expected to earn 13% forever, but recommend an 11.5% return on equity. The only way this utility can earn 13% is that rates be set by the regulator so that the utility will in fact earn 13%." (page 161)

individual LDCs raise dividends throughout the year, transforms the constant growth DCF formula to the following:

$$\frac{D_o(1 + .5g)}{P_o} + g$$

An adjustment for one-half the 6.25% expected long-term growth raises the 4.8% current dividend yield to a 5.0% expected dividend yield.

Q. What is the cost of equity indicated by the constant growth model?

A. Based on the median and average DCF costs of equity for the sample of eight LDCs, the estimated required return on the current (market) value of common equity is in the range of 10.9-11.1%, or a mid-point of 11.0%.

Q. What does the 11.0% DCF cost represent?

A. It represents the return investors expect to earn on the current market value of their utility common equity investments. It is not, however, the return that investors expect the utilities to earn on the book value of their common equity. *Value Line*, which publishes its projections of utility ROEs quarterly, anticipates (March 2001) that the average ROE for the sample of eight LDCs over the period 2004-2006 will be 12.8-13.7%.

Q. Isn't there a "disconnect" in logic if one expects the allowed return on equity to be set at the DCF cost of equity?

A. Yes. If a utility whose market/book ratio was 175% were expected to earn only 11.0% on book value, the market price would tend to decline to book value, so that investors experience a capital loss of 43%. The idea that investors are willing to pay a price equal to 175% of book value in order to see the market value of their investment drop by 43% is illogical.

Q. Should regulators discard use of the DCF test under today's market conditions?

A. Not as long as appropriate adjustments are made. The appeal of the discounted cash flow test as a measure of the fair return lies in the relative simplicity of its application. As a measure of the fair return, however, in a regulatory framework that relies on original cost book value as the base to which the return is applied, as is the case in Missouri, the DCF test has limitations. The investor's required return as measured by the DCF test (derived directly from the current market price) and the expected return on book value will only converge when the market value is close to book value. In today's capital market environment, that premise does not hold, since utility market values are significantly higher than book value. At a minimum, the DCF test result should be augmented by an increment for financial flexibility, which puts the utility in a position to raise new common equity without impairment of its financial integrity and which provides a cushion to protect against unanticipated capital market conditions (i.e., a major break in the capital markets). As discussed in Appendix E, a minimum allowance is 50 basis points, which raises the 11.0% DCF test result to 11.5%.

Q. Does this adjustment fully account for the deviation between book and market value so as to translate the current cost of equity into a fair return on book value?

A. No. In a competitive market, stock prices will, over the long-term, trend toward an equilibrium level at which market value is equal to the replacement cost of the underlying assets. Thus, the adjusted DCF cost should, in principle, reflect the return which, in the longer term, will result in a market/replacement cost ratio of 1.0. By repricing the equity of the LDCs for past inflation, an approximation of the replacement cost can be made. To reprice the equity, each annual increment to common equity is increased by experienced inflation from the time of accretion to the present. The total repriced equity is a proxy for replacement cost. The total repriced equity is then compared to the original cost book value of the equity to arrive at an estimate of the replacement cost/book value

ratio. The replacement cost/book value ratio is, in turn, an estimate of the expected long-run equilibrium market value/book ratio that should be anticipated under competition. The resulting replacement cost/book value for the eight LDCs was 158% at the end of 2000. It is therefore necessary to adjust the 11.0% DCF cost of equity to reflect a replacement cost/book value ratio of no less than 150%, resulting in a return on equity of approximately 13.5%. In my opinion, an adjustment of this nature should be made to the DCF cost for utilities so that the test results provide an approximate measure of the fair return on book equity. Hence, a reasonable return for the proxy sample based on the DCF cost adjusted for the replacement/original cost book value ratio is approximately 13.5%.

The DCF test results therefore fall into a range of 11.5% (with a minimal financing flexibility adjustment) to 13.5% (with full recognition of the long-term equilibrium market/book ratio).

C. EQUITY RISK PREMIUM TEST[10]

Q. What is the underlying premise of the equity risk premium test?

A. The risk premium test is derived from the basic concept of finance that there is a direct relationship between the level of risk assumed and the return required. Since an investor in common equity is exposed to greater risk than an investor in bonds, the former requires a premium above bond yields in compensation for the greater risk. The risk premium test is a measure of the market-related cost of attracting capital, i.e., a return on the market value of the common stock, not the book value.

Q. How did you apply the equity risk premium test?

[10]Detailed discussion in Appendix D.

A. I used three basic approaches: the Capital Asset Pricing Model (CAPM) and two direct estimates of LDC risk premiums, the first by reference to both historic achieved risk premiums and the second by reference to forward-looking risk premium estimates.

Q. How is the CAPM applied?

A. The Capital Asset Pricing Model first requires an estimate of the equity risk premium required by the market as a whole in relation to risk-free rate. The proxy for the risk-free rate is typically the forecast yield on long Treasury bonds. The market risk premium is adjusted for the relative risk of the company or industry being analyzed. The resulting equity risk premium is then added to the forecast of long Treasury bond yields.

Q. What is the forecast of long Treasury bond yields used as the benchmark for your equity risk premium test?

A. As discussed in Section IIIC, the forecast of long Treasury bonds to which the equity risk premium is added is 5.5%.

Q. How did you estimate the market risk premium?

A. I estimated the market risk premium in two ways: (1) by reference to achieved historic risk premiums; and (2) by reference to a forward-looking estimate of the market risk premium.

The historic achieved risk premium was based on long-term differentials between achieved returns on U.S. Treasury bonds and Standard & Poor's 500 Composite. Reliance on historic risk premiums as a measure of future expectations reflects the assumption that experienced and expected risk premiums, on average, converge. The achieved market risk premiums measured from 1926-2000 and 1947-2000 have been in

the range of 7.8%-8.0%, which suggests an equity risk premium in the range of 7.75%-8.0%.

The forward-looking market risk premium was estimated by calculating a series of monthly estimates of the cost of equity for the market (proxied by the Standard & Poor's 500) and then subtracting from them the corresponding yield on long Treasury bonds. Rather than focus on a spot differential between the expected market return and long Treasury bond yields, averages were calculated over three periods, 1991-2000, 1996-2000 and 1998-2000, which encompass a relatively low interest rate environment, similar to that expected for the future. The forward-looking risk premium test results suggest a premium of approximately 9.0%-11.5%.

Hence, the two methods for estimating the market risk premium indicate an equity risk premium in the range of approximately 7.75%-10.25%. Given the shorter-term nature of the forward-looking premiums, primary weight was given to the historic premiums. The data thus indicate that a reasonable estimate of the expected market risk premium is 8.5%.

To adjust the 8.5% market risk premium for the risk of the proxy LDCs relative to the market as a whole, I used the average *Value Line* beta for the sample of eight LDCs. Recent betas have averaged 0.60. Applying the 0.60 beta to a market equity risk premium of 8.5% results in a risk premium of 5.1%.

Q. What is the LDC risk premium estimated directly from historic risk premiums achieved by gas distributors?

A. The second equity risk premium approach to estimating the required equity return for a benchmark LDC involves measuring the historic achieved risk premiums for the industry (using the Moody's Gas Distribution Index) relative to returns on long Treasury bonds. The historic premiums serve as a proxy for the future required risk premium, on the

premise that the historic risk premiums are reasonably representative of what investors expected. The average historic risk premium was approximately 6.5%.

Q. What is the forward-looking risk premium estimated for the proxy LDCs?

A. The forward-looking equity risk premium for LDCs can be estimated from a monthly series of differences between DCF estimates for LDCs and the corresponding long Treasury bond yield. A correlation analysis between the risk premium and long Treasury bond yields indicates that the equity risk premium increases by approximately 66 basis points for every one percent decline in the risk free rate. At a long Treasury bond yield of 5.5%, the forward looking premium is 4.9%.

Q. What does the equity risk premium analysis indicate?

A. The three approaches indicate an equity risk premium of approximately 5.0%-5.5% at a forecast long Treasury yield of 5.5%.

Therefore, the indicated market-derived cost of equity for Laclede using the equity risk premium estimates is 10.5%-11.0%.

Q. What does the 10.5%-11.0% result represent?

A. The 10.5%-11.0% cost determined by reference to the equity risk premium test is a market-derived cost, which measures the return investors expect on the market value of their equity investments. As with the DCF test, the cost rate needs to be adjusted to recognize the disparity between market and book value. At a minimum, the adjustment should permit the utility to recover all flotation costs associated with equity financing, to be in a position to raise equity capital without dilution of book value, and to provide a cushion against unanticipated market conditions. A minimum allowance for financing

flexibility is 50 basis points.[11] The addition of a 50 basis point allowance for financing flexibility results in a return on equity of 11.0%-11.5%.

Q. What is the indicated return as determined by reference to the proxy LDCs if a similar adjustment is made for the long-run market/book ratio as was made in the application of the DCF test?

A. The equity risk premium test result that is compatible with a longer-run market/book ratio of 1.50 is a range of 13.0%-13.5%, or a mid-point of approximately 13.25%. [12]

Q. What is the final equity risk premium test result?

A. The equity risk premium test results are in the approximate range of 11.25%-13.25%. At a minimum, the equity risk premium test indicates a return requirement of 11.25%.

[11] Appendix E for discussion of the financing flexibility adjustment.

[12] $\frac{1.50\ (10.75\%)}{1 + (.45\ (1.50 - 1.0))} = 13.2\%$

VII. CONCLUSIONS

Q. Please summarize your test results.

A. The test results, as applied to the benchmark, or proxy, sample of LDCs is as follows:

Comparable Earnings	13.5%-13.75%
Discounted Cash Flow	11.5%-13.5%
Equity Risk Premium	11.25%-13.25%

Q. Based on the three test results above, what is your recommended fair return on equity for Laclede?

A. In my opinion, a fair return on equity for Laclede is in the range of 12.5%-13.0%.

APPENDIX A

QUALIFICATIONS OF KATHLEEN C. McSHANE

Kathleen McShane is a Senior Vice President and senior consultant with Foster Associates, Inc., where she has been employed since 1981. She holds an M.B.A. degree in Finance from the University of Florida, and M.A. and B.A. degrees from the University of Rhode Island. She is also a Chartered Financial Analyst.

Ms. McShane worked for the University of Florida and its Public Utility Research Center, functioning as a research and teaching assistant, before joining Foster Associates. She taught both undergraduate and graduate classes in financial management and assisted in the preparation of a financial management textbook.

At Foster Associates, Ms. McShane has worked in the areas of financial analysis, energy economics and cost allocation. Ms. McShane has presented testimony in more than 100 proceedings on rate of return and capital structure before federal, state, provincial and territorial regulatory boards, on behalf of U.S. and Canadian telephone companies, gas pipelines and distributors, and electric utilities. These studies include the assessment of the impact of competition, rate design, contractual arrangements, and capital structure on return requirements. Ms. McShane has also provided consulting services for numerous U.S. and Canadian companies on financial and regulatory issues, including financing, dividend policy, corporate structure, cost of capital, automatic adjustments for return on equity, and form of regulation (including performance-based regulation).

