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Issue:	Return on Equity
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LACLEDE GAS COMPANY

GR-2005-0284

DIRECT TESTIMONY

OF

KATHLEEN C. McSHANE

FEBRUARY 2005

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I. INTRODUCTION AND SUMMARY OF CONCLUSIONS

Q. Please state your name and business address.

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

Q. By whom and in what capacity are you employed?

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

Q. What are your educational background, work experience and duties of your position?

A. I hold a Masters in Business Administration with a concentration in Finance from the University of Florida (1980) and the Chartered Financial Analyst designation (1989). I have testified in over 130 cases in federal, state, provincial and territorial jurisdictions in the U.S. and Canada since 1987. My professional experience is detailed in Appendix A attached to this testimony.

Q. What is the purpose of your direct testimony?

A. I have been asked to render an opinion on the fair rate of return on equity for Laclede Gas Company. My analysis and conclusions regarding the fair return follow; the statistical support for the studies I have conducted is contained in the Statistical Exhibit attached to this testimony.

Q. Please summarize the results of your analysis.

A. The results of the three tests I conducted indicate the following:

Discounted Cash Flow Test	10.0-12.0%
Equity Risk Premium Test	11.5-13.0%
Comparable Earnings Test	14.0-14.75%

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 discounted cash flow ("DCF") and the equity risk premium tests 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 enunciated in the courts, e.g.,

> A public utility is entitled to such rates as will permit it to earn a return on the value of the property which it employs for the convenience of the public equal to that generally being made at the same time and in the same general part of the country on investments in other business undertakings which are attended by corresponding risks and uncertainties. [*Bluefield Water Works & Improvement Co. v. Public Service Commission of West Virginia*, 262 U.S. 679, 692 (1923)].

(3) While the DCF test estimates the return required on the market value of common equity, regulatory convention applies that return to the book value of the assets included in rate base. When the market value of a company's stock is close to the 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. Without an adjustment to the 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. Primarily, the understatement lies in the incompatibility of the premise that a market-derived cost is a measure of the fair return when market values exceed book values. Consequently, at a minimum, a financing flexibility allowance is required that is sufficient to maintain the market/book ratio at a level that places the company in a position to issue new equity without impairment of the existing shareholders' investment, i.e., at a market/book ratio in the range of 1.05-1.10. The upper end of the ranges for both the DCF and equity risk premium test results equates to a return on book equity compatible with a longer-term equilibrium market/book ratio of approximately 1.5 times.

(5) In principle, the comparable earnings test is most compatible with regulation on an original cost book value rate base. The comparable earnings test results demonstrate the reasonableness of the application of the market-derived tests as adjusted for a long-run equilibrium market/book ratio.

(6) Based on the application of the various tests, a fair return for an average risk local distribution company ("LDC") is in the range of 11.5-11.75%. For Laclede Gas Company, given its higher financial risk relative to the proxy sample of LDCs, I recommend a return at the upper end of the range, that is, 11.75%.

II. RISK AND THE SELECTION OF PROXY FIRMS FOR ESTIMATION OF THE FAIR RETURN ON EQUITY

Q. To what companies have you applied the discounted cash flow and equity risk premium tests to estimate the fair return on equity for Laclede Gas Company?

A. For purposes of applying the equity risk premium and discounted cash flow tests, I relied on a sample of relatively pure-play LDCs to serve as a proxy for Laclede Gas Company.

Q. How did you select the sample of LDCs?

A. The selection criteria are described in Section IV.B.2 of this testimony.

Q. Reliance on a sample of gas distributors as a proxy for Laclede implies that the latter are of similar total risk (business plus financial) to the sample. Is this a reasonable assumption?

A. Yes. Standard & Poor's ("S&P") ranks the business risk of regulated firms on a scale of "1" to "10", with "1" being the least risky and "10" being the most risky. The key elements of business risk that are evaluated include customer markets, competitive position, supply position and regulatory environment. I have reviewed Laclede's various business risk elements and conclude that investors would perceive Laclede, on balance, to be of an approximately similar level of business risk to my proxy sample of LDCs.

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 (Schedule 1).

Q. Please define business risk.

A. 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.

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

- Laclede is a relatively small gas distribution company. Laclede Group's assets were $1,265 million at December 2004, compared to an average of $2,293 million for my sample of proxy LDCs (year-end 2003, exclusive of Laclede).

- The Company's market, which is dominated by temperature sensitive customers, is mature and highly saturated. The maturity of the market has resulted in lower growth relative to the industry as a whole.

- The variability of earnings due to weather is tempered by a rate design that mitigates exposure to weather. Each of the proxy LDCs, except Cascade Natural Gas, also has some form of weather mitigation mechanism in place.

- The industrial base is relatively small and diverse, but is subject to competition from alternative fuels.

- Laclede's gas supply portfolio is characterized as diversified and its supply position is comparable with others in the industry.

- Missouri has historically been viewed as being a more restrictive regulatory environment than other state jurisdictions, but recent decisions are viewed by analysts as being more supportive of credit quality.

Q. Please define financial risk.

A. 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.

Q. What is Laclede's financial risk position?

A. Laclede's debt ratings are as follows:

Standard & Poor's	A	(stable)
Moody's	A3	(stable)
Fitch	A+	(stable)

Standard & Poor's guidelines for an A rating for a utility with a business risk rank of "3", along with Laclede's average values for 2001-2003, are as follows:

	S&P Guidelines	Laclede Group (Average 2001-2003)
Funds from Operations to Average Total Debt	15-25%	12.7%
Funds from Operations Interest Coverage	2.5-3.5X	3.2X
Total Debt to Total Capital	50-55%	61%

Source: Standard & Poor's *Creditstats*.

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 for its rating category.

Q. How does the financial risk of Laclede's gas distribution operations compare to its peers?

A. The relative financial risk can be expressed in terms of the proposed capital structure for ratemaking purposes compared to the actual capital structures for the proxy group. The proposed capital structure for the gas distribution operations is equivalent to the actual capital structure of Laclede Gas Company at September 30, 2004, the end of the test year used by the Company in its filing. This capital structure is as follows:

Long term debt	44.2%
Short-term debt	11.5%
Preferred Stock	0.1%
Common equity	44.2%

Q. How does the proposed capital structure compare to those maintained by your sample of local gas distribution utilities?

A. The average common equity ratio, based on total capital, for the four quarters ended 9/30/04 for my sample of relatively pure-play LDCs was 46.7% with a standard deviation of 5.6%[1] (Schedule 1, page 1). Laclede's proposed common equity ratio of 44.2% lies within one standard deviation of the average common equity ratio maintained by the proxy sample.

Capital structures can also be evaluated on the basis of permanent capital. On this basis, Laclede's financial risk is only slightly higher than that of the proxy LDC sample. Laclede's 49.9% common equity ratio based on permanent capital compares to an average common equity ratio for the sample of 52.2%[2] (Schedule 1, page 2).

Consideration of both methodologies for evaluating capital structures leads to the conclusion that Laclede's financial risk is higher than that of the proxy sample of LDCs.

Q. In your opinion, is the proposed capital structure reasonable for ratemaking purposes?

A. Yes. In principle, the actual capital structure should be relied upon for ratemaking purposes as long as it is compatible with the range of capital structures maintained by the industry. As noted above, the proposed common equity ratio is within the range that has been maintained by the proxy sample of gas distributors, albeit at the lower end of the range. Given the somewhat higher financial risk of Laclede relative to the LDC sample, the allowed return on equity for Laclede's gas distribution operations should be set at no less than the mid-point of the range of reasonableness applicable to the proxy sample of LDCs.

[1] Excluding Laclede, the corresponding average common equity ratio is 47.2% (standard deviation of 5.6%).
[2] Excluding Laclede, the corresponding average common equity ratio is 52.4% (standard deviation of 7.3%).

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

A. I relied on a sample of low risk consumer-oriented industrial companies for purposes of applying the comparable earnings test. Application of the comparable earnings test to utilities would be circular. I accounted for the difference in investment risk between the industrials and the LDCs by making an adjustment to the industrials' returns. The sample selection process and the list of companies in the resulting sample are found in Section IV.D.2 and Schedule 13, respectively, of this testimony.

III. ECONOMIC AND CAPITAL MARKET TRENDS

Q. Please summarize recent economic and capital market trends, which bear on the cost of capital environment.

A. The following is a brief summary of the forecasts that are relevant to the cost of capital. A detailed discussion is found in Appendix B.

	Actual 2004	2005	2006-2015
Economic Growth (Real GDP)	4.4%	3.6%	3.2%
Inflation (CPI)	2.7%	2.5%	2.4%
Interest Rates			
90-day Treasury Bills	1.4%	3.0%	4.3%
10-year Treasury Notes	4.3%	4.8%	5.6%
Long-term A-Rated Utility Bonds	6.2%	n/a	n/a

IV. ESTIMATE OF A FAIR RETURN ON EQUITY

A. CONCEPTUAL CONSIDERATIONS

Q. Please summarize your approach to estimating a fair return on equity for Laclede.

A. My estimation of a fair return on equity starts with a recognition of the objective of regulation. That objective is to simulate competition, i.e., to establish a regulatory framework, which will mimic the competitive model. Under the competitive model, the return on equity is expected to reflect the opportunity cost of capital, i.e., a return that is commensurate with the returns available on foregone investments of similar risk.

The objective of regulation, in conjunction with a utility's obligation to serve, has given rise to multiple criteria for a fair and reasonable return. Three criteria in particular have been promulgated by both judicial[3] and regulatory precedents. The three criteria are that the allowed return must provide a reasonable opportunity for a utility:

1. to attract capital on reasonable terms;
2. to maintain its financial integrity; and
3. to achieve returns commensurate with those achievable on alternative investments of comparable risk.

Further, my approach to estimating a fair return for a utility is premised on the following:

[3] 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).

1. The return on equity, in an original cost regulatory framework, is applied to the book value of common equity. There should be compatibility between the context in which estimates of the required return on equity are derived (e.g., market value), and the context in which the return is applied (i.e., book value).

2. The estimation of a fair return on equity is not a mechanical exercise. There are multiple models available to estimate the cost of equity. Each has different premises. Each has strengths and weaknesses. The fair return on equity cannot be determined with the precision that is sometimes implied by the recommendations of experts. The exercise of estimating a fair return entails, by its very nature, a degree of judgment (constrained by facts). As a result, it is incumbent on the analyst to rely on several models to arrive at a well-reasoned determination of a fair return.

Q. What tests have you relied upon to estimate a fair return on equity for Laclede?

A. I have utilized the discounted cash flow model, equity risk premium tests (including the capital asset pricing model), and the comparable earnings test. In arriving at my recommendation, I have given primary weight to the market-based tests, that is, the discounted cash flow and equity risk premium tests.

B. DISCOUNTED CASH FLOW MODEL

B.1. Conceptual Underpinnings

Q. Please discuss the conceptual basis for the DCF model.

A. 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 that 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 that 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. Similarly, a multiple period model rests on the assumption that growth rates will change over the life of the stock.

B.2. Proxy Companies

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

A. I applied the discounted cash flow test to a sample of 12 LDCs that serve as a proxy for Laclede. This sample includes every LDC:

1. classified by *Value Line* as a gas distribution utility;
2. with no less than 80% of total assets devoted to gas distribution operations; and,
3. whose Standard & Poor's debt rating is BBB- or higher.

The resulting 12 LDCs are listed on Schedule 5.

Q. Did you apply the discounted cash flow test specifically to Laclede?

A. No. I have not applied the discounted cash flow test specifically to Laclede for two reasons: circularity and the potential for measurement error.

Q. What do you mean by circularity?

A. For a utility, the growth component of the DCF formula is integrally linked to the allowed return on equity ("ROE"). As noted in *Regulatory Finance: Utilities' Cost of Capital* by Dr. Roger Morin (Arlington, VA: Public Utilities Reports, 1994, p. 161),

> 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%.

Q. What is "measurement error"?

A. The application of the DCF approach requires inferring investor growth expectations. The resulting DCF cost is very sensitive to the growth expectations inferred. Measurement error results when the growth forecast inferred does not equate to the expectation embedded in the dividend yield component. By relying on a sample of companies, the amount of "measurement error" in the data can be

reduced. The larger the sample, the more confidence the analyst has that the sample results are representative of the cost of equity. As noted in a widely utilized finance textbook,

> Remember, [a company's] cost of equity is not its personal property. In well-functioning capital markets investors capitalize the dividends of all securities in [the company's] risk class at exactly the same rate. But any estimate of [the cost of equity] for a single common stock is noisy and subject to error. Good practice does not put too much weight on single-company cost-of-equity estimates. It collects samples of similar companies, estimates [the cost of equity] for each, and takes an average. The average gives a more reliable benchmark for decision making.[4]

Q. What factual support do you have for the existence of potential measurement error?

A. In principle, the cost of equity for firms of similar risk in the same industry should be quite similar. The fact that individual company DCF costs differ widely (see Schedules 6-9) is a strong indication that a single company DCF cost is not a reliable estimate.

Q. Is Laclede included in your proxy sample of LDCs?

A. Yes. Laclede is included because it meets the sample selection criteria.

B.3. DCF Models

Q. What DCF models have you relied on in estimating the cost of equity?

A. I have used both constant growth and two-stage DCF models.

[4] Richard A. Brealey and Stewart C. Myers, *Principles of Corporate Finance*, Sixth Edition, Boston, MA: Irwin McGraw Hill, 2000, p. 69 (emphasis added).

B.3.1. Constant Growth Model

Q. Please summarize the premises of the constant growth model.

A. 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.

The constant growth model is expressed as follows:

$$\text{Cost of Equity (k)} = \frac{D_1}{P_o} + g,$$

where,

D_1 = next expected dividend

P_o = current price

g = constant growth rate

Q. How does the model set forth above reflect a simplification of reality?

A. First, it is based on the notion that investors expect all cash flows to be derived through dividends. Second, the underlying premise is that dividends, earnings, and price all grow at the same rate.

