

**ORIGINAL**

**FLORIDA DIVISION OF  
CHESAPEAKE UTILITIES CORPORATION**

Docket No. 000108-GU

Direct Testimony

of

Paul R. Moul, Managing Consultant  
P. Moul & Associates, Inc.

Concerning  
Cost of Capital

DOCUMENT NUMBER-DATE

**05942 MAY 15 8**

FPSC-RECORDS/REPORTING

Florida Division of  
Chesapeake Utilities Corporation  
Direct Testimony of Paul R. Moul  
Table of Contents

	<u>Page No.</u>
Introduction and Summary of Recommendations .....	1
Natural Gas Risk Factors .....	8
Fundamental Risk Analysis .....	16
Capital Structure Ratios .....	25
Cost of Senior Capital .....	26
Cost of Equity Determination .....	26
Discounted Cash Flow Analysis .....	27
Risk Premium Analysis .....	40
Capital Asset Pricing Model .....	44
Comparable Earnings Approach .....	49
Conclusion .....	50

**DIRECT TESTIMONY OF PAUL R. MOUL**

**INTRODUCTION AND SUMMARY OF RECOMMENDATIONS**

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22

**Q. Please state your name, occupation and business address.**

A. My name is Paul Ronald Moul. My business address is Cherry Tree Corporate Center, 535 Route 38 East, Suite 200, Cherry Hill, New Jersey 08002-2953. I am Managing Consultant of the firm P. Moul & Associates, Inc., an independent, financial and regulatory consulting firm. My educational background, business experience and qualifications are provided in Appendix A that follows my direct testimony.

**Q. What is the purpose of your testimony?**

A. My testimony presents evidence, analysis and a recommendation concerning the appropriate cost of equity and overall rate of return that the Florida Public Service Commission ("FPSC" or the "Commission") should allow the Florida Division of Chesapeake Utilities Corporation ("Florida Division" or the "Company") an opportunity to earn on its rate base devoted to public service. My analysis and recommendation are supported by the detailed financial data set forth in Composite Exhibit No. PRM-1 which consists of 13 schedules. Additional evidence is contained in Appendix B through Appendix J which follow my direct testimony. The items covered in these appendices deal with the technical aspects of my testimony. Appendices A through J are identified as Composite Exhibit No. PRM-2.

**Q. Were the foregoing exhibits prepared under your direction, supervision and control?**

A. Yes.

**Q. What rate of return has the Company proposed in this case?**

**DIRECT TESTIMONY OF PAUL R. MOUL**

1 A. The Company has requested that the Commission afford it an opportunity to earn a  
2 9.80% overall rate of return on investor-provided capital and an 8.89% overall rate of  
3 return for ratesetting purposes. As shown on Schedule 1 of Composite Exhibit No.  
4 PRM-1, the calculation of the weighted average cost of capital, which serves as the  
5 basis of the overall rate of return, requires the selection of appropriate capital structure  
6 ratios and a determination of the appropriate cost rate for each capital component.  
7 Those ratios and cost rates will be discussed in further detail later in my direct  
8 testimony. The overall fair rate of return is the product of weighting the individual  
9 capital costs by the proportion of each respective type of capital. The resulting overall  
10 rate of return, when applied to the Company's rate base, will provide a compensatory  
11 level of return for the use of capital and provide the Company with the ability to attract  
12 capital.

13 **Q. What background information about the Company have you considered in the**  
14 **preparation of your testimony?**

15 A. The Company is a division of Chesapeake Utilities Corporation ("CUC") which is a  
16 diversified energy company that also has gas distribution operations in Delaware and  
17 Maryland. The Florida Division is a small gas distribution utility that provided service  
18 to 9,633 customers in 1999. Of these customers, 8,745 were residential, 825 were  
19 commercial, 58 were industrial, 4 were electric generators, and 1 was a sales for resale  
20 customer. The Company distributes natural gas purchased directly from producers and  
21 marketers through delivery arrangements with Florida Gas Transmission Company.  
22 Throughput on the Company's system was represented by about 21% of sales service

**DIRECT TESTIMONY OF PAUL R. MOUL**

1 and 79% of transportation service in 1999. Throughput on the Company's system was  
2 comprised of approximately 2% to residential customers, 5% to commercial  
3 customers, 45% to industrial customers, 46% to electric generators, and 2% to the  
4 resale customer. In my opinion, with respect to customer/sales/revenue mix, the  
5 Company is unique. I know of no other gas utility where such a small number of  
6 customers represent such a high proportion of total throughput and revenues. Indeed,  
7 the high proportion of industrial and electric generation service that dominates the  
8 Company's business indicates an unusually high risk profile for the Company.