Ms. McShane was principal author of a study on the applicability of alternative incentive regulation proposals to Canadian gas pipelines. She was instrumental in the design and preparation of a study of the profitability of 25 major U.S. gas pipelines, in which she developed estimates of rate base, capital structure, profit margins, unit costs of providing services, and various measures of return on investment. In a study prepared for the Canadian Ministry of Energy, Ms. McShane analyzed Federal regulation of U.S. pipelines, including trends in rate design and rate structures. Ms. McShane has also co-managed market demand studies, focusing on demand for Canadian gas in U.S. markets. Other studies performed by

Ms. McShane include a comparison of municipal and privately owned gas utilities, an analysis of the appropriate capitalization and financing for a new gas pipeline, risk/return analyses of proposed water and gas distribution companies and an independent power project, pros and cons of performance-based regulation, and a study on pricing of a competitive product for the U.S. Postal Service. She has also conducted seminars on cost of capital for regulated utilities, with focus on the Canadian regulatory arena.

Publications and Papers

- "Marketing Canadian Natural Gas in the U.S.", (co-authored with Dr. William G. Foster), published by the IAEE in Proceedings: Fifth Annual North American Meeting, 1983.

- "Canadian Gas Exports: Impact of Competitive Pricing on Demand", (co-authored with Dr. William G. Foster), presented to A.G.A.'s Gas Price Elasticity Seminar, February 1986.

- "Market-Oriented Sales Rates and Transportation Services of U.S. Natural Gas Distribution Companies", (co-authored with Dr. William G. Foster), published by the IAEE in Papers and Proceedings of the Eighth Annual North American Conference, May 1987.

- "Incentive Regulation: An Alternative to Assessing LDC Performance", (co-authored with Dr. William G. Foster), presented at the Natural Gas Conference, Chicago, Illinois, sponsored by The Center for Regulatory Studies, May 1993.

- "Atlanta Gas Light's Unbundling Proposal: More Unbundling Required?" presented at the 24th Annual Rate Symposium, Kansas City, Missouri, sponsored by several Commissions and Universities, April 1998.

- "The Effects of Unbundling on a Utility's Risk Profile and Rate of Return", (co-authored with Owen Edmondson, Vice President of ATCO Electric), presented at the Unbundling Rates Conference, New Orleans, Louisiana sponsored by Infocast, January 2000.

Expert Testimony/Opinions

on

Rate of Return & Capital Structure

Alberta Natural Gas	1994
Alberta Power/ATCO Electric	1989, 1991, 1993, 1995, 1998, 1999, 2000
AltaGas Utilities	2000
Ameren (Central Illinois Power & Union Electric)	2000 (3 cases)
ATCO Gas	2000
ATCO Pipelines	2000
BC Gas	1992, 1994
Bell Canada	1987, 1993
Benchmark Utility Cost of Equity (British Columbia)	1999
Canadian Western Natural Gas	1989, 1998, 1999
Centra Gas B.C.	1992, 1995, 1996
Centra Gas Ontario	1990, 1991, 1993, 1994, 1996
Consumers Gas	1988, 1989, 1991, 1992, 1993, 1994, 1995, 1996, 1997
Dow Pool A Joint Venture	1992
Edmonton Water/EPCOR Water Services	1994, 2000
Enbridge Gas New Brunswick	2000
Foothills Pipe Lines	1993
Gas Company of Hawaii	2000
Gaz Metropolitain	1988
Gazifère	1993, 1994, 1995, 1996, 1997, 1998
HydroOne/Ontario Hydro Services Corp.	1999, 2000
Laclede Gas Company	1998, 1999
Maritimes NRG (Nova Scotia) and (New Brunswick)	1999
Multi-Pipeline Cost of Capital Hearing (National Energy Board)	1994

Natural Resource Gas	1994, 1997
Northwestel, Inc.	2000
Newfoundland Power	1998
Newfoundland Telephone	1992
Northwestern Utilities	1987, 1990
Northwest Territories Power Corp.	1990, 1992, 1993, 1995
Ozark Gas Transmission	2000
Pacific Northern Gas	1990, 1991, 1994, 1997, 1999
St. Lawrence Gas	1997
Southern Union Gas	1990, 1991, 1993
Stentor	1997
Tecumseh Gas Storage	1989, 1990
TransCanada PipeLines	1988, 1989, 1991 (2 cases), 1992, 1993
TransGas and SaskEnergy LDC	1995
Trans Québec & Maritimes Pipeline	1987
Union Gas	1988, 1989, 1990, 1992, 1994, 1996, 1998
Westcoast Energy	1989, 1990, 1992 (2 cases), 1993
West Kootenay Power	1995, 1999
Yukon Electrical Co. Ltd./Yukon Energy	1991, 1993

Expert Testimony/Opinions

On

Other Issues

Client	Issue	Date
Gaz Metro/ Province of Quebec	Cost Allocation/ Incremental vs. Rolled-In Tolling	1984
Canadian Western Natural Gas	Cash Working Capital/ Compounding Effect	1989
Maritime Electric	Form of Regulation	1995
Enbridge Consumers Gas	Principles of Cost Allocation	1997
Enbridge Consumers Gas	Unbundling/Regulatory Compact	1998
Gazifère Inc.	Cash Working Capital	2000
Maritime Electric	Subsidies	2000

APPENDIX B

COMPARABLE EARNINGS TEST

Principal Application Issues

The principal issues in the application of the comparable earnings test are:

- The selection of a sample of industrials of reasonably comparable risk to utilities.

- The selection of an appropriate time period over which returns are to be measured in order to estimate prospective returns.

- The need for an adjustment to the "raw" comparable earnings results to reflect the differential risk of utilities relative to the selected industrials.

Selection Process

The selection process starts with the recognition that industrials are generally exposed to higher business risk, but lower financial risk, than utilities. The selection of industrials focuses on total investment risk, i.e., the combined business and financial risks. The comparable earnings test is based on the premise that industrials' higher business risks can be offset by a more conservative capital structure, thus permitting selection of industrial samples of reasonably comparable investment risk to utilities.

Utilities are generally characterized by relatively low volatility with respect to both earnings and stock market performance. Since consumer-oriented industries, due to their demand characteristics, are likely to exhibit relatively greater stability than other

industries (e.g., extractive industries), the initial universe selection was limited to consumer-oriented industries (SIC codes 2000-3999 and 5000-5999).[1]

From this universe, U.S. firms were selected with book data available since 1990, market data available since December 1994 and with common equity of at least $250 million in 1999 and non-negative common equity throughout the period. This initial screen yielded 524 companies. Next, companies with a *Value Line* Safety Rank[2] of 2 were selected, reducing the number of companies to 63. A Safety Rank of 2 is equivalent to the average Safety Rank of the eight company LDC sample selected for the DCF analysis (see Appendix C and Schedule 3).

From this group, four companies whose 1990-1999 average returns were above or below one standard deviation from the average were eliminated in order to exclude companies whose earnings are either extraordinarily profitable or chronically depressed. The remaining 51 companies were then arrayed in ascending order of *Value Line* beta. Companies with betas of one or higher were eliminated, producing a final sample of 36 companies. The list of 36 companies is found on Schedule 6.

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[1]The major industrials represented by these SIC codes are: Food and Kindred Products, Tobacco Products, Textiles, Lumber and Wood Products, Paper Products, Petroleum Refining, Chemicals, Rubber, Plastics, Glass, Concrete, Primary Metals, Fabricated Metals, Industrial/Commercial Machinery, Transportation Equipment, Computer and Electronic Equipment, Measuring Equipment, Wholesale and Retail Operations for both durable and non-durable goods.

[2]*Value Line's* definition of Safety Rank is:

"A measure of potential risk associated with individual common stocks rather than large diversified portfolios (for which Beta is a good risk measure). Safety is based on the stability of price, which includes sensitivity to the market (see Beta) as well as the stock's inherent volatility, adjusted for trend and other factors including company size, the penetration of its markets, product market volatility, the degree of financial leverage, the earnings quality, and the overall condition of the balance sheet. Safety Ranks range from 1 (Highest) to 5 (Lowest). Conservative investors should try to limit purchases to equities ranked 1 (Highest) or 2 (Above Average) for Safety."

Sample Risk Characteristics

The sample has the following risk characteristics, compared to the sample of LDCs:

	Industrials (Median)	**LDCs (Median)**
S&P:		
Debt Ratings	A	A
Value Line Risk Measures:		
Safety Rank	2	2
Earnings Predictability	85	60
Financial Strength	A	B++
Beta	0.85	0.60
Common Equity Ratio (1999)	72%	54%

Source: Schedules 3 and 7.

Although the individual values for the LDCs and industrials are not identical, they are similar enough so that the returns for the industrials can be used as a point of departure. As suggested earlier, the common equity ratios (exclusive of short-term debt) of the industrials have been higher than those of the LDCs (72% versus 54% in 1999), confirming that the industrials' higher business risks tend to be offset by lower financial risks. To recognize that the betas indicate that the LDCs face lower investment risk, an adjustment to the industrials' return can be quantified using the relative beta coefficients of the two samples.

Period for Measurement of Returns

The measurement of returns for competitive industrials is, in large part, historical. The test, however, is intended, as are all tests used to estimate the fair return, to be prospective in nature. Therefore, the returns earned in the past should be analyzed in the context of the longer-term outlook for the economy to determine the reasonableness of relying on past returns as a proxy for the future. Since returns on equity tend to be cyclical, the returns should be measured over an entire business cycle, in order to give fair representation to years of expansion and decline. The forward looking nature of the estimate of the fair return requires selection of a cycle which is reasonably representative of prospective economic conditions. The past business cycle (measured from point to point), covering the period 1990-1999, meets those criteria, essentially because it reflects an inflation rate (2.3% based on the GDP Price Index) and real economic growth rate (3.1%) (Schedule 1) that are quite close to the most recent consensus estimates for longer-term (10-year) inflation and growth (2.2% inflation measured by the GDP Price Index; 3.3% expected growth in real GDP).[1]

The achieved returns of the 36 companies for 1990-1999 are as follows:

Average	17.3%
Median	17.0%
Average of Annual Medians	16.7%

Source: Schedule 6.

The results indicate that a low risk industrial in the consumer-oriented industries may be expected to earn a return of no less than 16.75-17.25%.[2]

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[1]Blue Chip Economic Indicators, March 2001.

[2]Preliminary returns for 2000 (based on *Value Line* actuals and forecasts) are 18.5%, based on the median, which would result in a 1990-2000 "average of annual medians" return of 16.9%.

Relative Risk Adjustment

The results can be adjusted by applying the relative betas of the LDCs and industrials to that portion of the book return in excess of the forecasts for long-term Treasury bonds (i.e., the risk premium). Using a forecast yield of 5.5% on long-term Treasury bonds, the median LDC beta of 0.60, and the median industrial beta of 0.85 (Schedules 3 and 7), the adjustment is made as follows:[1]

.60/.85 (16.75% - 5.5%) + 5.5% = 13.4%.
.60/.85 (17.25% - 5.5%) + 5.5% = 13.8%.

The risk-adjusted return range of 13.4-13.8% (or approximately 13.5-13.75%) represents a fair return on original cost book equity, and, as such, a return which is compatible with providing an opportunity to a utility to earn a return in relation to original cost book value commensurate with that achievable by competitive firms of similar investment risk.

[1]The adjustment effectively relies on the assumptions underpinning the Capital Asset Pricing Model discussed in Appendix D.

