

**COMMONWEALTH OF KENTUCKY  
BEFORE THE PUBLIC SERVICE COMMISSION**

**In the Matter of:**

**APPLICATION OF DELTA NATURAL )  
GAS COMPANY, INC. FOR AN )  
ADJUSTMENT OF RATES )**

**CASE NO. 2010-00116**

**DIRECT TESTIMONY OF**

**MARTIN J. BLAKE**

AFFIDAVIT

The affiant, Martin J. Blake, being duly sworn, deposes and states that the prepared testimony attached hereto and made a part hereof, constitutes the prepared direct testimony of this affiant in Case No. 2010-00116 in the Matter of: Application of Delta Natural Gas Company, Inc. for an Adjustment of Rates and that if asked the questions propounded therein, this affiant would make the answers set forth in the attached prepared direct testimony.

Affiant further states that he will be present and available for cross-examination and for such additional examination as may be appropriate at the hearing in Case No. 2010-00116 scheduled by the Commission, at which time affiant will further reaffirm the attached prepared testimony as his direct testimony in such case.

Martin J. Blake  
MARTIN J. BLAKE

STATE OF KENTUCKY            )  
  )  
COUNTY OF CLARK            )

Subscribed and sworn to before me by Martin J. Blake, this the 19<sup>th</sup> day of April, 2010.

My Commission Expires: 9/13/11

[Signature]  
Notary Public, State at Large, Kentucky



1 **Q: PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A: My name is Martin J. Blake. My business address is 6001 Claymont Village Drive, Suite  
3 8, Crestwood, Kentucky 40014.

4 **Q: BY WHOM AND IN WHAT CAPACITY ARE YOU EMPLOYED?**

5 A: I am a Member and Principal of The Prime Group, LLC. The Prime Group provides  
6 consulting services in the areas of cost of service, rate design, regulatory support,  
7 training, and strategic planning for energy industry clients.

8 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?**

9 A. Delta Natural Gas Company, Inc. ("Delta") engaged The Prime Group to conduct an  
10 analysis of and to provide a recommendation regarding the appropriate cost of common  
11 equity for use in determining Delta's weighted cost of capital in this proceeding. My  
12 testimony contains the results of this analysis and identifies the fair rate of return on equity  
13 that Delta should be given the opportunity to earn during the period when the new rates  
14 will be in effect. My analysis utilizes appropriate financial valuation techniques and  
15 incorporates the factors that affect the return on equity that shareholders expect when  
16 investing in Delta and in other companies of corresponding risk.

17 **Professional Qualifications & Experience**

18 **Q: PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND.**

19 A: I received my Ph.D. in Agricultural Economics in 1976 from the University of Missouri,  
20 Columbia. My doctoral work centered on the areas of marketing and econometrics. I  
21 also hold a Master of Arts in Economics from the University of Missouri, Columbia,  
22 which I received in 1972. In addition, I received a Bachelor of Arts degree in Economics  
from Illinois Benedictine College in 1970.

1 **Q: HAVE YOU FILED TESTIMONY REGARDING THE APPROPRIATE RETURN**  
2 **ON EQUITY IN OTHER PROCEEDINGS?**

3 A: Yes. I have filed testimony regarding the appropriate return on equity in Federal Energy  
4 Regulatory Commission Docket No. ER01-1938 in support of Southern Indiana Gas and  
5 Electric Company's request for a revision in transmission and ancillary service rates  
6 including cost of capital testimony. I have filed testimony regarding the appropriate  
7 return on equity in Federal Energy Regulatory Commission Docket No. ER02-708 in  
8 support of Central Illinois Power Company's request for a revision in transmission and  
9 ancillary service rates including cost of capital testimony. I have filed testimony  
10 regarding the appropriate return on equity in Docket Nos. 99-046, 2004-00067 and 2007-  
11 00089 before the Kentucky Public Service Commission regarding the return on equity in  
12 support of Delta Natural Gas Company's requests for adjustments in rates.

13 **Q: PLEASE BRIEFLY SUMMARIZE YOUR AREAS OF PROFESSIONAL**  
14 **EXPERIENCE PRIOR TO JOINING THE PRIME GROUP.**

15 A: I have professional experience as an economist and professor of economics, as a utility  
16 regulator, and as a utility manager and executive.

17 **Q: PLEASE DESCRIBE YOUR PROFESSIONAL EXPERIENCE AS AN**  
18 **ECONOMIST.**

19 A: From January 1977 to December 1986, I was employed first as an Assistant Professor,  
20 then as an Associate Professor, and finally as a Professor of Agricultural Economics at  
21 New Mexico State University in Las Cruces, New Mexico ("NMSU"). I was the head of  
22 the undergraduate program and taught economics, agricultural economics and  
23 econometrics. While at NMSU, I also worked as a consultant for various clients,

1 providing price forecasting, load forecasting, and marketing services. Since 1992, I have  
2 taught mathematical economics and econometrics as an Adjunct Professor in the  
3 Economics Department at the University of Louisville. Prior to my joining the faculty at  
4 NMSU, I served in the U. S. Army as an instructor of economics, statistics, and  
5 accounting at the U. S. Army Institute of Administration at Fort Benjamin Harrison,  
6 Indianapolis, Indiana.

7 I also have a wealth of experience with the application of economics to utility public  
8 policy issues. In addition to my experience as a utility regulator and executive, which I  
9 describe below, I have taught ratemaking for utilities at the NARUC Annual Regulatory  
10 Studies Program at Michigan State University since 1993. From May 1983 to August  
11 1983, while on a sabbatical leave from NMSU, I served as a Policy Analyst for the  
12 Assistant Secretary for Land and Water at the U. S. Department of Interior.

13 **Q: PLEASE DESCRIBE YOUR PROFESSIONAL EXPERIENCE AS A UTILITY**  
14 **REGULATOR.**

15 A: From January 1987 to November 1990, I served as a Commissioner and as the  
16 Chairman of the New Mexico Public Service Commission. As a Commissioner, my  
17 duties included making policy and adjudicatory decisions regarding rates, terms of  
18 service, financing, certificates of public convenience and necessity, and complaints for  
19 electric, gas, water, and sewer utilities. I interpreted legislation, reviewed prior  
20 Commission cases to determine the precedents that they provided, drafted rules and  
21 regulations, wrote orders, conducted hearings, ruled on motions, and served as an  
22 arbitrator in alternative dispute resolution proceedings. I performed adjudicatory and  
23 regulatory functions for the four years that I served on the Commission.

1 As Chairman, I supervised a staff of thirty-two professionals and sixteen support staff.  
2 During my tenure on the New Mexico Commission, I also served as Chairman of the  
3 Western Conference of Public Service Commissioners Electric Committee and as  
4 Chairman of the Committee on Regional Electric Power Cooperation, a group composed  
5 of state public service commissioners and representatives from the state energy offices of  
6 the thirteen western states.

7 **Q: PLEASE DESCRIBE YOUR PROFESSIONAL EXPERIENCE AS A UTILITY**  
8 **MANAGER.**

9 A: From December, 1990 to June 1996, I was employed by Louisville Gas and Electric  
10 Company ("LG&E"). Initially, I served as LG&E's Director of Regulatory Planning. In  
11 this position, I was responsible for coordinating all of LG&E's state and federal  
12 regulatory efforts, and prepared and presented testimony to regulators. My areas of  
13 responsibility were expanded in April 1994 to include marketing and strategic planning.  
14 As the Director, Marketing, Planning and Regulatory Affairs, I was responsible for  
15 coordinating LG&E's retail gas and electric marketing, strategic planning, and state and  
16 federal regulatory efforts. I continued to be employed in that capacity at LG&E until June  
17 1996, when I joined The Prime Group as one of its Principals.

18 **Q: PLEASE DESCRIBE THE INDUSTRY GROUPS IN WHICH YOU HAVE**  
19 **PARTICIPATED.**

20 A: I have served on several regional transmission coordination groups such as the  
21 Interregional Transmission Coordination Forum, and the General Agreement on Parallel  
22 Paths, as well as the following committees of the Edison Electric Institute ("EEI"):  
23 Economics and Public Policy Executive Advisory Committee, Strategic Planning

1 Executive Advisory Committee, Transmission Task Force, and Power Supply Policy  
2 Technical Task Force. Currently, I am a member of the Midwest ISO Transmission  
3 Owners Committee and the Transmission Owners Tariff Working Group representing  
4 Southern Illinois Power Cooperative and Hoosier Energy. I served a three year term as  
5 the Chairman of the Transmission Owners Tariff Working Group and am currently the  
6 Vice-Chair of the Midwest ISO Finance Subcommittee.

7 **Q: HAVE YOU TAUGHT ANY COURSES OR SEMINARS IN THE AREA OF**  
8 **UTILITY REGULATION?**

9 A: Yes. I have taught the following courses at the NARUC Annual Regulatory Studies  
10 Program at Michigan State University: 1) retail ratemaking, 2) wholesale pricing, 3) rate  
11 of return regulation, 4) competitive market fundamentals, 5) electric industry overview,  
12 6) the economics of power production and delivery, 7) electric system technologies, and  
13 8) the institutions and organizations of the new electric utility industry. Each year, I also  
14 teach and conduct numerous workshops and programs and deliver invited presentations  
15 to utility managers and regulators on a variety of subjects.

16 **Q. IN WHICH CASES HAVE YOU PREVIOUSLY TESTIFIED?**

17 A. A list of the cases in which I have previously testified is included in Exhibit MJB-1.

18 **Return on Equity**

19 **Q. PLEASE DESCRIBE DELTA'S BUSINESS OPERATIONS.**

20 A. Delta purchases, produces and stores natural gas for distribution to retail customers, and  
21 also provides transportation service to industrial customers and interconnected pipelines  
22 through facilities located in 23 counties in central and southeastern Kentucky. The  
23 Company had 35,912 retail customers at the end of 2009. Its service territory is more

1 rural than those of most publicly traded, investor owned natural gas distribution  
2 companies and consists mainly of light industry, farming and coal mining operations.

3 Approximately 86% of Delta's customers are residential.

4 Exhibit MJB-2 shows a ranking of Delta's total capitalization compared to other publicly  
5 traded, investor owned natural gas distribution utilities. The data in Exhibit MJB-2 was  
6 taken from a report titled Natural Gas Industry Summary Quarterly Financial & Common  
7 Stock Information issued by Edward Jones Co. dated December 31, 2009. This report  
8 classifies companies that provide natural gas into three categories: 1) diversified  
9 companies, 2) combination gas and electric companies and 3) natural gas distribution  
10 companies. Delta is classified as a natural gas distribution company. Among the publicly  
11 traded, investor owned natural gas distribution utilities included in this report Delta was  
12 the third lowest with respect to total capitalization.

13 Exhibit MJB-3 contains a ranking of the publicly traded investor owned natural gas  
14 distribution companies based on the percentage of equity in the companies' capital  
15 structures. These equity percentages are calculated using long term debt and equity and do  
16 not include short term debt in the calculation of the equity percentage for a company.  
17 Thus, the percent equity in the Edward Jones report is different than the percentage of  
18 equity in the capital structure for Delta in this proceeding. However, because it uses the  
19 same calculation for all companies in the panel, the Edward Jones report does provide a  
20 good basis for comparing the companies in the panel with regard to the equity component  
21 of their capitalizations. Exhibit MJB-3 shows that the two natural gas distribution utilities  
22 with a lower total capitalization than Delta had percentages of equity of 61.5% and 57.6%,  
23 which are higher than Delta's 45.7% equity percentage. Furthermore, the only natural gas

1 distribution utility with a percentage of equity lower than Delta had a total capitalization  
2 that was 32 times larger than Delta's total capitalization. Thus, Delta can be characterized  
3 as a small, publicly traded, investor owned, natural gas distribution utility with an  
4 essentially rural service territory and with a relatively highly leveraged capital structure  
5 relative to other natural gas distribution utilities shown in Exhibit MJB-3.

6 **Q. HOW DOES DELTA'S EARNED RETURN ON EQUITY FOR 2009 COMPARE**  
7 **WITH OTHER NATURAL GAS DISTRIBUTION COMPANIES?**

8 A. Exhibit MJB-4 contains a ranking of the publicly traded investor owned natural gas  
9 distribution companies based on return on equity. This exhibit shows that the only two  
10 companies with a total capitalization lower than Delta had higher earned returns on equity  
11 of 10.9% and 10.4% compared to Delta's earned return on equity of 7.5%.

12 **Q. IS THERE A PUBLIC BENEFIT TO PROVIDING NATURAL GAS SERVICE TO**  
13 **RURAL AREAS?**

14 A. Yes. If natural gas service is available in an area, customers have a choice whether to use  
15 natural gas or electricity for particular applications. Customers' ability to switch between  
16 natural gas and electricity helps to keep downward pressure on the prices of both products.  
17 Furthermore, the availability of natural gas service can help in attracting industrial loads to  
18 an area and thus assist in economic development efforts. However, if natural gas service is  
19 to be provided to rural areas, the companies providing such service must have the  
20 opportunity to earn adequate returns or they will no longer be able or willing to provide  
21 such service. Additionally, in order to expand Delta's service into additional rural areas,  
22 either through main extensions or through acquisition of other natural gas companies,  
23 Delta needs a sufficiently high allowed return on equity in this proceeding to increase the

1 percentage of equity in its capital structure to a level more appropriate for a company of its  
2 size, decrease its payout ratio which is well above the industry average as shown in  
3 Exhibit MJB-5, and increase its interest coverage which is below the industry average as  
4 shown in Exhibit MJB-6. I discuss each of these important objectives later in my  
5 testimony. None of this can be done with a return on equity that is inadequate.