9 **Q. How have you determined the cost of equity for the Company?**

10 A. My recommended cost of equity is established using capital market and financial data  
11 relied upon by investors when assessing the relative risk, and hence cost of equity, for  
12 a gas distribution utility, such as the Florida Division. In analyzing the Company's  
13 cost of equity, I have relied on four, well-recognized measures: the Discounted Cash  
14 Flow ("DCF") model, the Risk Premium ("RP") analysis, the Capital Asset Pricing  
15 Model ("CAPM"), and the Comparable Earnings ("CE") approach. By considering the  
16 results of a variety of approaches, I determined that my analysis is consistent with the  
17 well-recognized principles for determining a fair rate of return. The models that I used  
18 to measure the cost of equity for the Company have been applied with data developed  
19 from a proxy group of seven gas distribution companies which are identified on page  
20 2 of Schedule 3. I will refer to my seven company proxy group as the "Barometer  
21 Group" throughout my testimony.

22 Rather than rely upon the market-determined cost of equity for an individual

**DIRECT TESTIMONY OF PAUL R. MOUL**

1        company, I have employed the stock market prices for the seven company Barometer  
2        Group. While the common stock of CUC is listed and traded on the New York Stock  
3        Exchange, I have not separately measured the cost of equity for CUC on a stand-alone  
4        basis. I have taken this position because the determination of the cost of equity for an  
5        individual company has become increasingly problematic. Furthermore, the gas  
6        distribution and transmission operations of CUC represent 33% of revenues, 69% of  
7        operating income, and 70% of assets of its consolidated business. I have included  
8        CUC as a component of the Barometer Group which has allowed for continued  
9        recognition of the relevance of this market data in measuring the cost of equity for its  
10       divisions. Also, by employing group average data for the Barometer Group, rather  
11       than individual company analysis, I have minimized the effect of any anomalies in the  
12       market data for an individual company.

13    **Q. Please summarize the basis for your cost of equity recommendation in this**  
14    **proceeding.**

15    A. My recommendation is derived from the results of the four methods/models previously  
16    identified. In general, the use of more than one approach provides a superior  
17    foundation to arrive at the cost of equity. At any point in time, individual methods can  
18    provide an incomplete measure of the cost of equity depending upon extraneous  
19    factors which may influence market sentiment. The results of these methods/models  
20    will be described later in my testimony. The following table provides a summary of the  
21    indicated costs of equity for each of these approaches.

**DIRECT TESTIMONY OF PAUL R. MOUL**

1	DCF	13.14%
2	RP	13.07%
3	CAPM	14.38%
4	CE	11.70%
5		
6	Range:	
7	High	14.38%
8	Low	11.70%
9	Midpoint	13.04%
10	Average	13.07%
11	Median	13.11%

12       Based upon these results, the cost of equity is 13.0% derived from the evidence for the  
13       Barometer Group.

14               As explained in the testimony of Mr. Geoffroy, the Company, however,  
15       requests that the Commission provide a 12.0% rate of return on common equity in this  
16       proceeding. This decision was made in order to accommodate the market forces that  
17       affect customer demand for the Company's service. That is to say, the Company must  
18       be sensitive to competitive forces in order to maintain and increase its market share.  
19       So while my cost of equity recommendation is 13.0% in this case, there is a limitation  
20       on the rate of return on common equity which the Company can request in order to  
21       remain an aggressive competitor in its market area. The Company has taken this  
22       position as a proactive measure to deal with the many unique factors that affect its  
23       business. Without these constraints, the Florida Division would otherwise require a  
24       higher rate of return on common equity as compensation for its above average risk and  
25       in recognition of the Company's skillful management of those risks.

26   **Q. In your opinion, what factors should the Commission consider when setting the**  
27   **Company's cost of capital in this proceeding?**

**DIRECT TESTIMONY OF PAUL R. MOUL**

1 A. The Commission should consider the ratesetting principles that I have set forth in  
2 Appendix B. In this regard, the end result of the rate of return finding by the  
3 Commission must cover the Company's designated interest and dividend payments,  
4 provide a reasonable level of earnings retention (i.e., produce an adequate level of  
5 internally generated funds to meet capital requirements), be commensurate with the  
6 risk to which the Company's capital is exposed, and support reasonable credit quality.  
7 I therefore tested the Company's rate of return proposal by reference to certain well-  
8 recognized credit quality benchmarks in order to satisfy the capital attraction and  
9 maintenance of credit standards of a fair rate of return. I have concluded that the  
10 Company's proposed rate of return in this case is necessary and appropriate to satisfy  
11 the capital attraction and maintenance of credit standards of a fair rate of return.