APPENDIX C

DISCOUNTED CASH FLOW TEST

Conceptual Underpinnings

The discounted cash flow approach proceeds from the proposition that the price of a common stock is the present value of the future expected cash flows to the investor, discounted at a rate which reflects the riskiness of those cash flows. If the price of the security is known (can be observed), and if the expected stream of cash flows can be estimated, it is possible to approximate the investor's required return (or capitalization rate) as the rate which equates the price of the stock to the discounted value of future cash flows.

Theoretically, the cash flows extend to infinity. However, as the expected cash flows extend further into the future, their discounted value adds less and less to the price of the stock. Moreover, investors in common stocks are unlikely to forecast (or be able to forecast with any accuracy) cash flows beyond five years.

There are multiple versions of the discounted cash flow model available to estimate the investor's required return. An analyst can employ a constant growth model or a multiple period model to estimate the cost of equity. The constant growth model rests on the assumption that investors expect cash flows to grow at a constant rate throughout the life of the stock. Alternatively, if the growth rate in earnings and dividends can be expected to alter as the stock passes through the life cycle from initial growth, to maturity, to decline, a multiple period model can be used which incorporates changing growth expectations.

The subsequent analysis uses the constant growth model. The constant growth model is expressed as follows:

$$\text{Cost of Equity (k)} = \frac{D_0 (1 + g)}{P_0} + g$$

In words, the formula states that the DCF cost of equity is equal to the expected dividend yield plus the expected constant growth rate.

Estimation of Growth Expectations

The assumption that investors expect a stock to grow at a constant rate over the long-term is most applicable to stocks in mature industries. Growth rates in these industries will vary from year to year and over the business cycle, but will tend to deviate around a long-term expected value. As a pragmatic matter, the application of a constant growth model is compatible with the likelihood that investors do not forecast beyond five years. Hence, the current market price and dividend yield do not explicitly anticipate any changes in the outlook for growth.

However, the inability to measure investor expectations of growth is one of the limitations of the DCF approach. Note that it is the investor's expectations that must be inferred; it is the investors who have set the market price. Even if the underlying expectations appear unreasonable, i.e., seem to represent a "castle in the air view", if these expectations are embedded in the dividend yield, these expectations must be accepted if the dividend yield and growth rate components are to be internally consistent.

Various studies have concluded that analysts' forecasts are a better predictor of growth than naive forecasts equivalent to historic growth; moreover analysts' forecasts have been shown to be more closely related to investors expectations.[1] In addition, the ongoing restructuring of the gas distribution industry renders historical growth rates suspect as a measure of investor expectations. Forecasts are widely available to both individual and institutional investors; the latter are particularly influential in determining market movements.

Each month I/B/E/S International, Inc. and Zacks Broker Research Report Service release their compilations of analysts' forecasts for longer-term (5-year) normalized earnings growth rates for individual companies. The long-term consensus earnings estimates are virtually a standard input to DCF models for estimating the cost of equity. In principle, in the longer-term, growth in dividends, earnings, book value and stock price should be the same. Since earnings are the fundamental driving force behind potential growth in dividends, forecasts of normalized earnings growth are a reasonable approximation for investor expectations of future dividend growth.

In addition to reliance on long-term earnings forecasts as a measure of investor expectations, I have considered forecast growth in cash flow per share, given that one of the principal models for valuing utilities is based on estimates of free cash flows. *Value Line* provides the only widely available source of longer-term growth in cash flow per share forecasts.

Selection of Proxy Firms

The discounted cash flow test was applied to a sample of eight LDCs that serve as a proxy for Laclede. This sample includes all LDCs:

[1]Support for these statements are found in the following studies: Dov Fried and Dan Givoly, "Financial Analysts Forecasts of Earnings: A Better Surrogate for Market Expectations," *Journal of Accounting and Economics*:, Vol. 4, 1982; Robert S. Harris, "Using Analysts' Growth Forecasts to Estimate Shareholder Required Rates of Return," *Financial Management*, Spring 1986.

(1) classified by *Value Line* as a gas distributor;

(2) with assets devoted to natural gas distribution operations of no less than 85% of total assets;

(3) whose Standard & Poor's debt rating is A- or higher; and,

(4) for which at least three analysts' earnings long-term growth rate forecasts are available from the I/B/E/S and Zacks' data bases, to ensure capturing the market consensus.

Laclede was excluded to avoid circularity.

The resulting eight LDCs are listed on Schedule 3.

Application of the DCF Model to LDCs

The growth rate forecasts for the sample were as follows:

	Average	Median
I/B/E/S (Earnings)	5.8%	6.0%
Zacks (Earnings)	6.0%	5.9%
Value Line (Cash Flow)	6.7%	6.5%

Source: Schedule 8.

Giving equal weight to the various estimates, the projected growth rate for the sample is in the range of approximately 5.75-6.75%, or a mid-point of approximately 6.25%.

The current dividend yields for the sample were calculated using the average of the closing prices for the three months ending March 2001 in relation to the corresponding dividend paid during the quarter. The sample average and median yields were 4.8% and 4.7%, respectively (Schedule 8).

The current dividend yield needs to be adjusted for growth expectations in order to be compatible with the constant growth model. The dividend yield component of the model contains the next expected dividend as measured by the current dividend (D_o) adjusted for the longer term growth expectation. Hence, the current dividend yield should be adjusted for the expected growth rate to arrive at an adjusted yield (D_o/P_o (1+g)). The dividend yield is adjusted by one-half the expected growth rate to recognize that the individual companies raise dividends throughout the year, and on average at mid-year.[1] A current dividend yield of 4.8%, when adjusted by one half an expected growth rate of 6.25%, results in an expected dividend yield of 5.0%.

Based on the median and average DCF costs of equity for the individual companies in the sample, the estimated required return on common equity is in the range of 10.9-11.1%, or 11.0% (Schedule 8).

The 11.0% cost rate represents the return investors expect to achieve on the current (market) value of their common equity investment. It does not represent the return on book value investors expect the utilities to earn. *Value Line* publishes quarterly its longer-term estimates of returns on book value for each of the LDCs in the proxy sample. The average ROE *Value Line* projects that the eight LDCs will earn during the period 2004-2006 is 12.8-13.7% (Schedule 8).

It is clear that there is a "disconnect" in logic if one assumes that investors expect the return on equity to be set at the DCF cost of equity. The return that investors expect to

[1] $\frac{D_o (1 + .5g)}{P_o} + g$

earn is a dollar return. An 11.0% return on the current value of equity is clearly not equivalent to an 11.0% return on book value when the market value exceeds book value. The business cycle average LDC market/book ratio of 178% (Schedule 9) would reflect, notionally, a market price of $17.80 and a book value of $10.00. In simplistic terms, a 11.0% return on a market price of $17.80 is a return of $1.96 per share; an 11.0% return on a book value of $10.00 is a return of only $1.10.

Not only is the 11.0% inconsistent with the forecast ROEs of 12.8-13.7% for the sample of LDCs, but it represents a value which, if applied to book value, rather than to the market value from which it was derived, will tend to push the market value toward book value, i.e., to a market/book ratio of 1.0. It is illogical to presume that investors in utility stocks are prepared to pay a premium of more than 75% above book value, when the acceptance of the DCF result as a measure of the fair return on book equity would cause investors to suffer a significant loss as the market value of their stock declined toward book value.[1] In current capital markets, the wide deviation between market price of utility stocks and the book value means that the return estimated by reference to a utility market price will not equate to the returns expected on book value. These returns will only be equivalent when the market value is close to the book value. Hence, the application of an unadjusted DCF cost to the book value of equity cannot result in a fair return when market values are significantly above book values.

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[1]To illustrate, assume a utility is trading at 1.75 times book value (price of $17.50 and book value of $10.00). It is currently earning a return of 10.8% on book value and pays out 80% of its earnings in dividends, i.e., earnings per share of $1.08 and dividends per share of $0.86 (80% of $1.08). The dividend yield is thus 4.9% ($0.86/$17.50). The earnings rate is expected to increase to 13.0% and the payout ratio to decline to approximately 55%. The expected sustainable growth rate is thus 5.85% (ROE of 13.0% x earnings retention rate of 45%). The DCF cost is thus 10.8%.

If the 11.0% DCF cost is then applied to a book value of $10.00, and the company only earns $1.10, the payout ratio will remain at approximately 80%, and the sustainable growth rate will decline to 2.2% (10.8% ROE x 20% earnings retention rate). Hence, investors' expectations for growth of 5.85% would not be realized, and the stock price would decline to book value. The expected return on the revalued stock would be 10.8%, comprised of a dividend yield of 8.6% ($0.86 ÷ $10.00) and growth of only 2.2%. However, the realized holding period return for an investor purchasing the stock at $17.50 per share (assuming a one year work-out period) would be a capital loss of 43%. The proposition that investors are willing to invest $17.50 per share to end up with a stock whose value is $10.00 defies common sense.

At a minimum, the market derived DCF cost should be adjusted to allow the utility a modicum of financing flexibility, which compensates for financing costs and provides a margin, or cushion, for unanticipated capital market conditions. At a minimum, that adjustment should be 50 basis points (See Appendix E). Adding 50 basis points to the market-derived DCF cost of 11.0% results in a return on equity of 11.5%.

That adjustment does not fully reflect the recognition that regulation is intended to emulate competition. Under competition, equity market values tend to gravitate toward the replacement cost of the underlying assets. Absent inflation, the market value of firms operating in a competitive environment would tend to equal their book value or cost. This is due to the economic proposition that, if the discounted present value of expected returns (market value) exceeds the cost of adding capacity, firms will expand until an equilibrium is reached, when the market value equals the replacement cost of the productive capacity of the assets. However, the fact that inflation has occurred changes the above analysis. Under competition, the market value of a firm trends toward the current cost of its assets. The book value, by comparison, reflects the historic depreciated cost of the assets. Since there have been moderate to relatively high levels of inflation over the past two business cycles, one would expect the market value to deviate systematically from the book value.

For reliance on the DCF cost result to produce a return compatible with the premise that regulation is a surrogate for competition, the DCF cost should be adjusted to reflect the replacement/book value. In principle, this value should correspond to the long-run equilibrium market/book ratio.

One can approximate replacement cost by repricing the equity of the LDCs to account for the impact of inflation, thus providing a measure of what the long-term market/book value should be if the regulatory model simulates competition. For the sample of eight LDCs, the median repriced equity/book value ratio at the end of 2000 was 158% (Schedule 9).

The replacement cost/book value relationship provides an economically sound basis for adjusting the current DCF cost of equity to a fair return on book value. The DCF model itself provides a technique for making the required adjustment.

$$ROE = \frac{M/B\ (k)}{1 + [r\ (M/B-1)]}$$

where:

ROE	=	return on book equity
k	=	market-derived cost of equity
r	=	earnings retention rate

The derivation of the formula is found on Schedule 13.

Using a repriced equity/book value ratio of 150% as a proxy for the longer-run equilibrium market/book ratio, a market-derived cost of equity of 11.0% and a longer-term expected earnings retention rate of 45% (based on *Value Line* forecasts; see Schedule 8), the fair return can be estimated as follows:

$$\frac{1.50\ (11.0\%)}{1 + [.45\ (1.50 - 1.0)]} = 13.5\%$$

The DCF test results, therefore, fall in a range of 11.5-13.5%.