6 **Q. PLEASE COMPARE DELTA'S PERFORMANCE FOR ITS SHAREHOLDERS**  
7 **TO OTHER NATURAL GAS DISTRIBUTION COMPANIES.**

8 A. Delta's earnings per share growth was negative 44.8% in 2009 which was the second  
9 lowest in the panel of natural gas distribution companies, as shown in Exhibit MJB-7, and  
10 was well below the mean earnings per share growth of negative 10.1%. Delta's 5-year  
11 total return on investment was the lowest of all of the natural gas distribution utilities at  
12 32.5% compared to the mean of 55.6%, as shown in Exhibit MJB-8. Similarly, Delta's 5-  
13 year dividend growth was the second lowest of all of the natural gas distribution utilities at  
14 2.0% compared to the mean of 4.7%, as shown in Exhibit MJB-9. The financial  
15 performance shown in Exhibits MJB-3, MJB-4, MJB-5, MJB-6, MJB-7, MJB-8 and MJB-  
16 9 may make it difficult for Delta to continue to attract capital in the future. It is essential  
17 that the Commission allow Delta a sufficiently high rate of return on equity in this  
18 proceeding to turn this performance around.

19 **Q. HOW SHOULD THE RATE OF RETURN BE DETERMINED UNDER PUBLIC**  
20 **UTILITY REGULATION?**

21 A. The purpose of public utility regulation with respect to rate of return is to permit a utility  
22 the opportunity to earn its cost of capital while avoiding monopoly profits. Long-run  
23 earnings above the cost of capital would imply monopoly profits, while long-run earnings

1 below the cost of capital would impair a utility's ability to attract capital on reasonable  
2 terms. A rate of return based on a utility's cost of capital is consistent with the guidelines  
3 established by the U.S. Supreme Court in *Bluefield Water Works & Improvement Co. v.*  
4 *Public Service Commission of West Virginia*, 262 U.S. 679 (1923) and *Federal Power*  
5 *Commission v. Hope Natural Gas Company*, 320 U.S. 591 (1944). These cases require  
6 that a utility be allowed to earn a rate of return that: 1) is comparable to alternative  
7 investment opportunities of corresponding risk, 2) will permit capital attraction on  
8 reasonable terms, and 3) will maintain a utility's financial integrity.

9 In the *Hope* case, the U.S. Supreme Court stated that:

10 From the investor or company point of view, it is important that there be enough  
11 revenue not only for operating expenses, but also for the capital costs of the  
12 business. These include service on the debt and dividends on the stock. By that  
13 standard the return to the equity owner should be commensurate with returns on  
14 investments in other enterprises having corresponding risks. That return,  
15 moreover, should be sufficient to assure confidence in the financial integrity of  
16 the enterprise, so as to maintain its credit and to attract capital. (emphasis added)  
17 [*Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591, 603  
18 (1944).]  
19

20 It is important to note that the U.S. Supreme Court did not limit the return on equity to  
21 being commensurate with that of other utilities. It stated that the return on equity should  
22 be commensurate with other companies having corresponding risk. Later in my testimony  
23 I will utilize a panel of companies with similar risk as Delta as measured by the beta value  
24 reported in Value Line. This applies the Supreme Court's standard of returns to enterprises  
25 of corresponding risk without limiting the panel of companies to natural gas distribution  
26 utilities or to the utility industry as a whole. This is an important comparison because the  
27 return on equity for these companies is determined in the market and is not set through the  
28 regulatory process.

29 **Q. HOW DO YOU INTERPRET THE REQUIREMENT THAT A UTILITY HAVE**

**AN OPPORTUNITY TO EARN A FAIR RATE OF RETURN?**

2 A. An opportunity to earn a fair rate of return implies that a utility has a reasonable assurance  
3 that it will be allowed to earn a rate of return that is sufficient to attract capital, that will  
4 maintain its financial integrity and that is comparable to the return earned by alternative  
5 investments of comparable risk. While there are numerous factors that may result in an  
6 actual rate of return that is higher or lower than the allowed rate of return in any given  
7 year, a utility that consistently earns less than the allowed rate of return or which has  
8 averaged significantly less than the allowed rate of return for a long period of time cannot  
9 be said to have a reasonable assurance of earning the allowed rate of return. Thus, an  
10 assurance of earning a fair and reasonable rate of return could be viewed statistically as  
11 the arithmetic average of a series of returns over a period of time equaling the allowed rate  
12 of return.

13 **Q. WOULD YOU REGARD DELTA'S CURRENT RATES AS PROVIDING AN**  
**14 OPPORTUNITY TO EARN AN ADEQUATE RETURN FOR PROVIDING**  
**15 NATURAL GAS SERVICE TO ITS CUSTOMERS?**

16 A. No, I would not. Exhibit MJB-10 shows the actual earned return on equity for Delta as  
17 reported by the Value Line Survey –Small and Mid-Cap Edition compared to the allowed  
18 rates of return granted by the Commission in various Delta rate cases for the period 1995-  
19 2009. The earned returns for Delta reported in Value Line are for the consolidated entity,  
20 i.e. Delta's combined regulated and unregulated activities. Exhibit MJB-11 shows both the  
21 earned returns on equity for the consolidated company and for the regulated entity alone  
22 for the period 2000-2009.

23 In December, 1997, the Commission issued an Order in Case No. 97-066 which set new  
24 rates for Delta which became effective in January, 1998. In that case, the Commission  
25 allowed a return on common equity of 11.6%. In December, 1999, the Commission issued  
26 an Order in Case No. 99-046 which set new rates for Delta which became effective in  
27 January, 2000. In that case, the Commission also allowed a return on common equity of

11.6%. In November, 2004, the Commission issued an Order in Case No. 2004-00067 which set new rates for Delta which became effective on October 7, 2004. In that case, the Commission allowed a return on common equity of 10.5%. In October, 2007, the Commission issued an Order in Case No. 2007-00089 which set new rates for Delta. In that case, the Commission allowed a return on common equity of 10.5%. However, Exhibit MJB-10 shows that for the fifteen year period from 1995 to 2009, only once has the consolidated company earned an actual return on shareholders' equity that was as high as the return on equity allowed by the Commission in Delta's most recent rate case. Exhibit MJB-10 shows that Delta has averaged a 9.33% return on shareholder equity for the consolidated company for this fifteen year period compared to an average Commission approved ROE of 11.05%. Exhibit MJB-11 shows that the regulated entity has never earned its allowed rate of return for the period 2000-2009. When Delta as a regulated entity has never earned a return on shareholder equity that was equal to or greater than the return on equity allowed by the Commission for ten successive years, it cannot be said to have a reasonable assurance of earning the allowed rate of return. Delta's actual annual earned returns on equity for the regulated entity should have the same mean as the allowed rate of return with actual annual earned returns both above and below the allowed rate of return. This has not been the case for the last ten years, and it indicates a problem that the Commission could remedy by allowing Delta a higher allowed ROE in this proceeding than it has approved in the past in order to allow Delta to build equity. A percentage of equity that is well below natural gas distribution companies of similar size likely contributes significantly to the under-earning problem that Delta has experienced historically, as will be explained more fully below.

**Q. SHOULD THE COMMISSION CONSIDER THE RETURN ON EQUITY FOR THE CONSOLIDATED COMPANY WHEN DETERMINING A FAIR RETURN ON EQUITY FOR DELTA IN THIS PROCEEDING?**

**A.** No. Because the Commission would not allow Delta to recover from its customers any

2 losses from its unregulated activities, it is also not appropriate for the Commission to  
3 consider any profits that Delta might earn from its unregulated activities when  
4 determining a fair return on equity for Delta. Thus, the returns on equity reported for the  
5 regulated entity in Exhibit MJB-11 are the appropriate returns for the Commission to  
6 consider in determining Delta's allowed return on equity in this proceeding, and a review  
7 of Exhibit MJB-11 shows that these returns on equity for the regulated entity have been  
8 very low, never exceeding 7.2% for the period 2000-2009.

9 **Q. WHAT FACTORS DO YOU BELIEVE HAVE CAUSED DELTA TO UNDER  
10 EARN COMPARED TO ITS ALLOWED RATE OF RETURN ON EQUITY?**

11 A. I believe that there are several factors: 1) Delta's equity as a percentage of total  
12 capitalization is lower than other natural gas distribution companies of similar size, 2)  
13 Delta's predominantly rural service territory, 3) customer conservation in response to  
14 higher natural gas prices, and 4) efficiency gains of natural gas appliances. Customer  
15 conservation in response to higher prices and efficiency gains of natural gas appliances  
16 result in under recovery of Delta's fixed costs and margin when a significant portion of  
17 fixed cost and margin are collected through a volumetric charge rather than through a  
18 fixed charge per customer per month. With a significant portion of Delta's fixed costs and  
19 margins currently collected using a volumetric charge, both customer conservation and  
20 appliance efficiency gains have lead to under recovery as these factors have reduced the  
21 per customer usage of natural gas. This problem could be mitigated by the Commission  
22 approving the full cost based customer charge that Delta is requesting in this proceeding.

23 **Q. PLEASE DESCRIBE DELTA'S EQUITY AS A PERCENTAGE OF TOTAL  
24 CAPITALIZATION COMPARED TO OTHER NATURAL GAS DISTRIBUTION  
25 COMPANIES.**

26 A. As described above, Exhibits MJB-2 and MJB-3 provide data for natural gas distribution  
27 companies ranked by total capitalization and percentage equity, respectively, taken from  
28 Natural Gas Industry Summary Monthly Financial & Common Stock Information

published by Edward Jones. The mean percentage of equity is calculated as 50.9% for the panel of eleven natural gas distribution utilities with a median of 49.9%. These percentages are calculated using long term debt and equity and do not include short term debt in the calculation of the equity percentage for a company. The capital structure that includes both short and long term debt and that is used as the capital structure in this proceeding is shown in Exhibit MJB-12 and reflects 44.5% equity and 54.5% debt. Thus, the percent equity in the Edward Jones report is different than the percentage of equity in the capital structure for Delta in this proceeding. However, because it uses the same calculation for all companies in the panel, it does provide a good basis for comparing the companies in the panel with regard to the equity component of their capitalizations. As noted above, the percentage of equity for the two companies smaller than Delta are 61.5% and 57.6%. The percentage of equity for the company that is the next largest is 56.2%. Delta's reported percentage of equity of 45.7% is 5.2% below the mean and 4.2% below the median for this panel, making Delta more heavily leveraged than other natural gas distribution utilities of similar size.

**Q. DOES A LOWER PERCENTAGE OF EQUITY RELATIVE TO TOTAL CAPITALIZATION MAKE DELTA A RISKIER INVESTMENT?**

A. Yes. The more debt that a firm has as a part of its total capitalization, the greater are the fixed interest payments that the firm will have to make to bond holders out of any given revenue stream that it generates. A company is required to make payments to the bond holders in specified amounts at specified times, while it is under no such obligation to its common equity holders. Thus, the more equity the firm has, the greater is its ability to deal with revenue fluctuations. However, this flexibility comes at a cost, as equity is more expensive than debt because of the greater risk that shareholders bear. As a company's business environment becomes riskier and its business risk becomes greater, the company should increase its equity and lower its debt ratio. By reducing its debt ratio, its fixed obligations to bond holders would be reduced and the company would be better able to

manage the financial fluctuations that result from a riskier business environment. Furthermore, a utility's equity ratio must be high enough to allow additional debt capital to be issued without an adverse effect on its credit rating. This would be consistent with the criteria established in the *Bluefield* and *Hope* cases that the rate of return be sufficient to permit capital attraction on reasonable terms. If the capital structure does not permit some margin for additional debt financing at all times, a utility is subject to the potential adverse impact of unanticipated tight credit conditions, thus making it a riskier investment. Delta is below both the average percentage equity for the panel of eleven natural gas distribution companies and the average percentage equity for natural gas distribution companies of similar size as Delta. Getting Delta's percentage of equity closer to the average for natural gas distribution companies of a similar size will only occur if the Commission allows a high enough rate of return to accommodate this long term improvement in Delta's equity ratio.

**Q. HOW WOULD DELTA'S LOW EQUITY RATIO AFFECT THE RETURN ON EQUITY THAT IT EARNS?**

A. Because Delta is about 54.5% debt financed based on the capital structure in this proceeding, its fixed obligations to bondholders exacerbate the impact on the return on equity resulting from any revenue reductions that Delta might experience. This is an important factor that contributes to the fact that Delta has earned its allowed rate of return only once in the past fifteen years.

**Q. COULD YOU GIVE AN EXAMPLE OF HOW LEVERAGE MIGHT AFFECT THE ACTUAL RETURN ON EQUITY EARNED BY DELTA?**

A. Yes. Exhibit MJB-13 provides several examples of how a change in the percentage of equity in Delta's overall capitalization would affect the actual return on equity earned by Delta. All three examples in Exhibit MJB-13 have the same total capitalization, but have different equity ratios. The first example in Exhibit MJB-13, uses the same percentage of equity and debt as Delta's capital structure in this proceeding and assumes a return on

equity of 10.5% and an interest rate of 6.74% on the debt, which is what the Commission approved in Case No. 2007-00089. The dollar value of the return elements for equity and debt are calculated by multiplying the dollar value of the equity and debt capitalization by their respective rates of return and interest. In Example 1, the dollar value of the return element for equity would be \$5,931,695 and the dollar value of the return element for debt would be \$4,749,997. Next assume that Delta experiences a decrease in earnings of \$960,000. Delta would still have to pay \$4,749,997 to debt holders and now would have only \$4,971,695 to provide to shareholders. Dividing \$4,971,695 by the \$56,492,338 of equity capitalization would result in an actual return on equity of 8.80%, which is what Value Line reported as an earned return on equity for Delta for 2009.