Q. Are these assumptions likely to represent reality?

A. No; it is likely that, in the near-term, investors expect growth in dividends to be lower than growth in earnings.[5]

Q. How does one adapt the model given the potential disparity between earnings and dividend growth?

A. The model can be adapted by recognizing that all investor returns must ultimately come from earnings. Hence, focusing on investor expectations of earnings growth will encompass all of the sources of investor returns (e.g., dividends and retained earnings).

B.3.2. Two-Stage Model

Q. Please explain your application of the two-stage DCF model.

A. The two-stage model is based on the premise that investors expect the growth rate for the LDCs to be equal to company-specific growth rates for the near-term (Stage 1 Growth), but, in the longer-term (from Year 6 onward) to migrate to the expected long-run rate of growth in the economy (GDP Growth).

Q. Why would you expect utilities to grow at the overall rate of growth in the economy?

A. Industries go through various stages in their life cycle. Utilities are considered to be the quintessential mature industry. Mature industries are those whose growth parallels that of the overall economy.

Q. Is reliance on expected GDP growth as an estimate of the longer-term growth rate an accepted approach?

[5] To illustrate, the average growth rate in dividends forecast by *Value Line* for my proxy sample of gas distributors for the period through 2007-2009 is 1.9%; the corresponding average *Value Line* forecast of

A. Yes. Use of forecast GDP growth as the long-term growth component is a widely utilized approach. For example, the Merrill Lynch discounted cash flow model for valuation utilizes GDP growth as a proxy for long-term growth expectations. The Federal Energy Regulatory Commission relies on GDP growth to estimate expected long-term growth in its standard DCF models for gas and oil pipelines.

Q. How is the DCF cost estimated using a two-stage DCF model?

A. The DCF cost of equity is estimated as the internal rate of return that causes the price of the stock to equal the present value of all future cash flows to the investor. The cash flow per share in Year 1 is equal to:

Last Paid Annualized Dividend x (1 + Stage 1 Growth)

For Years 2 through 5, cash flow is defined as:

Cash Flow $_{t-1}$ x (1 + Stage 1 Growth)

Cash flows from Year 6 onward are estimated as:

Cash Flow $_{t-1}$ x (1 + GDP Growth)

B.4. Investor Growth Expectations for the DCF Models

Q. Please discuss how you have estimated investor growth expectations.

A. In applying the constant growth model, I relied on several sources of investor growth expectations, including the consensus forecasts of long-term earnings growth compiled by I/B/E/S, the *Value Line* forecasts of both earnings growth and cash flow growth, as well as estimates of sustainable growth derived from *Value Line* forecasts. In the application of the two-stage model, I relied upon the

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earnings growth for the same period is 5.5%.

I/B/E/S consensus earnings forecasts as the estimate of investor growth expectations during Stage 1.

Q. Why have you utilized only forecast growth rates and not historic growth rates?

A. I have utilized forecast growth rates for the following reasons. First, various studies have concluded that analysts' forecasts are a better predictor of growth than naïve forecasts equivalent to historic growth; moreover, analysts' forecasts have been shown to be more closely related to investors' expectations.[6]

Second, to the extent history is relevant in deriving the outlook for earnings, it should already be reflected in the forecasts. Therefore, reliance on historic growth rates is at best redundant, and, at worst, potentially double counts growth rates which are irrelevant to future expectations.

[6] Empirical studies that conclude that investment analysts' growth forecasts serve as a better surrogate for investors' expectations than historic growth rates include Lawrence D. Brown and Michael S. Rozeff, "The Superiority of Analyst Forecasts as Measures of Expectations: Evidence from Earnings", *The Journal of Finance*, Vol. XXXIII, No. 1, March 1978; Dov Fried and Dan Givoly, "Financial Analysts' Forecasts of Earnings, A Better Surrogate for Market Expectations", *Journal of Accounting and Economics,* Vol. 4, 1982; R. Charles Moyer, Robert E. Chatfield, Gary D. Kelley, "The Accuracy of Long-Term Earnings Forecasts in the Electric Utility Industry", *International Journal of Forecasting,* Vol. I, 1985; Robert S. Harris, "Using Analysts' Growth Forecasts to Estimate Shareholder Required Rates of Return", *Financial Management*, Spring 1986; James H. Vander Weide and William T. Carleton, "Investor Growth Expectations: Analysts vs. History", *The Journal of Portfolio Management*, Spring 1988; and David Gordon, Myron Gordon and Lawrence Gould, "Choice Among Methods of Estimating Share Yield," *The Journal of Portfolio Management*, Spring 1989.

The Vander Weide and Carleton study cited

> …found overwhelming evidence that the consensus analysts' forecast of future growth is superior to historically oriented growth measures in predicting the firm's stock price [and that these results] also are consistent with the hypothesis that investors use analysts' forecasts, rather than historically oriented growth calculations, in making stock buy-and-sell decisions.

The Gordon, Gordon and Gould study concluded,

> …the superior performance by KFRG [forecasts of [earnings] growth by securities analysts] should come as no surprise. All four estimates [securities analysts' forecasts plus past growth in earnings and dividends and historic retention growth rates] rely upon past data, but in the case of KFRG a larger body of past data is used, filtered through a group of security analysts who adjust for abnormalities that are not considered relevant for future growth."

B.5. Application of the Constant Growth DCF Model

Q. Please summarize your application of the constant growth DCF model.

A. I applied the constant growth DCF model to the sample of 12 LDCs using the following inputs to calculate the dividend yield:

1. the most recent annualized dividend prior to January 15, 2005 as D_o; and

2. the average of the daily closing stock prices for the three months ending January 15, 2005 as P_o.

Q. Why did you rely on average prices for a three-month period, rather than a "spot" price?

A. The use of an average price ensures that the estimated cost of equity is not attributable to any capital market anomalies that may arise due to transitory investor behavior.

Q. Please describe how you developed the estimates of sustainable growth.

A. Sustainable growth, or earnings retention growth, is premised on the notion that future dividend growth depends on the firm replowing or reinvesting a portion of its earnings in order to produce dividends in the future. Sustainable growth is comprised of two components. The principal component reflects the internal growth of the firm, and is estimated as the expected return on equity multiplied by the portion of earnings retained in the business. This is frequently referred to as "BR" growth.

The second component is the external component of growth, called "SV growth". That component is the amount of growth expected to be achieved from the

issuance of additional shares of common stock over time. The "SV" component is estimated as the percent expected growth rate in the number of shares outstanding (S) multiplied by the percent of funds from new equity financing that accrues to existing shareholders (V).[7] The values for all elements of the sustainable growth model reflect *Value Line* (December 2004) forecasts for the period 2007-2009.

Q. Please explain why you used growth in cash flow per share as a proxy for the long-term growth expectations?

A. Cash flow is considered by analysts to be the second most important input (after earnings) to the analysis of securities.[8]

Q. Please summarize the results of the various constant growth models?

A. Table 1 below summarizes the results.

[7] Formula for V is (1-Book Value/Market Value).
[8] Stanley B. Block, "A Study of Financial Analysts: Practice and Theory", *Financial Analysts' Journal*, July/August 1999.

Table 1

Constant Growth Model	DCF Cost of Equity	
	Mean	Median
Earnings Growth (I/B/E/S)	8.2%	8.4%
Earnings Growth (*Value Line)*	9.7%	9.9%
Sustainable Growth	9.4%	9.4%
Cash Flow per Share Growth	9.6%	9.7%

Source: Schedules 6, 7, and 8.

B.6. Two-Stage DCF Model

Q. Please summarize the results of your application of the two-stage DCF model.

A. The two-stage model, as previously noted, relies on the I/B/E/S consensus of analysts' earnings forecasts for the first five years (Stage 1), and forecast growth in the economy thereafter (Stage 2). The expected long-run rate of growth in the economy (GDP) is based on the consensus of economists' forecasts found in Blue Chip *Economic Indicators* (October 10, 2004). The consensus long-run (2006-2015) expected nominal rate of growth in GDP is 5.5%.

Q. What are the estimated DCF costs of equity using the two-stage model?

A. The two-stage DCF model estimates of the cost of equity for the LDC sample (Schedule 9) are as follows:

Mean	9.6%
Median	9.7%

B.7. DCF Cost of Equity and a Fair Return on Book Equity

Q. What do the constant growth and two-stage DCF models together indicate is the cost of equity for the proxy sample of LDCs?

A. The results of the two models indicate a required return in the approximate range of 9.25-9.75%, or approximately 9.5%.

Q. What does the 9.5% 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 LDCs to earn on the book value of their common equity. *Value Line*, which publishes its projections of utility ROEs quarterly, anticipates that the return on year-end common equity for the sample of 12 LDCs over the period 2007-2009 will be 11.0%, which translates into a return on average common equity of approximately 11.5% (Schedule 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. The prices from which the DCF costs are estimated reflect levels well above book value. If a utility whose market/book ratio was 175% (approximately the 1993-2003 median level) were expected to earn only 9.5% 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.

Q. How does one adjust the DCF cost in light of the deviation between book and market value so as to translate the current cost of equity into a fair return on book value?

A. At a minimum, the DCF test result should be augmented by an increment for financing flexibility. This allowance is intended to serve two distinct but related purposes: first, it permits 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, it positions the company such that if it needs to issue additional equity to meet its obligation to serve, it can do so at all times without

harm to its existing shareholders. The minimum increment for financing flexibility will permit the utility to maintain a market/book ratio in the range of 1.05-1.10. The DCF model provides a means of adjusting the market-derived cost to arrive at the book return required for a market/book ratio of 1.05-1.10.

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

The derivation of the formula is found on Schedule 10.

To achieve a market/book ratio of 1.05-1.10, based on the LDCs' historic earnings retention rate of 25% and a market-derived DCF cost of capital of 9.5% the required return is in the range of 9.8-10.2% (mid-point of 10.0%).

Hence, a minimum adjustment for financing flexibility, equal to the difference between 9.5% and 10.0%, is 50 basis points.

Q. Does the 50 basis point adjustment for financing flexibility 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. For the DCF model 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 cost/book value ratio. In principle, the replacement cost/book value ratio should correspond to the long-run equilibrium market/book ratio.

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 must be increased to reflect inflation experienced from the time the equity was added 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/book ratio that should be anticipated under competition. The resulting median replacement cost/book value ratio for the 12 LDCs was 153% at the end of 2003 (Schedule 5).[9] Hence, an adjustment to the 9.5% DCF cost of equity to reflect a replacement cost/book value ratio of approximately 150% would be warranted. In my opinion, if an adjustment of this nature is made to the DCF cost, the test results will provide an approximate measure of the fair return on book equity under current market conditions.

Q. Please explain more fully the economic premise behind this approach.

A. The first step in determining a fair return is to recognize that regulation is intended to emulate competition. Under competition, equity market values tend to gravitate toward the replacement cost of the underlying assets. 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, i.e., when the market value equals the replacement cost of the productive capacity of the assets.

This concept can be depicted by the "Q-Ratio", which is the ratio of market value to replacement cost. The term "Q Ratio" was coined by the Nobel Prize winning economist James Tobin in the late 1960s, although the general idea had been expressed decades earlier by the economist John Keynes.

Essentially, Tobin's theory is that the market value of assets in the aggregate should equate to their replacement cost, that is, the "Q Ratio" (market value/replacement cost) should trend toward 1.0. In Tobin's view, the

[9] Due to data limitations, the increments to equity were only repriced for the past 25 years.

replacement cost of the assets, not the market value, would adjust if the "Q Ratio" were significantly different from 1.0. In other words, if the market's "Q Ratio" is well above 1.0, significant investment activity is predicted.

The "Q Ratio" has since gained stature as an investment tool, and its importance as an investment tool was underscored in a *New York Times* article following the death of James Tobin in March 2002. In the article, journalist Mark Hulbert stated, referring to Tobin's obituaries:

> Great emphasis was placed on how revolutionary his insights were three, four or five decades ago. Yet most were relatively silent on how those insights can lead us to be more successful investors today. It is a shame. Investors greatly handicap themselves if they ignore Dr. Tobin's work.
>
> Consider Tobin's Q, the ratio for which Dr. Tobin, at least at one time, was most famous among investors. This is the ratio of a company's total market capitalization to the replacement value of that company's total assets. While the Q ratio – as Tobin's Q is often called – is conceptually similar to the price-to-book ratio, it avoids the myriad accounting difficulties associated with book value. For example, while book value carries assets at depreciated original cost, replacement value focuses on how much it would cost to buy those assets today.

Absent inflation (and technological change), the market value and replacement cost of firms operating in a competitive environment would tend to equal their book value or cost. However, the fact that inflation has occurred changes the above analysis. With inflation, under competition, the market value of a firm trends toward the current cost of its assets. The book value of the assets, in contrast, reflects the historic depreciated cost of the assets. Since there have been moderate to relatively high levels of inflation over the past two trough-to-trough business cycles (1982-1991 and 1992-2003), one would expect the market value to deviate systematically from the book value.

Q. Does such an adjustment to the market-derived cost of equity equate to an artificial constraint on the market value of the common stock?

A. No. Most experts would agree that it is not a regulator's function to maintain the current market value of a utility's stock, whatever that happens to be. It is widely accepted, however, that the regulator has an obligation to provide the utility with the opportunity to earn a return that is commensurate with the returns achievable in investments of comparable risk. That return (expressed in dollars) should be compatible with the returns achievable if the forces of competition were driving utility prices. The "Q Ratio" provides a means of achieving that objective. It also achieves a result consistent with the basic economic principle of optimal resource allocation. When the return is set too low, the regulator is essentially encouraging ratepayers to over-consume a scarce resource; a return determined on the basis of true economic cost will lead to prices that promote the most efficient allocation of resources.

Q. How is the appropriate adjustment estimated?

A. 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.

Using the formula for adjustment presented earlier, a repriced equity/book value ratio of 150% as a proxy for the longer-run equilibrium market/book ratio, a market-derived DCF cost of equity of 9.5% (mid-point of range) and a longer-term expected earnings retention rate of approximately 40% (based on *Value Line* forecasts; see Schedule 7), the fair return in relation to book equity can be estimated as follows:

$$\frac{1.50\ (9.5\%)}{1 + [.40\ (1.50 - 1.0)]} = 11.9\%$$

Q. In light of these considerations, what is the fair return on equity, as indicated by the application of the DCF test?

A. The low end of the range is 10.0% reflecting a minimal adjustment for financing flexibility; the upper end of the range is approximately 12.0%, which fully accounts for the deviation between book and long-run equilibrium market values.