APPENDIX D

EQUITY RISK PREMIUM TEST

Conceptual Considerations

The risk premium test is derived from a basic concept of finance which holds that there is a direct relationship between the risk of an investment and the return that an investor will require to commit capital to the investment. Since an investment in common equity is generally riskier than a bond investment, the required return for a common stock is higher than that for a bond. The equity risk premium test, as applied herein, measures the risk premium required by an investor relative to an investment in long-term U.S. Treasury bonds. The U.S. Treasury bond, which is considered to be free of default risk, represents a proxy for the long-term risk-free rate.

The equity risk premium expected or required by investors is not static; it widens and narrows with changes in economic and capital market conditions (e.g., the business cycle and inflation) and is also dependent on the risk of the individual company. This suggests that a technique for measuring the risk premium that tracks changes in the required risk premium would be preferable to one which only averages achieved risk premiums over long periods.

In principle, there are two broad approaches which can be used to estimate the required risk premium. The first measures the risk premium for the entire stock market, which can be developed from an analysis of achieved market risk premiums

or prospective estimates of market risk premiums. These estimated market risk premiums are then adjusted to reflect the risk of a particular stock or industry relative to the market as a whole. The Capital Asset Pricing Model (CAPM) provides a theoretical basis for making the relative risk adjustment. The CAPM presumes that all investors are diversified and are compensated only for market, or systematic risk, which cannot be diversified away. This systematic risk, or beta, is a measure of the relative volatility of a particular stock, or class of securities, in relation to the volatility of the capital market as a whole. Therefore, the risk premium for a particular stock or portfolio is the market-wide risk premium multiplied by its beta coefficient.

The second broad approach develops the risk premium for a particular stock or industry directly. The direct estimates of the risk premium for a stock or industry may be made using both historic data and forward-looking estimates. Reliance on historical averages is effectively premised on the concept of a static risk premium. Reliance on forward-looking estimates is premised on a dynamic risk premium whose level at a given point in time reflects investors' outlook for key economic/capital market conditions and their degree of risk aversion.

The notion that the equity risk premium may fluctuate in a predictable and quantifiable fashion stems from the observation that as nominal interest rates rose in the late 1970s and early 1980s, the equity risk premium narrowed. Four studies of U.S. data quantified this relationship.[1]

[1]These four studies support an inverse relationship between interest rates and risk premiums both for industrials and utilities: Eugene F. Brigham, Dilip K. Shome, and Steve R. Vinson, "The Risk Premium Approach to Measuring a Utility's Cost of Equity", Financial Management, Spring 1985; Robert S. Harris, "Using Analysts' Growth Forecasts to Estimate Shareholder Required Rates of Return", Financial Management, Spring 1986; Robert S. Harris, "Estimating Shareholder Risk Premia Using Analysts' Growth Forecasts", Financial Management, Summer 1992; Farris M. Maddox, Donna T. Pippert, and Rodney N. Sullivan, "An Empirical Study of Ex Ante Risk Premiums for the Electric Utility Industry", Financial Management, Autumn 1995.

One explanation of the observed inverse relationship between interest rates and equity risk premiums is the increasing level of uncertainty that appears to accompany rising inflation. As the expected rate of inflation rises, investors perceive increasing uncertainty that the actual future inflation rate will be different from the expected rate. Since investors in bonds are adversely affected by rising inflation, greater uncertainty regarding the future course of inflation may lead to a perceived increase in the riskiness of bonds relative to stocks, and hence an incremental risk premium on bonds for the uncertainty of inflationary expectations. This has been referred to as a "lock-in" premium. Thus, when capital markets are characterized by high and volatile levels of nominal interest rates, the equity risk premium (i.e., the required premium above bond yields) declines; conversely, when inflation fears abate, the equity risk premium will tend to rise.

Risk Free Rate

The starting point for the application of the risk premium test is the expected yield on long-term Treasury bonds, which serve as a proxy for the risk-free rate. Reliance on Treasury bond yields recognizes (1) the administered nature of short-term rates; and (2) the long-term nature of the assets to which the equity return is applicable.

The most recent Blue Chip Financial Forecast (April 1, 2001) anticipates yields on 10- and 30-year Treasuries for 2001[2Q]-2002[3Q] to average 5.0% and 5.3%, respectively. The yields on both 10- and 30-year Treasuries contain a "scarcity premium," due to the reduced borrowing requirements of the Federal government. As a result, the forecast yields understate the fundamental level of the long-term risk-free rate. To illustrate, the recent (2001[1Q]) and forecast spreads between Moody's Corporate AAA rated bonds and 10-year Treasuries of 190-210 basis points are significantly higher than the approximately 100 basis point average spread over the 1926-2000 period covered by the Ibbotson Associates historic equity risk premium

data.[2] As a result, reliance on the forecast 30-year Treasury as a proxy for the risk-free rate in conjunction with historic equity risk premiums entails some degree of downward bias in the estimation of the required return on equity.

For purposes of applying the equity risk premium test, I have relied on a risk-free rate of 5.5%, which is slightly higher than the forecast 30-year Treasury yield. Nevertheless, an equity risk premium result, premised on a 5.5% yield, remains a conservative estimate of the required equity return.

Application of the Capital Asset Pricing Model

The application of the Capital Asset Pricing Model requires an estimate of the required market risk premium and an estimate of the relative risk adjustment, or beta, to recognize the differential risk between the market and the stock or industry being analyzed.

The estimation of the required market risk premium relies on two approaches:

(1) Historic achieved risk premiums based on long-term differentials between achieved income returns on U.S. Treasury bonds and Standard & Poor's 500 Composite. Reliance on historic risk premiums as a measure of future expectations reflects the assumption that experienced risk premiums and expectations, on average, converge.

(2) A prospective market risk premium based on the difference between discounted cash flow estimates of the expected market return for the S&P 500 and the corresponding long-Treasury yields, adjusted for the forecast yield on long-Treasury bonds.

[2] The income returns for intermediate and long-term Treasury bonds were 4.8% and 5.2%, respectively; the yield on long-term AAA Corporates was 6.0%, which is equivalent to an approximately 100 basis point historic spread.

In looking at achieved market risk premiums, reliance on longer-term periods is intended to capture all types of economic events; this factor must be balanced with the recognition that structural changes in the economy may alter the relationship between experienced and expected risk premiums. The latter consideration warrants placing significant weight on the post-World War II period.

The following table summarizes the average U.S. experience for both the longest period available as well as for only the post-Wold War II period. The latter is intended to capture any changes in the basic structure of the economy which may have occurred, while still incorporating the various types of economic events (e.g., periods of boom and recession, high and low inflation rates) which may be repeated in the future:

IBBOTSON & SINQUEFIELD: HISTORIC EQUITY RISK PREMIUMS	
1926-2000	1947-2000
7.8%	8.0%

Source: Schedule 10.

The returns above reflect the arithmetic average of the one-year returns. In the context of relying on experienced returns as a proxy for future returns, the arithmetic average is regarded as the appropriate measure. As explained by Ibbotson Associates, *Stocks, Bonds, Bills and Inflation, 1998 Yearbook*, pp. 157-159: "The expected equity risk premium should always be calculated using the arithmetic mean. The arithmetic mean is the rate of return which, when compounded over multiple periods, gives the mean of the probability distribution of ending wealth values . . . in the investment markets, where returns are described by a probability distribution, the arithmetic mean is the measure that accounts for uncertainty, and is the appropriate one for estimating discount rates and the cost of capital."

The above data indicate that, based solely on an analysis of the average experienced premiums, investors could expect an average equity risk premium of approximately 7.75%-8.0%.

The experienced market risk premium may converge with investor expectations over the longer-term, but the application of a current interest rate to a longer-term average may be unrepresentative of investor expectations in a specific capital market environment.[3]

It is widely accepted that the required market risk premium is not static, but varies with the outlook for inflation, interest rates and profits (e.g., the business cycle). Hence, a direct estimate of the prospective market risk premium provides a measure of the current level of the expected differential between stock and bond returns, given the outlook for inflation, interest rates and profits.

[3]The table below divides risk premiums from 1926-2000 into periods characterized by different economic conditions. The averages indicate that market risk premiums declined when inflation was rising, gradually increased as inflation and inflation fears fell and have been relatively high during periods of moderate inflation and relatively stable interest rates. The results suggest that investors are likely to anticipate higher equity risk premiums in periods of steady growth, low inflation and low interest rates.

U.S. RISK PREMIUMS (1926-2000)

Period	Description	Stock Returns	Bond Income Returns	CPI Growth	GDP Growth	Risk Premiums in Relation to: Bond Income Returns
1926-1939	Pre-War, Market Crash, Deflation	9.8%	3.1%	-1.6%	1.3% a/	6.8%
1940-1951	Growth and Inflation, Early Post World War II	13.2	2.3	5.5	6.3	10.9
1952-1967	Steady Low Inflation, Robust Growth	14.8	3.6	1.6	3.8	11.2
1968-1982	Rising Inflation, Interest Rates, Stagflation	8.4	7.9	7.4	2.7	0.5
1983-1991	Falling Nominal and Real Interest Rates, Moderately High/Steady Inflation	17.8	9.4	3.9	3.5	8.4
1992-2000	Low Inflation and Interest Rates, Moderate/Steady Growth	17.9	6.6	2.6	3.8	11.3

a/ 1930-1939

The expected differential may be determined by application of the DCF model to the S&P 500. To illustrate, the fourth quarter 2000 dividend yield for the S&P 500 was 1.2%. The consensus forecast for five-year normalized earnings growth rates available for the S&P 500 index from I/B/E/S for the fourth quarter 2000 was 17.9%. The resulting expected return is 19.1%. The difference between the expected market return of 19.1% and the forecast 30-year Treasury bond yield of 5.5% produces a forward-looking estimate of the market risk premium of approximately 13.25%. The magnitude of the recent differential is driven by the increase in expected earnings growth rates which have risen from 11.5% in 1995 to 14% in 1998, and recently to their fourth quarter average of 17.9% (Schedule 11).[1]

The increase in the expected market return over the past two years, in the face of declining interest rates, reflects partly the shift in the market portfolio to higher growth technology-based stocks, as well as increasing confidence that technology-driven productivity gains will underpin higher sustainable earnings growth rates in "Old Economy" stocks.

Rather than focus on a spot differential between the expected market return and long Treasury bond yields, averages were calculated over the past ten, five and three years. These periods encompass a relatively low interest rate environment, similar to that expected for the future.

[1] The size of the differential is also impacted by the abnormally low yields on the 30-year Treasuries.

The table below summarizes the results:

Period	Expected Market Return	Long Treasury Bond Yield	Expected Differentials
1991-2000	15.6%	6.7%	8.9%
1996-2000	16.5	6.1	10.3
1998-2000	17.5	5.8	11.6

Source: Schedule 11.