Example 2 uses a capital structure that reflects the industry average as calculated in Exhibit MJB-2 and uses the same rates of return and interest as in Example 1. Thus, the only factor that is changing is the equity and debt ratios. Again a decrease in earnings of \$960,000 is assumed. Delta would still have to pay \$4,201,772 to debt holders and now would have only \$5,825,755 to provide to shareholders. Dividing \$5,825,755 by the \$64,626,236 of equity capitalization would result in an actual return on equity of 9.01%. In both Examples 1 and 2, the \$960,000 decrease in earnings is a result of operations and is not influenced by the capital structure used to finance the company. However, this same \$960,000 decrease in earnings has a very different impact on the actual return on equity depending on the debt leverage of the company.

A comparison of Examples 1 and 2 also illustrates another important point. In Example 2, the return element included in the revenue requirement would be \$10,987,527, while in Example 1 the return element included in the revenue requirement would be \$10,681,692, which is \$305,835 lower. Thus, with a lower percentage equity ratio than the industry as a whole, Delta's customers pay lower rates while Delta experiences a significant adverse

effect on its ability to earn its allowed rate of return if it experiences any earnings shortfalls. This is simply not an equitable result.

Example 3 simply repeats the above example for a capital structure similar to the highest equity percentage in the panel of eleven natural gas distribution companies, namely 61.5% equity and 38.5% debt for RGC Resources. In Example 3, the \$960,000 decrease in earnings would result in an actual return on equity of 9.27%. This is 47 basis points higher than the earned return using Delta's capital structure for the same revenue decrease and same total capitalization. This basis point spread widens as the revenue decrease is larger. For a \$2,000,000 revenue decrease there would be a difference of 98 basis points between the earned ROEs for Delta's and RGC Resources' capital structures, other assumptions remaining constant. There would be a 147 basis point difference for a \$3,000,000 revenue decrease.

These three examples illustrate that Delta's equity ratio, which is below both the industry average and the average for natural gas distribution companies of similar size, has a significant adverse effect on its ability to earn its allowed rate of return. Any given earnings shortfall for Delta will result in a lower earned return on equity than for the average natural gas distribution company. These examples help in understanding why Delta has earned its allowed rate of return only once in the past fifteen years. This significant adverse impact on Delta's ability to earn its allowed rate of return must be considered by the Commission in setting an appropriate rate of return for Delta. The Commission should allow Delta a sufficiently high rate of return to increase its equity percentage and mitigate this problem.

**Q. HOW WOULD DELTA'S PREDOMINANTLY RURAL SERVICE TERRITORY AFFECT THE RETURN ON EQUITY THAT IT EARNS?**

A. Delta serves an area in eastern Kentucky that is predominantly rural with low population density. This low population density results in higher fixed cost per customer for serving rural areas compared to the fixed cost per customer incurred in an urban area. This higher

fixed cost per customer results from both a higher cost of installing the pipe needed to serve a customer and the higher cost of maintaining the lines. Furthermore, these rural customers tend to have a lower annual usage and a larger proportion of temperature sensitive load than urban customers. This relatively high fixed cost to serve small highly temperature sensitive loads translates to a higher fixed cost burden for Delta and a more variable revenue stream. The higher fixed costs resulting from operations compounds the problem of high fixed obligations to bond holders resulting from a low equity ratio, and exacerbates the impact on the return on equity resulting from any revenue reductions that Delta might experience, as demonstrated above. Thus, the low population density in rural areas that results in a higher fixed cost burden for Delta with more variability in the return stream due to the large amount of temperature sensitive load for these rural customers would justify a higher allowed rate of return for Delta. It would be very difficult, if not impossible, to quantify the separate impact on return on equity resulting from the rural character of Delta's service territory. However, this factor combined with a lower than average equity ratio for Delta, would justify a higher than average rate of return on equity for Delta.

**Q. HOW WOULD YOU ASSESS THE COMPETITION WHICH DELTA FACES FROM OTHER ENERGY SUPPLIERS?**

A. Delta provides natural gas service in a service territory that substantially overlaps the electric service territory of Kentucky Utilities Company, which has some of the lowest electric rates in the nation. This direct competition with a low cost electric utility increases Delta's business risk.

**Q. DOES DELTA'S SIZE AFFECT THE RETURN ON EQUITY THAT IT SHOULD BE ALLOWED IN THIS PROCEEDING?**

A. Yes. Delta is a small company with a capitalization that would fall in the second subdivision of the smallest micro-cap stock decile range (category 10x) as defined in the Ibbotson SBBI 2010 Valuation Yearbook published by Morningstar, which includes

companies with market capitalizations at or below \$169,497,000 and above \$123,516,000. This source states that:

One of the most remarkable discoveries of modern finance is that of a relationship between firm size and return. The relationship cuts across the entire spectrum but is most evident among smaller companies, which have higher returns on average than larger ones. (Ibbotson SBBI 2010 Valuation Yearbook, Morningstar Inc., p. 85)

This source goes on to state that:

Table 7-5 illustrates that the smaller deciles have had returns that are not fully explained by their higher betas. This return in excess of that predicted by CAPM increases as one moves from the largest companies in decile 1 to the smallest in decile 10. The excess return is especially pronounced for micro-cap stocks (deciles 9 - 10). This size phenomenon has prompted a revision of CAPM, which includes a size premium. (Ibbotson SBBI 2010 Valuation Yearbook, Morningstar Inc., p. 90)

Valuation Yearbook went on to report that this size premium relationship continued to hold as the smallest decile of companies was divided into four subcategories (10w, 10x, 10y and 10z), with the return increasing as size of the company decreased. Valuation Yearbook reports that the estimated return above the riskless rate for companies in category 10x, which would include Delta, averaged 9.69 % over the period 1926-2009 and that the estimated return in excess of CAPM was 4.91% for companies in category 10x. This means that a higher rate of return on equity would be appropriate for small companies such as Delta. The Commission should, thus, resist the temptation to conclude that Delta should have the same return on equity as the other four major natural gas distribution companies in Kentucky. It is simply not consistent with these research results to allow all natural gas distribution companies in Kentucky essentially the same return on equity when the other four major investor-owned natural gas companies in Kentucky are part of corporations that are over 30 times larger than Delta.

1 **Q. DOES THE INCREASED VOLATILITY IN NATURAL GAS PRICES AFFECT**  
2 **THE RETURN ON EQUITY THAT DELTA SHOULD BE ALLOWED TO**  
3 **EARN?**

4 A. Yes. Delta has a Gas Cost Recovery (“GCR”) mechanism that is calculated quarterly. Any  
5 under or over recoveries during a quarter are recovered over the next twelve months. Delta  
6 is not allowed to earn a return on any money that it has devoted to funding such under-  
7 recoveries. Increased price volatility has resulted in significant under-recoveries and  
8 deferred gas costs that Delta has had to finance with no interest. The following table  
9 shows the amount of under-recovery and deferred gas costs that Delta was carrying at the  
10 end of each of the last five calendar years.

11	December 2005	\$7,363,944
12	December 2006	\$1,117,889
13	December 2007	\$3,377,138
14	December 2008	\$6,032,930
15	December 2009	\$1,573,758

16 Delta has had to finance these under-recoveries with a mix of internal financing and short  
17 term borrowing. The interest that Delta incurs in financing any under-recoveries is an  
18 expense that is not recovered by Delta through the GCR. This has helped to generate  
19 earnings shortfalls that are exacerbated by Delta's low equity ratio as demonstrated above.  
20 Any additional hedging that Delta might do to reduce the price volatility of the natural gas  
21 commodity comes at a cost; namely increasing the long-run average cost of natural gas  
22 paid by customers as the cost of the hedging program is added to natural gas commodity  
23 costs. Customers benefit from the current arrangement by not having to pay these costs

1 and further benefit by not having to pay Delta interest on the under-recovery amounts. A  
2 higher return on equity would provide a larger pool of internal resources to finance such  
3 under-recoveries and would help to mitigate Delta's reliance on short term borrowing.  
4 Natural gas commodity price volatility is a significant risk factor when Delta has to  
5 finance these costs with no interest recovery allowed. The Commission should allow a  
6 return on equity that would help to provide Delta with the internal capital necessary to  
7 fund such under-recoveries and mitigate the necessity of using short term debt for these  
8 purposes.

9 **Q. HAVE YOU CONDUCTED OBJECTIVE ANALYSES OF RETURNS ON**  
10 **EQUITY THAT WOULD BE APPROPRIATE FOR DELTA?**

11 A. Yes. I have performed two discounted cash flow analyses, a capital asset pricing model  
12 analysis, a risk premium analysis and an analysis of companies with corresponding risk..

13 **Q. PLEASE DESCRIBE THE DISCOUNTED CASH FLOW (“DCF”) METHOD FOR**  
14 **ESTIMATING THE APPROPRIATE RETURN ON EQUITY.**

15 A. The DCF method for estimating an appropriate return on equity is based on the following  
16 equation, which defines the long run expected return (the appropriate return on equity) as  
17 the discount rate that equates the current stock price with the stream of expected future  
18 dividends:

19

$$20 \quad P_0 = \frac{D_1}{(1+k)^1} + \frac{D_2}{(1+k)^2} + \frac{D_3}{(1+k)^3} + \frac{D_4}{(1+k)^4} + \dots$$

21 where,

22  $P$  = the current price of the stock,

23  $D_i$  = the dividend in year  $i$ , and

--  $k$  = the investors' discount rate or expected rate of return.

1  
2 If the growth is a constant rate,  $g$ , this equation can be expressed as the sum of an infinite  
3 geometric series:

$$4 \quad k = \frac{D_1}{P} + g$$

5  
6 While the DCF method is usually calculated using this formula, it can also be described in  
7 words. The terms in the DCF formula represent investors' assessment of expected future  
8 cash flows they will receive in relation to the price that they pay for a share of stock. The  
9 DCF formula says that the return that any investor expects from the purchase of a stock  
10 consists of two components. The first is an initial cash flow in the form of a dividend.  
11 The second is the cash flow resulting from dividend growth in the future. Although  
12 investors know that negative growth and losses can occur, rational investors expect long  
13 term positive dividend growth. Otherwise they would hold cash rather than invest with the  
14 expectation of a loss. The sum of the rates of these two flows, initial and future, equals  
15 the return that investors require from their investment in the stock at the current price.  
16 Investors adjust the price they are willing to pay for the stock until the sum of the dividend  
17 yield and the annual rate of expected future growth in dividends equals the rate of return  
18 they expect from other investments of comparable risk. The DCF calculation determines  
19 what shareholders require from a company in terms of present and future dividends  
20 relative to the current market price of the company's stock. If the DCF model indicated a  
21 return on equity of 8% and the current stock price used to calculate this return on equity  
22 was \$25, this tells us that shareholders are expecting an 8% return on equity in return for  
23 their \$25 investment in the stock, i.e. an 8% return on the market equity, not on the book  
24 equity or on rate base which have little or no relation to the market equity.

1 Q. DOESN'T THE GROWTH RATE THAT IS ULTIMATELY SELECTED BY THE  
2 COMMISSION IN CALCULATING RETURN ON EQUITY USING THE DCF  
3 METHODOLOGY BECOME A SELF-FULFILLING PROPHECY?

4 A. Yes. If the Commission selects a high growth rate resulting in a higher return on equity,  
5 there will be sufficient earnings to grow dividends and increase the equity component of  
6 Delta's capital structure. If the Commission selects a low growth rate, the lower level of  
7 earnings will only allow dividends to increase slightly, if at all. Thus, looking at historic  
8 dividend growth rates is not a good indicator of investor expectations with regard to  
9 dividends. It simply reflects the return on equity that the Commission has allowed Delta in  
10 the past. And as noted above, Delta's actual earned returns for the consolidated entity have  
11 been lower than the allowed rate of return in all but one of the past fifteen years and have  
12 been lower than the allowed rate of return for the regulated entity in all of the past fifteen  
years.

14 Q. WHAT WOULD THE DCF MODEL YIELD AS AN EXPECTED RETURN ON  
15 EQUITY FOR DELTA?

16 A. The results of the DCF analysis for Delta are shown in Exhibits MJB-14 and MJB-15.  
17 The high and low stock prices for the year and the most recent annual dividend for the  
18 DCF calculation were obtained from the Value Line Investment Survey - Small and Mid-  
19 Cap Edition, March 12, 2010 (Exhibit MJB-16). Even though the Value Line Investment  
20 Survey for large companies reports forecasted future dividend growth rates for companies  
21 for the period 2006-2008 to 2013-2015, the Value Line Investment Survey - Small and  
22 Mid-Cap Edition does not report a forecasted dividend growth rate for the companies in  
23 the small-cap and mid-cap edition, which includes Delta. I ultimately used two growth  
24 rates in the DCF calculations for Delta. The first growth rate that I used in developing  
Exhibit MJB-14 was the 5-year average dividend growth rate for the panel of eleven

1 natural gas distribution utilities reported in Exhibit MJB-9. I used the entire Edward  
2 Jones panel in order to avoid subjective judgments regarding the elimination of potential  
3 outliers.

4 The second growth rate that I used in the DCF calculations was the average of the  
5 forecasted dividend growth rates 2013 through 2015 for the eight large companies in the  
6 Edward Jones panel that were covered by the Value Line Investment Survey. The average  
7 dividend growth rate for the eight natural gas distribution companies covered by the large  
8 company edition of Value Line was 3.93%, and this is the growth rate that was used in the  
9 DCF calculations in Exhibit MJB-15.