12 **Q. What are some of the important factors that influence credit quality?**

13 A. In this regard, the Company must have the financial strength that will, at a minimum,  
14 permit it to maintain a financial profile that is commensurate with the requirements to  
15 obtain a solid investment grade bond rating. Even though it has no credit quality  
16 standing on its own, the Florida Division must provide a positive contribution to the  
17 credit quality of CUC that does issue its debt directly to investors. A variety of  
18 quantitative and qualitative measures must be considered when determining an  
19 appropriate rate of return on common equity. In quantitative terms, two of the  
20 measures of credit quality considered by the bond rating agencies, such as Standard  
21 & Poor's Corporation ("S&P") and Moody's Investors Service, Inc. (Moody's), include  
22 debt leverage and pre-tax interest coverage. In the area of coverage, the rate of return

**DIRECT TESTIMONY OF PAUL R. MOUL**

1 on common equity represents a critical component because it is the equity return that  
2 provides the margin whereby an interest coverage multiple greater than one is realized.

3 **Q. What credit quality measures are reflected in the 9.80% rate of return based**  
4 **upon investor-provided capital?**

5 A. I analyzed the Company's rate of return on investor-provided capital by reference to  
6 the two benchmarks of credit quality enumerated above in order to satisfy the capital  
7 attraction and maintenance of credit standards of a fair rate of return. It is important  
8 that the Commission provide the Company with a reasonable opportunity to achieve  
9 adequate credit quality so that its financial condition provides a positive contribution  
10 to CUC when it must access the public markets to obtain capital. In this regard,  
11 coverage of senior capital costs reveals the level of protection that the Florida Division  
12 can supply for its allocated proportion of fixed obligations of CUC. Interest coverage  
13 is measured on both a before- and after-income tax basis. Normally, before-income  
14 tax coverage is used to evaluate a company's debt interest coverage and overall after-  
15 income tax coverage is the measure employed with regard to payment of interest  
16 charges and preferred stock dividends.

17 Interest coverage is not the only factor to be considered in testing the  
18 appropriate rate of return, but instead must be viewed in relation to an individual  
19 company's degree of financial leverage and cash flow benchmarks. Maintenance of a  
20 strong A bond rating financial profile is the appropriate regulatory objective and  
21 achievement of an AA bond rating should be encouraged. Strong credit quality is  
22 necessary to provide a utility with the highest degree of financial flexibility in order to

**DIRECT TESTIMONY OF PAUL R. MOUL**

1 attract capital on reasonable terms during all economic conditions. Customers also  
2 benefit from strong credit quality because the utility will be able to obtain lower  
3 financing costs that are passed on to customers in the form of a lower embedded cost  
4 of debt. The Commission should encourage higher levels of interest coverage in an  
5 increasingly competitive utility industry with the need to attract capital in the future.

6 Using a 35.00% federal income tax rate, Schedule 1 shows that the pre-tax  
7 coverage of interest expense would be 4.13 times assuming the Company could  
8 actually realize a 9.80% overall rate of return. The 4.13 times pre-tax interest  
9 coverage and 45.23% combined debt leverage shown on Schedule 1 should be viewed  
10 in the context of the S&P bond rating criteria that I will subsequently discuss. It is  
11 important to recognize that the benchmarks represent levels expected to be achieved,  
12 rather than the opportunity provided by the rate of return used in the ratesetting  
13 process. It is my opinion that the Company should be provided with an opportunity  
14 to attain the credit quality profile reflected on Schedule 1.