On average, the forward-looking risk premium test suggests a premium of approximately 9.0-11.5%.[2]

Considering both the long-term experienced risk premiums and forward-looking market premium estimates, the expected market premium is in the range of 7.75-

[2]These averages are not dissimilar to the results of polls of individual investors' expectations:

Investor polls taken over the past two years have confirmed that expectations of returns from the stock market are in line with the return indicated by the sum of the dividend yield plus forecasts of earnings growth. To illustrate, according to a September 1998 poll, reported by the *Wall Street Journal* (12/14/98), the average annual return investors expect from stocks over the next 10 years was 16%. A late 1999 study (Ivo Welch, "Views of Financial Economists on the Equity Premium and on Professional Controversies," Anderson Graduate School of Management at UCLA, December 15, 1999), stated the following,

> "Small investor surveys tend to find equity premium expectations between 10 percent and 15 percent per year. On 10/10/97, the New York Times reports that a Montgomery Asset Management telephone survey found an expected 1-year stock market return of 22 percent. On 7/28/1999, the New York Times reports that a similar Paine-Webber survey found expected stock market returns in excess of 20 percent for both the 1-year and 10-year horizons. On 11/15/1999 the Financial Times reports a Gallup/Paine-Webber poll which found 'only' a 16 percent expected stock market return over both 1 and 10 year horizons."

The most recent monthly Gallup Poll of investor expectations (August 2000) indicates that individual investors in the U.S. currently expect a stock market return of 14.1% over the next ten years, compared to an average 10-year return expectation of 15.6% during 1999 and 16.3% during the first seven months of 2000.

10.25%. Recognizing the shorter-term nature of the forward-looking risk premiums, primary weight was given to the historic risk premiums. On balance, the data indicate an expected risk premium of approximate 8.5%.

The 8.5% market risk premium needs to be adjusted to reflect the risk of the utility sample relative to the market. To represent relative risk, the betas of the sample of eight LDCs selected for the discounted cash flow analysis were used (see Appendix C). Empirical studies have shown that the CAPM understates the return requirement for companies with betas less than the market mean of 1.0. [1] Reliance on *Value Line* betas, which are adjusted for betas' tendency to trend toward the market mean of 1.0, assists in mitigating the model's tendency toward understatement of required returns for low beta (e.g., utility) stocks.

The average *Value Line* beta for the sample of LDCs has been approximately 0.60. (The individual *Value Line* betas for the eight LDCs are provided in Schedule 3.)

In summary, based on a market risk premium of 8.5% and a *Value Line* beta for the proxy sample of gas LDCs of 0.60, the required equity risk premium for an average risk LDC is 5.1% (0.60 beta x 8.5% market risk premium).

Risk Premium based on Achieved Risk Premiums for the Gas Distribution Industry

Reliance on achieved risk premiums for the gas distribution industry as an indicator of what investors expect for the future is based on the same proposition as that used

[1] Evidence of this is found in the following studies:

Fisher Black, Michael C. Jensen, and Myron S. Scholes "The Capital Asset Pricing Model: Some Empirical Tests." Published in Studies in the Theory of Capital Markets, edited by Michael Jensen. (New York: Praeger, 1972), pp. 79-121; Marshall E. Blume and Irwin Friend, "A New Look at the Capital Asset Pricing Model," Journal of Finance, Vol. XXVIII (March 1973), pp. 19-33; Eugene F. Fama, and James D. MacBeth, "Risk, Return and Equilibrium: Empirical Tests." Unpublished Working Paper No. 7237, University of Chicago, Graduate School of Business, August 1972; Nancy Jacob, "The Measurement of Systematic Risk for Securities and Portfolios: Some Empirical Results," Journal of Financial and Quantitative Analysis, Vol. VI (March 1971), pp. 815-834.

in the development of the market risk premium: over the longer term, investors' expectations and experience converge. The more stable an industry, the more likely it is that this convergence will occur.

The achieved equity risk premiums for Moody's Gas Distribution Index[2] were calculated over the period 1947-2000. The historic arithmetic (1-year) average risk premium was 6.5% (Schedule 10).

DCF-Based Equity Risk Premium Test for LDCs

A forward-looking risk premium for a utility can be estimated as a series of differences between the discounted cash flow estimates of the cost of equity for a representative sample of utilities and the corresponding long government bond yield, where the DCF cost is the sum of the dividend yield (adjusted for growth) and the investor's expectation of long-term growth. Investment analysts' consensus forecasts of five-year (normalized) earnings growth, available from I/B/E/S, are used as a proxy for investors' expectations of long-term growth.

For each gas distributor in the LDC sample, monthly DCF costs were estimated as the sum of the month-end dividend yield and the corresponding I/B/E/S five-year earnings growth expectation. The monthly risk premium was calculated as the difference between the DCF cost and the month-end long Treasury bond yield. The analysis was limited to the post-Order 636 period (1993-2000).

The average risk premium over the entire period was 4.3%; the corresponding Treasury bond yield averaged 6.4%. Looking only at the last three years (1998-2000), as in the analysis for the S&P 500, during which long Treasury bond yields averaged 5.8%, the average LDC equity risk premium was 4.9%. (Schedule 12).

[2]Through the end of 1999, the Moody's Gas Distribution Index included the following seven companies: AGL Resources, Inc.; Indiana Energy Inc.; Keyspan Energy; Laclede Gas Co.; Northwest Natural Gas Co.; Peoples Energy Corp. , and Washington Gas Light Co.

The time series nature of the data lends itself to an analysis of the relationship between the LDC equity risk premium and long Treasury yield changes over time. A regression analysis used to estimate this relationship over the post-1992 period indicates the following:

U.S. LDC Risk Premium	=	8.49 -.66 (long Treasury yield)
		R^2 = 42%

Based on the regression analysis, the DCF-based risk premium analysis for the LDC sample indicates a risk premium of 4.9% at a 5.5% forecast long Treasury yield.

Conclusions from the Equity Risk Premium Tests

The table below summarizes the results of the equity risk premium tests.

Capital Asset Pricing Model	5.1%
Achieved LDC Equity Risk Premiums	6.5%
DCF-Based Risk Premium for LDCs	4.9%

The results indicate a required equity risk premium for an average risk LDC of approximately 5.0-5.5% at a long Treasury yield of 5.5%. The resulting market-derived cost of equity is 10.5-11.0% before adjustment for financing flexibility.

Adjustment of Market-Derived Cost to a Fair Return on Equity

Similar to the DCF model, in principle, the equity risk premium model, results in a return required on the current value of equity. However, since reliance on historic achieved risk premiums may incorporate some compensation to investors above the market-derived cost of equity, the adjustment for the difference between market and

book value should lie between a minimal allowance for financing flexibility and the required adjustment to equate to an equilibrium longer-run market/book value. As fully described in Appendix E, the minimum financing flexibility adjustment is 50 basis points. A 50 basis point adjustment raises the equity risk premium test result to 11.0-11.5%. As discussed in Appendix C, in the longer-term, market value should trend toward replacement cost, which is approximately equivalent to a market/book ratio of 1.5 times. Making an adjustment to the market-derived equity risk premium test result compatible with a long-run equilibrium market/book ratio of 1.5 times raises the 10.5-11.0% market-derived return to a fair return on equity of 13.0-13.5%.[3]

[3] To illustrate:

$$ROE = \frac{\text{Market-derived cost of equity x market/book ratio}}{1 + (\text{retention rate } (M/B - 1.0))}$$

$$= \frac{10.75\% \times 1.5}{1 + (.45\ (1.5 - 1.0)}$$

$$= 13.2\%$$

APPENDIX E

ADJUSTMENT FOR FINANCING FLEXIBILITY

The equity risk premium test result represents a return which conceptually, if applied to the book value of equity, would cause the utility market/book ratio to equal 1.0. This cost needs to be adjusted to permit the utility a certain degree of financial flexibility and integrity.

The adjustment for financing flexibility, or alternatively, the flotation cost allowance is intended to serve two distinct but related purposes: first, to permit a company to recover all costs associated with issuing additional stock as required to meet its obligation to serve, at not less than book value per share, and thus without harming (diluting) the investment of existing shareholders, and second, to position the company at all times such that if it needs to issue additional equity to meet its obligation to serve, it can do so without harm to its existing shareholders.

The adjustment should at a minimum include:

(a) Financing costs, or out-of-pocket issue expenses. These comprise primarily administrative costs and the underwriters' fee. For gas distributors, this component averaged 5.8% over the 10-year period 1985-1994. On an after-tax basis, the cost is approximately 4.0%.[1]

(b) An allowance for market pressure, i.e., the tendency for the price of the stock to fall as an additional supply of stock is introduced into the market, of approximately 2%-3% percent of the market price.

[1]EBASCO Services, Inc., *Analysis of Public Utility Financing*, various issues, 1985-1994.

The article entitled "Total Flotation Costs for Electric Company Equity Issues," by Victor M. Borun and Susan L. Malley, *Public Utilities Fortnightly*, (February 20, 1986), summarizes the various studies which have been performed using utility data, as well as presents the results, of a study covering 641 electric utility issues. The various studies provide support for a market pressure adjustment of 2%-3%.

Conceptually, the measurement of market pressure should be made by reference to the change in market price from the time of the announcement of the sale of additional equity to the time of the sale of this equity, with due regard to the trend of market prices in this period. However, the anticipation of raising equity may precede the announcement, particularly for utilities, so that the market may already reflect (partly, or entirely) the impact of dilution at the time of the announcement. It may then appear that there is no market pressure, when in fact it is merely not statistically measurable. To capture the impact of market pressure, it is therefore necessary to rely on a large number of observations. Moreover, since the flotation cost allowance is essentially a composite figure which is designed to recover flotation costs associated with past and future issues of various sizes, measurement of the market pressure component by reference to a large sample of issues of many relative sizes is appropriate.

The sum of the first two elements (6%-7%) comprises an estimate of the minimum allowance required to afford a utility some financing flexibility. The flotation cost allowance should permit a company to recover all costs associated with issuing additional stock as required to meet its obligation to serve, at not less than book value per share, and thus without harming (diluting) the investment of existing shareholders, as well as, to position the company at all times such that if it needs to issue additional equity to meet its obligation to serve, it can do so without harm to its existing shareholders.

This total gives no consideration to the fairness principle, which would recognize that competitive industrials have, in periods of moderate inflation, consistently been able to maintain the real value of their assets; as evidenced by market/book ratios significantly

in excess of 1.0. Utilities should not be precluded from achieving a level of financial integrity that gives some recognition to the tendency for industrial market values to equate to replacement costs and thus produce market/original cost book values significantly in excess of 1.0. This is not only a fairness argument, but an economic argument, inasmuch as it is the role of regulation to simulate competition, under which long-run market value should equate to the replacement cost of the productive capacity. The argument is even stronger when regulated utilities are also exposed to competition with other regulated utilities or alternative energy service providers. Hence, an adjustment of 6.5% in the context of original cost regulation is conservative.

A 6.5% flotation cost adjustment is approximately equivalent to an adjustment sufficient to permit a utility to maintain a market/book ratio of 1.065%. The DCF formula provides a means of adjusting the market-derived cost to arrive at the book return required for a market/book ratio of 1.065% (see Schedule 13 for derivation):

$$\text{Return on Book Equity} = \frac{\text{Market/Book Ratio x Market-Derived Cost}}{1 + [\text{earnings retention rate } (M/B - 1)]}$$

To achieve a market/book ratio of 1.065%, based on the LDCs' historic dividend payout ratio of approximately 75% (earnings retention rate of 25%) and a market-derived cost of equity of 11.0%, the required return on equity is 11.5%.

$$11.5\% = \frac{1.065\ (11.0\%)}{1 + [.25\ (1.065 - 1.0)]}$$

Hence, a minimum adjustment for financing flexibility, equal to the difference between 11.5% and 11.0%, is 50 basis points.