10 The high and low annual stock prices during 2009 were used in calculating a range of  
11 estimated returns in the DCF analysis. Use of the high stock price in the DCF analysis in  
12 Exhibit MJB-14 with an average growth rate of 4.7% resulted in an estimated ROE of  
13 9.00%, and use of the low stock price in the DCF analysis resulted in an estimated ROE of  
14 11.63%. Use of the high stock price in the DCF analysis in Exhibit MJB-15 with an  
15 average growth rate of 3.93% resulted in an estimated ROE of 8.23%, and use of the low  
16 stock price in the DCF analysis resulted in an estimated ROE of 10.87%.

17  
18 **Q. CAN THESE CALCULATED RETURNS ON EQUITY USING THE DCF MODEL**  
19 **BE APPLIED TO BOOK VALUE CAPITALIZATION?**

20 A. No. The DCF calculations in Exhibits MJB-14 and MJB-15 that resulted in the estimates  
21 of 9.00%, 11.63%, 8.23% and 10.87% for return on equity were made using the current  
22 stock price, and so these returns on equity are meaningful only when applied to market  
23 capitalization. As explained above, if the DCF model indicated a return on equity of 8%  
24 and the current stock price used to calculate this return on equity was \$25, this tells us that

1 shareholders are expecting an 8% return on equity in return for their \$25 investment in the  
2 stock. They are not expecting an 8% return on the book value capitalization of the  
3 company, which is generally much lower and has little or no relationship to the market  
4 value of the stock. If the returns on equity calculated using the DCF formula are to be  
5 applied to the book value of equity, further calculations are necessary.

6  
7 In Exhibit MJB-14, the estimated returns on equity calculated using the high and low  
8 stock prices are multiplied by the market capitalization calculated at the high and low  
9 stock prices to obtain the actual dollars that shareholders expect to receive annually from  
10 their investment. The market capitalization was calculated by multiplying the high and  
11 low stock price by the number of outstanding shares of stock, which for Delta was  
12 3,327,573 shares. To convert this to a return on equity that could be applied to book  
13 capitalization, it is necessary to divide the actual dollars that shareholders expect to  
14 receive annually from their investment by Delta's book value of equity. In Exhibit MJB-  
15 14, these calculations resulted in returns on equity that could be appropriately applied to  
16 Delta's book value capitalization of 15.08% at the high stock price and 12.08% at the low  
17 stock price. Similar calculations in Exhibit MJB-15 resulted in returns on equity that could  
18 be appropriately applied to Delta's book value capitalization of 13.79% at the high stock  
19 price and 11.28% at the low stock price.

20 **Q. DO THESE CALCULATIONS SEEM REASONABLE?**

21 A. Yes. In fact, making the conversion from an ROE that should be applied to the value of  
22 market equity to an ROE that should be applied to book equity resolves a number of  
23 paradoxes that result from applying the ROE estimates from the DCF formula directly to

1 the book equity component of Delta's capitalization. One thing that has always concerned  
2 me in performing DCF calculations was that the high stock price resulted in a lower  
3 calculated ROE than the low stock price. Looking at Exhibit MJB-14, the high stock price  
4 of \$29.80 resulted in an ROE estimate of 9.00% while the low stock price of \$18.46  
5 resulted in an ROE estimate of 11.63%. This says that an investor would be willing to pay  
6 \$29.80 for an investment generating a return on equity of 9.00% while he would only be  
7 willing to pay \$18.46 for an investment generating a return on equity of 11.63%. This  
8 simply doesn't make sense and helps to illustrate that these calculated returns on equity  
9 should not be applied directly to book equity, which is \$59,164,248 in this proceeding. An  
10 11.63% return on book equity would be \$6,880,802 annually while a 9.00% return on  
11 book equity would be \$5,324,782 annually. A rational investor is not likely to pay \$29.80  
12 per share for an investment only generating \$5,324,782 annually while paying \$18.46 per  
13 share for an investment generating \$6,880,802 annually.

14 However, this does make sense if these calculated ROEs are applied to market  
15 capitalization. In Exhibit MJB-14, the ROE of 9.00% calculated using the high stock price  
16 is applied to the market capitalization of \$99,161,675 and the result is an annual dollar  
17 flow of \$8,919,892 that shareholders expect from this investment. Similarly, the ROE of  
18 11.63% calculated using the low stock price is applied to the market capitalization of  
19 \$61,426,998, which was also calculated using the low stock price, and the result is an  
20 annual dollar flow of \$7,146,362 that shareholders expect from this investment. This  
21 makes sense. Investors would be willing to pay a higher price for a stock that generated a  
22 larger dollar flow of returns and a lower stock price for an investment that generated a  
23 lower dollar flow of returns. This sensible result does not occur unless the ROEs

1 calculated using DCF are adjusted in a way that allows them to be applied to book equity,  
2 as was done in Exhibits MJB-14 and MJB-15.

3 **Q. IS IT NECESSARY TO APPLY AN ESTIMATED RETURN ON EQUITY IN A**  
4 **MANNER THAT IS CONSISTENT WITH THE WAY THAT IT IS**  
5 **CALCULATED?**

6 A. Yes. As discussed above, the DCF calculation determines what shareholders require from  
7 a company in terms of present and future dividends relative to the current market price of  
8 the company's stock. Thus, returns on equity estimated in this manner must be applied to  
9 the market capitalization which is also calculated using the current market price of the  
10 stock. The DCF methodology does not determine what shareholders require from a  
11 company in terms of present and future dividends relative to the company's book value of  
12 equity. Thus application of ROEs estimated using the DCF methodology directly to a  
13 company's book value of equity or rate base is an inconsistent and an inappropriate  
14 application of these estimates. It is taking an estimate generated for one purpose and using  
15 it for a completely different and unrelated purpose. The ROE estimates calculated using  
16 the DCF methodology can only be applied to book value equity after converting them for  
17 such use as shown in Exhibits MJB-14 and MJB-15.

18 **Q. WHAT WOULD THE CAPITAL ASSET PRICING MODEL ("CAPM") YIELD AS**  
19 **AN EXPECTED RETURN ON EQUITY FOR DELTA?**

20 A. The CAPM approach could be utilized to estimate the return on equity for Delta. The  
21 basic CAPM formula is:

$$22 \quad K = R_f + \beta ( R_m - R_f ) + S$$

23 where:

1 K = the prospective market cost of equity for a specific investment,

2  $\beta$  = the company specific beta coefficient,

3  $R_f$  = the risk free rate of return (usually U.S. Treasury bonds),

4  $R_m$  = the overall stock market return,

5  $R_m - R_f$  = the equity risk premium, and

6 S = Size premium

7 The addition of a size premium is necessary to account for the return in excess of that  
8 predicted by CAPM which increases as one moves from the largest companies in decile 1  
9 to the smallest in decile 10. The excess return is especially pronounced for micro-cap  
10 stocks (deciles 9 - 10). This size phenomenon has prompted a revision of CAPM, which  
11 includes a size premium (Ibbotson SBBI 2010 Valuation Yearbook, Morningstar Inc., p.  
12 90).

13 The Value Line Investment Survey - Small and Mid-Cap Edition of March 12, 2010  
14 (Exhibit MJB-16) provided an estimate for  $\beta$  of 0.65 for Delta. Ibbotson's 2010 Valuation  
15 Yearbook calculated an estimated return in excess of CAPM of 4.91% for companies in  
16 category 10x. This percentage was calculated as the difference between large company  
17 stock total returns minus long-term government bond returns for the period 1926 through  
18 2009. The interest rate on 20-Year U.S. Treasury bonds was 4.48% on February 1, 2010 as  
19 reported by FRED® [Federal Reserve Economic Data] available on the Federal Reserve  
20 Bank of St. Louis web site (Exhibit MJB-17). With an interest rate on 20-Year U.S.  
21 Treasury bonds of 4.48%, a beta coefficient of 0.65, and a size premium of 4.91%, the  
22 Capital Asset Pricing Model produces an estimated return on equity of 13.745% for Delta,  
23 which is calculated as shown in Exhibit MJB-18.

1  
2 **Q. WHAT RATE OF RETURN ON EQUITY WOULD THE RISK PREMIUM ANALYSIS INDICATE WAS APPROPRIATE?**

3 A. Ibbotson's 2010 Valuation Yearbook calculated an estimated return above the riskless rate  
4 for companies in category 10x, which would include Delta, of 9.69 %. This premium was  
5 calculated by subtracting long-term government bond returns from micro-cap stock total  
6 returns for companies in category 10x for the period 1926 to 2005. This estimate of the  
7 risk premium is calculated using a past average of ex-post risk premiums over a  
8 sufficiently long period of time to include several ups and downs in dividend yields and  
9 provides a good estimate of the future risk premium. The interest rate on 20-Year U.S.  
10 Treasury bonds was 4.48% on February 1, 2010 as reported by FRED® [Federal Reserve  
11 Economic Data] available on the Federal Reserve Bank of St. Louis web site (Exhibit  
12 MJB-17). Adding the long-horizon risk premium of 9.69% to the 20-year U.S. Treasury  
13 bond yield of 4.48% produces a return on equity of 14.17%, as shown in Exhibit MJB-19.

14 **Q. DID YOU ALSO DIRECTLY APPLY THE STANDARD SUGGESTED BY THE**  
15 **U.S. SUPREME COURT OF CALCULATING THE APPROPRIATE RATE OF**  
16 **RETURN ON EQUITY FOR ENTITIES WITH CORRESPONDING RISK?**

17 A. Yes. As discussed above, it is important to note that the U.S. Supreme Court did not limit  
18 the return on equity to being commensurate with other utilities. It stated that the return on  
19 equity should be commensurate with other companies having corresponding risk. The  
20 estimated beta value measures a stock's sensitivity to the market as a whole and is an  
21 objective measure of the systematic risk for a stock. Systematic risk is unavoidable, is  
22 common to all risky securities, and cannot be eliminated through diversification. Using  
23 beta as an objective measure of a stock's risk, I did a search using the Value Line

Investment Analyzer for companies that had beta values of 0.65, which is the same beta value as reported for Delta in the Value Line Investment Survey - Small and Mid Cap Edition of March 12, 2010. This resulted in the 201 companies shown in Exhibit MJB-20. For the year 2009, which was generally regarded as a year in which the U.S. economy was in recession, the average return on common equity for these 201 companies was 12.0%. One advantage that this panel of 201 companies has is that the returns on equity for these companies have not been determined by regulatory commissions, but by the market. This helps to avoid any tendency by regulators to “follow the leader” and to allow rates of return on equity that are similar to those that other regulatory commissions are allowing. Thus, a return on equity of 12.0% for Delta would be consistent with the U.S. Supreme Court’s guidance that a company should be allowed to earn a return that is commensurate with entities of corresponding risk. In fact, because 2009 was a year when the U.S. economy was in recession, a return in excess of 12.0% would likely be appropriate.

**Q. WHAT IS A REASONABLE RANGE FOR THE RETURN ON EQUITY IN THIS PROCEEDING?**

A. Based on the above analysis, a reasonable range for return on equity in this proceeding would be between 11.28% and 15.08% as summarized in the table below.

<b>Method</b>	<b><u>ROE Range</u></b>	
	<b><u>High</u></b>	<b><u>Low</u></b>
DCF (5-Year Average Panel Growth)	15.08%	12.08%
DCF (Forecasted Average Panel Growth)	13.79%	11.28%
CAPM	13.745%	13.745%

Risk Premium	14.17%	14.17%
Companies of Corresponding Risk	12.0%	12.0%

These estimates do not make any leverage adjustment for Delta's lower than average percentage of equity in its total capitalization compared to other natural gas distribution companies in the panel, which would have the effect of increasing these return on equity estimates. As demonstrated in Exhibit MJB-13, Delta's equity percentage is the second lowest in the panel which exacerbates reductions in its earned rate of return compared to other natural gas distribution utilities if Delta experiences any revenue shortfalls. This would make Delta a riskier investment which could be adjusted by adding a leverage adjustment to the estimated return on equity. However, no leverage adjustment is being proposed at this time.

**Q. WHAT RETURN ON EQUITY DO YOU RECOMMEND BE UTILIZED IN CALCULATING THE REVENUE REQUIREMENT IN THIS PROCEEDING?**

A. I recommend using a 12.0% return on equity in this proceeding, which is the return on equity based on the average return on equity for the 201 companies in the Value Line Survey that have the same risk as Delta as measured by a beta of 0.65. This recommended return on equity meets the U.S. Supreme Court's standard that a utility should be allowed to earn a return that is commensurate with returns on investments in other enterprises having corresponding risks. Beta is an objective and quantifiable measure of risk and the analysis in Exhibit MJB-20 used only companies with a beta identical to Delta's. This approach also has the advantage of developing an estimated return on equity that is independent of state utility regulatory decisions, which as described above, can result in a self fulfilling prophecy. The 12.0% that I am recommending is well within the reasonable

1 range as indicated by my analysis. In fact, my recommendation of 12.0% is near the low  
2 end of the range of reasonableness for an allowed return on equity. In determining the  
3 appropriate return on equity for Delta, the Commission needs to consider that Delta is  
4 different than the four other major investor owned utilities that the Commission regulates.  
5 Delta is the smallest of the five companies with one of the lowest equity ratios in the  
6 industry. The size premium for small companies is well documented and has been  
7 calculated based on a data set that covers a number of economic cycles that include both  
8 wars and a depression. In deciding on the appropriate return on equity for Delta, it is  
9 important for the Commission to note that Delta has only earned its allowed rate of return  
10 once in the past 15 years (Exhibit MJB-10). Additionally, Delta's low percentage of equity  
11 compared to other natural gas distribution companies makes it harder for Delta to earn any  
12 rate of return allowed by the Commission as illustrated in Exhibit MJB-13. This is  
13 particularly true when combined with factors such as the negative impact that Delta  
14 experiences from financing deferred gas costs with no interest recovery. After analyzing  
15 all of the relevant factors, I believe that 12.0% is a reasonable return on equity for Delta in  
16 this proceeding if this return on equity is applied to the book equity component of Delta's  
17 capitalization.