15 **NATURAL GAS RISK FACTORS**

16 **Q. Please identify some of the factors that make the natural gas industry different**  
17 **today from its past.**

18 **A. Gas supply fundamentals have changed significantly as a result of the implementation**  
19 **of FERC Order Nos. 436, 500, and 636 which restructured the pipeline industry, and**  
20 **hence, gas supply fundamentals for natural gas distribution utilities, such as the Florida**  
21 **Division . The sweeping changes that have occurred through implementation of Order**  
22 **No. 636 have, among other things: eliminated the pipeline merchant function;**

**DIRECT TESTIMONY OF PAUL R. MOUL**

1 completely unbundled the supply, transportation and storage functions provided by the  
2 interstate pipelines; fostered a pipeline rate design (i.e., straight fixed-variable, "SFV")  
3 that has decoupled revenues associated with the recovery of fixed costs from  
4 throughput, and required pipeline capacity reassignment. Further, implementation of  
5 "SFV" rate design has increased monthly demand charges payable to the interstate  
6 pipelines which have increased rates to low load-factor customers, such as residential  
7 customers. For a gas distribution utility, FERC Order No. 636 has moved the focus  
8 of gas supply from the city gate to the production field.

9 **Q. Will gas transportation service be expanded to cover a larger proportion of the**  
10 **Company's customers?**

11 A. Yes. The FPSC recently adopted Rule 25-7.0335, F. A. C., effective April 23, 2000,  
12 which requires each local distribution company to offer the transportation of natural  
13 gas to all non-residential customers. In order to meet that objective, each gas utility  
14 must file a transportation service tariff with the FPSC by July 1, 2000. The Company's  
15 proposal to implement the new rule is filed as a part of this rate case. The Company's  
16 current eligibility threshold for transportation service is 200,000 therms annually.  
17 Under the Company's proposal, the annual threshold would be lowered to 100,000  
18 therms, and small volume customers would be permitted to aggregate their annual  
19 requirements under certain terms and conditions to meet the lower threshold. Once  
20 approved and implemented, the proportion of the Company's throughput represented  
21 by transportation service will undoubtedly increase from its current level.

22 **Q. How have all these changes affected the natural gas utilities?**

**DIRECT TESTIMONY OF PAUL R. MOUL**

1 A. The new competitive, regulatory and economic risks facing gas utilities are different  
2 today than formerly. Market-oriented pricing, open access for gas transportation, and  
3 changes in service agreements now taking place mean that natural gas utilities will be  
4 operating in a more complex environment with time frames for decision-making  
5 considerably shortened. As the competitiveness of the natural gas business increases,  
6 the risk also increases. Natural gas continues to face significant competition from  
7 alternative energy sources. In its service territory, the Company faces competition  
8 from fuel oil, propane, and electricity in its markets. Moreover, the changes fostered  
9 by Order 636 have promoted competition among and between pipelines and  
10 distributors. Risk will continue to rise as large end users seek to obtain for themselves  
11 the range of unbundled service offerings which are currently available from the  
12 interstate pipelines for the local distribution utilities.

13 Moreover, with the ongoing restructuring of the electric utility business,  
14 energy will be marketed increasingly on a BTU basis regardless of its form, further  
15 heightening the competitive pressure on the natural gas business. With increased  
16 interfuel competition and energy interchangeability, risk will continue to increase for  
17 gas companies during and after the restructuring of the electric utility business.  
18 Regulatory initiatives deregulating the price of power mean that retail electricity prices  
19 will be much more flexible than had been the case in the past. Moreover, heightened  
20 competition will undoubtedly develop from consolidation within the utility industry  
21 because mergers can result in lower costs for the survivors which will allow them to  
22 become more aggressive competitors.

DIRECT TESTIMONY OF PAUL R. MOUL

1 Q. How have the bond rating agencies viewed the business risk facing the gas  
2 utilities?

3 A. S&P has established a risk-adjusted or matrix approach to the financial benchmarks  
4 used to assess the credit quality of all regulated public utilities, including the gas  
5 distribution companies. For some time, S&P has applied a matrix approach which  
6 adjusts its financial benchmarks according to each company's business risk profile.  
7 That is to say, more lenient criteria are applied to companies with lower business risk,  
8 whereas more stringent criteria are applied to companies with higher business risk. In  
9 this regard, S&P has categorized each gas distribution company according to an  
10 assessment of its business risk. This risk evaluation has been expressed by business  
11 profile assignments that are intended to represent a specific level of business risk.  
12 Each regulated firm is assigned to a category on a scale of 1 (strong) to 10 (weak).  
13 In assigning a business profile, S&P has enumerated the key items it considers:  
14 Regulation, Markets, Operations, Competitiveness, and Management.