C. EQUITY RISK PREMIUM TEST

C.1 Conceptual Underpinnings

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

A. The equity 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 as 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?

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

C.2 Capital Asset Pricing Model

C.2.1. Conceptual Underpinnings of CAPM

Q. Please discuss the assumptions that underpin the CAPM.

A. The CAPM is a formal equity risk premium model, which specifies that the required return on an equity security is a linear function of the required return on a risk-free investment. In its simplest form, the CAPM posits the following relationship between the required return on the risk-free investment and the required return on an individual equity security (or portfolio of equity securities):

$$R_E = R_F + b_e (R_M - R_F)$$

where,

R_E = Required return on individual equity security
R_F = Risk-free rate
R_M = Required return on the market as a whole
b_e = Beta on individual equity security.

The CAPM relies on the premise that an investor requires compensation for non-diversifiable risks only. Non-diversifiable risks are those risks that are related to overall market factors (e.g., interest rate changes, economic growth). Company-specific risks, according to the CAPM, can be diversified away by investing in a portfolio of securities, and therefore the shareholder requires no compensation to bear those risks.

The non-diversifiable risk is captured in the beta, which, in principle, is a forward-looking (expectational) measure of the volatility of a particular stock or group of stocks, relative to the market. Specifically, the beta is equal to:

$$\frac{\text{Covariance } (R_E, R_M)}{\text{Variance } (R_M)}$$

The variance of the market return is intended to capture the uncertainty related to economic events as they impact the market as a whole. The covariance between the return on a particular stock and that of the market reflects how responsive the required return on an individual security is to changes in events, which also change the required return on the market.

C. 2.2. Risk-Free Rate

Q. What is the proxy for the risk-free rate?

A. The simple CAPM model is a single period model which, if the model were applied rigorously, would entail using a short-term government interest rate as the risk-free rate. However, it is widely recognized that short-term rates are largely the effect of monetary policy and, as such, are administered, rather than market-driven, rates. Hence, most analysts rely on a long-term government yield, which is risk-free in that there is no default risk associated with U.S. Treasury securities. Moreover, reliance on a long-term yield is consistent with the longer-term nature of utility investments.

I have utilized the forecast yield on the 10-year Treasury bond as a proxy for the risk-free rate. In principle, a longer-term Treasury should be used, so as to more closely match the duration of the risk-free rate and common equities. However, since the U.S. Treasury has no plans to issue 30-year Treasuries, the 30-year Treasury yield has become a less reliable proxy for the risk-free rate. As a result, my CAPM analysis relies on the benchmark 10-year Treasury yield as the risk-free rate proxy.

Q. What is the appropriate 10-year yield to be used as the risk-free rate in the CAPM analysis?

A. The forecast yields on 10-year Treasury notes for the near term lie below the levels compatible with long-term fundamentals, and the long-term average risk premium. In equilibrium, the nominal risk-free rate should reflect the real cost of capital plus the expected rate of inflation over the term of the issue. The long-term (2006-2015) forecast of inflation based on the GDP deflator is approximately 2.2% (Blue Chip *Economic Indicators*, October 10, 2004). The

yield on the long-term real return (inflation-indexed) government bonds – which provides a proxy for the real cost of capital – is also at relatively low levels (2.1%), consistent with the relatively accommodating tenor of monetary policy, but has averaged approximately 3.3% since these bonds were first issued in 1997.[10]

In the long run, the real cost of capital – which reflects the productivity of capital – should be approximately equal to the rate of growth in the economy, which is forecast to average 3.2% from 2006-2015 (Blue Chip *Economic Indicators*, October 10, 2004). Based on these data, the real cost of long-term capital is approximately 3.25%. Combining the long-term expected inflation rate (2.2%) with a long term real cost of capital of 3.25% indicates a fundamental value for 10-year Treasuries of approximately 5.5%.

The fundamental analysis above is consistent with the longer-term forecasts of 10-year Treasury notes, which, as shown in Section III, are expected to yield approximately 5.6%. Based both on the fundamental analysis and the longer-term forecasts of 10-year Treasury note yields, a reasonable estimate of the risk-free rate for purposes of applying the CAPM is 5.5%.

C.2.3. Market Risk Premium

Q. Please discuss your estimate of the required market risk premium.

A. While the market risk premium concept is deceptively simple, its quantification is, in principle, quite complex, because the level of the risk premium expected or required by investors is not static; it changes with economic and capital market conditions (particularly with inflation expectations), as well as with investors' willingness to bear risk.

[10] The average includes yields through December 31, 2004, see Schedule 4.

The required market equity risk premium can be developed (1) from an analysis of achieved market risk premiums and (2) from estimates of prospective market risk premiums. With respect to the latter, the discounted cash flow model can be used to estimate the cost of equity, where the expected return is comprised of the dividend yield plus investor expectations of longer-term growth based on prevailing capital market conditions. The estimated equity risk premiums are obtained by subtracting the corresponding government bond yield from the estimated cost of equity.

Experienced Market Risk Premiums

The estimation of the expected market risk premium from achieved (or experienced) market risk premiums is premised on the notion that investors' expectations are linked to their past experience. Basing calculations of achieved risk premiums on the longest periods available reflects the notion that it is necessary to include as broad a range of event types as possible to avoid overweighting periods that represent unusual circumstances. On the other hand, since the objective of the analysis is to assess investor expectations in the current economic and capital market environment, weight should be given to periods whose equity characteristics, on balance, are more closely aligned with what today's investors are likely to anticipate over the longer term.

The estimation of the required market risk premium begins with the analysis of achieved risk premiums in the U.S. market. In principle, when historic risk premiums are used as a basis for estimating the expected risk premium, arithmetic averages should be used. The appropriateness of arithmetic averages, as opposed to geometric averages, for this purpose is succinctly 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.

Expressed simply, the arithmetic average recognizes the uncertainty in the stock market; the geometric average removes the uncertainty by smoothing over annual differences.

Equity risk premiums were calculated for two historic periods: 1926-2004 and 1947-2004. The year 1926 represents the first year for which the seminal Ibbotson Associates risk premium data are available. The data for the post-World War II period (1947-2004) were also relied upon, because the end of World War II marked significant changes in the economic structure, which remain relevant today.

The key structural changes that have occurred since the end of World War II are:

1. The globalization of the economy, which has been facilitated by the reduction in trade barriers of which GATT (1947) was a key driver;

2. The exertion of the independence of the Federal Reserve commencing in 1951, and its focus on promoting domestic economic stability, which has been instrumental in tempering economic cyclicality;

3. Demographic changes, specifically suburbanization and the rise of the middle class, which have impacted the patterns of consumption;

4. Transition from a predominately manufacturing to a service-oriented economy; and,

5. Technological change, particularly in the areas of telecommunications and computerization, which have facilitated both market globalization and rising productivity.

The experienced risk premiums for the two periods are as follows:

1926-2004	**1947-2004**
7.2%	7.1%

Source: Schedule 11.

Q. The preceding historic average risk premiums reflect differentials between equity market returns and income returns on a 20-year government security. How would you adjust the risk premiums for the fact that you are using a 10-year Treasury note as the risk-free rate?

A. Since 1993, the average spread between 10- and 20-year Treasury bonds has been just over 50 basis points.[11] The addition of 50 basis points to the achieved historic market risk premiums relative to 20-year Treasuries approximates the historic equity market/10-year Treasury risk premium, leading to a long-term average equity risk premium over 10-year Treasuries of approximately 7.6%.

Forward-Looking Market Risk Premium

Q. Please explain your estimate of the forward-looking market risk premium.

A. 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.

[11] The 20-year constant maturity yield reported by the Department of the Treasury since October 1993 is based on outstanding Treasury bonds with approximately 20 years remaining to maturity. The Treasury discontinued issuing a 20-year bond in 1986.

It is widely accepted that the required market risk premium is not static, but varies with the outlook for inflation, interest rates and profits. Hence, a direct measure of the prospective market risk premium may provide a more accurate measure of the current level of the expected differential between stock and bond returns than experienced risk premiums.

The value of independent estimates of the forward-looking risk premium is:

- the equivalence of past returns to what were investors' *ex ante* expectations may be pure coincidence;
- the determination of a fair return on equity reflective of the expected interest rate environment requires a direct assessment of current stock market expectations.

The forward-looking market premium may be determined by an application of the discounted cash flow model to the S&P 500. To estimate the DCF cost for the S&P 500, the I/B/E/S consensus of analysts' forecasts of normalized earnings growth for the companies in the market index was used as a proxy for investor expectations of long-term growth. The average October 2004 to December 2004 dividend yield for the S&P 500 was 1.7%. The corresponding three-month average of the I/B/E/S consensus forecasts of five-year normalized earnings growth rates for the S&P 500 index was 11.9%. The resulting expected market return is 13.8%. At a forecast 10-year Treasury note yield of 5.5%, the forward-looking estimate of the market risk premium would be approximately 8.25%.

Expected Market Risk Premium

Q. What is your estimate of the overall expected market risk premium?

A. Giving primary weight to the historic data, but recognizing the higher near-term equity market return expectations, the indicated market risk premium (in relation

to the normalized forecast yield on 10-year Treasury notes) is approximately 7.5-8.25%.

C. 2.4 Beta

Q. What is the appropriate beta to be used for the sample of LDCs?

A. In estimating the appropriate beta, there were two main considerations:

1. Empirical studies have shown that the CAPM understates the return requirement for companies with betas less than the market mean of 1.0. [12] 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.

2. The beta is a forward-looking concept. Typically, betas are calculated from historic data.[13] The applicability of a calculated historic beta to a future period must be analyzed in the context of events that gave rise to the calculation.

[12] 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," *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.

[13] Calculated betas are typically simple regressions between the daily, weekly or monthly price changes for individual stocks and the corresponding price changes of the market index for a period of five years.

Q. What is a reasonable beta for the sample of LDCs that you used?

A. The most recent *Value Line* betas (both median and mean) are 0.75 (Schedule 5).

C. 2.5. CAPM Risk Premium

Q. Please provide your CAPM risk premium for your sample of LDCs based on your estimated values for the market risk premium and the proxy LDC sample beta.

A. The CAPM risk premium is in the range of 5.6-6.0%:

CAPM Risk Premium	=	Beta x	Market Risk Premium
5.6%	=	0.75 x	7.5%
6.2%	=	0.75 x	8.25%

C. 3. Risk Premium Based On Achieved Risk Premiums For The Gas Distribution Industry

Q. Please summarize the basis for estimating the required LDC risk premium by reference to historic data.

A. 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 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.

Q. What have been the historic LDC equity risk premiums?

A. The achieved equity risk premiums for the S&P/Moody's Gas Distribution Index[14] were calculated over the period 1947-2004.[15] The historic arithmetic (1-year) average LDC equity risk premium relative to the 20-year U.S. Treasury bond income return was 6.2% (Schedule 11). Adding 50 basis points (October 1993-December 2004 average spread) to adjust for the historic yield spread between 10- and 20-year Treasuries results in a LDC risk premium of approximately 6.7% relative to the benchmark 10-year Treasury bond.

C. 4. DCF-Based Equity Risk Premium For LDCs

Q. Please summarize your DCF-based risk premium test.

A. 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 investors' expectations of long-term growth. The I/B/E/S investment analysts' consensus forecasts of five-year (normalized) earnings growth can be used as a proxy for investors' expectations of long-term growth.

For each gas distributor used in this study,[16] monthly DCF costs were estimated as the sum of the month-end dividend yield (as adjusted for growth) 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 10-year Treasury bond yield. The analysis was limited to the period after

[14] S&P's gas distribution index was utilized from 1947-1984, when it was combined with S&P's gas pipeline index. The data from 1985-2001 are for the Moody's Gas Distribution Index. The Moody's Gas Distribution Index was terminated in July 2002. The 2002-2004 returns were estimated using simple averages of the prices and dividends for the utilities that were included in Moody's index at the end of 2001. The companies at that time were: AGL Resources, Inc., Keyspan Energy, Laclede Gas Co., Northwest Natural Gas Co., Peoples Energy Corp., and Washington Gas Light Co.

[15] Preliminary.

[16] My DCF-based risk premium test is consistent with that presented in GR-2001-629 for Laclede. It uses the same sample of LDCs relied on since its development, for purposes of maintaining a consistent series.

1992. The Federal Energy Regulatory Commission issued Order 636 in 1992, which unbundled the services of interstate natural gas pipelines and thereby significantly changed the business of, and increasing the risks borne by, LDCs.

The average risk premium over the 1993-2004 period was 4.9%; the corresponding average 10-year Treasury bond yield was 5.6%. However, the average masks the fact that the risk premiums have been higher at lower levels of interest rates and vice versa, as shown on Table 3 below.

Table 3

10-Year Treasury Yield	Average 10-Year Treasury Yield	Average Risk Premium
5.5% and Below	4.6%	5.6%
5.6-6.0%	5.8%	4.9%
6.1-6.5%	6.3%	4.3%
Over 6.5%	7.1%	3.9%

Source: Schedule 12.

A simple regression between the 10-year Treasury yields and the corresponding equity risk premiums shows the following:

Equity Risk Premium = 8.57 - .64 (10-year Treasury Yield)

R^2 = 54%

At a 10-year Treasury bond yield of 5.5%, the indicated DCF-based LDC equity risk premium is 5.0%, which equates to a required return on equity of 10.5%.

Q. Have you done any analysis to estimate the relationship between the LDC equity risk premium and yields on utility bonds?

The LDCs include: AGL Resources, ATMOS Energy, New Jersey Resources, Nicor, Northwest Natural Gas, Peoples Energy, Piedmont Natural Gas and WGL Holdings.

A. Yes. While the trend in yields on government bonds provides a barometer of changes in the cost of capital environment generally, utility bond yields reflect, in addition, changes in investor perceptions of the relative risk of utilities versus the risk-free rate. It should be expected that there should be a positive relationship between the spread between utility and government bond yields and the size of the LDC equity risk premium over government bond yields.