18 **Q. DOES THE RETURN ON EQUITY THAT YOU RECOMMEND PRODUCE A**  
19 **REASONABLE RESULT?**

20 A. Yes. The 2010 Valuation Yearbook reports that the average rate of return for companies  
21 similar to Delta (category 10x which is the second subdivision of the smallest decile of  
22 companies) was 19.78% for the period 1926-2009 (Ibbotson SBBI 2010 Valuation  
23 Yearbook, Morningstar Inc., p. 92). This source goes on to state that:

3 Finnerty and Leistikow perform more econometrically sophisticated tests of mean  
4 reversion in the equity risk premium. Their tests demonstrate that – as we  
5 suspected from our simpler tests – the equity risk premium that was realized over  
6 1926 to present was almost perfectly free of mean reversion and had no  
7 statistically identifiable time trends. (Ibbotson SBBI 2010 Valuation Yearbook,  
Morningstar Inc., p. 59)

8 This randomness of year to year returns makes a long term average based on a data set that  
9 covers a number of economic cycles that include both wars and a depression one of the  
10 best estimates of return on equity that is available to us.

11 **Q. HOW DOES THE INTEREST COVERAGE FOR DELTA COMPARE TO THE**  
12 **INTEREST COVERAGE FOR THE OTHER NATURAL GAS DISTRIBUTION**  
13 **COMPANIES IN THE EDWARD JONES PANEL IF THE COMMISSION WERE**  
14 **TO ALLOW DELTA A 12.0% RETURN ON EQUITY?**

15 A. Exhibit MJB-6 shows the interest coverage for the 11 natural gas distribution companies  
16 in the panel reported by Edward Jones, which is calculated by dividing net income plus  
17 interest on long term debt by the interest on long term debt. Delta has an interest coverage  
18 of 2.54x, which is second lowest in the panel of natural gas distribution utilities covered in  
19 the report. The mean interest coverage for the panel is 4.18x. If the revenue requirement  
20 for Delta is determined based on a 12.0% return on equity and based on the capital  
21 structure in this proceeding, the resulting interest coverage would be 2.60x. As can be seen  
22 from Exhibit MJB-6, the resulting interest coverage from using a 12.0% rate of return  
23 would still be the second lowest in the panel and well below the mean coverage for the  
24 eleven natural gas distribution companies included in the Edward Jones report. Based on  
25 the resulting level of interest coverage compared to natural gas distribution industry  
26 averages, I believe that application of the recommended 12.0% rate of return on equity to

the existing capital structure is reasonable. It would take even a higher rate of return on equity to produce a level of interest coverage and an equity ratio that is more representative of the other companies in the panel of natural gas distribution companies. The revenue requirement that would result from utilizing the 12.0% return on equity that I recommend would be a start to increasing Delta's equity ratio to a level more appropriate for a natural gas distribution company of Delta's size, and to increasing the interest coverage to a level that is closer to the industry average. However, even when this recommended ROE is placed into effect, it will take several years before there is significant improvement in these key financial measures.

**Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

**A.** Yes it does.

**Prior Testimony of Dr. Martin J. Blake**

**Federal Energy Regulatory Commission**

- ER92-533 LG&E's open transmission access and authority to charge market-based rates for its generation.
- ER94-1380 The first comparability tariff approved by the FERC.
- ER97-4345 A market power analysis that was filed in support of OGE Energy Resources, Inc.'s request for the authority to charge market based rates.
- ER98-511 A market power analysis that was filed in support of Oklahoma Gas and Electric Co.'s request for the authority to charge market based rates.
- ER99-51 An affidavit in support of Commonwealth Edison Co.'s request for authority to charge cost based rates to its affiliates.
- ER01-1938 Testimony in support of Southern Indiana Gas and Electric Company's request for a revision in transmission and ancillary service rates including cost of capital testimony
- ER02-708 Testimony in support of Central Illinois Power Company's request for a revision in transmission and ancillary service rates including cost of capital testimony
- NJ03-2 Testimony in support of Southern Illinois Power Company's request for a revision in ancillary service rates
- EL03-53 Testimony regarding the calculation of avoided cost for a qualifying facility interconnecting with a cooperative
- EL02-111 Testimony regarding the process for developing a combined transmission service rate that would apply to the combined Midwest ISO and PJM footprint

**Arkansas Public Service Commission**

- 96-360-U Direct and rebuttal testimony for Oklahoma Gas and Electric regarding recovery of stranded costs by Entergy Arkansas, Inc.

### **California Public Utility Commission**

90-12-018 (phase 5) Direct and rebuttal testimony for Southern California Edison Company concerning the reasonableness of contracting by Southern California Edison with Integrated Energy Group (“IEG”) to provide marketing services to Southern California Edison and the reasonableness of the resulting marketing services performed by IEG.

### **Colorado**

C08-0559 Provide an independent review, assessment and recommendation concerning Public Service Company of Colorado’s Application and request for the Commission to approve the Company’s 2007 Colorado Resource Plan (“2007 CRP”) and to review supporting testimony in this proceeding as it relates to the retirement of Cameo Units 1 and 2 and Arapahoe Units 3 and 4.

02S-594E Direct and surrebuttal testimony regarding pro forma adjustments to the revenue requirement in Aquila Networks-WPC rate case.

03S-539E Testimony regarding the use of zero intercept methodology to allocate distribution costs and determine an appropriate customer charge in an Aquila Networks-WPC rate case.

07A-447E Testimony regarding Public Service Company of Colorado’s Integrated Resource Plan.

### **Illinois Commerce Commission**

98-0013 and 98-0035 Testimony regarding non-discrimination with regard to affiliate transactions for electric utilities. I sponsored ComEd’s proposed affiliate transactions rules and suggested some basic principles that the Illinois Commerce Commission should follow in developing rules and regulations for ensuring non-discrimination and non-cross subsidization in transactions with affiliated and unaffiliated alternative retail electric suppliers (“ARES”).

98-0036 Testimony in a rulemaking to develop rules and regulations for assessing and assuring the reliability of the transmission and distribution systems as a part of electric utility restructuring in Illinois.

98-0147 and 98-0148 Testimony concerning standards of conduct and rules for functional separation. I sponsored ComEd’s proposed standards of conduct and functional separation rules.

07-0572 Testimony in a reconciliation proceeding concerning the prudence and recovery of the costs of gas injections and withdrawals from the Hillsboro storage field.

**Kentucky Public Service Commission**

90-158 An LG&E rate case.

92-494 An LG&E biennial fuel adjustment clause review.

93-150 An application for approval of a DSM cost recovery mechanism and a set of initial programs.

94-332 An application for an environmental cost recovery mechanism.

92-494-B Testimony regarding the confidentiality of coal bid data.

95-455 A biannual review of the environmental cost recovery mechanism.

91-423 Participation in the conference with Commission staff and intervenors to review LG&E's first integrated resource plan.

Other Several fuel adjustment clause proceedings on behalf of LG&E.

98-489 Testimony on behalf of Blazer Energy Corp. in an application for an adjustment in their natural gas rates.

99-046 Direct and rebuttal testimony regarding Return on equity in support of Delta Natural Gas Company's request for an adjustment in rates

04-00067 Direct testimony regarding Return on Equity in support of Delta Natural Gas Company's request for an adjustment in rates

07- 00089 Direct testimony regarding Return on Equity in support of Delta Natural Gas Company's request for an adjustment in rates

**Nevada Public Utility Commission**

01-10001 Direct testimony on behalf of Shareholders Association to support Nevada Power Company's request for return on equity

**New Mexico Public Utility Commission**

2797 Direct and rebuttal testimony in a general rate case for Plains Electric Generation and Transmission Cooperative, Inc.

### **Virginia State Corporation Commission**

PUE-2008-00076 Direct and Rebuttal testimony regarding rate design for Northern Neck Electric Cooperative

### **U.S. District Court, District of New Mexico**

CIV-08-00026 Reviewed the Expert Report filed by Gary L. Groninger and provided rebuttal testimony regarding whether a decision that was made by the Arkansas River Power Authority (ARPA) was prudent.

### **Oklahoma Corporation Commission**

PUD 960000116 Testimony in an Oklahoma Gas and Electric Company rate case, including rebuttal of intervenor and staff proposals to disallow certain marketing, advertising, economic development and research and development expenses.

PUD 200300226 Testimony in an Oklahoma Gas and Electric Company case regarding the prudence of natural gas transportation and storage contracts

### **Indiana Utility Regulatory Commission**

41884 Direct and rebuttal testimony to support a request by eleven gas local distribution companies for switching from a quarterly gas cost adjustment mechanism to a monthly gas cost adjustment mechanism

42027 Direct testimony in support of a transfer of functional control of transmission assets from electric utilities in Indiana to the Midwest System Operator, Inc.

### **Iowa District Court for Hamilton County**

No. LACV025993 Testimony that net metering was not appropriate for making payments to a wind generator. When a utility sells electric energy to a customer, it is charging a retail rate that recovers the cost of distribution, transmission and generation service. When a customer sells electric energy to a utility, it is selling only generation service. The customer cannot sell distribution and transmission service to a utility, as the customer does not own these assets. Net metering is a subsidy to the wind generator that is paid by other customers of the utility and paying the customer for generation service on the basis of a retail rate that includes recovery of distribution and transmission costs is not appropriate.

## Ranking By Total Capitalization

## Exhibit MJB-2

	<b>12 Months Ending</b>	<b>Total Cap (000)</b>	<b>Percent Equity</b>
Atmos Energy Corp.	9/30/2009	\$ 4,419,790	49.3%
AGL Resources, Inc.	9/30/2009	\$ 4,032,000	42.6%
Piedmont Natural Gas Company	10/31/2009	\$ 2,026,460	45.8%
Northwest Natural Gas Company	9/30/2009	\$ 1,349,764	47.5%
New Jersey Resources, Inc.	9/30/2009	\$ 1,295,128	53.3%
South Jersey Industries, Inc.	9/30/2009	\$ 1,042,124	50.6%
Laclede Group	9/30/2009	\$ 1,036,070	49.9%
WGL Holdings, Inc.	9/30/2009	\$ 195,144	56.2%
<b>Delta Natural Gas Company</b>	9/30/2009	<b>\$ 125,675</b>	<b>45.7%</b>
RGC Resources, Inc.	9/30/2009	\$ 72,800	61.5%
Energy Inc	9/30/2009	\$ 54,172	57.6%
Mean		\$ 1,582,557	50.9%
Median		\$ 1,295,128	49.9%

Source: Natural Gas Industry Summary Quarterly Financial & Common Stock Information,  
Edward Jones Co., December 31, 2009

## Ranking By Equity Percentage

## Exhibit MJB-3

	12 Months Ending	Total Cap (000)	Percent Equity
RGC Resources, Inc.	9/30/2009	\$ 72,800	61.5%
Energy Inc	9/30/2009	\$ 54,172	57.6%
WGL Holdings, Inc.	9/30/2009	\$ 195,144	56.2%
New Jersey Resources, Inc.	9/30/2009	\$ 1,295,128	53.3%
South Jersey Industries, Inc.	9/30/2009	\$ 1,042,124	50.6%
Laclede Group	9/30/2009	\$ 1,036,070	49.9%
Atmos Energy Corp.	9/30/2009	\$ 4,419,790	49.3%
Northwest Natural Gas Company	9/30/2009	\$ 1,349,764	47.5%
Piedmont Natural Gas Company	10/31/2009	\$ 2,026,460	45.8%
<b>Delta Natural Gas Company</b>	9/30/2009	\$ <b>125,675</b>	<b>45.7%</b>
AGL Resources, Inc.	9/30/2009	\$ 4,032,000	42.6%
Mean		\$ 1,582,557	50.9%
Median		\$ 1,295,128	49.9%

Source: Natural Gas Industry Summary Quarterly Financial & Common Stock Information,  
Edward Jones Co., December 31, 2009

## Ranking By Return On Common Equity

## Exhibit MJB-4

AGL Resources Inc.	13.2%
Piedmont Natural Gas Company, Inc.	13.0%
Laclede Group, Inc.	12.4%
Northwest Natural Gas Company	12.0%
RGC Resources, Inc.	10.9%
WGL Holdings, Inc.	10.8%
South Jersey Industries, Inc.	10.7%
Energy, Inc.	10.4%
Atmos Energy Corp.	8.9%
<b>Delta Natural Gas Company, Inc.</b>	<b>7.5%</b>
New Jersey Resources Corporation	3.7%
Mean	10.3%

Source: Natural Gas Industry Summary Quarterly Financial & Common Stock Information,  
Edward Jones Co., December 31, 2009

## Ranking By Dividend Payout

## Exhibit MJB-5

New Jersey Resources Corporation	194
<b>Delta Natural Gas Company, Inc.</b>	<b>97</b>
Energy, Inc.	68
Piedmont Natural Gas Company, Inc.	64
Atmos Energy Corp.	63
South Jersey Industries, Inc.	63
WGL Holdings, Inc.	61
RGC Resources, Inc.	59
AGL Resources Inc.	58
Northwest Natural Gas Company	54
Laclede Group, Inc.	53
Mean	76

Source: Natural Gas Industry Summary Quarterly Financial & Common Stock Information,  
Edward Jones Co., December 31, 2009