LACLEDE GAS COMPANY

Statistical Materials

to accompany

Prepared Testimony

of

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TABLE OF CONTENTS

SELECTED INDICATORS OF ECONOMIC ACTIVITY
(1989 = 100)

Year		Gross Domestic Product a/ Constant Dollars (1)	Gross Domestic Product a/ Current Dollars (2)	Industrial Production (3)	GDP Implicit Price Deflator Index a/ (4)	GDP Implicit Price Deflator Index b/ (5)	Consumer Price Index (6)	Consumer Price Index b/ (7)	Corporate Profit Index (8)	Corporate Profit as a % of GDP (9)
1989		100.0	100.0	100.0	100.0		100.0		100.0	100.0
1990		102.1	105.7	99.8	103.6	3.6	105.4	5.4	110.9	104.5
1991		101.6	109.1	97.9	107.3	3.6	109.8	4.2	120.1	109.4
1992		104.7	115.1	100.9	109.9	2.4	113.2	3.0	131.1	114.8
1993		107.5	121.0	104.4	112.6	2.4	116.5	3.0	146.6	120.7
1994		111.9	128.5	110.1	114.9	2.1	119.5	2.6	164.3	127.3
1995		114.8	134.8	115.4	117.4	2.2	122.9	2.8	194.4	135.2
1996		118.9	142.3	120.6	119.7	1.9	126.5	2.9	213.6	143.9
1997		124.2	151.5	128.9	121.7	1.7	129.5	2.3	236.0	153.5
1998		129.6	160.1	135.2	123.5	1.5	131.5	1.6	218.3	162.5
1999		135.1	169.4	138.3	125.4	1.5	134.4	2.3	241.0	172.4
2000		141.9	181.6	146.2	128.0	2.1	138.9	3.3		
1999	1Q	132.9	165.9	135.8	124.8	1.5	132.9	1.8	233.7	165.0
	2Q	133.7	167.5	137.3	125.2	1.6	134.0	2.1	235.3	167.6
	3Q	135.6	170.2	139.0	125.5	1.4	134.9	2.3	240.0	170.3
	4Q	138.3	174.2	141.2	125.9	1.5	135.9	2.8	255.0	173.0
2000	1Q	139.9	177.7	143.0	127.0	1.7	137.0	3.1	269.6	175.7
	2Q	141.9	181.2	145.8	127.7	2.0	138.5	3.4	276.4	178.5
	3Q	142.6	182.9	146.9	128.2	2.3	139.6	3.5	278.0	184.0
	4Q	143.1	184.5	149.3	128.9	2.3	140.3	3.3		

Source: Economic Indicators, prepared by the Council of Economic Advisors

a/ Data are based on Chain Weighted Indexes.
b/ Inflation rate measured against prior year period.

cs05

TREND IN INTEREST RATES AND OUTSTANDING BOND YIELDS
(Percent Per Annum)

Year	Prime Rate	Government Securities			Moody's Utility Bonds	
		3-Month Bills a/	10-Year Bonds	30-Year Bonds b/	AA	A
1976	6.84	5.00	7.61	7.86	8.92	9.29
1977	6.83	5.26	7.42	7.67	8.43	8.61
1978	9.06	7.22	8.41	8.49	9.10	9.29
1979	12.67	10.04	9.44	9.29	10.22	10.49
1980	15.27	11.51	11.46	11.30	13.00	13.34
1981	18.87	14.08	13.91	13.44	15.30	15.95
1982	14.86	10.69	13.00	12.76	14.79	15.86
1983	10.79	8.63	11.10	11.18	12.83	13.66
1984	12.04	9.58	12.44	12.39	13.66	14.03
1985	9.93	7.49	10.62	10.79	12.06	12.47
1986	8.33	5.97	7.68	7.80	9.30	9.58
1987	8.22	5.82	8.39	8.59	9.77	10.10
1988	9.32	6.69	8.85	8.96	10.26	10.49
1989	10.87	8.12	8.49	8.45	9.56	9.77
1990	10.01	7.51	8.55	8.61	9.65	9.86
1991	8.46	5.42	7.86	8.14	9.09	9.36
1992	6.25	3.45	7.01	7.67	8.55	8.69
1993	6.00	3.02	5.87	6.59	7.44	7.59
1994	7.23	4.34	7.08	7.37	8.21	8.31
1995	8.81	5.44	6.58	6.88	7.77	7.89
1996	8.27	5.04	6.44	6.73	7.57	7.75
1997	5.44	5.11	6.32	6.58	7.54	7.60
1998	8.31	4.79	5.26	5.54	6.91	7.04
1999	7.89	4.55	5.50	5.76	7.51	7.62
2000	9.27	5.85	5.98	5.91	8.04	8.22
1999 1Q	7.75	4.41	5.03	5.41	6.96	7.11
2Q	7.75	4.53	5.56	5.80	7.39	7.48
3Q	8.17	4.71	5.92	6.07	7.75	7.85
4Q	8.42	5.17	6.26	6.35	7.93	8.05
2000 Jan	8.50	5.39	6.68	6.57	8.17	8.35
Feb	8.75	5.67	6.38	6.13	7.99	8.25
Mar	9.00	5.70	6.13	5.94	7.99	8.28
Apr	9.00	5.62	6.15	5.95	8.00	8.29
May	9.50	5.73	6.42	6.14	8.44	8.70
June	9.50	5.68	6.08	5.94	8.10	8.36
July	9.50	6.01	6.04	5.80	8.10	8.25
Aug	9.50	6.11	5.75	5.69	7.95	8.13
Sep	9.50	6.03	5.82	5.89	8.14	8.21
Oct	9.50	6.18	5.74	5.80	8.05	8.13
Nov	9.50	6.21	5.48	5.60	7.88	7.95
Dec	9.50	5.89	5.12	5.46	7.71	7.75
2001 Jan	9.00	4.99	5.19	5.54	7.63	7.73
Feb	8.50	4.73	4.90	5.33	7.55	7.68
Mar	8.00	4.19	4.91	5.46		

a/ Rates on new issues.

b/ 20-year constant maturities for 1974-1978; 30-year maturities after 1978. Series represents yield actively traded issues adjusted to constant maturities by the U.S. Treasury based on daily closing bid

Note: Monthly data reflect rate in effect at end of month, except for Moody's data, which reflect monthly

Source: Annual Statistical Digest (Federal Reserve System); Federal Reserve Bulletin (various issues).

INDIVIDUAL COMPANY RISK MEASURES
FOR SELECTED LOCAL NATURAL GAS DISTRIBUTION COMPANIES

	1999 Net Revenues (millions)	1999 Percentage of Utility Assets	Standard & Poor's Senior Debt Rating	Standard & Poor's Business Profile	Value Line Risk Measures Safety Rating	Value Line Risk Measures Earnings Predictability	Value Line Risk Measures Financial Strength	Value Line Risk Measures Beta	Common Equity Ratio
AGL RESOURCES INC	1068.6	100	A-	3	2	60	B++	0.60	51.0
ATMOS ENERGY CORP	690.2	92	A-	3	3	45	B+	0.55	51.2
NEW JERSEY RESOURCES	914.1	92	A	2 1/	2	100	B++	0.55	53.0
NICOR INC	1615.2	93	AA	3 2/	1	85	A+	0.60	68.1
NORTHWEST NATURAL GAS CO	243.6	100	A	3	2	55	B++	0.60	50.4
PEOPLES ENERGY CORP	1194.4	97	A+	4	1	55	A	0.70	59.6
PIEDMONT NATURAL GAS CO	714.7	96	A	3	2	85	B++	0.60	53.9
WASHINGTON GAS LIGHT CO	1112.2	96	AA-	3	1	60	A	0.60	56.2
AVERAGE	**944.1**	**96**	A	3	2	68	B++	0.60	55.4
MEDIAN	**991.4**	**96**	A	3	2	60	B++	0.60	53.5
LACLEDE GAS CO	491.6	100	AA-	3	2	65	B++	0.50	57.8

1/ For subsidiary, New Jersey Natural Gas.
2/ For subsidiary, Nicor Gas Co.

Note: Common Equity Ratio excludes short-term debt.
Source: Standard & Poor's Research Insight; Annual Reports to Shareholders; Value Line, March 2001.

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YEAR-END CAPITAL STRUCTURE RATIOS FOR SELECTED LOCAL NATURAL GAS DISTRIBUTION COMPANIES
(2000 Fiscal Year End)

	Long-Term Debt	Preferred Stock	Common Equity
AGL RESOURCES INC	50.9	0.0	49.1
ATMOS ENERGY CORP	46.8	0.0	53.2
NEW JERSEY RESOURCES	47.0	0.1	53.0
NICOR INC	23.7	0.7	75.6
NORTHWEST NATURAL GAS CO	43.9	4.0	52.1
PEOPLES ENERGY CORP	35.1	0.0	64.9
PIEDMONT NATURAL GAS CO	44.3	0.0	55.7
WGL HOLDINGS INC	43.0	2.2	54.8
AVERAGE	**41.8**	**0.9**	**57.3**
LACLEDE GAS CO	45.2	0.3	54.5

Source: Standard & Poor's Research Insight.

7LDCCS

YEAR-END CAPITAL STRUCTURE RATIOS FOR SELECTED LOCAL NATURAL GAS DISTRIBUTION COMPANIES
(2000 Fiscal Year End)

	Short-Term Debt	Long-Term Debt	Preferred Stock	Common Equity
AGL RESOURCES INC	12.5	44.5	0.0	42.9
ATMOS ENERGY CORP	27.9	33.8	0.0	38.4
NEW JERSEY RESOURCES	6.7	43.8	0.1	49.4
NICOR INC	42.5	13.6	0.4	43.5
NORTHWEST NATURAL GAS CO	10.0	39.5	3.6	46.9
PEOPLES ENERGY CORP	32.2	23.8	0.0	44.0
PIEDMONT NATURAL GAS CO	14.7	37.8	0.0	47.5
WASHINGTON GAS LIGHT CO	11.3	38.2	1.9	48.7
AVERAGE	**19.7**	**34.4**	**0.7**	**45.2**
LACLEDE GAS CO	19.7	36.3	0.3	43.8

Source: Standard & Poor's Research Insight.