Q. Would you please summarize the observed trends in utility/government bond yield spreads over the period of your DCF-based equity risk premium analysis?

A. From 1993-July 1998, the spread between A rated utility bonds and 10-year Treasury bonds averaged 138 basis points. Beginning with the global market crisis that "peaked" in August 1998, spreads increased dramatically, reaching 335 basis points in September 2002. Spreads have since contracted, falling to 175 basis points at the end of December 2004.

Q. Please explain how you incorporated the spread between utility and government bond yields into your DCF-based equity risk premium analysis.

A. I estimated the relationship between LDC equity risk premiums, 10-year government bond yields, and the spread between A-rated utility bond yields and 10-year government bond yields, as follows:

$$\text{LDC Risk Premium} = a + b_1\,TY + b_2\,\text{Spread}$$

where,

TY = 10-year Treasury Yield

Spread = Spread between Moody's A-rated Utility Bond Yields and 10-year Treasury Yields

Q. What did the analysis show?

A. The analysis indicates that, while the utility risk premium is negatively related to the level of government bond yields, it has been positively related to the spread between utility bond yields and government bond yields.[17] Specifically, the relationship over the 1993-2004 period was:

LDC Risk Premium = 3.80 - .16 TY + 1.08 Spread

Q. What estimate of the utility/government bond yield spread did you use to estimate the LDC equity risk premium?

A. I used the average spread for the three months ending December 31, 2004 of approximately 175 basis points.

Q. What is the indicated LDC risk premium at a forecast 10-year Treasury yield of 5.5% and an utility/government bond yield spread of 175 basis points?

A. The risk premium is 4.8%, just slightly below that estimated using 10-year Treasuries as the sole independent variable.

C. 5 Conclusions From The Equity Risk Premium Tests

Q. Please summarize the results of your equity risk premium tests.

[17] Statistics for the equation:

R^2	74%
t-statistics:	
Ten-year Treasury bond yield:	-1.46
Utility/10-year Treasury bond yield spread:	5.87

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

Capital Asset Pricing Model	5.6-6.0%
Achieved LDC Equity Risk Premiums	6.7%
DCF-Based Risk Premium for LDCs	4.9%

The results indicate a required LDC equity risk premium of approximately 5.0-6.0% at a 10-year Treasury yield of 5.5%. The resulting market-derived cost of equity is in the range of 10.5-11.5%.

Q. What does the 10.5-11.5% equity risk premium test result represent?

A. Similar to the DCF result, the 10.5-11.5% cost determined by using variants of 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 equity risk premium 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. As with the DCF test, a minimum allowance for financing flexibility is 50 basis points. The addition of a 50 basis point allowance for financing flexibility results in a return on equity of 11.0-12.0%.

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. Based on the low end of the range of the equity risk premium estimates (5.0%) and a forecast 10-year Treasury of 5.5%, the indicated return is approximately 13.1%.[18]

Q. What is a fair return on equity based on the equity risk premium test?

A. A fair return is in the range of 11.5-13.0%.

D. COMPARABLE EARNINGS TEST

D.1. Conceptual Underpinnings

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.

[18] $\frac{1.50\ (10.5\%)}{1 + (.40\ (1.50 - 1.0))} = 13.1\%$

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 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. Why have you applied the comparable earnings test to competitive firms, and not utilities?

A. Application of the test to utilities would be circular. The achieved returns of utilities are influenced by allowed returns. In contrast, the earnings of competitive firms represent returns available to alternative investments independent of the regulatory process.

D.2. Principal Application Issues

Q. What are the principal issues arising in the application of the comparable earnings test?

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

- The selection of a sample of industrials of reasonably comparable risk to LDCs;

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

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

Q. Please discuss the selection process.

A. The selection process starts with the recognition that industrials are generally exposed to higher business risk, but lower financial risk, than LDCs. 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 LDCs.

LDCs 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 selection was limited to all U.S. companies in these industries covered by *Value Line*[19] (SIC codes 2000-3999 and 5000-5999) having a *Value Line* Safety Rank of "2". This resulted in 75 companies.

From this group of 75 companies, all companies with *Value Line* betas greater than or equal to 1.0, or with no available beta, were eliminated. Next, firms were selected with financial statement data available from *Research Insight* since 1994, and non-negative common equity throughout the period 1994-2003. Common

[19] 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,

equity for 2003 was required to exceed $250 million, to eliminate the smallest capitalization stocks. The companies also had to have a consistent dividend payment history since 2003, market data available since January 2000, and consistent book data available over the 1994-2003 period. This resulted in 39 companies. An additional four companies whose 1994-2003 average returns were above or below one standard deviation from the average were eliminated in order to exclude companies whose earnings are either extraordinarily high or chronically depressed. The final sample contains 35 companies and is found on Schedule 13.

D.3. Period For Measurement Of Returns

Q. Over what period did you measure the industrials' returns?

A. The measurement of returns for competitive industrials is, in large part, historical. However, like every test used to estimate a fair return, this test is intended 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 business cycle (measured from point to point) covering the period 1994-2003 meets those criteria, essentially because it reflects an inflation rate (1.8% based on the GDP Price Index) and real economic growth rate (3.3%) (Schedule 3) that is quite close to the October 2004 consensus estimates for longer-term (10-year) inflation and growth (2.1% inflation measured by the GDP Price Index; 3.2% expected growth in real GDP).

Transportation Equipment, Computer and Electronic Equipment, Measuring Equipment, Wholesale and Retail Operations for both durable and non-durable goods.

The achieved returns of the 35 companies for 1994-2003 are as follows:

Table 4

Average	16.1%
Median	14.9%
Average of Annual Medians	15.9%

Source: Schedule 13.

The results indicate that low risk industrials in the consumer-oriented industries may be expected to earn average returns of approximately 15.0-16.0%.

Q. Do forecasts of returns for the industrial sample support the conclusion that low risk competitive firms will continue to earn returns at the level achieved over the last business cycle?

A. Yes. The median and average returns on mid-year equity for the sample over the period 2007 to 2009 based on the *Value Line* forecasts are 14.8% and 17.0%, respectively (Schedule 13).

D.4. Relative Risk Adjustment

Q. What are the industrial sample's quantitative risk measures relative to those of LDCs?

A. The sample has the following risk measures, compared to the sample of LDCs:

Table 5

	Industrials (Median)	**LDCs (Median)**
S&P Debt Ratings	A-	A-
Value Line Risk Measures:		
Safety Rank	2	2
Earnings Predictability	85	68
Financial Strength	B++	B++
Beta	0.85	0.75

Source: Schedules 5 and 14.

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 for estimating a fair return for an LDC. As suggested earlier, the average common equity ratios (based on permanent capital) of the industrials are higher than those of the LDCs, confirming that the industrials' higher business risks tend to be offset by lower financial risks (Schedules 1 and 14). To recognize that the betas indicate that the LDCs face lower investment risk, an adjustment to the industrials' returns can be quantified using the relative beta coefficients of the two samples.

Q. How do you quantify the relative risk differential?

A. The returns of the industrials 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 10-year Treasury bonds (i.e., the risk premium). Using a forecast yield of 5.5% on 10-year Treasury bonds, the median *Value Line* LDC beta of 0.75, and

the median low risk industrial beta of 0.80 (Schedules 5 and 14), the risk-adjusted return can be estimated as follows:[20]

$$.75/.85\ (15.0\% - 5.5\%) + 5.5\% = 13.9\%$$
$$.75/.85\ (16.0\% - 5.5\%) + 5.5\% = 14.8\%$$

The risk-adjusted return on equity of approximately 14.0-14.75% 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.

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

A. There is no legal or economic requirement that the sample of competitive firms must be equal in risk to the regulated company. What is required is the application of an appropriate adjustment to the industrials' returns so that the end result is compatible with the risk profile of the regulated firm. That adjustment has been made.[21]

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 that a focus on other regulated companies alone entails and ensures that the objective of regulation is achieved.

[20] The adjustment effectively relies on the assumptions underpinning the Capital Asset Pricing Model.
[21] Note that the application of the CAPM is effectively a similar exercise, i.e., it requires a relative risk adjustment to a market-based return that was initially estimated for an average risk stock.

E. CONCLUSIONS

Q. Please summarize your test results.

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

Discounted Cash Flow	10.0-12.0%
Equity Risk Premium	11.5-13.0%
Comparable Earnings	14.0-14.75%

Q. Based on these test results, what is a reasonable return on equity for Laclede?

A. As I indicated earlier in my testimony, I give primary weight to the market-derived tests, the discounted cash flow and equity risk premium tests. In my opinion, the DCF and equity risk premium test results indicate that a reasonable return on equity for an average risk LDC falls within a range of 10.75-12.5% with the mid-point in the range of 11.5-11.75%. Given Laclede's somewhat higher financial risk relative to that of the proxy sample of LDCs, I recommend a common equity return at the upper end of the mid-point range, at 11.75%**.** The comparable earnings test result underscores the reasonableness of a return on equity of 11.75%.

Q. Does this conclude your direct testimony?

A. Yes, it does.

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 has been a CFA charterholder since 1989.

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 125 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 testimonies include the assessment of the impact of business risk factors (e.g., competition, rate design, contractual arrangements) on capital structure and equity return requirements. She has also testified on various ratemaking issues, including deferral accounts, rate stabilization mechanisms, excess earnings accounts, cash working capital, and rate base issues. Ms. McShane has 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, form of regulation (including performance-based regulation), unbundling, corporate separations, regulatory climate, income tax allowance for partnerships, change in fiscal year end, treatment of inter-corporate financial transactions, and the impact of weather normalization on risk.

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. 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, Papers and Presentations

- "Utility Cost of Capital Canada vs. U.S.", presented at the CAMPUT Conference, May 2003.
- "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.
- 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.
- "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.
- "Alternative Regulatory Incentive Mechanisms", (co-authored with Stephen F. Sherwin), prepared for the National Energy Board, Incentive Regulation Workshop, October 1992.

- "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.

- "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.

- "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.

Expert Testimony/Opinions

on

Rate of Return & Capital Structure

Alberta Natural Gas	1994
Alberta Power/ATCO Electric	1989, 1991, 1993, 1995, 1998, 1999, 2000, 2003
AltaGas Utilities	2000
Ameren (CIPS and & Union Electric)	2000 (3 cases), 2002 (3 cases), 2003
ATCO Gas	2000, 2003
ATCO Pipelines	2000, 2003
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, 2002
Centra Gas Ontario	1990, 1991, 1993, 1994, 1996
Dow Pool A Joint Venture	1992
Edmonton Water/EPCOR Water Services	1994, 2000
Enbridge Gas Distribution	1988, 1989, 1991-1997, 2001, 2002
Enbridge Gas New Brunswick	2000
FortisBC	1995, 1999, 2001, 2004
Gas Company of Hawaii	2000
Gaz Metropolitain	1988
Gazifère	1993, 1994, 1995, 1996, 1997, 1998
Generic ROE Proceeding in Alberta (ATCO Utilities and AltaGas)	2003
Heritage Gas	2002
HydroOne/Ontario Hydro Services Corp.	1999, 2000
Illinois Power	2004
Insurance Bureau of Canada (Newfoundland)	2004

Laclede Gas Company	1998, 1999, 2001, 2002
Mackenzie Valley Pipeline	2005
Maritimes NRG (Nova Scotia) and (New Brunswick)	1999
Multi-Pipeline Cost of Capital Hearing (National Energy Board)	1994
Natural Resource Gas	1994, 1997
Newfoundland & Labrador Hydro	2001, 2003
Newfoundland Power	1998, 2002
Newfoundland Telephone	1992
Northwestel, Inc.	2000
Northwestern Utilities	1987, 1990
Northwest Territories Power Corp.	1990, 1992, 1993, 1995, 2001
Nova Scotia Power Inc.	2001, 2002
Ozark Gas Transmission	2000
Pacific Northern Gas	1990, 1991, 1994, 1997, 1999, 2001
Platte Pipeline Co.	2002
St. Lawrence Gas	1997, 2002
Southern Union Gas	1990, 1991, 1993
Stentor	1997
Tecumseh Gas Storage	1989, 1990
Telus Québec	2001
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, 2001
Westcoast Energy	1989, 1990, 1992 (2 cases), 1993
Yukon Electric Co. Ltd./Yukon Energy	1991, 1993

Expert Testimony/Opinions

on

Other Issues

Client	Issue	Date
Ontario Electricity Distributors	Stand-Alone Income Taxes	2005
Caisse Centrale de Réassurance	Collateral Damages	2004
Enbridge Gas New Brunswick	AFUDC	2004
Heritage Gas	Deferral Accounts	2004
ATCO Electric	Carrying Costs on Deferral Account	2001
Newfoundland & Labrador Hydro	Rate Base, Cash Working Capital	2001
Gazifère Inc.	Cash Working Capital	2000
Maritime Electric	Rate Subsidies	2000
Enbridge Consumers Gas	Principles of Cost Allocation	1998
Enbridge Consumers Gas	Unbundling/Regulatory Compact	1998
Maritime Electric	Form of Regulation	1995
Northwest Territories Power	Rate Stabilization Fund	1995
Canadian Western Natural Gas	Cash Working Capital/ Compounding Effect	1989
Gaz Metro/ Province of Québec	Cost Allocation/ Incremental vs. Rolled-In Tolling	1984

APPENDIX B
ECONOMIC AND CAPITAL MARKET TRENDS

1. THE ECONOMY

The ten years from 1991 to 2000 produced the longest economic expansion in U.S. history. Over this period real gross domestic product ("GDP") growth averaged 3.2%, fueled by strong consumer spending and corporate investment (Schedule 3). Throughout most of the period, soaring equity markets and housing prices pushed consumer net worth sharply higher, providing a key stimulus for consumer confidence and consumer spending. Productivity gains and healthy growth in after-tax corporate profits (close to 7.0% per year on a compound average basis) resulted from substantial investment spending, particularly in technology-related areas (Schedule 3).