15 According to S&P, at year-end 1998, the general breakdown of the gas  
16 distribution companies was:

17	18	19	20	21	22	23
	Business	Number of				
	<u>Profile</u>	<u>Gas Distribution</u>				
		<u>Companies</u>				
	2	11				28%
	3	16				40%
	4	<u>13</u>				<u>32%</u>
		<u>40</u>				<u>100%</u>

24 The average business profile for the gas distribution industry is "3." The average

**DIRECT TESTIMONY OF PAUL R. MOUL**

1 business profile assigned by S&P to the Barometer Group is also "3," as shown on  
2 page 2 of Schedule 3.

3 **Q. Please indicate how the Company's risk profile is affected by its construction**  
4 **program.**

5 A. As described in the testimony of Mr. Geoffroy, the Company has invested in the past  
6 and will continue to invest in new facilities to meet growth and to maintain and  
7 enhance the efficiency and reliability of existing facilities. To maintain safe and reliable  
8 service to customers, the Company must invest to upgrade its existing infrastructure.  
9 In the situation where additional capital is required, especially for non-revenue  
10 producing infrastructure rehabilitation, the regulatory process must provide a  
11 reasonable opportunity for the Company to actually achieve its cost of capital. For the  
12 next five year period, the Company's capital expenditures are estimated to be:

	<u>Year</u>	<u>Amount</u>
13	2000	\$ 4,197,189
14	2001	3,087,446
15	2002	3,718,331
16	2003	3,646,525
17	2004	<u>3,714,094</u>
18		
19		
20	Total	<u>\$18,363,585</u>

21 For the years 2000 to 2004, future construction expenditures will represent a  
22 significant 65% ( $\$18,363,585 \div \$28,304,760$ ) increase in the balance of gross gas plant  
23 and CWIP at December 31, 1999. This large commitment of capital by the Florida  
24 Division substantially exceeds its internally generated funds represented by  
25 approximately \$1.2 million annually of depreciation expense and approximately \$0.4

**DIRECT TESTIMONY OF PAUL R. MOUL**

1 million annually of deferred income taxes. In the situation where additional capital  
2 investment is required, the regulatory process must provide an opportunity for the  
3 Company to realize a fair rate of return, so as to attract capital on reasonable terms.

4 **Q. What are some of the other factors that influence the Company's risk profile?**

5 **A.** There are a number of factors that differentiate the Florida Division, and the region in  
6 which it operates, from purveyors of gas distribution service operating in other regions  
7 of the U.S. For a number of these factors, they point toward a higher risk profile for  
8 the Company as compared to most other gas utilities. These factors are:

- 9 • The Florida Division is an extremely small enterprise having a very small  
10 number of customers.
- 11 • In Florida, there are no pre-defined service territories, thereby providing both  
12 opportunities and obstacles for expansion.
- 13 • The threat of bypass is extremely high for the Company because its throughput  
14 profile is dominated by a small number of large volume users that are situated  
15 relatively close to Florida Gas Transmission.
- 16 • The Company has a single interstate pipeline supplier that reduces its flexibility  
17 to obtain alternative transmission service.
- 18 • There are two new gas transmission projects proposed for Florida (i.e.,  
19 Gulfstream and Buccaneer) either of which would provide diversification for  
20 the delivery of new gas supplies and would also increase the threat of bypass  
21 of the Company's system.
- 22 • The Company's load profile is heavily influence by the requirements of

**DIRECT TESTIMONY OF PAUL R. MOUL**

1 customers engaged in three industries: phosphate, citrus, and electric  
2 generation.

3 • The Company has had to provide special contract terms to two large volume  
4 customers in order to retain their load on the Company's system.

5 • The Company is faced with strict regulatory oversight that continuously  
6 monitors for "excess" earnings.

7 • The Company faces environment issues associated with the investigation of  
8 possible contamination at the former manufactured gas facility in Winter  
9 Haven.

10 Given the risk factors that I have described for the Company, its business risk is at the  
11 high end of the risk spectrum for the gas distribution industry.

12 **Q. Of the items that you enumerated above, what are some of the key issues that**  
13 **affect the Company's ability to retain load on its system?**

14 A. The key issues that influence the Company's ability to retain load on its system include:  
15 (i) the dominant role represented by the phosphate and citrus industries, (ii) the  
16 proposed construction of additional interstate transmission facilities that will bring new  
17 supply to the Florida gas markets, and (iii) the special contracts with large volume,  
18 electric generators.