7LDCCS

INTEREST COVERAGE BEFORE TAXES
FOR SELECTED LOCAL GAS DISTRIBUTION COMPANIES

	1995	1996	1997	1998	1999	2000	Average 1995-2000
AGL RESOURCES INC	1.99	3.58	3.48	3.32	3.26	3.22	3.14
ATMOS ENERGY CORP	3.07	3.53	2.14	3.45	1.74	2.28	2.70
NEW JERSEY RESOURCES	2.94	3.56	3.87	4.34	4.54	4.89	4.02
NICOR INC	4.61	4.95	5.01	4.81	5.22	2.26	4.48
NORTHWEST NATURAL GAS CO	3.29	3.70	3.13	2.19	3.23	3.22	3.13
PEOPLES ENERGY CORP	2.76	4.86	5.02	4.18	4.68	3.42	4.15
PIEDMONT NATURAL GAS CO	3.15	3.50	3.56	3.88	3.79	3.62	3.58
WASHINGTON GAS LIGHT CO	4.13	5.26	4.82	3.87	3.99	4.02	4.35
AVERAGE	**3.24**	**4.12**	**3.88**	**3.76**	**3.81**	**3.37**	**3.69**
LACLEDE GAS CO	2.68	3.85	3.66	3.04	2.96	2.67	3.24

Source: Standard & Poor's Research Insight

VLGDICBT

RETURNS ON EQUITY AND BETAS
FOR 36 LOW RISK INDUSTRIALS

	Returns on Equity											
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Average 1990-1999	Value Line Beta
ALBERTO-CULVER CO	17.9	12.5	14.4	14.1	14.1	15.1	15.8	18.5	16.1	15.6	15.4	0.85
ALBERTSONS INC	23.2	22.5	21.3	24.5	27.1	25.5	23.5	22.2	21.7	10.0	22.2	0.70
AVERY DENNISON CORP	0.9	7.5	9.8	10.9	15.1	18.6	21.4	24.5	26.7	26.2	16.2	0.90
BALDOR ELECTRIC	11.9	9.3	10.9	12.7	15.3	16.3	17.1	18.2	17.6	16.5	14.6	0.70
BANDAG INC	35.1	29.9	26.3	21.1	22.2	23.3	20.1	27.9	12.7	11.4	23.0	0.75
BARD (C.R.) INC	11.9	16.2	19.8	16.0	18.2	17.3	15.9	12.3	44.2	20.7	19.2	0.95
BECTON DICKINSON & CO	15.7	14.5	13.5	13.8	15.4	17.4	20.8	22.2	15.8	16.4	16.5	0.95
BRIGGS & STRATTON	13.3	13.1	17.3	20.9	26.8	24.9	19.7	14.5	21.2	31.1	20.3	0.85
CLOROX CO/DE	19.2	6.6	14.7	19.7	23.7	21.7	23.7	25.3	28.1	18.5	20.1	0.90
COMMERCIAL METALS	13.2	5.9	6.0	9.7	10.9	14.0	14.4	11.2	11.6	11.8	10.9	0.80
CONAGRA INC	20.0	17.2	17.1	19.3	20.0	7.6	26.0	23.9	12.6	14.1	17.8	0.80
CURTISS-WRIGHT CORP	3.5	16.1	14.7	-2.0	12.9	11.0	9.1	14.4	13.4	16.0	10.9	0.60
DEXTER CORP	12.6	-2.2	12.1	10.8	11.5	11.4	13.1	15.1	8.3	25.3	11.8	0.95
DONNELLEY (R R) & SONS CO	14.9	12.3	13.1	9.7	14.1	14.4	-8.3	8.1	20.4	25.3	12.4	0.90
EASTMAN KODAK CO	10.5	0.3	15.7	13.5	22.3	27.4	26.1	0.1	38.9	35.2	19.0	0.75
EATON CORP	15.7	6.5	13.3	17.5	23.9	21.8	16.9	21.9	16.9	26.4	18.1	0.80
ECOLAB INC	12.3	-69.6	20.0	21.2	20.2	21.6	23.2	25.0	31.0	24.2	12.9	0.85
ENRON CORP	11.2	13.1	15.1	13.0	16.8	17.5	17.2	1.9	11.1	12.5	12.9	0.85
FEDERAL SIGNAL CORP	22.0	20.0	20.0	21.0	22.3	22.0	23.8	20.6	19.1	17.0	20.8	0.75
GENERAL DYNAMICS CORP	-31.8	28.9	42.3	58.0	19.1	22.3	16.5	17.4	17.6	32.7	22.3	0.70
HANNAFORD BROTHERS CO	17.8	15.6	15.2	14.6	14.6	14.4	13.8	10.2	15.0	14.1	14.5	0.65
JOHNSON CONTROLS INC	8.4	8.3	10.3	11.5	13.9	14.9	16.1	17.7	18.4	19.6	13.9	0.90
KNIGHT-RIDDER INC	16.5	12.9	12.5	12.2	13.9	14.3	23.9	30.8	22.8	18.9	17.9	0.90
MCCORMICK & CO	19.5	21.5	23.0	22.0	12.8	19.3	10.3	23.3	26.6	26.8	20.5	0.65
PEPSICO INC	24.5	20.7	23.9	27.2	27.0	22.7	16.5	31.6	29.9	30.9	25.5	0.90
PLUM CREEK TIMBER CO INC	7.9	7.2	27.2	39.5	46.2	38.6	54.0	16.6	9.5	20.5	26.7	0.55
SHERWIN-WILLIAMS CO	17.1	15.7	16.3	17.0	17.9	17.7	17.5	17.4	16.5	17.8	17.1	0.95
SMUCKER (JM) CO	17.8	17.0	17.3	13.4	14.7	11.0	10.9	12.2	12.1	8.3	13.5	0.70
SONOCO PRODUCTS CO	9.8	17.6	14.5	20.0	19.1	22.3	21.2	-0.1	23.0	21.8	16.9	0.85
SUPERIOR INDUSTRIES INTL	15.1	19.2	23.8	28.8	29.9	24.7	19.5	20.6	17.5	21.3	22.0	0.90
SUPERVALU INC	16.8	20.7	15.2	15.4	3.5	13.9	13.9	18.5	15.3	15.6	14.9	0.85
TELEFLEX INC	16.4	14.9	14.2	13.2	14.2	14.7	15.0	16.1	16.5	16.7	15.2	0.85
UNIVERSAL CORP/VA	9.5	6.1	20.5	22.3	9.7	6.7	17.7	22.7	27.8	23.4	16.6	0.70
UNIVERSAL FOODS CORP	22.1	21.6	14.0	18.6	16.1	19.2	12.4	17.7	18.5	19.1	17.9	0.65
WENDY'S INTERNATIONAL INC	8.8	11.2	12.9	14.0	15.2	14.7	16.6	11.6	11.0	15.6	13.2	0.85
WINN-DIXIE STORES INC	19.1	20.4	23.9	24.4	21.2	20.2	19.8	15.3	14.7	13.1	19.2	0.95
MEDIAN	**15.4**	**14.7**	**15.2**	**16.5**	**16.5**	**17.6**	**17.1**	**17.7**	**17.5**	**18.7**	**17.0**	**0.85**
AVERAGE											**17.3**	**0.81**
AVERAGE OF ANNUAL MEDIANS											**16.7**	

Source: Standard & Poor's Research Insight

US36ROE

S & P DEBT RATINGS, VALUE LINE RISK MEASURES, AND COMMON EQUITY RATIOS FOR 36 LOW RISK INDUSTRIALS

	S&P Senior Debt Rating	Value Line Risk Measures: Safety Rating	Earning Predictability	Financial Strength	Beta	Common Equity Ratio
ALBERTO-CULVER CO	BBB+	2	95	B++	0.85	71.7
ALBERTSONS INC	A	2	90	A+	0.70	56.7
AVERY DENNISON CORP	A	2	90	A	0.90	56.9
BALDOR ELECTRIC		2	85	B++	0.70	82.7
BANDAG INC		2	80	B++	0.75	82.0
BARD (C.R.) INC	BBB+	2	80	A	0.95	78.5
BECTON DICKINSON & CO	A+	2	100	A	0.95	64.2
BRIGGS & STRATTON	BBB+	2	45	A	0.85	78.8
CLOROX CO/DE	A+	2	95	A+	0.90	69.3
COMMERCIAL METALS	BBB+	2	70	B++	0.80	62.1
CONAGRA INC	BBB+	2	95	A	0.80	53.8
CURTISS-WRIGHT CORP		2	65	B++	0.60	89.6
DEXTER CORP		2	80	A	0.95	69.0
DONNELLEY (R R) & SONS CO	A	2	80	A	0.90	77.6
EASTMAN KODAK CO	A+	2	95	A	0.75	80.7
EATON CORP	A	2	60	A	0.80	58.0
ECOLAB INC		2	100	B++	0.85	83.2
ENRON CORP	BBB+	2	90	A	0.85	50.5
FEDERAL SIGNAL CORP		2	85	A	0.75	73.1
GENERAL DYNAMICS CORP		2	95	A	0.70	95.0
HANNAFORD BROTHERS CO		2	100	B++	0.65	75.7
JOHNSON CONTROLS INC	A-	2	100	A	0.90	64.5
KNIGHT-RIDDER INC	A	2	50	B++	0.90	59.3
MCCORMICK & CO	A	2	75	B++	0.65	62.1
PEPSICO INC	A	2	80	A+	0.90	76.7
PLUM CREEK TIMBER CO INC		2	45	B+	0.55	45.6
SHERWIN-WILLIAMS CO	A	2	100	A	0.95	77.2
SMUCKER (JM) CO		2	75	B++	0.70	80.7
SONOCO PRODUCTS CO	A	2	90	A	0.85	55.1
SUPERIOR INDUSTRIES INTL		2	65	B++	0.90	100.0
SUPERVALU INC	BBB+	2	90	B++	0.85	51.0
TELEFLEX INC		2	100	B++	0.85	74.2
UNIVERSAL CORP/VA	A-	2	35	A	0.70	73.7
UNIVERSAL FOODS CORP	BBB	2	95	B++	0.65	53.4
WENDY'S INTERNATIONAL INC	BBB+	2	85	A	0.85	70.6
WINN-DIXIE STORES INC		2	85	A+	0.95	97.5
AVERAGE	**A-**	**2**	**82**	**A**	**0.81**	**70.8**
MEDIAN	**A**	**2**	**85**	**A**	**0.85**	**72.4**

Source: S&P Research Insight, Value Line

US36RS

DCF COSTS OF EQUITY
AND VALUE LINE RETURN ON EQUITY AND DIVIDEND PAYOUT FORECASTS
FOR SELECTED LOCAL NATURAL GAS DISTRIBUTION COMPANIES
(Percentages)

Company	Jan.-March 2001 Dividend Yield	Long-Term EPS Forecasts I/B/E/S (March 2001)	Long-Term EPS Forecasts Zacks (March 2001)	Cash Flow Per Share Forecast Value Line (March 2001)	Average of Forecasts	DCF Cost	Value Line ROE Forecast (2004-2006)	Value Line Dividend Payout Forecast (2004-2006)
AGL RESOURCES INC	5.1	6.0	5.6	6.5	6.0	11.2	12.0	67.6
ATMOS ENERGY CORP	4.9	7.0	6.9	8.0	7.3	12.3	20.0	51.9
NEW JERSEY RESOURCES	4.5	6.8	6.5	9.5	7.6	12.3	15.0	49.2
NICOR INC	4.5	6.1	6.3	5.5	6.0	10.6	14.0	53.7
NORTHWEST NATURAL GAS CO	5.1	4.5	5.2	4.0	4.6	9.8	11.0	53.1
PEOPLES ENERGY CORP	5.2	6.3	5.7	7.5	6.5	11.9	12.0	54.7
PIEDMONT NATURAL GAS CO	4.3	5.4	6.0	6.0	5.8	10.3	13.0	59.7
WASHINGTON GAS LIGHT CO	4.5	4.4	5.8	6.5	5.6	10.2	12.5	51.9
Average	**4.8**	**5.8**	**6.0**	**6.7**	**6.2**	**11.1**	**13.7**	**55.2**
Median	**4.7**	**6.0**	**5.9**	**6.5**	**6.0**	**10.9**	**12.8**	**53.4**

1/ Adjusted dividend yield plus growth;
[DY*(1+(.5*Growth))] + Growth

Source: IBES International, Inc., Standard & Poor's Research Insight, Value Line, Zacks Investment Research.