The U.S. economy proved to be resilient, maintaining a healthy rate of growth even in the face of a global capital market crisis in mid-1998. The combined effects of the Asian financial crisis, defaults in the Russian bond market and the near-collapse of a major hedge fund, which precipitated the global capital market crisis, did not quash the expansion. Even with significant drag on the export sector, largely due to economic weakness in Asia, the U.S. economy continued to expand at a vigorous pace until mid-2000.

In mid-1999, concerned that the economy might be over-heating, the Federal Reserve ("Fed") began raising the Fed Funds rate in the hopes of steering the economy into a soft landing. By mid-2000, the Fed raised the Fed Funds rate six times by a total of 175 basis points.

Between mid-2000 and summer 2001, the economy slowed considerably, due to increases in both interest rates and energy prices. Higher interest rates and energy

prices squeezed corporate profit margins and reduced business spending. Signs of a slowing economy carried over into the equity markets, which were widely viewed as overvalued. As equity markets weakened and consumers' net worth shrank, consumer confidence dropped, and with it consumer spending. As the economy continued to weaken and threatened to sink into recession, the Fed reversed course and began to relax its stance, lowering interest rates seven times between January and August 2001, for a total of 300 basis points. With the Fed's actions, by early September 2001, the consensus view was that the U.S. would avoid an outright recession.

The September 11, 2001 terrorist attacks on the U.S. materially worsened the outlook for the economy, damaging the already shaky consumer confidence and producing a sharp downturn in consumer spending. Further cuts by the Fed followed, designed to ensure sufficient monetary policy stimulus to turn the economy around. Despite the Fed's efforts, the economy sank into recession, with negative growth in the first three quarters of 2001. Overall, the economy registered only 0.5% growth for the full year 2001. While the economy registered growth in real GDP of over 2% in 2002, the rebound was anything but robust (Schedule 3).

Economic activity in the first quarter of 2003 remained subdued. Uncertainty on the part of both consumers and investors arising from the situation in Iraq weighed heavily on the economy. The combined effects of stimulative fiscal, monetary and exchange rate policy finally produced the desired result in the second half of 2003. Third quarter annualized growth topped 8% and continued to be strong through the end of the year. The major contributors to the increase were consumer spending, exports (benefiting from the falling U.S. dollar), business investment spending (specifically on equipment and software), inventory re-building, and investment in new housing. Real growth averaged 3.0% for the full year 2003 (Schedule 3).

Growth remained strong in 2004, despite oil prices that reached $55/barrel and a deceleration in corporate profits due primarily to hurricanes and high energy prices. Both consumer spending and business investment contributed to the expansion. Growth is forecast to have reached 4.4% for all of 2004 (Blue Chip *Economic Indicators*, January 10, 2005).

For 2005, the consensus view is for a tempering of growth resulting from lower expected growth in profits, continuing high levels of energy prices, relatively lackluster growth in employment gains (which impacts on consumer spending), and further tightening of monetary policy. The consensus view for 2005 is real growth of 3.6% (Blue Chip *Economic Indicators*, January 10, 2005). The sustainability of growth in the 3.6% range remains uncertain, given the weak U.S. dollar, rising interest rates, and high energy prices.

For the long-term (2006-2015), real growth is forecast at 3.2% (Blue Chip *Economic Indicators*, October 10, 2004), virtually identical to the 3.3% rate experienced over the past point-to-point business cycle (1994-2003) and above the 2.5% that had previously been viewed as sustainable. The higher long-term growth estimates are consistent with the view that technology-driven productivity gains will allow higher sustainable long-term growth in conjunction with inflation maintained at acceptable levels.

2. INFLATION

Inflation remained in check throughout the last cyclical expansion, averaging only 2.7%, as measured by the Consumer Price Index ("CPI"), from 1991 to 1999 (Schedule 3). Concerns that a tight labor market would trigger a wage-price spiral were not realized. High levels of business investment in new technology resulted in increased efficiency, a reduction in costs, and an increase in work force productivity. Large gains in productivity kept inflation in check as gains in output covered higher employment costs.

Spurred by rising energy prices, the CPI reached a cyclical high in 2000, rising 3.4%. However, with weakening economic activity, declining energy prices and higher unemployment rates, inflation moderated. CPI inflation averaged 1.6% in 2002 and 2.3% in 2003. Much of the 2003 increase was due to an increase in energy prices in the run-up to the war in Iraq. The 2003 core CPI (excluding food and energy prices) was weaker at 1.5% for the year and only 1.1% December-over-December. The 2003 increases were the smallest in four decades.

The CPI is estimated to have risen by 2.7% in 2004 (Blue Chip *Economic Indicators*, January 10, 2005). While reflecting an increase from the 2003 level, a rate of 2.7% is in line with the average of 2.5% experienced over the last business cycle. The increase in CPI inflation in 2004 largely reflects primary increases in fuel and energy prices. The core (excluding food and energy) rate of inflation has measured about 2.2% year-over-year through November 2004, compared to a 37 year low in 2003 of 1.1%. The increase is attributable to a slowing of the decline in prices of consumer goods.

For 2005, the consensus forecast for CPI is for an increase of 2.5%, with the decline based on an expectation of lower energy prices (Blue Chip *Economic Indicators*, January 10, 2005).

Over the longer term (2006-2015), inflation, as measured by the CPI, is expected to average 2.4%, and as measured by the GDP deflator, 2.1% (Blue Chip *Economic Indicators*, October 10, 2004). The expected longer-term inflation rates are slightly lower than the 2.4% experienced over the past point-to-point business cycle (1994-2003).

3. INTEREST RATES

(a) Short-term Interest Rates

The trends in Treasury bill (T-bill) rates over the past decade have been, in large part, a reflection of monetary policy initiatives, combined with investor reaction to global economic and capital market events.

From 1995 until the global market crisis of August 1998, 90-day T-bill yields fluctuated in the relatively narrow range of 4.8-5.8%. By October 1998, as a result of Fed actions to relieve the August 1998 crisis and increasing inflows of capital to the 'safe haven' of U.S. government securities, T-bill rates had fallen to just over 4%.

Over the subsequent two years, the underlying strength of the U.S. economy led the Fed to increase the Fed Funds rate six times. T-bill rates followed, rising over 200 basis points by November 2000. As the economy began to weaken and the Fed began to aggressively cut rates, T-bill yields reversed course, falling from over 6% to a low of 0.8% in mid-2003. Despite improvement in many areas of the economy in the latter half of the year, job growth continued to be lackluster, and inflation pressures muted, resulting in no upward pressure being exerted on rates. At the end of 2003, the yield on 90-day T-bills was 0.9%.

During 2004, as the economy continued to expand at a pace in excess of 3.0% (4.0% in the third quarter), and inflation began to edge higher, the Federal Reserve began to gradually tighten monetary policy. Between June 30 and December 14, 2004 the Fed raised the Fed Funds rate five times, in 25 basis point increments. The most recent increase places the Fed Funds rate at 2.25%, a level the Federal Reserve believes to be accommodative and supportive of economic

activity. With the announcement of the most recent increase, the Fed suggested that further increases could be anticipated.

With the increases in the Fed Funds rates, the yields on 90-day Treasury bills have also risen from their 2003 year end level of 0.9% to 2.2% at the end of 2004; for an annual average in 2004 of 1.4%.

As of January 1, 2005, Blue Chip *Financial Forecasts* anticipates an average 90-day Treasury bill yield of 3.0% for 2005 and 3.8% for the first half of 2006. Over the long-term (2006-2015) Treasury bill yields are projected at 4.3% (Blue Chip *Economic Indicators*, October 10, 2004), close to what is viewed by the Fed as the "normal" Fed Funds rate (4.0%).

(b) Long-Term Government Bond Yields

With respect to long-term government bond yields, over the period 1995-1997, 10-and 30-year Treasury bonds averaged 6.5% and 6.7%, respectively, following a similar pattern to that of T-bills. Supported by the demand for safe U.S. government securities, 10-year and 30-year rates declined to 4.6% and 5.0%, respectively, by September/October 1998. The decline was short-lived, however, and 10- and 30-year rates peaked at 6.7% and 6.5%, respectively, in January 2000. The negative spread resulted from the U.S. Treasury Department's announced "buy-back" of long-term bonds.

In January 2000, faced with significant Federal government budget surpluses, the U.S. Treasury Department announced a plan to pay down the national debt. The announced 'buy-back' was aimed at phasing out long-term bonds with the highest interest rates and at maintaining liquidity in more recent issues. The announcement had an immediate impact on the long end of the government bond yield curve, as investors raced to acquire a diminishing supply of longer-term

government securities. By May 2000, the spread between 10-year and 30-year Treasuries was negative.

On October 31, 2000, the U.S. Treasury announced that it would no longer issue 30-year bonds. The announcement, intended to direct downward pressure on long-term rates and push investors into short-term securities, again created an anomaly in the yield curve. The announcement that 30-year bonds would no longer be issued confirmed that the 30-year bond had become less reliable as a proxy for the risk-free rate.[1] Despite sharply rising federal budget deficits, the government has not expressed an interest in reviving the 30-year bond program.

With respect to yields on the benchmark 10-year Treasury note, the combination of the economic slump, monetary policy stimulus and expected reduction in the supply of longer-term securities (which increased the demand for these securities) pushed yields to their lowest levels in decades. From their January 2000 peak of 6.7%, 10-year yields declined to a low of 4.2% in early November 2001, before beginning to rebound, rising to 5.4% by the beginning of April 2002. The rebound did not last long. Steep declines in the equity markets in early 2003 once again sent investors fleeing to the safety of government securities pushing yields down just over 200 basis points by mid-June 2003, reaching a cyclical trough of 3.1%. During the latter half of 2003, 10-year rates fluctuated within a range of 3.6-4.6%, and yielded 4.3% at the end of 2003. During 2004, 10-year Treasury note yields have fluctuated between approximately 3.9% and 4.7%, averaging 4.3% through year-end.

During 2005, 10-year Treasury yields are expected to rise from a first quarter level of 4.5% to a fourth quarter level of 5.1%, for an annual average of 4.8% (Blue Chip *Financial Forecasts*, January 1, 2005). By the second quarter of

[1] The *Wall Street Journal* had already abandoned the 30-year Treasury as its benchmark, replacing it with the 10-year Treasury note.

2006, 10-year Treasury yields are expected to rise to 5.3%. Over the long-term (2006-2015), 10-year Treasury yields are expected to average 5.6%.

(c) Utility Bond Yields

In the six months preceding the August 1998 global capital market crisis, A-rated utility bond yields averaged 7.1%, compared to the 10-year Treasury yield of 5.6%, with a resulting spread of 1.5%. As investors fled to the safety of government bond markets, spreads began to widen, peaking at just over 335 basis points in September 2002. Spreads averaged 278 basis points in 2002 and 253 basis points in 2003. Spreads have tightened since their February 2003 peak, averaging 188 basis points in 2004. At the end of 2004, the long-term A-rated utility/10-year Treasury bond spread was 175 basis points (with long-term A-rated utility bonds yielding 6.0%), compared to an average of 185 basis points over the past 25 years (January 1980 to December 2004). The average yield on A-rated utility bonds during 2004 was 6.2%.

4. EQUITY MARKETS

From the beginning of 1995 to its 2000 peak, the S&P 500 price index increased 230%; the NASDAQ rose by 580%. At the market peak, valuations had been pushed to historically high levels. During this period, it appeared that the only risk investors perceived was the risk of not being in the market.

As the economy began to deteriorate in mid-2000, investors quickly abandoned the tech sector, turning to the more defensive sectors of the economy. From its 2000 peak to its trough in September 2001, the S&P 500 declined by 37%; the corresponding decline in the NASDAQ was 72%. Despite fears of further terrorist attacks and the Enron Corp. debacle, investors began to exhibit renewed confidence. By January 2002 they had pushed the S&P 500 up over 20% from its September 2001 trough and the NASDAQ up 45%. However, subsequent reports

of further accounting scandals, blows to the credibility of investment analyst research, weak corporate profits, and the continuing uncertainty surrounding the global political climate ensured that the rebound was short-lived. By March 2003, the S&P 500 and NASDAQ had again retreated, falling 32% and 38%, respectively, below their January 2002 peaks.

As the economy improved in the latter half of 2003, the equity market moved ahead strongly, fueled by investors' renewed optimism. After three years of declines, the S&P 500 rose over 25% in 2003. Nevertheless, at the end of 2003, the S&P 500 remained 27% below its January 2000 peak. The NASDAQ rose over 50% in 2003 following three years of declines, although remained 55% below its February 2000 peak.

During most of 2004, the stock market's overall performance was mediocre, as corporate profits began to slide. High energy prices propelled stocks in the energy sector, but other sectors (e.g., health care) did not fare as well. However, December's performance was strong enough to push the total return for the S&P 500 for the full year to 10.9%, compared to the compound average annual return of 12.0% experienced from 1947-2003.

Various uncertainties in the U.S. and globally may hinder the upward movement of the equity market in 2005, as the overhangs of high oil prices, a weak U.S. dollar, and global terrorism threats potentially undermine investor confidence.

LACLEDE GAS COMPANY

Statistical Materials

to accompany

Prepared Testimony

of

KATHLEEN C. McSHANE

FOSTER ASSOCIATES, INC.
Bethesda, MD. 20814

February 2005

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CAPITAL STRUCTURE RATIOS FOR SELECTED
LOCAL NATURAL GAS DISTRIBUTION COMPANIES
BASED ON TOTAL CAPITAL
(AVERAGE OF FOUR QUARTERS ENDING SEPT. 2004)

	Long-Term Debt	Short-Term Debt	Preferred Stock [1/]	Common Equity
AGL RESOURCES INC	42.4	9.0	2.5	46.1
ATMOS ENERGY CORP	44.1	6.7	0.0	49.2
CASCADE NATURAL	46.2	12.0	0.0	41.8
LACLEDE GROUP	40.1	18.6	0.1	41.1
NEW JERSEY RESOURCES	31.2	19.4	0.0	49.4
NICOR INC	32.1	19.5	0.0	48.4
NORTHWEST NATURAL GAS CO	45.7	4.8	0.0	49.5
PEOPLES ENERGY CORP	46.7	5.3	0.0	48.0
PIEDMONT NATURAL GAS CO	41.2	4.0	0.0	54.8
SOUTH JERSEY INDUSTRIES	43.8	10.0	0.2	46.0
SOUTHWEST GAS	63.4	2.8	0.0	33.8
WGL HOLDINGS INC	36.5	9.3	1.7	52.4
Mean	**42.8**	**10.1**	**0.4**	**46.7**
Median	**43.1**	**9.2**	**0.0**	**48.2**

1/ Includes preferred securities

Source: 10-Qs and 10-Ks.