19 **Q. How do the phosphate and citrus industries impact the Company's risk profile?**

20 A. As noted previously, industrial customers represent a significant 45% of the  
21 throughput on the Company's system, yet number only 1% of its customers. The  
22 Company's phosphate customers operate in a cyclical industry that is subject to intense

**DIRECT TESTIMONY OF PAUL R. MOUL**

1 global competition. These customers also represent a potential bypass threat to the  
2 Company's facilities. As to the citrus industry, throughput to these customers is  
3 affected by seasonal demand, alternative fuels, weather conditions, agricultural disease  
4 and pests, and domestic and global competition. Aside from the obvious threats from  
5 weather and agricultural disease and pests, the citrus industry is faced with significant  
6 global competition, especially by production from Brazil.

7 External factors such as these can impact the Company's throughput to these  
8 customers due to competitive pressures that arise from outside the Company's service  
9 territory. The consequences of these forces can result in plant closures or relocations,  
10 over which the Company has no control. In the area of energy costs, the Company has  
11 responded with innovative tariff provisions, such as flexible rates, to address some of  
12 the competitive issues faced by these industries.

13 **Q. How will the construction of new interstate transmission facilities impact the**  
14 **Company's business?**

15 A. Construction of either the Gulfstream or Buccaneer pipelines will provide the  
16 Company with alternative transportation service which will serve to stimulate  
17 competition in the supply side of the Company's business. New pipeline capacity that  
18 would become available if Gulfstream were constructed would significantly increase  
19 the bypass opportunities for the Company's customers due to its proposed route.  
20 Bypass represents the single most important threat to the Company's business. To  
21 date, the Company has been successful defending its position by offering special  
22 contracts to its two largest customers in order to retain their load on its system. Aside

## DIRECT TESTIMONY OF PAUL R. MOUL

1 from the stranded cost issue associated with abandoned facilities that would occur in  
2 a bypass situation, capacity contracted by the Company on the interstate pipeline  
3 system represents another risk issue if bypass were to occur.

4 **Q. You have noted that the Company has entered into special contracts in order to**  
5 **retain customers on its system. Are these arrangements vulnerable in the future?**

6 A. Yes. Special contracts have been negotiated with three of the four electric generation  
7 customers. Customers that use gas for electric generation are potential targets of  
8 bypass. With the new transmission projects proposed for the Florida market, special  
9 contract customers may well avoid extending these arrangements for lengthy periods  
10 of time in order to retain the greatest degree of supply flexibility. Hence, for the four  
11 customers that represent 46% of throughput on the Company's system, there is  
12 significant exposure for the Company when only a few customers represent such a  
13 large percentage of throughput.

14 **Q. Has the Company been able to manage these risk?**

15 A. As noted above, the Company has skillfully managed the risks associated with serving  
16 a market represented by a small number of high volume customers. In this regard, the  
17 Company has implemented innovative programs to retain load on its system. The  
18 Commission should recognize this accomplishment in the face of a high risk profile for  
19 the Florida Division.

## 20 FUNDAMENTAL RISK ANALYSIS

21 **Q. Is it necessary to conduct a fundamental risk analysis to provide a framework for**  
22 **a determination of a utility's cost of equity?**

**DIRECT TESTIMONY OF PAUL R. MOUL**

1 A. Yes. It is necessary to establish a company's relative risk position within its industry  
2 through a fundamental analysis of various quantitative and qualitative factors that bear  
3 upon investors' assessment of overall risk. The qualitative factors which bear upon the  
4 Company's risk have already been discussed. The quantitative risk analysis follows.  
5 The items that influence investors' evaluation of risk and their required returns are  
6 described in Appendix C. For this purpose, I have compared the Florida Division to  
7 the S&P Public Utilities, an industry-wide proxy consisting of various public utility  
8 endeavors, and the Barometer Group.

9 **Q. What are the components of the S&P Public Utilities?**

10 A. The S&P Public Utilities is a widely-recognized index which at year end 1998 was  
11 comprised of twenty-eight electric power companies and eleven natural gas companies.  
12 These companies are identified on pages 3 and 4 of Schedule 4. I have used this group  
13 as a broad-based measure of regulated public utility endeavors.