## Ranking By Pre-Tax Interest Coverage

## Exhibit MJB-6

Energy, Inc.	5.83
WGL Holdings, Inc.	5.31
RGC Resources, Inc.	5.13
South Jersey Industries, Inc.	5.02
AGL Resources Inc.	4.63
Piedmont Natural Gas Company, Inc.	4.52
Laclede Group, Inc.	4.20
Northwest Natural Gas Company	3.99
Atmos Energy Corp.	2.84
<b>Delta Natural Gas Company, Inc.</b>	<b>2.54</b>
New Jersey Resources Corporation	1.98
Mean	4.18

Source: Natural Gas Industry Summary Quarterly Financial & Common Stock Information,  
Edward Jones Co., December 31, 2009

## Ranking By Earnings Per Share Growth

## Exhibit MJB-7

Energy, Inc.	NA
Northwest Natural Gas Company	16.9%
RGC Resources, Inc.	14.1%
Piedmont Natural Gas Company, Inc.	12.1%
AGL Resources Inc.	8.1%
Atmos Energy Corp.	4.0%
WGL Holdings, Inc.	2.6%
Laclede Group, Inc.	-18.4%
South Jersey Industries, Inc.	-20.2%
<b>Delta Natural Gas Company, Inc.</b>	<b>-44.8%</b>
New Jersey Resources Corporation	-75.3%
Mean	-10.1%

Source: Natural Gas Industry Summary Quarterly Financial & Common Stock Information  
Edward Jones Co., December 31, 2009

## Ranking By 5-Year Total Return

## Exhibit MJB-8

Energy, Inc.	173.7%
South Jersey Industries, Inc.	69.9%
Northwest Natural Gas Company	59.3%
New Jersey Resources Corporation	52.4%
RGC Resources, Inc.	41.4%
Piedmont Natural Gas Company, Inc.	39.6%
AGL Resources Inc.	37.1%
Atmos Energy Corp.	35.9%
WGL Holdings, Inc.	35.3%
Laclede Group, Inc.	34.6%
<b>Delta Natural Gas Company, Inc.</b>	<b>32.5%</b>
Mean	55.6%

Source: Natural Gas Industry Summary Quarterly Financial & Common Stock Informa  
Edward Jones Co., December 31, 2009

## Ranking By 5-Year Dividend Growth

## Exhibit MJB-9

Energy, Inc.	NM
South Jersey Industries, Inc.	9.2%
New Jersey Resources Corporation	8.4%
AGL Resources Inc.	8.2%
Northwest Natural Gas Company	5.0%
Piedmont Natural Gas Company, Inc.	4.7%
Laclede Group, Inc.	3.0%
WGL Holdings, Inc.	2.5%
RGC Resources, Inc.	2.3%
<b>Delta Natural Gas Company, Inc.</b>	<b>2.0%</b>
Atmos Energy Corp.	1.6%
Mean	4.7%

Source: Natural Gas Industry Summary Quarterly Financial & Common Stock Information,  
Edward Jones Co., December 31, 2009

**Exhibit MJB - 10**  
**Historical Comparison of Allowed and Actual ROE**  
**Delta Natural Gas Company**

	<b>Return on Equity<sup>1</sup></b>	<b>Allowed ROE</b>	<b>Difference</b>	
1995	8.50%			Black box settlement in last rate case
1996	11.30%			Black box settlement in last rate case
1997	5.80%			Black box settlement in last rate case
1998	8.20%	11.60%	-3.40%	New Rates Effective Jan. 1998
1999	7.20%	11.60%	-4.40%	
2000	11.10%	11.60%	-0.50%	New Rates Effective Jan. 2000
2001	11.10%	11.60%	-0.50%	
2002	10.60%	11.60%	-1.00%	
2003	8.60%	11.60%	-3.00%	
2004	7.90%	10.50%	-2.60%	New Rates Effective Oct. 2004
2005	9.80%	10.50%	-0.70%	
2006	9.50%	10.50%	-1.00%	
2007	9.70%	10.50%	-0.80%	New Rates Effective Nov 2007
2008	11.90%	10.50%	1.40%	
2009	8.80%	10.50%	-1.70%	

**Mean                    9.33%                    11.05%**

1: The Value Line Investment Survey - Small and Mid-Cap Edition, March 12, 2010

Exhibit B-11

Historical Earned Returns on Equity for the Consolidated Company and the Regulated Entity

Year	Regulated Billed Basis Calendar Year		Consolidated Unbilled Basis Calendar Year		New rates effective Jan. 2000	New rates effective Oct. 2004	New rates effective Oct. 2007	Earned		Allowed		Difference	Earned	
	Net Income	Capital	Net Income	Capital				ROE	ROE	ROE	ROE		Capital	ROE
2000														
2001														
2002														
2003	2,124,142	44,977,907	3,694,390	44,030,321	-6.9%	11.6%	4.7%	4.7%	44,030,321	8.4%				
2004	2,005,904	46,376,806	5,961,061	49,055,982	-6.2%	10.5%	4.3%	4.3%	49,055,982	12.2%				
2005	2,845,404	48,958,684	5,649,011	51,524,275	-4.7%	10.5%	5.8%	5.8%	51,524,275	11.0%				
2006	2,035,508	50,633,040	4,550,016	52,736,947	-6.5%	10.5%	4.0%	4.0%	52,736,947	8.6%				
2007	2,354,763	52,015,805	5,098,611	54,200,448	-6.0%	10.5%	4.5%	4.5%	54,200,448	9.4%				
2008	3,986,201	55,077,190	6,687,746	57,178,017	-3.3%	10.5%	7.2%	7.2%	57,178,017	11.7%				
2009	2,851,691	56,492,338	5,058,380	58,437,146	-5.5%	10.5%	5.0%	5.0%	58,437,146	8.7%				

**Delta Natural Gas Capital Structure  
December 31, 2009**

**Exhibit MJB - 12**

	Dollar Amount	Percent of Total Capitalization	Cost Rates	Weighted Cost of Capital
Equity	\$ 56,492,338	44.49%	12.000%	5.339%
Long Term Debt	\$ 58,459,000	46.04%	6.830%	3.145%
Short Term Debt	<u>\$ 12,015,728</u>	<u>9.46%</u>	<u>2.019%</u>	<u>0.191%</u>
Total	\$ 126,967,066	100.00%		8.675%

**Exhibit MJB - 13**  
**Examples of the Impact of Leverage on Actual Return on Equity**

**Example 1**

	Capitalization	Percent of Cap	Cost Rates	Return Element in Dollars
Equity	\$56,492,338	44.5%	10.50%	\$ 5,931,695
Debt	\$70,474,728	55.5%	6.74%	\$ 4,749,997
	<u>\$126,967,066</u>	<u>100.0%</u>		<u>\$ 10,681,692</u>

Assume a shortfall in earnings of: \$ 3,000,000

Actual Return on Equity =  $\$4,971,695 / \$56,492,338$   
 = 5.19%

**Example 2**

	Capitalization	Ratios	Cost Rates	Return Element in Dollars
Equity	\$64,626,236	50.9%	10.50%	\$ 6,785,755
Debt	\$62,340,829	49.1%	6.74%	\$ 4,201,772
	<u>\$126,967,066</u>	<u>100.0%</u>		<u>\$ 10,987,527</u>

Assume a shortfall in earnings of: \$ 3,000,000

Actual Return on Equity =  $\$5,825,755 / \$64,626,236$   
 = 5.86%

**Example 3**

	Capitalization	Ratios	Cost Rates	Return Element in Dollars
Equity	\$78,084,745	0.6150	10.50%	\$ 8,198,898
Debt	\$48,882,320	0.3850	6.74%	\$ 3,294,668
	<u>\$126,967,066</u>	<u>100.0%</u>		<u>\$ 11,493,567</u>

Assume a shortfall in earnings of: \$ 3,000,000

Actual Return on Equity =  $\$7,238,898 / \$78,084,745$   
 = 6.66%

**Exhibit MJB**  
**Results of DCF Model for Delta Natural Gas Company**  
**Using 5-Year Average Growth Rate for Edward Jones Natural Gas Distribution Utility Panel**

	Variable Name		
2009 Annual Dividend	D	1	
	\$1.28		
High Price During 2009	P	1	
	\$29.80		
Low Price During 2009	P	1	
	\$18.46		
Avg. 5-Year Dividend Growth Rate of Edward Jones Panel	g	2	
	4.70%		
Shares Outstanding		1	
	3,327,573		
Earnings per Share in 2009		1	
	\$1.58		
Book Equity		1	
	\$ 59,164,248		
<b>Using the DCF formula: ROE = D/P + g</b>			
<b><u>ROE Based on the 2009 High Stock Price</u></b>			
		9.00%	
			<u>Market Capitalization 2009 High Stock Price</u>
			3,327,573 x 29.80 = \$99,161,675
			<u>Expected Shareholder Returns High Stock Price</u>
			\$99,161,675 x .0900 = \$8,919,892
<b><u>ROE Based on the 2009 Low Stock Price</u></b>			
		11.63%	
			<u>Market Capitalization 2009 Low Stock Price</u>
			3,327,573 x 18.46 = \$61,426,998
			<u>Expected Shareholder Returns Low Stock Price</u>
			\$61,426,998 x .1163 = \$7,146,362

**Return on Book Equity 2009 High Stock Price**  
 \$8,919,892 / \$99,164,248 = 9.00%

**Return on Book Equity 2009 Low Stock Price**  
 \$7,146,362 / \$61,426,998 = 11.63%

1. The Value Line Investment Survey - Small and Mid-Cap Edition, March 12, 2010
2. Natural Gas Industry Summary Quarterly Financial & Common Stock Information,  
 Edward Jones Co., December 31, 2009, p. 29

**Exhibit MJB**  
**DCF Results for Delta Natural Gas Company**  
**Using Average Growth Rate for the Eight Companies in the Value Line Survey**

	Variable Name	Source	Company	Forecasted Dividend Growth Rate 2006-2008 to 2013 to 2015
2009 Annual Dividend	D	1	AGL Resources Inc.	2.50%
High Price During 2009	P	1	Almos Energy Corp.	2.00%
Low Price During 2009	P	1	Laclede Group, Inc.	2.45%
Average Growth Rate	g	1	New Jersey Resources Corporation	5.50%
Shares Outstanding		1	Northwest Natural Gas Company	6.00%
Earnings per Share in 2009		1	Piedmont Natural Gas Company, Inc.	3.50%
Book Equity		1	South Jersey Industries, Inc.	6.50%
		1	WGL Holdings, Inc.	3.00%
			<b>Average</b>	<b>3.93%</b>

Using the DCF formula:  $ROE = D/P + g$

ROE Based on the 2009 High Stock Price

$$ROE = (1.28 / 29.80) + .0393 = 8.23\%$$

ROE Based on the 2009 Low Stock Price

$$ROE = (1.28 / 18.46) + .0393 = 10.87\%$$

Return on Book Equity 2009 High Stock Price

$$\$8,157,587 / \$59,164,248 = 13.79\%$$

Return on Book Equity 2009 Low Stock Price

$$\$6,674,142 / \$59,164,248 = 11.28\%$$

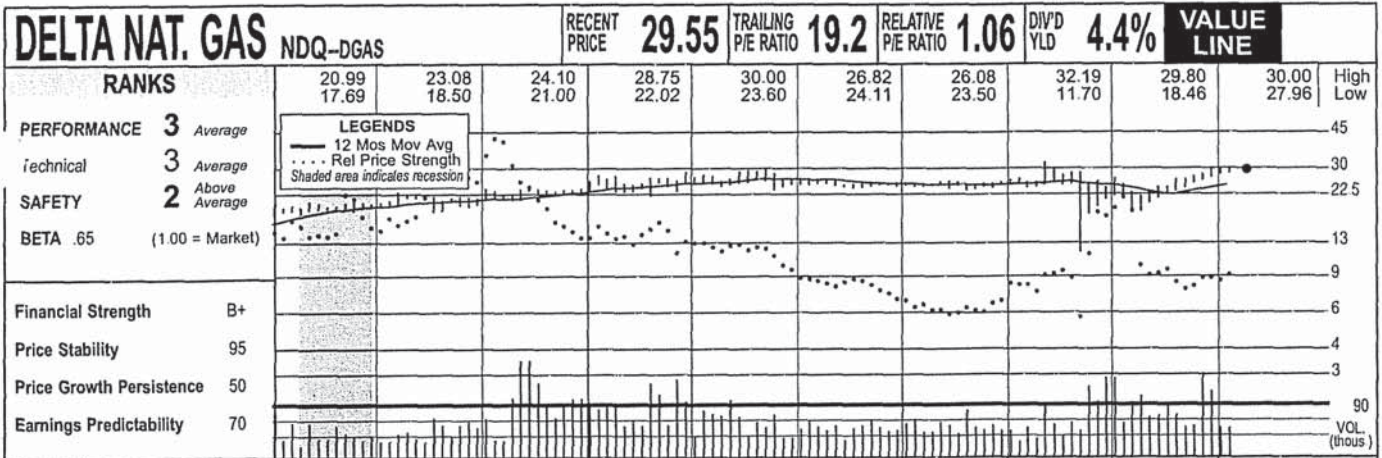
Expected Shareholder Returns High Stock Price