CAPITAL STRUCTURE RATIOS FOR SELECTED
LOCAL NATURAL GAS DISTRIBUTION COMPANIES
BASED ON PERMANENT CAPITAL
(AVERAGE OF FOUR QUARTERS ENDING SEPT. 2004)

	Long-Term Debt	Preferred Stock 1/	Common Equity
AGL RESOURCES INC	46.3	3.0	50.7
ATMOS ENERGY CORP	47.2	0.0	52.8
CASCADE NATURAL	52.5	0.0	47.5
LACLEDE GROUP	49.0	0.2	50.8
NEW JERSEY RESOURCES	38.5	0.0	61.5
NICOR INC	39.9	0.1	60.1
NORTHWEST NATURAL GAS CO	48.0	0.0	52.0
PEOPLES ENERGY CORP	49.3	0.0	50.7
PIEDMONT NATURAL GAS CO	42.9	0.0	57.1
SOUTH JERSEY INDUSTRIES	48.7	0.3	51.0
SOUTHWEST GAS	65.2	0.0	34.8
WGL HOLDINGS INC	40.3	1.9	57.8
Mean	**47.3**	**0.4**	**52.2**
Median	**47.6**	**0.0**	**51.5**

1/ Includes preferred securities

Source: 10-Qs and 10-Ks.

**STANDARD & POOR'S DEBT RATINGS, BUSINESS RISK PROFILE SCORES,
DEBT AND INTEREST COVERAGE RATIOS FOR U.S. INVESTMENT GRADE LDCs**

	Debt Rating	Business Profile Scores	Debt Ratio (2001-2003)	Average Pre-Tax Interest Coverage (2001-2003)	FFO Interest Coverage (2001-2003)	FFO / Total Debt (2001-2003)
Nicor Inc.	AA	3	54.6	5.4	5.9	43.1
Washington Gas Light Co.	AA-	2	48.5	4.0	4.6	23.7
WGL Holdings Inc.	AA-	3	49.2	3.8	4.7	22.5
Average AA	**AA-**	**3**	**50.8**	**4.4**	**5.1**	**29.8**
New Jersey Natural Gas Co.	A+	1	55.3	6.0	5.4	19.1
Equitable Resources Inc.	A	6	46.5	6.7	6.5	33.3
Laclede Group Inc. (The)	A	3	61.0	2.6	3.2	12.7
Northwest Natural Gas Co.	A	1	52.8	2.9	4.1	21.1
Piedmont Natural Gas Co. Inc.	A	2	55.1	3.4	3.5	17.2
Southern California Gas Co.	A	1	44.2	5.8	7.9	52.1
AGL Resources Inc.	A-	4	62.3	2.9	3.3	17.9
Alabama Gas Corp.	A-	2	47.8	3.8	4.9	30.8
Atmos Energy Corp.	A-	4	58.8	2.7	3.8	19.8
Energen Corp.	A-	6	50.9	3.6	5.6	42.6
Indiana Gas Co. Inc.	A-	1	58.5	2.1	3.4	14.1
North Shore Gas Co.	A-	2	40.6	5.7	5.7	31.1
Peoples Energy Corp.	A-	5	56.6	3.4	4.4	20.2
Peoples Gas Light & Coke Co.	A-	2	49.8	5.2	5.6	22.5
Public Service Co. of North Carolina Inc.	A-	2	36.0	2.8	4.3	36.1
Wisconsin Gas Co.	A-	2	34.7	4.3	6.9	25.1
Average A Rated	**A-**	**3**	**50.7**	**4.0**	**4.9**	**26.0**
Cascade Natural Gas Corp.	BBB+	2	58.9	3.1	2.9	14.3
Consolidated Natural Gas Co.	BBB+	6	55.0	5.1	7.0	28.8
ONEOK Inc.	BBB+	6	65.5	2.9	4.8	21.8
National Fuel Gas Co.	BBB+	7	59.8	3.1	4.5	27.1
South Jersey Gas Co.	BBB+	2	60.3	3.7	4.6	17.6
UGI Utilities Inc.	BBB+	4	70.5	2.2	2.8	18.6
Columbia Energy Group	BBB	3	40.0	5.6	4.9	32.0
Michigan Consolidated Gas Co.	BBB	4	56.4	1.7	3.0	12.4
Southern Union Co.	BBB	3	70.0	1.6	2.6	10.8
Southwestern Energy Co.	BBB	1/	56.9	3.3	5.7	31.1
NUI Utilities Inc.	BBB-	4	68.1	2.0	3.7	14.2
Southwest Gas Corp.	BBB-	3	67.9	1.6	3.0	14.8
Average BBB Rated	**BBB**	**4**	**60.8**	**3.0**	**4.1**	**20.3**
Investment Grade Average	**A-**	**3**	**54.6**	**3.6**	**4.6**	**24.1**

1/ No business profile score specifed but described as "above average"

Source: Standard & Poor's "Credit Stats: Gas Distribution Utilities - Integrated" (August 2004); "Credit Stats: Gas Transmission & Distribution - Regulated" (August 2004); U.S. Utility and Power Ranking List" (December 2004)

SELECTED INDICATORS OF ECONOMIC ACTIVITY
(1989 = 100)

Year		Gross Domestic Product: Constant Dollars (1)	Gross Domestic Product: Current Dollars (2)	Industrial Production (3)	Implicit Price Index a/ (4)	GDP Implicit Price Deflator Index b/ (5)	Consumer Price Index (6)	Consumer Price Index b/ (7)	After-Tax Corporate Profits Index (8)	After-Tax Corporate Profits as a % of GDP (9)
1989		100.0	100.0	100.0	100.0		100.0		100.0	
1990		101.9	105.8	100.9	103.9	3.9	105.4	5.4	111.1	4.6
1991		101.7	109.3	99.3	107.5	3.5	109.8	4.2	119.6	4.7
1992		105.1	115.6	102.2	110.0	2.3	113.2	3.1	131.4	4.9
1993		107.9	121.4	105.5	112.5	2.3	116.5	2.9	145.6	5.2
1994		112.2	129.0	111.2	114.9	2.1	119.5	2.6	161.3	5.4
1995		115.0	134.9	116.6	117.2	2.0	122.9	2.8	191.7	6.2
1996		119.3	142.5	121.6	119.5	2.0	126.5	2.9	210.9	6.4
1997		124.7	151.4	130.6	121.5	1.7	129.5	2.4	232.3	6.6
1998		129.9	159.5	138.3	122.8	1.1	131.5	1.5	197.7	5.4
1999		135.7	169.0	144.4	124.6	1.5	134.4	2.2	217.6	5.6
2000		140.6	179.0	150.8	127.3	2.3	138.9	3.3	213.8	5.2
2001		141.7	184.7	145.6	130.4	2.4	142.8	2.9	211.9	5.0
2002		144.3	191.2	144.8	132.5	1.7	145.1	1.6	241.6	5.5
2003		148.7	200.6	145.2	134.9	1.8	148.4	2.3	269.1	5.8
2001	1Q	141.5	182.7	148.5	129.2	2.3	141.7	3.4	223.9	5.3
	2Q	141.9	184.7	146.6	130.2	2.3	143.2	3.4	226.0	5.3
	3Q	141.4	184.8	144.6	130.7	2.3	143.4	2.7	199.2	4.7
	4Q	141.9	186.5	143.0	131.4	1.9	143.0	1.9	198.7	4.6
2002	1Q	143.1	188.5	143.6	131.7	1.9	143.5	1.3	221.7	5.1
	2Q	144.0	190.5	145.1	132.3	1.6	145.0	1.3	236.6	5.4
	3Q	144.9	192.3	145.6	132.7	1.5	145.6	1.5	246.0	5.5
	4Q	145.2	193.6	144.9	133.4	1.5	146.1	2.2	262.0	5.9
2003	1Q	145.9	195.9	145.2	134.3	2.0	147.6	2.9	253.3	5.6
	2Q	147.4	198.5	143.7	134.7	1.8	148.1	2.1	252.4	5.5
	3Q	150.0	202.7	145.0	135.1	1.8	148.8	2.2	270.2	5.8
	4Q	151.6	205.5	147.0	135.6	1.7	148.9	1.9	300.3	6.3
2004	1Q	153.2	209.2	149.4	136.5	1.7	150.2	1.8	297.0	6.2
	2Q	154.5	212.6	151.2	137.6	2.2	152.4	2.9	301.7	6.2
	3Q	156.0	215.3	152.4	138.1	2.2	152.9	2.8	295.8	6.0

Note: Data are based on Chain Weighted Indexes.

Source: U.S. Bureau of Economic Analysis, Federal Reserve, Survey of Current Business

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

Year	Government Securities						Moody's Utility Bonds			Moody's Corporate Bonds
	Prime Rate	3-Month Bills a/	10-Year Bonds	Long-term Bonds b/	Inflation Indexed 10-Year	Inflation Indexed Long-term Bonds c/	Aa	A	Baa	Aaa
1976	6.84	5.00	7.61	7.86			8.92	9.29	9.82	8.43
1977	6.83	5.26	7.42	7.67			8.43	8.61	9.06	8.02
1978	9.06	7.22	8.41	8.49			9.10	9.29	9.62	8.73
1979	12.67	10.04	9.44	9.29			10.22	10.49	10.96	9.63
1980	15.27	11.62	11.63	11.30			13.00	13.34	13.95	11.94
1981	18.87	14.08	14.04	13.44			15.30	15.95	16.60	14.17
1982	14.86	10.73	12.87	12.76			14.79	15.86	16.45	13.79
1983	10.79	8.62	11.18	11.18			12.83	13.66	14.20	12.04
1984	12.04	9.57	12.49	12.39			13.66	14.03	14.53	12.71
1985	9.93	7.49	10.54	10.79			12.06	12.55	12.96	11.37
1986	8.33	5.97	7.68	7.80			9.30	9.58	9.97	9.02
1987	8.22	5.83	8.38	8.58			9.77	10.10	10.42	9.38
1988	9.32	6.68	8.85	8.96			10.26	10.49	10.76	9.71
1989	10.87	8.11	8.49	8.45			9.56	9.77	9.98	9.26
1990	10.01	7.49	8.55	8.61			9.65	9.86	10.06	9.32
1991	8.46	5.38	7.86	8.14			9.09	9.36	9.55	8.77
1992	6.25	3.43	7.01	7.67			8.55	8.64	8.86	8.14
1993	6.00	3.02	5.87	6.59			7.44	7.59	7.91	7.22
1994	7.23	4.34	7.08	7.39			8.21	8.30	8.63	7.96
1995	8.81	5.44	6.58	6.85			7.77	7.89	8.29	7.59
1996	8.27	5.04	6.44	6.73			7.57	7.75	8.16	7.37
1997	5.44	5.11	6.32	6.58	3.55	3.60	7.54	7.60	7.96	7.26
1998	8.31	4.79	5.26	5.54	3.73	3.73	6.91	7.04	7.27	6.53
1999	8.02	4.71	5.68	5.88	4.00	3.99	7.51	7.62	7.88	7.04
2000	9.27	5.85	5.97	5.91	4.01	4.03	8.06	8.24	8.36	7.62
2001	6.77	3.50	4.99	5.51	3.32	3.32	7.54	7.73	8.02	7.08
2002	4.67	1.63	4.56	5.39	2.81	3.10	7.17	7.35	7.99	6.48
2003	4.10	1.03	4.02	5.00	2.04	2.52	6.35	6.54	6.80	5.60
2004	4.38	1.44	4.27	5.08	1.82	2.19	6.04	6.15	6.39	5.63
2003 Jan	4.25	1.18	4.00	4.97	2.19	2.66	6.77	7.03	7.32	6.04
Feb	4.25	1.20	3.71	4.78	1.77	2.35	6.56	6.82	7.03	5.83
Mar	4.25	1.14	3.83	4.93	2.03	2.63	6.45	6.68	6.99	5.77
Apr	4.25	1.13	3.89	4.88	2.16	2.70	6.37	6.54	6.69	5.53
May	4.25	1.11	3.37	4.45	1.77	2.26	6.13	6.26	6.35	5.04
June	4.00	0.90	3.54	4.63	1.90	2.41	6.20	6.32	6.44	5.16
July	4.00	0.96	4.49	5.48	2.41	2.88	6.60	6.88	7.15	5.95
Aug	4.00	0.98	4.45	5.32	2.29	2.73	6.41	6.71	6.98	5.83
Sep	4.00	0.95	3.96	4.97	1.95	2.47	6.03	6.23	6.62	5.43
Oct	4.00	0.96	4.33	5.23	1.93	2.42	6.27	6.40	6.71	5.69
Nov	4.00	0.93	4.34	5.21	2.03	2.41	6.23	6.35	6.70	5.26
Dec	4.00	0.95	4.27	5.15	2.00	2.30	6.19	6.28	6.65	5.64
2004 Jan	4.00	0.92	4.16	5.04	1.85	2.21	6.05	6.11	6.40	5.53
Feb	4.00	0.96	3.99	4.95	1.61	2.01	6.04	6.08	6.22	5.43
Mar	4.00	0.95	3.86	4.87	1.52	1.93	5.98	6.01	6.15	5.37
Apr	4.00	0.98	4.53	5.36	2.11	2.51	6.45	6.46	6.58	5.87
May	4.00	1.08	4.66	5.29	2.00	2.35	6.59	6.53	6.71	5.97
June	4.00	1.33	4.62	5.41	2.10	2.37	6.17	6.36	6.77	5.91
July	4.25	1.45	4.50	5.31	2.01	2.41	6.16	6.36	6.71	5.90
Aug	4.50	1.59	4.13	4.97	1.78	2.16	5.83	6.02	6.32	5.51
Sep	4.75	1.71	4.14	4.97	1.77	2.14	5.78	5.96	6.24	5.47
Oct	4.75	1.91	4.05	4.87	1.63	2.12	5.65	5.89	6.10	5.41
Nov	5.00	2.23	4.36	5.07	1.75	2.14	5.92	6.07	6.27	5.62
Dec	5.25	2.18	4.24	4.86	1.68	1.96	5.84	5.99	6.17	5.55

a/ Rates on new issues.

b/ 20-year constant maturities for 1974-1978; 30-year maturities, 1978-January 2002. Theoretical 30-year yield, February 2002 forward.

c/ Yield on inflation-indexed bonds with a term to maturity over 10-years. 1997-September 2001, Global Financial Data Inc; October 2001-December 2002, Wall Street Journal; January 2003-pres., Federal Reserve.