14 **Q. What criteria have you employed to assemble your Barometer Group?**

15 A. The Barometer Group I have employed in this case includes companies that are  
16 engaged in similar business lines and have marketable securities. The Barometer  
17 Group companies have the following common characteristics: (i) they are contained  
18 in Edition 3 of The Value Line Investment Survey Natural Gas Distribution basic  
19 service or its Expanded Edition, (ii) they have operations in Southeastern and South  
20 Central regions of the U.S. based upon the grouping of states by the Federal Energy  
21 Regulatory Commission, and (iii) they are not currently the target of a merger or  
22 acquisition. By limiting the selection of companies to these regions, I have applied a

**DIRECT TESTIMONY OF PAUL R. MOUL**

1 geographic screening criteria to the companies in the Barometer Group. Due to the  
2 acquisition premiums associated with takeover targets, I have eliminated one company  
3 (i.e., Public Service of North Carolina) that would otherwise qualify for my Barometer  
4 Group because its valuation is substantially influenced by an acquisition premium.

5 **Q. Is knowledge of a utility's bond rating an important factor in assessing its risk**  
6 **and cost of capital?**

7 A. Yes. Knowledge of a company's credit quality rating is important because the cost of  
8 each type of capital is directly related to the associated risk of the firm. So while a  
9 company's credit quality risk is shown directly by the rating and yield on its bonds,  
10 these relative risk assessments also bear upon the cost of equity. This is because a  
11 firm's cost of equity is represented by its borrowing cost plus compensation to  
12 recognize the higher risk of an equity investment compared to debt.

13 **Q. How do the bond ratings compare for CUC, the Barometer Group, and the S&P**  
14 **Public Utilities?**

15 A. A public utility must have the financial strength to support its credit standing in order  
16 to fulfill its public service responsibilities. In this regard, the Florida Division must  
17 make a positive contribution toward CUC's financial condition in order to support the  
18 credit quality that is equivalent to the investment grade ratings employed in the private  
19 placement market as established by the designations of the National Association of  
20 Insurance Commissioners ("NAIC"). The long-term debt of CUC carries a designation  
21 of "1" from the NAIC which would be equivalent to all of the A ratings by Standard  
22 & Poor's Corporation ("S&P") and Moody's Investors Service ("Moody's") -- both

**DIRECT TESTIMONY OF PAUL R. MOUL**

1 nationally recognized credit rating agencies. Presently, the corporate credit rating  
2 ("CCR") for the Barometer Group is an average A- from S&P and an average A3 from  
3 Moody's. The CCR is a designation by S&P that focuses upon the credit quality of the  
4 issuer of the debt, rather than upon the debt obligation itself. For the S&P Public  
5 Utilities, the average composite rating is A by S&P and A2 by Moody's. Many of the  
6 financial indicators that I will subsequently discuss are considered during the rating  
7 process.

8 **Q: What factors influence the bond ratings assigned by the credit rating agencies?**

9 A. The credit rating agencies consider various qualitative and quantitative factors in  
10 assigning grades of creditworthiness. On June 21, 1999, S&P modified its benchmark  
11 criteria with a focus on the relative business risk of a firm regardless of its industry-  
12 type. These benchmarks replaced former criteria that were directed toward specific  
13 types of utilities. Now, each gas distribution company will be measured against a  
14 uniform set of financial benchmarks applicable to all firms that are assigned to a  
15 specific business profile. S&P has indicated that no rating changes should be expected  
16 from the new financial targets because they were developed by integrating prior  
17 financial benchmarks and historical industrial medians. The financial benchmarks for  
18 a utility with a "4" business profile include:

**DIRECT TESTIMONY OF PAUL R. MOUL**

1				Funds from	Funds from
2		Pre-Tax		Operations	Operations
3		Interest	Debt	Interest	to Total
4	<u>Rating</u>	<u>Coverage</u>	<u>Leverage</u>	<u>Coverage</u>	<u>Debt</u>
5	AA	4.6-4.0×	37.5-43.0%	5.1-4.5×	36.5-30.5%
6	A	4.0-3.3	43.0-49.5	4.5-3.8	30.5-24.5
7	BBB	3.3-2.2	49.5-57.0	3.8-2.7	24.5-17.5
8	BB	2.2-1.3	57.0-64.0	2.7-1.8	17.5-12.0
9	B	1.3-0.5	64.0-72.5	1.8-0.9	12.0-6.0

10 **Q. How do the financial data compare for the Florida Division , the Barometer**  
 11 **Group, and the S&P Public Utilities?**