$$\$99,161,675 \times .0823 = \$8,157,587$$

Expected Shareholder Returns Low Stock Price

$$\$61,426,998 \times .1087 = \$6,674,142$$

1. The Value Line Investment Survey - Small and Mid-Cap Edition, March 12, 2010



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010/2011
SALES PER SH	28.36	22.11	21.59	24.74	26.06	36.01	29.96	34.18	31.84	
"CASH FLOW" PER SH	3.08	3.16	2.65	2.65	2.86	2.94	3.19	3.49	2.89	
EARNINGS PER SH	1.47	1.45	1.49	1.20	1.55	1.55	1.62	2.08	1.58	1.65 <sup>A</sup> /NA
DIV'DS DECL'D PER SH	1.14	1.16	1.18	1.18	1.18	1.20	1.22	1.24	1.28	
CAP'L SPENDING PER SH	2.83	3.72	2.90	2.80	1.65	2.39	2.47	1.69	2.54	
BOOK VALUE PER SH	13.12	13.51	14.49	15.26	15.73	16.16	16.61	17.48	17.78	
COMMON SHS OUTST'G (MILL)	2.50	2.53	3.17	3.20	3.23	3.26	3.28	3.30	3.32	
AVG ANN'L P/E RATIO	12.3	14.1	14.5	20.1	16.8	16.9	15.5	12.3	15.0	17.9/NA
RELATIVE P/E RATIO	.63	.77	.83	1.06	.89	.91	.82	.74	.99	
AVG ANN'L DIV'D YIELD	6.3%	5.7%	5.5%	4.9%	4.5%	4.6%	4.9%	4.9%	5.4%	
SALES (\$MILL)	70.8	55.9	68.4	79.2	84.2	117.3	98.2	112.7	105.6	<b>Bold figures are consensus earnings estimates and, using the recent prices, P/E ratios.</b>
OPERATING MARGIN	23.2%	29.3%	24.7%	21.2%	21.9%	16.2%	20.4%	19.6%	18.0%	
DEPRECIATION (\$MILL)	4.0	4.4	4.5	4.7	4.3	4.6	5.2	4.7	4.4	
NET PROFIT (\$MILL)	3.6	3.6	3.9	3.8	5.0	5.0	5.3	6.8	5.2	
INCOME TAX RATE	38.0%	38.2%	38.0%	38.1%	38.3%	36.6%	37.3%	37.8%	36.6%	
NET PROFIT MARGIN	5.1%	6.5%	5.8%	4.8%	5.9%	4.3%	5.4%	6.1%	4.9%	
WORKING CAP'L (\$MILL)	d12.6	d15.3	d.2	d.7	.9	4.6	5.1	8.2	5.5	
LONG-TERM DEBT (\$MILL)	49.3	48.6	53.4	53.0	52.7	58.8	58.6	58.3	57.6	
SHR. EQUITY (\$MILL)	32.8	34.2	45.9	48.8	50.8	52.6	54.4	57.6	59.0	
RETURN ON TOTAL CAP'L	6.7%	6.6%	5.9%	5.6%	6.7%	6.7%	6.3%	7.6%	6.2%	
RETURN ON SHR. EQUITY	11.1%	10.6%	8.6%	7.9%	9.8%	9.5%	9.7%	11.9%	8.8%	
RETAINED TO COM EQ	2.5%	2.1%	1.6%	.2%	2.4%	2.1%	2.4%	4.8%	1.7%	
ALL DIV'DS TO NET PROF	78%	80%	81%	98%	76%	77%	75%	60%	81%	

<sup>A</sup>No. of analysts changing earn. est. in last 27 days: 0 up, 0 down, consensus 5-year earnings growth 3.0% per year. <sup>B</sup>Based upon one analyst's estimate.

ANNUAL RATES					ASSETS (\$mill.)		
of change (per share)	5 Yrs.	1 Yr.			2008	2009	12/31/09
Sales	7.0%	-7.0%			.3	.1	.1
"Cash Flow"	2.5%	-17.0%			11.4	4.1	12.7
Earnings	5.0%	-24.0%			15.0	10.4	11.5
Dividends	1.0%	3.0%			7.3	4.8	6.9
Book Value	3.5%	2.0%			34.0	19.4	31.2
Fiscal Year	QUARTERLY SALES (\$mill.)				Full Year	Property, Plant & Equip, at cost	
	1Q	2Q	3Q	4Q		192.1	199.3
06/30/07	13.1	28.4	41.0	15.7	98.2	67.7	70.7
06/30/08	12.4	29.3	48.4	22.6	112.7	124.4	128.6
06/30/09	18.1	33.9	43.2	10.4	105.6	12.4	14.5
06/30/10	8.1	21.1				170.8	162.5
						175.0	
Fiscal Year	EARNINGS PER SHARE				Full Year	LIABILITIES (\$mill.)	
	1Q	2Q	3Q	4Q		Accts Payable	12.2
06/30/06	d.18	.89	1.03	d.19	1.55	Debt Due	8.0
06/30/07	d.16	.73	1.12	d.07	1.62	Other	5.6
06/30/08	d.25	.75	1.65	d.07	2.08	Current Liab	25.8
06/30/09	.08	.37	1.29	d.16	1.58		13.9
06/30/10	d.17	.58					23.9
Cal-endar	QUARTERLY DIVIDENDS PAID				Full Year	LONG-TERM DEBT AND EQUITY as of 12/31/09	
	1Q	2Q	3Q	4Q		Total Debt	\$70.5 mill.
2007	.305	.305	.31	.31	1.23	LT Debt	\$57.3 mill.
2008	.31	.31	.32	.32	1.26	Including Cap. Leases	NA
2009	.32	.32	.325	.325	1.29	Leases, Uncapitalized	Annual rentals NA
2010	.325					Pension Liability	\$4 mill. in '09 vs. None in '08
						Pfd Stock	None
						Pfd Div'd	Paid None
						Common Stock	3,327,573 shares (51% of Cap'l)

**INDUSTRY: Natural Gas (Div.)**

**BUSINESS:** Delta Natural Gas Company, Inc. sells natural gas to approximately 37,000 retail customers on its distribution system in central and southeastern Kentucky. Its Regulated segment sells natural gas to its retail customers, primarily in 23 rural counties. This segment also transports gas to industrial customers on its system who purchase gas in the open market, as well as transports gas on behalf of local producers not on its distribution system. The company's Non Regulated segment purchases natural gas on the open market and from Kentucky producers, and resells this gas to industrial customers on its distribution system and to others not on its system. This segment also produces natural gas that is sold to Delgasco for resale. As of June 30, the company owned approximately 2,500 miles of natural gas gathering, transmission, distribution, storage, and service lines, as well as interests in oil and gas leases on 10,300 acres in Bell, Knox, and Whitley counties. Has 155 employees. Chairman, C.E.O. & President: Glenn R. Jennings, Inc.: KY. Address: 3617 Lexington Road, Winchester, KY 40391. Tel.: (859) 744-6171. Internet: <http://www.deltagas.com>.

L.Y.

March 12, 2010

TOTAL SHAREHOLDER RETURN					
Dividends plus appreciation as of 2/28/2010					
3 Mos.	6 Mos.	1 Yr.	3 Yrs.	5 Yrs.	
11.58%	16.40%	44.31%	37.61%	40.85%	

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## Exhibit MJB-17 Interest Rates for 20-Year Treasury Bonds

Date	Interest Rate
2007-01-01	4.95%
2007-02-01	4.93%
2007-03-01	4.81%
2007-04-01	4.95%
2007-05-01	4.98%
2007-06-01	5.29%
2007-07-01	5.19%
2007-08-01	5.00%
2007-09-01	4.84%
2007-10-01	4.83%
2007-11-01	4.56%
2007-12-01	4.57%
2008-01-01	4.35%
2008-02-01	4.49%
2008-03-01	4.36%
2008-04-01	4.44%
2008-05-01	4.60%
2008-06-01	4.74%
2008-07-01	4.62%
2008-08-01	4.53%
2008-09-01	4.32%
2008-10-01	4.45%
2008-11-01	4.27%
2008-12-01	3.18%
2009-01-01	3.46%
2009-02-01	3.83%
2009-03-01	3.78%
2009-04-01	3.84%
2009-05-01	4.22%
2009-06-01	4.51%
2009-07-01	4.38%
2009-08-01	4.33%
2009-09-01	4.14%
2009-10-01	4.16%
2009-11-01	4.24%
2009-12-01	4.40%
2010-01-01	4.50%
2010-02-01	4.48%
Average	4.46%

Title: 20-Year Treasury Constant Maturity Rate  
Series ID: GS20  
Source: Board of Governors of the Federal Reserve System  
Release: H.15 Selected Interest Rates

**Exhibit MJB - 18  
Results of the CAPM Analysis  
Delta Natural Gas Company**

		Variable Name	<i>Data Source</i>
20 - Year U. S. Treasury Bond Yield	4.48%	Rf	1
Long - Horizon Expected Equity Risk Premium for Large Companies	6.70%	Rm - Rf	2
Calculated Beta Coefficient for Delta Natural Gas	0.65	B	3
Micro-Cap Size Premium for Delta	4.91%		4

Using the CAPM Formula  $ROE = Rf + B (Rm - Rf) + \text{size premium}$   
 $= 4.48 + 0.65(6.70) + 4.91 = 13.745$

ROE Estimate Including Micro-Cap Size Premium = 13.7450%

Data Sources:

1. Yield for 20-Year Treasury Constant Maturity Rate, Feb 1, 2010  
Federal Reserve Bank of St. Louis Economic Research
2. Ibbotson 2010 SBBI Valuation Yearbook, Morningstar, Inc., 2010, p. 59
3. The Value Line Investment Survey - Small and Mid-Cap Edition, March 12, 2010
4. The Value Line Investment Survey - Small and Mid-Cap Edition, March 12, 2010, p. 92

**Exhibit MJB - 19**  
**Results of the Risk Premium Analysis**  
**Delta Natural Gas Company**

		<b>Data Source</b>
20 - Year U. S. Treasury Bond Yield	4.48%	1
Long - Horizon Expected Equity Risk Premium for Micro-Cap Companies (category 10x)	9.69%	2

**Risk Premium Calculation**

$$\text{ROE} = 0.0448 + 0.0969 = 14.17\%$$

Data Sources:

1. Yield for 20-Year Treasury Constant Maturity Rate, Feb 1, 2010  
Federal Reserve Bank of St. Louis Economic Research
2. Ibbotson 2010 S&P 500 Valuation Yearbook, Morningstar, Inc., 2010, p. 92

**Exhibit MJB - 20**

**Return on Equity for Companies of Comparable Risk  
As Measured by a Beta Value of 0.65**

<b>Company Name</b>	<b>Ticker Symbol</b>	<b>Industry</b>	<b>Beta</b>	<b>Return on Common Equity</b>
Abatix Corp	ABIX	MACHINE	0.65	10.3%
Abigail Adams Natl Bncrp	AANB	BANK	0.65	9.7%
Abington Bancorp Inc	ABBC	THRIFT	0.65	0.9%
Aldila Inc.	ALDA	RECREATE	0.65	-9.5%
All-American Sportpark Inc	AASP	RECREATE	0.65	-1.0%
Amer. Pacific	APFC	CHEMSPEC	0.65	-8.4%
American Community Newspapers	ACNIQ	NWSPAPER	0.65	-7.5%
American Medical Alert	AMAC	ELECTRNX	0.65	7.9%
American Wagering Inc	BETM	HOTELGAM	0.65	239.9%
AmeriServ Finl Inc	ASRV	BANK	0.65	6.0%
Ameritrans Cap Corp	AMTC	FINSERV	0.65	-44.3%
Amgen	AMGN	BIOTECH	0.65	20.6%
Andrew Peller Ltd 'A'	ADW/A.TO	BEVERAGE	0.65	9.7%
Aqua America	WTR	WATER	0.65	9.3%
Arc Wireless Solutions Inc	ARCW	WIRELESS	0.65	-12.9%
Arch Cap Group Ltd	ACGL	INSPRPTY	0.65	8.5%
Arden Group 'A'	ARDNA	GROCERY	0.65	48.2%
Argo Group International	AGII	INSPRPTY	0.65	4.6%
Aspyra Inc	APYI	SOFTWARE	0.65	-76.4%
AssuranceAmerica Corporation	ASAM	INSPRPTY	0.65	-26.8%
Assured Pharmacy Inc	APHY	B2B	0.65	81.5%
Astral Media Inc. 'A'	ACM/A.TO	ENTRTAIN	0.65	20.7%
Astro-Med	ALOT	COMPUTER	0.65	5.8%
Astrotech Corp	ASTC	DEFENSE	0.65	10.0%
ATCO Ltd.	ACO/X.TO	GASDIVRS	0.65	15.3%
Atlantic So. Financial Grp Inc	ASFN	BANK	0.65	-0.7%
Atmos Energy	ATO	GASDISTR	0.65	8.3%
Aware Inc Mass	AWRE	SOFTWARE	0.65	-6.3%
BackWeb Technologies Ltd	BWEBF	INTERNET	0.65	-96.7%
Bank of Marin Bancorp	BMRC	BANK	0.65	12.2%
Bank South Carolina	BKSC	BANK	0.65	11.0%
Bar Harbor Bankshares	BHB	BANK	0.65	11.8%
Bay Banks of Virginia Inc	BAYK	BANK	0.65	5.9%
Bennet Environmental Inc	BEVFF	ENVIRONM	0.65	-35.8%
Bingo.com Ltd.	BNGOF	INTERNET	0.65	-75.4%
Bodisen Biotech Inc	BBCZ	CHEMSPEC	0.65	-16.6%
British Amer Tobacco ADR	BTI	TOBACCO	0.65	48.7%
Brooklyn Federal Bancorp	BFSB	THRIFT	0.65	5.7%
Bryn Mawr Bank Corp.	BMTC	BANK	0.65	10.1%
Capitol Fed. Fin'l	CFFN	THRIFT	0.65	5.8%
CardioGenesis Corp	CGCP	MEDSUPPL	0.65	-7.6%
Carriage Services Inc	CSV	INDUSRV	0.65	3.8%