Note: Monthly data reflect rate in effect at end of month.

Source: Annual Statistical Digest(Federal Reserve System); Federal Reserve Bulletin(various issues). Moody's Credit Perspectives, Moody's Investors Service; Global Financial Data Inc.,Wall Street Journal

Schedule 5

INDIVIDUAL COMPANY RISK DATA FOR
SELECTED LOCAL NATURAL GAS DISTRIBUTION COMPANIES

	S & P		Value Line							
	Debt Rating	Business Profile	Safety Rank	Earnings Predictability	Financial Strength	Beta	Common Equity Ratio 2003	Forecast Common Equity Ratio 2007-9	Average Market/ Book Ratio 1993-2003	Repriced Equity /Book 2003
AGL Resources	A-	4	2	65	B++	0.80	49.7	54.0	175	148
Atmos Energy	BBB	4	3	55	B+	0.70	49.8	50.0	187	113
Cascade Natural Gas	BBB+	2	3	70	B+	0.75	44.1	44.0	172	148
Laclede Group	A	3	2	65	B+	0.70	49.4	49.0	165	194
New Jersey Resources [1/ 2/]	A+	1	2	100	B++	0.75	59.7	62.0	209	145
NICOR	AA	3	2	80	A	1.05	60.3	63.5	228	252
Northwest Natural Gas	A	1	2	65	B++	0.65	50.3	52.5	154	159
Peoples Energy Corp [2/]	A-	5	1	85	A	0.80	49.3	53.0	165	269
Piedmont Natural Gas	A	2	2	80	B++	0.75	57.8	63.5	200	141
South Jersey Industries [2/]	BBB+	2	2	80	B++	0.55	51.0	56.0	166	152
Southwest Gas Corp	BBB-	3	3	55	B	0.80	34.0	46.0	127	154
WGL Holdings Inc [2/]	AA-	3	1	60	A	0.75	58.0	63.0	175	162
Mean	**A-**	**3**	**2**	**72**	**B++**	**0.75**	**51.1**	**54.7**	**177**	**170**
Median	**A-**	**3**	**2**	**68**	**B++**	**0.75**	**50.1**	**53.5**	**174**	**153**

1/ For subsidiary, New Jersey Natural Gas
2/ Common equity ratio data for 2004

Source: Value Line (December 17, 2004);
Standard & Poor's "U.S. Utility and Power Ranking List" (December 15, 2004);
Moody's.com

DCF COSTS OF EQUITY FOR SELECTED
LOCAL NATURAL GAS DISTRIBUTION COMPANIES
(BASED ON I/B/E/S ANALYSTS' EARNINGS GROWTH FORECASTS)

Company	Annualized Last Paid Dividend (1)	Oct. 16, 2004 - Jan 15, 2005 Average High/Low Price (2)	Expected Dividend Yield [1/] (3)	I/B/E/S Long-Term EPS Forecasts (December 2004) (4)	DCF Cost of Equity [2/] (5)
AGL RESOURCES INC	1.16	32.27	3.8	5.0	8.8
ATMOS ENERGY CORP	1.24	26.42	4.9	3.6	8.5
CASCADE NATURAL GAS CORP	0.96	21.07	4.7	3.0	7.7
LACLEDE GROUP INC	1.36	30.88	4.6	4.0	8.6
NEW JERSEY RESOURCES	1.36	42.52	3.4	5.0	8.4
NICOR INC	1.86	37.23	5.1	2.0	7.1
NORTHWEST NATURAL GAS CO	1.30	32.78	4.1	4.3	8.4
PEOPLES ENERGY CORP	2.16	43.74	5.1	4.0	9.1
PIEDMONT NATURAL GAS CO	0.86	26.67	3.4	5.0	8.4
SOUTH JERSEY INDUSTRIES INC	1.70	49.78	3.6	5.0	8.6
SOUTHWEST GAS CORP	0.82	24.98	3.4	3.1	6.5
WGL HOLDINGS INC	1.30	29.91	4.5	4.0	8.5
Mean	**1.34**	**33.19**	**4.2**	**4.0**	**8.2**
Median	**1.30**	**31.58**	**4.3**	**4.0**	**8.4**

1/ Expected Dividend Yield = (Col (1) / Col (2)) * (1 + Col (4))
2/ Expected Dividend Yield (Col (3)) + I/B/E/S Growth Forecast (Col (4))

Source: Standard & Poor's Research Insight, I/B/E/S, Yahoo.com, Value Line (December 17, 2004)

DCF COSTS OF EQUITY FOR SELECTED
LOCAL NATURAL GAS DISTRIBUTION COMPANIES
(BASED ON VALUE LINE ANALYSTS' EARNINGS GROWTH FORECASTS)

Company	Annualized Last Paid Dividend (1)	Oct. 16, 2004 - Jan 15, 2005 Average High/Low Price (2)	Expected Dividend Yield [1/] (3)	Value Line Long-Term EPS Forecasts (December 2004) (4)	DCF Cost of Equity [2/] (5)
AGL RESOURCES INC	1.16	32.27	3.8	5.0	8.8
ATMOS ENERGY CORP	1.24	26.42	4.9	5.0	9.9
CASCADE NATURAL GAS CORP	0.96	21.07	4.8	5.0	9.8
LACLEDE GROUP INC	1.36	30.88	4.6	5.5	10.1
NEW JERSEY RESOURCES	1.36	42.52	3.5	8.0	11.5
NICOR INC	1.86	37.23	5.1	1.5	6.6
NORTHWEST NATURAL GAS CO	1.30	32.78	4.2	5.5	9.7
PEOPLES ENERGY CORP	2.16	43.74	5.0	1.0	6.0
PIEDMONT NATURAL GAS CO	0.86	26.67	3.5	7.5	11.0
SOUTH JERSEY INDUSTRIES INC	1.70	49.78	3.6	6.5	10.1
SOUTHWEST GAS CORP	0.82	24.98	3.6	10.5	14.1
WGL HOLDINGS INC	1.30	29.91	4.5	4.5	9.0
Mean	**1.34**	**33.19**	**4.3**	**5.5**	**9.7**
Median	**1.30**	**31.58**	**4.4**	**5.3**	**9.9**

1/ Expected Dividend Yield = (Col (1) / Col (2)) * (1 + Col (4))
2/ Expected Dividend Yield (Col (3)) + VL Growth Forecast (Col (4))

Source: Standard & Poor's Research Insight, Yahoo.com, Value Line (December 17, 2004)

DCF COSTS OF EQUITY FOR SELECTED
LOCAL NATURAL GAS DISTRIBUTION COMPANIES
(SUSTAINABLE GROWTH)

Company	Annualized Last Paid Dividend (1)	Oct. 16, 2004 - Jan 15, 2005 Average High/Low Price (2)	Expected Dividend Yield 1/ (3)	Forecast Return on Average Common Equity (4)	Forecast Earnings Retention Rate (5)	BR Growth 2/ (December 2004) (6)	SV Growth 3/ (December 2004) (7)	Sustainable Growth 4/ (December 2004) (8)	DCF Cost of Equity 5/ (9)
AGL RESOURCES INC	1.16	32.27	3.91	13.8	51.7	7.2	1.7	8.8	12.8
ATMOS ENERGY CORP	1.24	26.42	4.9	8.3	34.1	2.8	2.0	4.8	9.7
CASCADE NATURAL GAS CORP	0.96	21.07	4.8	11.5	36.8	4.2	0.7	4.9	9.7
LACLEDE GROUP INC	1.36	30.88	4.6	11.4	34.3	3.9	0.7	4.6	9.2
NEW JERSEY RESOURCES	1.36	42.52	3.4	12.1	49.7	6.0	-0.8	5.2	8.5
NICOR INC	1.86	37.23	5.2	15.3	26.9	4.1	0.1	4.2	9.4
NORTHWEST NATURAL GAS CO	1.30	32.78	4.1	10.4	39.6	4.1	0.3	4.5	8.6
PEOPLES ENERGY CORP	2.16	43.74	5.1	11.1	26.3	2.9	-0.4	2.5	7.5
PIEDMONT NATURAL GAS CO	0.86	26.67	3.4	11.0	38.7	4.3	0.6	4.8	8.2
SOUTH JERSEY INDUSTRIES INC	1.70	49.78	3.6	10.5	50.8	5.4	0.6	5.9	9.5
SOUTHWEST GAS CORP	0.82	24.98	3.5	9.5	61.9	5.9	0.6	6.5	10.0
WGL HOLDINGS INC	1.30	29.91	4.6	11.7	41.7	4.9	0.0	4.9	9.5
Mean	**1.34**	**33.19**	**4.3**	**11.4**	**41.0**	**4.6**	**0.5**	**5.1**	**9.4**
Median	**1.30**	**31.58**	**4.4**	**11.2**	**39.1**	**4.2**	**0.6**	**4.9**	**9.4**

1/ Expected Dividend Yield = (Col (1) / Col (2)) * (1 + Col (8))
2/ BR Growth = Col (4) * (Col (5) / 100)
3/ SV Growth = Percent expected growth in number of shares of stock * Percent of funds from new equity financing that accrues to existing shareholders [1- B/M].
4/ Col (6) + Col (7)
5/ Expected Dividend Yield Col (3) + Sustainable Growth Col (8)

Source: Standard & Poor's Research Insight, Yahoo.com, Value Line (December 17, 2004)

DCF COSTS OF EQUITY FOR SELECTED
LOCAL NATURAL GAS DISTRIBUTION COMPANIES
(BASED ON FORECAST CASH FLOW PER SHARE GROWTH RATES)

Company	Annualized Last Paid Dividend (1)	Oct. 16, 2004 - Jan 15, 2005 Average High/Low Price (2)	Expected Dividend Yield [1/] (3)	Cash Flow Per Share Growth (December 2004) (4)	DCF Cost of Equity [2/] (5)
AGL RESOURCES INC	1.16	32.27	3.7	3.5	7.2
ATMOS ENERGY CORP	1.24	26.42	5.0	7.0	12.0
CASCADE NATURAL GAS CORP	0.96	21.07	5.1	11.0	16.1
LACLEDE GROUP INC	1.36	30.88	4.6	5.5	10.1
NEW JERSEY RESOURCES	1.36	42.52	3.4	6.5	9.9
NICOR INC	1.86	37.23	5.1	2.0	7.1
NORTHWEST NATURAL GAS CO	1.30	32.78	4.1	4.0	8.1
PEOPLES ENERGY CORP	2.16	43.74	5.0	2.0	7.0
PIEDMONT NATURAL GAS CO	0.86	26.67	3.4	6.5	9.9
SOUTH JERSEY INDUSTRIES INC	1.70	49.78	3.6	5.0	8.6
SOUTHWEST GAS CORP	0.82	24.98	3.5	6.0	9.5
WGL HOLDINGS INC	1.30	29.91	4.6	5.5	10.1
Mean	**1.34**	**33.19**	**4.3**	**5.4**	**9.6**
Median	**1.30**	**31.58**	**4.4**	**5.5**	**9.7**

1/ Expected Dividend Yield = (Col (1) / Col (2)) * (1 + Col (4))
2/ Expected Dividend Yield (Col (3)) + Cash Flow Per Share Growth (Col (4))

Source: Standard & Poor's Research Insight, Yahoo.com, Value Line (December 17, 2004)

DCF COSTS OF EQUITY FOR SELECTED
LOCAL NATURAL GAS DISTRIBUTION COMPANIES
(TWO-STAGE MODEL)

Company	Annualized Last Paid Dividend (1)	Oct. 16, 2004 - Jan 15, 2005 Average High/Low Price (2)	Stage 1 I/B/E/S EPS Forecasts (3)	Stage 2 GDP Growth [1/] (4)	DCF Cost of Equity [2/] (5)
AGL RESOURCES INC	1.16	32.27	5.0	5.50	9.4
ATMOS ENERGY CORP	1.24	26.42	3.6	5.50	10.2
CASCADE NATURAL GAS CORP	0.96	21.07	3.0	5.50	9.9
LACLEDE GROUP INC	1.36	30.88	4.0	5.50	9.9
NEW JERSEY RESOURCES	1.36	42.52	5.0	5.50	8.8
NICOR INC	1.86	37.23	2.0	5.50	10.1
NORTHWEST NATURAL GAS CO	1.30	32.78	4.3	5.50	9.5
PEOPLES ENERGY CORP	2.16	43.74	4.0	5.50	10.4
PIEDMONT NATURAL GAS CO	0.86	26.67	5.0	5.50	8.8
SOUTH JERSEY INDUSTRIES INC	1.70	49.78	5.0	5.50	9.1
SOUTHWEST GAS CORP	0.82	24.98	3.1	5.50	8.6
WGL HOLDINGS INC	1.30	29.91	4.0	5.50	9.9
Mean	**1.34**	**33.19**	**4.0**	**5.5**	**9.6**
Median	**1.30**	**31.58**	**4.0**	**5.5**	**9.7**

1/ Consensus forecast of nominal rate of GDP growth, 2006-15

2/ Internal Rate of Return: I/B/E/S EPS forecast growth rate applies for first 5 years; GDP growth thereafter

Source: Standard & Poor's Research Insight, Yahoo.com, Blue Chip Economic Indicators, October 10, 2004

DERIVATION OF IMPLICIT RELATIONSHIP AMONG THE MARKET-DERIVED 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,

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

$$(5)\quad \text{by definition,}\quad g = \frac{RE}{E} \times \frac{E}{B} = \frac{RE}{B}$$

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:

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

HISTORIC MARKET EQUITY RISK PREMIUMS
(Percentages)

	Annual Average Returns		Risk Premium in Relation to:
	S & P 500 Common Stock Index	U.S. Treasury Bonds [1/]	S & P 500 Common Stock Index
1926-2004P	12.4	5.2	7.2
1947-2004P	13.2	6.1	7.1

	Annual Average Returns		Risk Premium in Relation to:
	S&P / Moody's Gas Distribution Stock Index	U.S. Treasury Bonds [1/]	S&P / Moody's Gas Distribution Stock Index
1947-2004P	12.3	6.1	6.2

1/ Average of annual income returns for 20-year bond. For 2004, the average yield through December was used as a proxy for the annual income return.