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MARKET/BOOK AND REPRICED EQUITY/BOOK VALUE RATIOS FOR SELECTED LOCAL NATURAL GAS DISTRIBUTION UTILITIES

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average 1991-2000	2000 Repriced Equity/ Book Value
AGL RESOURCES INC	182	194	190	150	190	181	172	170	140	174	174	161
ATMOS ENERGY CORP	143	160	180	190	186	204	221	230	195	168	188	119
NEW JERSEY RESOURCES	145	155	185	178	162	181	197	213	217	218	185	147
NICOR INC	187	190	205	193	187	223	258	269	213	278	220	245
NORTHWEST NATURAL GAS CO	146	154	164	159	148	154	175	174	131	148	155	156
PEOPLES ENERGY CORP	146	165	176	160	146	162	180	178	159	152	162	266
PIEDMONT NATURAL GAS CO	154	175	213	204	178	183	195	218	195	185	190	139
WASHINGTON GAS LIGHT CO	155	173	194	180	161	169	181	195	165	176	175	160
MEDIAN	**150**	**169**	**187**	**179**	**170**	**181**	**188**	**204**	**180**	**175**	**180**	**158**
AVERAGE OF ANNUAL MEDIANS											**178**	

Source: Standard & Poor's Research Insight

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SCHEDULE 10

HISTORIC MARKET EQUITY RISK PREMIUMS
(Percentages)

	Annual Average Returns		Risk Premium in Relation to:
	S & P 500 Common Stock Index	Long-Term U.S. Treasury Bonds 1/	S & P 500 Common Stock Index
1926-2000	13.0	5.2	7.8
1947-2000	14.1	6.1	8.0

	Annual Average Returns		Risk Premium in Relation to:
	Moody's Gas Distribution Stock Index	Long-Term U.S. Treasury Bonds	Moody's Gas Distribution Stock Index
1947-2000	12.6	6.1	6.5

1/ Average of annual income returns.

Source: Stocks, Bonds, Bills and Inflation: 2001 Yearbook, Ibbotson Associates; Moody's Public Utility Manual.

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S&P 500
DCF-BASED MARKET RISK PREMIUM STUDY
(Quarterly Averages of Monthly Data)

	S&P 500 Growth	Dividend Yield 1/	DCF Cost	Long Treasury Bond Yield	Risk Premium
1991 1Q	11.8 %	3.2 %	15.0 %	8.2 %	6.8 %
2Q	11.9	3.7	15.5	8.3	7.2
3Q	11.9	3.3	15.2	8.2	7.0
4Q	11.9	3.2	15.2	7.9	7.3
1992 1Q	12.1	3.0	15.2	7.8	7.4
2Q	12.0	3.4	15.4	7.9	7.5
3Q	12.0	3.2	15.2	7.4	7.7
4Q	12.0	2.9	15.0	7.5	7.4
1993 1Q	11.8	3.0	14.8	7.0	7.8
2Q	11.5	3.1	14.6	6.9	7.7
3Q	11.3	3.0	14.3	6.3	8.0
4Q	11.3	2.7	14.0	6.2	7.8
1994 1Q	11.4	2.8	14.2	6.7	7.4
2Q	11.5	3.2	14.7	7.3	7.4
3Q	11.6	3.0	14.6	7.6	7.0
4Q	11.6	3.0	14.6	7.9	6.6
1995 1Q	11.5	2.8	14.3	7.6	6.7
2Q	11.6	2.9	14.5	6.9	7.6
3Q	11.9	2.6	14.5	6.7	7.8
4Q	12.0	2.5	14.5	6.2	8.3
1996 1Q	11.9	2.3	14.2	6.4	7.9
2Q	12.3	2.3	14.7	7.0	7.7
3Q	12.5	2.5	15.1	7.0	8.1
4Q	12.8	2.1	15.0	6.6	8.4
1997 1Q	13.0	1.9	14.9	6.9	8.0
2Q	13.3	1.9	15.2	6.9	8.3
3Q	13.7	1.7	15.4	6.5	9.0
4Q	13.6	1.7	15.3	6.1	9.2
1998 1Q	13.7	1.5	15.3	5.9	9.3
2Q	14.0	1.5	15.5	5.9	9.7
3Q	14.4	1.7	16.1	5.3	10.8
4Q	14.6	1.4	16.0	5.2	10.9
1999 1Q	15.7	1.4	17.0	5.5	11.6
2Q	15.7	1.3	17.0	5.8	11.2
3Q	16.0	1.4	17.4	6.1	11.3
4Q	16.9	1.2	18.1	6.4	11.7
2000 1Q	17.7	1.2	18.9	6.2	12.7
2Q	17.9	1.3	19.2	6.0	13.2
3Q	18.6	1.2	19.8	5.8	14.0
4Q	17.9	1.2	19.1	5.7	13.4
Averages					
1991 - 2000	**13.3**	**2.3**	**15.6**	**6.7**	**8.9**
1996 - 2000	**14.8**	**1.6**	**16.6**	**6.1**	**10.3**
1998 - 2000	**16.1**	**1.4**	**17.6**	**5.8**	**11.6**

1/ Dividend Yield is adjusted for half of IBES growth.

Source: I/B/E/S Rewind, Standard & Poor's Research Insight

DCF-BASED LOCAL NATURAL GAS DISTRIBUTION COMPANIES
RISK PREMIUM STUDY
(Quarterly Averages of Monthly Data)

	Dividend Yields 1/	IBES EPS Growth Forecast	DCF Cost	U.S. Long Treasury Yield	Risk Premium	Dividend Yield/ Treasury Yield
1993 1Q	5.4	6.5	11.9	7.0	4.9	76.9
2Q	5.2	6.4	11.6	6.9	4.7	75.9
3Q	4.9	6.5	11.4	6.3	5.1	78.2
4Q	5.3	6.0	11.2	6.2	5.0	84.8
1994 1Q	5.4	5.4	10.8	6.7	4.1	80.1
2Q	5.8	5.6	11.4	7.3	4.0	78.9
3Q	6.0	5.6	11.6	7.6	4.0	79.8
4Q	6.3	5.2	11.5	7.9	3.6	79.2
1995 1Q	6.1	4.9	11.0	7.6	3.4	79.7
2Q	5.9	5.1	11.0	6.9	4.1	85.6
3Q	5.8	5.0	10.8	6.7	4.1	87.1
4Q	5.4	5.1	10.5	6.2	4.3	87.5
1996 1Q	5.3	5.2	10.5	6.4	4.1	83.3
2Q	5.3	5.2	10.5	7.0	3.6	76.2
3Q	5.2	5.3	10.5	7.0	3.5	74.1
4Q	4.9	5.4	10.3	6.6	3.7	74.2
1997 1Q	5.1	5.2	10.3	6.9	3.4	73.7
2Q	5.0	5.2	10.2	6.9	3.3	72.7
3Q	4.8	5.3	10.1	6.5	3.6	73.9
4Q	4.5	5.5	10.0	6.1	4.0	74.1
1998 1Q	4.5	5.9	10.3	5.9	4.4	75.3
2Q	4.5	5.9	10.4	5.8	4.6	77.4
3Q	4.8	6.0	10.8	5.3	5.5	89.9
4Q	4.4	5.8	10.2	5.2	5.0	84.7
1999 1Q	5.0	5.8	10.8	5.5	5.3	91.3
2Q	4.9	5.6	10.6	5.8	4.8	85.3
3Q	4.9	5.6	10.5	6.1	4.4	79.6
4Q	5.1	5.5	10.6	6.4	4.2	78.9
2000 1Q	5.8	5.4	11.3	6.3	5.0	92.5
2Q	5.7	5.3	11.0	6.0	5.0	94.6
3Q	5.3	5.7	11.1	5.8	5.3	92.2
4Q	4.8	5.7	10.5	5.6	4.9	85.7
Averages						
1993-2000	**5.2**	**5.6**	**10.8**	**6.4**	**4.3**	**81.4**
1998-2000	**5.0**	**5.7**	**10.7**	**5.8**	**4.9**	**85.6**

1/ Dividend Yield is adjusted for half of IBES growth

Note: Values reflect quarterly averages of monthly data used in the analysis.

Source: Standard & Poor's Research Insight, IBES International, Inc.,
U.S. Federal Reserve Statistical Release

VLGDDYBY

DERIVATION OF IMPLICIT RELATIONSHIP AMONG "BARE-BONES" COST OF CAPITAL, RETURN ON BOOK EQUITY AND MARKET/BOOK RATIO

Assume the following:

k = the equity capitalization rate, i.e., the "bare-bones" cost of equity
D = dividend per share
E = earnings per share
M = current market price
B = current book value per share
b = retention rate
r = return on book equity
RE = per-share retained earnings
g = sustainable growth as measured by b(r)

DCF cost of capital:

$$(1)\quad k = \frac{D}{M} + g$$

Price of stock:

$$(2)\quad M = \frac{D}{k - g}$$

From the definition of return on book equity:

$$(3)\quad r = \frac{E}{B} = \frac{D}{B} + \frac{RE}{B}$$

If, from the assumptions,

$$(4)\quad g = br,$$

(5) by definition,

$$g = \frac{RE}{E} \times \frac{E}{B} = \frac{RE}{B}$$

Substitute Equation (5) into Equation (3):

$$(6)\quad r = \frac{D}{B} + g$$

Solve for Equation (6) for B:

$$(7)\quad B = \frac{D}{r - g}$$

Divide Equation (2) by Equation (7) to obtain an expression of the market/book ratio:

$$(8)\quad M/B = \frac{\frac{D}{k - g}}{\frac{D}{r - g}} = \frac{r - g}{k - g}$$

From the formulation of g = b(r) in Equation (4):

$$(9)\quad M/B = \frac{r - [b(r)]}{k - (b)(r)} = \frac{(1 - b)r}{k - br}$$

Solve Equation (9) for r:

$$(10)\quad r = \frac{M/B \times k}{1 + b\left(\frac{M}{B} - 1\right)}$$

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

FILED[3]
MAY 18 2001
Missouri Public Service Commission

In the Matter of Laclede Gas Company's Tariff to Revise Natural Gas Rate Schedules.)))

Case No. GR-2001-629

AFFIDAVIT

Kathleen C. McShane, of lawful age, being first duly sworn, deposes and states:

1. My name is Kathleen C. McShane. My business address is 4550 Montgomery Avenue, Suite 350-N, Bethesda, Maryland 20814; and I am Senior Vice President of Foster Associates, Inc.

2. Attached hereto and made part hereof for all purposes is my direct testimony, consisting of pages 1 to 32, inclusive; and Schedules 1 to 13, inclusive; and Appendices A to E, inclusive.

3. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded and the information contained in the attached schedules are true and correct to the best of my knowledge and belief.

Kathleen C. McShane

Subscribed and sworn to before me, the undersigned Notary Public, this 15th day of May, 2001, at Bethesda, Maryland.

Patricia J Bradley

My Commission Expires
10/14/02