**Exhibit MJB - 20**

**Return on Equity for Companies of Comparable Risk  
As Measured by a Beta Value of 0.65**

<b>Company Name</b>	<b>Ticker Symbol</b>	<b>Industry</b>	<b>Beta</b>	<b>Return on Common Equity</b>
Cass Information Sys Inc	CASS	FINSERV	0.65	17.9%
Cellcom Israel Ltd	CEL	TELESERV	0.65	288.0%
Central VA Bankshares	CVBK	BANK	0.65	-47.4%
CH Energy Group	CHG	UTILEAST	0.65	8.1%
Chattem Inc.	CHTT	COSMETIC	0.65	30.5%
CHDT Corp	CHDO	DIVERSIF	0.65	-96.1%
Cleco Corp.	CNL	UTILCENT	0.65	9.6%
CNB Finl Corp	CCNE	BANK	0.65	8.4%
Columbia Commercial Bancorp	CLBC	BANK	0.65	5.6%
Comarco Inc.	CMRO	WIRELESS	0.65	-58.4%
Commonwealth Bankshares Inc	CWBS	BANK	0.65	-3.5%
Community Shores Bank Corporat	CSHB	BANK	0.65	-6.9%
Comprehensive Care Corp.	CHCR	MEDSERV	0.65	71.8%
Computer Modelling Grp. Inc.	CMG.TO	SOFTWARE	0.65	60.1%
Comtech Telecom.	CMTL	TELEQUIP	0.65	7.9%
ConAgra Foods	CAG	FOODPROC	0.65	14.7%
Conrad Inds Inc	CNRD	INDUSRV	0.65	40.3%
Consol. Edison	ED	UTILEAST	0.65	9.5%
Corby Distilleries LTD	CDLB.TO	BEVERAGE	0.65	12.8%
Cordia Corp	CORG	SOFTWARE	0.65	96.1%
Craft Brewers Alliance	HOOK	BEVERAGE	0.65	-3.4%
Crown Crafts Inc.	CRWS	FURNITUR	0.65	-9.7%
Cuisine Solutions Inc.	CUSI	FOODPROC	0.65	0.2%
Datawatch Corp	DWCH	SOFTWARE	0.65	-95.6%
DaVita Inc.	DVA	MEDSERV	0.65	19.2%
Dean Foods	DF	FOODPROC	0.65	33.1%
Delta Natural Gas	DGAS	GASDIVRS	0.65	8.8%
Diamond Foods	DMND	FOODPROC	0.65	13.8%
Direct Insite Corp	DIRI	SOFTWARE	0.65	76.3%
Diversinet Corp.	DVNTF	ELECTRNX	0.65	-21.5%
Drinks Americas Holdings Ltd	DKAM	BEVERAGE	0.65	37.5%
Duke Energy	DUK	UTILEAST	0.65	6.1%
eGain Communications Corp	EGAN	INTERNET	0.65	-53.3%
Elecsys Corp	ESYS	DEFENSE	0.65	7.6%
Electro-Sensors	ELSE	ELECEQ	0.65	6.5%
Emergency Medical Services	EMS	MEDSERV	0.65	15.7%
Enbridge Inc.	ENB.TO	OILGAS	0.65	11.8%
Endo Pharmac. Hldgs.	ENDP	DRUG	0.65	23.2%
Epolin Inc /NJ/	EPLN	CHEMSPEC	0.65	9.2%
Equitable Financial Corp	EQFC	THRIFT	0.65	-0.8%
ESSA Bancorp Inc	ESSA	THRIFT	0.65	3.5%
Eurobankshares Inc.	EUBK	BANK	0.65	-8.2%

**Exhibit MJB - 20**

**Return on Equity for Companies of Comparable Risk  
As Measured by a Beta Value of 0.65**

<b>Company Name</b>	<b>Ticker Symbol</b>	<b>Industry</b>	<b>Beta</b>	<b>Return on Common Equity</b>
Exponent Inc	EXPO	INDUSRV	0.65	18.1%
Express-1 Expedited Solutions	XPO	AIRTRANS	0.65	10.6%
Ezenia! Inc	EZEN	INTERNET	0.65	-56.6%
FinancialContent Inc	FCON	FINSERV	0.65	71.2%
First Business Fin'l Svcs	FBIZ	BANK	0.65	5.9%
Flexible Solutions Intl Inc	FSI	CHEMSPEC	0.65	3.8%
Fresenius Medical Care	FMS	MEDSERV	0.65	13.7%
Frisch's Restaurants	FRS	RESTRNT	0.65	9.4%
FullCircle Registry Inc.	FLCR	INDUSRV	0.65	99.3%
Gallery Of History Inc.	HIST	RETAILSP	0.65	-18.9%
Genzyme Corp.	GENZ	DRUG	0.65	5.8%
Gilead Sciences	GILD	DRUG	0.65	48.4%
Global Environmental Energy C	GEECF	MEDSUPPL	0.65	23.7%
Global Med Tech	GLOB	MEDSERV	0.65	78.0%
GlobalOptions Group Inc	GLOI	INDUSRV	0.65	-16.5%
Green Builders Inc	GRBU	PROPMGMT	0.65	61.2%
Green St Energy Inc	GSTY	ELECTRNX	0.65	25.4%
Habersham Bancorp Inc	HABC	BANK	0.65	-38.1%
Hallador Petroleum Company	HPCO	OILPROD	0.65	13.5%
Hershey Co.	HSY	FOODPROC	0.65	135.3%
HMS Holdings Corporation	HMSY	HLTHSYS	0.65	12.0%
Hollywood Media Corp	HOLL	ENTRTAIN	0.65	-18.7%
HomeFed Corporation	HOFD	REIT	0.65	-4.9%
Hormel Foods	HRL	FOODPROC	0.65	14.2%
Hudson Holding Corporation	HDHL	MEDSERV	0.65	-26.5%
Hudson Technologies Inc.	HDSN	ENVIRONM	0.65	52.5%
ICU Medical	ICUI	MEDSUPPL	0.65	9.6%
Ikonics Corp	IKNX	CHEMSPEC	0.65	7.0%
Indiana Community Bancorp	INCB	THRIFT	0.65	9.0%
Innovative Software Techs Inc	INIV	B2B	0.65	39.3%
IntegraMed Amer Inc	INMD	MEDSERV	0.65	6.9%
Intermountain Community Bncp	IMCB	BANK	0.65	1.5%
Iris International Inc	IRIS	MEDSUPPL	0.65	11.9%
Jacada Ltd.	JCDA	SOFTWARE	0.65	-8.6%
Jewett-Cameron Trading Co. Ltd	JCTCF	HOUSEPRD	0.65	8.5%
K12 Inc	LRN	EDUC	0.65	6.8%
Katy Industries Inc	KATY	DIVERSIF	0.65	18.1%
K-Fed Bancorp	KFED	THRIFT	0.65	5.3%
Kolorfusion Intl Inc	KOLR	MACHINE	0.65	72.4%
Kraft Foods	KFT	FOODPROC	0.65	12.8%
Laboratory Corp.	LH	MEDSERV	0.65	30.4%
LaPolla Industries Inc	LPAD	CHEMSPEC	0.65	73.7%

**Exhibit MJB - 20**

**Return on Equity for Companies of Comparable Risk  
As Measured by a Beta Value of 0.65**

<b>Company Name</b>	<b>Ticker Symbol</b>	<b>Industry</b>	<b>Beta</b>	<b>Return on Common Equity</b>
Lincare Holdings	LNCR	MEDSERV	0.65	24.5%
LNB Bancorp Inc	LNBB	BANK	0.65	4.2%
Lyris Inc	LYRI	B2B	0.65	-71.5%
Manfelder Metals Ltd	MNSF	FINSERV	0.65	-27.1%
Market Leader Inc	LEDR	PROPMGMT	0.65	-21.0%
McDonald's Corp.	MCD	RESTRNT	0.65	31.4%
Mendocino Brewing Inc	MENB	BEVERAGE	0.65	-9.4%
MER Telemgmt	MTSL	TELEQUIP	0.65	-32.1%
Merisel Inc.	MSEL	RETAILSP	0.65	-10.3%
MGE Energy	MGEE	UTILCENT	0.65	11.0%
Milestone Scientific	MLSS	MEDSUPPL	0.65	-84.8%
Motorcar Parts Of America Inc.	MPAA	AUTO	0.65	5.7%
MutualFirst Financial Inc	MFSF	THRIFT	0.65	4.9%
National Research Corp	NRCI	HLTHSYS	0.65	19.3%
National Technical Systems	NTSC	INDUSRV	0.65	6.9%
Nat'l Bank of Canada	NA.TO	BANKCAN	0.65	14.8%
Natl RV Holdings	NRVHQ	HOMESRVS	0.65	-67.4%
Navigators Group	NAVQ	FINSERV	0.65	7.5%
Neoprobe Corp.	NEOP	MEDSUPPL	0.65	170.7%
New Jersey Resources	NJR	GASDISTR	0.65	14.6%
Nexgen Biofuels Ltd	NXGNF	MEDSUPPL	0.65	194.0%
North American Gaming and Ente	NAGM	HOTELGAM	0.65	-10.3%
North American Tech Group	NAMC	INDUSRV	0.65	4.1%
Northern Technologies Intl	NTIC	PACKAGE	0.65	-13.1%
Northrim BanCorp Inc.	NRIM	BANK	0.65	5.8%
NSTAR	NST	UTILEAST	0.65	13.0%
OCTuS Inc	OCTI	SOFTWARE	0.65	12.9%
Onstream Media Corporation	ONSM	ADVERT	0.65	-62.3%
Orbit/FR Inc	ORFR	INSTRMNT	0.65	-51.8%
Payment Data Systems Inc	PYDS	INTERNET	0.65	256.8%
People's United Fin'l	PBCT	THRIFT	0.65	2.7%
Performance Tech Inc	PTIX	TELESERV	0.65	3.7%
PharMerica Corp.	PMC	DRUGSTOR	0.65	8.9%
Piedmont Natural Gas	PNY	GASDISTR	0.65	13.2%
PowerVerde Inc	PWVI	POWER	0.65	252.3%
QuadraMed Corp	QDHC	HLTHSYS	0.65	46.4%
Quest Diagnostics	DGX	MEDSERV	0.65	17.8%
Questar Assessment Inc	QUSA	EDUC	0.65	1.8%
Renhuang Pharmaceutical Inc	RHGP	DRUGSTOR	0.65	29.4%
Rosetta Genomics Ltd.	ROSG	DRUG	0.65	-58.8%
Samuel Manu-Tech Inc.	SMT.TO	STEEL	0.65	8.5%
Sand Technology Inc	SNTF	SOFTWARE	0.65	50.2%

**Return on Equity for Companies of Comparable Risk  
As Measured by a Beta Value of 0.65**

<b>Company Name</b>	<b>Ticker Symbol</b>	<b>Industry</b>	<b>Beta</b>	<b>Return on Common Equity</b>
SCANA Corp.	SCG	UTILEAST	0.65	11.4%
Seenergy Maritime Corp	SHIP	FINSERV	0.65	-20.9%
Selectica Inc	SLTC	INTERNET	0.65	-44.8%
SensiVida Medical Technologie	SVMT	MEDSUPPL	0.65	39.3%
Simulations Plus Inc	SLP	HLTHSYS	0.65	13.3%
Sparton Corp.	SPA	ELECTRNX	0.65	-20.4%
Specialty Underwriters Allnce	SUAI	INSPRPTY	0.65	7.4%
Spectra Energy Partners LP	SEP	OILFIELD	0.65	8.9%
Synthetech Inc.	NZYM	DRUG	0.65	12.0%
Tapestry Pharmaceuticals Inc	TPPHQ	DRUG	0.65	-75.7%
Tel-Instrument Electronics	TIK	INSTRMNT	0.65	2.8%
The Walking Co Holdings Inc	WALK	RETAILSP	0.65	-7.5%
Tidelands Bancshares Inc	TDBK	BANK	0.65	1.0%
Timberland Bancorp Inc	TSBK	THRIFT	0.65	10.3%
Todd Shipyards	TOD	MARITIME	0.65	7.4%
TOR Minerals International	TORMD	CHEMSPEC	0.65	-20.3%
Tyler Technologies Corp.	TYL	DIVERSIF	0.65	18.2%
U.S. Basketball League Inc	USBL	ENTRTAIN	0.65	14.1%
UGI Corp.	UGI	GASDISTR	0.65	16.2%
UMH Properties Inc.	UMH	HOMEBUILD	0.65	3.4%
Vasamed Inc	VSMD	MEDSUPPL	0.65	24.6%
Vector Group Ltd.	VGR	TOBACCO	0.65	180.0%
Vertical Branding inc	VBDG	ADVERT	0.65	-81.0%
Voyager Learning Company	VLCY	INFOSER	0.65	-32.8%
Weis Markets	WMK	GROCERY	0.65	7.1%
Westfield Financial Inc	WFD	THRIFT	0.65	2.6%
WGL Holdings Inc.	WGL	GASDISTR	0.65	11.6%
Wisconsin Energy	WEC	UTILCENT	0.65	10.7%
Xcel Energy Inc.	XEL	UTILWEST	0.65	9.2%
Xfone Inc.	XFN	TELESERV	0.65	5.2%
XFormity Technologies Inc	XFMY	INTERNET	0.65	-1.3%
York Water Co	YORW	WATER	0.65	9.2%
Zunicom Inc	ZNCM	TELEQUIP	0.65	-2.3%
Average				12.0%

Source: Value Line Investment Analyzer, Screen on Beta of 0.65