Note: The S&P / Moody's Gas Distribution Index reflects S&P's Natural Gas Distributors Index from 1947 to 1984, when S&P eliminated its gas distribution index. The 1984-2001 data are for Moody's Gas index. The index was terminated in July 2002. The 2002-2004 returns were estimated using simple averages of the prices and dividends for the utilities that were included in Moody's Gas Index as of the end of 2001.

Sources: Standard & Poor's Analysts' Handbook;
Ibbotson Associates, Stocks, Bonds, Bills and Inflation Yearbook 2003;
Mergent Corporate News Reports; Standard & Poor's Research Insight.

EQUITY RISK PREMIUM STUDY FOR
SELECTED U.S. LOCAL NATURAL GAS DISTRIBUTION COMPANIES
(Quarterly Averages of Monthly Data)

	Expected Dividend Yield [1/]	I/B/E/S/ EPS Growth Forecast	DCF Cost	10-Year Treasury Yield	Risk Premium
1993 q1	5.4	6.5	11.9	6.3	5.6
q2	5.2	6.4	11.6	6.0	5.6
q3	4.9	6.5	11.4	5.6	5.8
q4	5.2	6.0	11.2	5.6	5.6
1994 q1	5.4	5.4	10.8	6.1	4.8
q2	5.8	5.6	11.4	7.1	4.3
q3	6.0	5.6	11.6	7.3	4.2
q4	6.3	5.2	11.5	7.8	3.7
1995 q1	6.1	4.9	11.0	7.5	3.5
q2	5.9	5.1	11.0	6.6	4.4
q3	5.8	4.9	10.7	6.3	4.4
q4	5.4	5.1	10.5	5.9	4.6
1996 q1	5.3	5.2	10.5	5.9	4.6
q2	5.3	5.2	10.5	6.7	3.8
q3	5.2	5.3	10.5	6.8	3.7
q4	4.9	5.4	10.3	6.3	3.9
1997 q1	5.1	5.2	10.3	6.6	3.7
q2	5.0	5.2	10.2	6.6	3.5
q3	4.8	5.3	10.1	6.2	3.9
q4	4.5	5.5	10.0	5.8	4.2
1998 q1	4.5	5.9	10.3	5.6	4.7
q2	4.5	5.9	10.4	5.6	4.8
q3	4.8	6.0	10.8	5.1	5.7
q4	4.4	5.8	10.2	4.7	5.4
1999 q1	5.0	5.8	10.8	5.0	5.7
q2	4.9	5.6	10.6	5.6	5.0
q3	4.8	6.0	10.8	5.1	5.7
q4	4.4	5.8	10.2	4.7	5.4
2000 q1	5.8	5.4	11.3	6.4	4.9
q2	5.7	5.3	11.0	6.2	4.8
q3	5.3	5.7	11.0	5.9	5.2
q4	4.8	5.7	10.5	5.5	5.1
2001 q1	4.9	5.7	10.6	5.0	5.6
q2	4.8	5.7	10.5	5.4	5.1
q3	5.0	6.1	11.1	4.8	6.3
q4	4.9	5.8	10.7	4.7	5.9
2002 q1	4.9	5.6	10.5	5.1	5.4
q2	4.7	5.6	10.3	5.0	5.3
q3	5.3	5.7	11.0	4.1	6.9
q4	5.1	5.6	10.6	4.0	6.7
2003 q1	5.2	5.8	11.0	3.8	7.2
q2	4.8	5.4	10.2	3.6	6.6
q3	4.7	5.3	9.9	4.3	5.6
q4	4.6	4.9	9.5	4.3	5.2
2004 q1	4.4	4.8	9.2	4.0	5.2
q2	4.6	4.5	9.1	4.6	4.5
q3	4.5	4.2	8.7	4.3	4.4
q4	4.2	4.2	8.4	4.2	4.2
Averages for 10-year Treasury yields:					
5.5% and below			10.2	4.6	5.6
5.6 - 6.0%			10.8	5.8	4.9
6.1 - 6.5%			10.6	6.3	4.3
Over 6.5%			11.0	7.1	3.9
All Periods			10.5	5.6	4.9

1/ Dividend Yield is adjusted for half of I/B/E/S/ growth

Source: Standard & Poor's Research Insight, I/B/E/S International, Inc., U.S. Federal Reserve

Statistical Release

SCHEDULE 13

RETURNS ON AVERAGE COMMON EQUITY
FOR 35 LOW RISK INDUSTRIALS

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	Average 1994-2003	Average Forecast 2007-2009
Allergan, Inc.	19.8	11.4	10.9	16.1	-11.7	28.3	28.5	24.5	8.4	-6.9	12.9	26.4
Ashland Inc.	14.5	0.4	13.3	15.7	9.8	13.4	3.6	20.3	5.9	3.6	10.0	7.1
Avery Dennison	15.1	18.6	21.4	24.5	26.7	26.2	34.6	27.7	25.9	22.6	24.3	22.3
Baldor Electric	15.3	16.3	17.1	18.2	17.6	16.5	17.6	8.6	8.9	9.2	14.5	15.6
Banta Corp.	15.1	14.9	12.6	10.4	12.8	4.2	16.2	12.9	10.2	9.6	11.9	14.8
Bob Evans Farms	14.4	7.3	8.7	10.4	12.4	11.8	11.5	13.8	13.9	12.1	11.6	11.3
Church & Dwight	3.8	6.6	13.3	14.2	16.2	21.5	14.5	18.2	21.2	20.6	15.0	14.4
CLARCOR Inc.	18.6	17.7	18.0	17.0	17.9	17.8	17.8	16.2	15.8	15.9	17.3	14.1
Clorox Co.	23.7	21.7	23.7	25.3	28.1	18.5	23.4	17.6	19.8	38.4	24.0	34.8
ConAgra Foods	20.0	7.6	26.0	23.9	12.6	13.2	19.9	18.9	17.3	18.9	17.8	19.2
ConocoPhillips	17.2	15.3	35.0	21.2	5.2	13.9	35.0	16.1	-1.3	15.1	17.3	7.9
Curtiss-Wright	12.9	11.0	9.1	14.4	13.4	16.0	15.0	19.6	11.9	11.7	13.5	13.2
Diebold, Inc.	14.3	15.8	18.0	19.7	11.1	16.7	15.4	7.3	14.4	16.7	14.9	17.5
Donaldson Co.	17.6	18.8	19.3	21.4	22.8	24.1	25.9	25.2	24.8	23.0	22.3	21.4
Donnelley (R.R) & Sons	14.1	14.4	-8.3	8.1	20.4	25.3	22.5	2.4	15.8	18.6	13.3	12.6
Ecolab Inc.	20.2	21.6	23.2	25.0	31.0	24.2	27.5	23.0	21.6	23.2	24.0	23.7
Int'l Flavors & Frag.	23.8	23.4	17.3	21.0	20.9	18.0	16.5	20.1	32.0	26.2	21.9	20.0
Marathon Oil Corp.	10.2	-2.9	21.6	13.1	7.8	14.4	9.0	3.4	10.7	23.6	11.1	14.8
McCormick & Co.	12.8	19.3	10.3	23.3	26.6	26.8	37.1	35.7	34.1	31.6	25.8	24.1
Minerals Techn.	9.2	9.9	10.0	11.0	12.0	12.8	11.2	10.0	9.8	10.2	10.6	10.0
Murphy Oil Corp.	8.6	-10.0	13.0	12.6	-1.4	11.8	26.4	24.0	7.2	17.0	10.9	10.4
New York Times	13.6	8.6	5.2	15.6	17.6	20.8	29.1	36.6	24.8	22.7	19.5	24.6
Occidental Petroleum	-3.4	13.0	17.0	-13.8	11.1	16.9	37.8	22.8	18.1	22.4	14.2	10.8
Pulitzer Inc.	28.8	27.9	25.6	23.6	21.9	0.3	4.3	1.3	4.3	5.1	14.3	6.9
Scripps (E.W.) 'A'	12.6	11.7	14.7	15.8	12.4	13.2	13.4	10.5	13.1	16.2	13.4	14.8
Sensient Techn.	16.1	19.2	12.4	17.7	18.5	19.1	14.0	17.4	17.3	15.1	16.7	13.7
Sigma-Aldrich	17.1	17.3	16.7	16.6	14.6	13.9	30.2	16.9	15.5	20.5	17.9	18.6
Smucker (J.M.)	14.7	11.0	10.9	12.2	12.1	8.3	11.3	11.7	13.7	9.5	11.5	10.7
Sunoco, Inc.	5.0	14.6	-19.5	30.7	23.1	6.4	26.3	23.8	-3.1	21.2	12.8	11.6
Thomas Inds.	8.1	9.2	11.6	13.6	13.5	13.1	14.1	12.4	11.8	10.7	11.8	6.6
Toro Co.	14.2	20.7	18.2	16.1	1.6	12.9	15.2	15.3	17.0	20.3	15.2	30.3
Universal Corp.	9.7	6.7	17.7	22.7	27.8	23.4	22.0	21.5	18.7	14.8	18.5	16.1
Unocal Corp.	3.6	9.5	0.8	27.0	5.8	6.2	31.0	21.1	10.3	19.9	13.5	17.2
Wendy's Int'l	15.2	14.7	16.6	11.6	11.0	15.6	15.5	18.0	17.7	14.7	15.0	17.1
Wyeth	37.6	34.3	30.1	27.0	27.8	-15.5	-52.5	66.3	72.7	23.5	25.1	38.8
Median	14.5	14.6	16.6	16.6	13.5	15.6	17.6	18.0	15.5	17.0	14.9	14.8
Average											16.1	17.0
Average of Annual Medians											15.9	

Source: Standard and Poor's Research Insight; Value Line.

SCHEDULE 14

S&P DEBT RATINGS AND VALUE LINE RISK MEASURES
FOR 35 LOW RISK INDUSTRIALS

	Value Line Risk Measures				S&P	Common
	Safety Rank	Earnings Predictability	Financial Strength	Beta	Debt Rating	Equity Ratio 1/
Allergan, Inc.	2	80	A+	0.75	A	55.6
Ashland Inc.	2	40	B+	0.85	BBB	59.8
Avery Dennison	2	90	A	0.90	A-	59.8
Baldor Electric	2	65	B++	0.85		76.7
Banta Corp.	2	100	B++	0.75		85.4
Bob Evans Farms	2	85	B++	0.80		96.3
Church & Dwight	2	95	A	0.55	BB	57.0
CLARCOR Inc.	2	95	B++	0.85		95.6
Clorox Co.	2	70	A+	0.65	A-	71.1
ConAgra Foods	2	85	A	0.70	BBB+	47.8
ConocoPhillips	2	35	B++	0.90	A-	67.8
Curtiss-Wright	2	95	B++	0.65		68.1
Diebold, Inc.	2	100	A	0.95		97.9
Donaldson Co.	2	100	B++	0.95		81.0
Donnelley (R.R) & Sons	2	75	B++	0.95	A-	56.6
Ecolab Inc.	2	95	B++	0.90	A	68.2
Int'l Flavors & Frag.	2	75	B++	0.75	A	78.2
Marathon Oil Corp.	2	40	B++	0.90	BBB+	51.8
McCormick & Co.	2	100	B++	0.45	BBB+	59.8
Minerals Techn.	2	90	B++	0.95	A	62.7
Murphy Oil Corp.	2	35	A	0.85		87.8
New York Times	2	85	B++	0.90	A-	64.1
Occidental Petroleum	2	20	B++	0.90	A+	65.7
Pulitzer Inc.	2	40	B+	0.75	BBB+	66.4
Scripps (E.W.) 'A'	2	85	B+	0.90		73.6
Sensient Techn.	2	80	B++	0.75	BBB-	52.4
Sigma-Aldrich	2	65	A	0.85	A	85.0
Smucker (J.M.)	2	80	B++	0.65		90.0
Sunoco, Inc.	2	5	A	0.90	BBB	53.5
Thomas Inds.	2	100	B++	0.75		78.9
Toro Co.	2	40	B++	0.85	BBB-	71.4
Universal Corp.	2	95	B++	0.70	A-	49.7
Unocal Corp.	2	30	A	0.90	BBB+	55.9
Wendy's Int'l	2	95	A	0.75	BBB+	71.7
Wyeth	2	95	A+	0.80	A	53.5
MEAN	**2**	**73**	**B++**	**0.81**	**BBB+**	**69.1**
MEDIAN	**2**	**85**	**B++**	**0.85**	**A-**	**67.8**

1/ Based on permanent capital.

Source: S&P Research Insight, S&P Bond Guide, Value Line.

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Laclede Gas Company's Tariff to Revise Natural Gas Rate Schedules.	)))	Case No. GR-2005-

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 350N, Bethesda, Maryland 20814; and I am Senior Vice President of Foster Associates, Inc.

2. Attached hereto and made a part hereof for all purposes is my direct testimony on behalf of Laclede Gas Company.

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

Kathleen C. McShane

Subscribed and sworn to before me this 17th day of February, 2005.

Patricia J Bradley

MY COMMISSION EXPIRES
10/1/2006