12 A. The broad categories of financial data that I will discuss are shown on Schedules 2, 3,  
 13 and Schedule 4. I have employed the FPSC Annual Report financial data for my  
 14 analysis of the Company. I have modified the Annual Report data for the Florida  
 15 Division by allocating to it a portion of the annual dividend payments by CUC. Since,  
 16 the Florida Division receives an allocation of interest expenses from CUC, I have  
 17 assigned a similar percentage of the CUC dividend to the Florida Division. I will  
 18 highlight the important categories of relative risk as follows:

19 Size. In terms of capitalization, the Florida Division is very much smaller than  
 20 the average size of the Barometer Group. The S&P Public Utilities are many times  
 21 larger than the Florida Division and the Barometer Group. All other things being  
 22 equal, a smaller company is riskier than a larger company, since a given change in  
 23 revenue and expense has a proportionately greater impact on a small firm. Small firms  
 24 can also encounter reduced liquidity for their securities which can add to risk and  
 25 increase capital costs. As I will demonstrate later, the size of a firm can significantly

DIRECT TESTIMONY OF PAUL R. MOUL

1 influence its cost of equity for the Barometer Group.

2 Market Ratios. Historical market-based financial ratios, such as earnings/price  
3 ratios and dividend yields, provide a partial measure of the investor-required cost of  
4 equity. If all other factors are equal, investors will require a higher return on equity  
5 for companies that exhibit greater risk as compensation for that risk. That is to say,  
6 a firm that investors perceive to have higher risks will experience a lower price per  
7 share in relation to expected earnings; a high earnings/price ratio is thus indicative of  
8 greater risk.<sup>1</sup>

9 Since the Company is a division of CUC, there are no market ratios available  
10 for the Florida Division. The average earnings/price ratios were higher for the  
11 Barometer Group than the S&P Public Utilities. The average dividend yields were  
12 fairly similar for the Barometer Group and the S&P Public Utilities. Likewise, the  
13 historical market-to-book ratios were also fairly similar for the Barometer Group and  
14 the S&P Public Utilities. I will subsequently discuss the cost of equity implications of  
15 the market-to-book ratios.

16 Common Equity Ratio. The level of financial risk is measured by the  
17 proportion of debt and other senior capital that is contained in a company's  
18 capitalization. Financial risk is also analyzed by comparing common equity ratios (the  
19 complement of the ratio of debt and other senior capital). That is to say, a firm with  
20 a high common equity ratio has low financial risk, while a firm with a low common

---

<sup>1</sup> For example, two otherwise similarly situated firms each reporting \$1.00 earnings per share would have different market prices at varying levels of risk, i.e., the firm with a higher level of risk will have a lower share value, while the firm with a lower risk profile will have a higher share value.

**DIRECT TESTIMONY OF PAUL R. MOUL**

1 equity ratio has high financial risk. No investor-provided capital is assigned to the  
2 Florida Division by CUC. Rather, the Company's capitalization is represented by its  
3 retained earnings account. As such, capital structure comparisons are not meaningful  
4 for the Florida Division. The five-year average common equity ratio, based on  
5 permanent capital was 49.5% for the Barometer Group and 45.9% for the S&P Public  
6 Utilities.

7 Return on Book Equity. Greater variability (i.e., uncertainty) of a firm's earned  
8 returns signifies relative levels of risk, as shown by the coefficient of variation  
9 (standard deviation ÷ mean) of the rate of return on book common equity. The higher  
10 the coefficient of variation, the greater degree of variability. For the five year period,  
11 the coefficients of variation were 0.226 (1.9% ÷ 8.4%) for the Florida Division, 0.100  
12 (1.2% ÷ 12.0%) for the Barometer Group, and 0.152 (1.6% ÷ 10.5%) for the S&P  
13 Public Utilities. The higher coefficient of variation for the Florida Division signifies  
14 higher risk for the Company.

15 Operating Ratios. I have also compared operating ratios (the percentage of  
16 revenues consumed by operating expense, depreciation and taxes other than income)<sup>2</sup>.  
17 The five-year average operating ratios were 89.9% for the Florida Division, 87.6% for  
18 the Barometer Group, and 80.5% for the S&P Public Utilities. The higher operating  
19 ratio for the Florida Division again signifies higher risk for the Company.

20 Coverage. The level of fixed charge coverage (i.e., the multiple by which

---

<sup>2</sup> The complement of the operating ratio is the operating margin which provides a measure of profitability. The higher the operating ratio, the lower the operating margin.

**DIRECT TESTIMONY OF PAUL R. MOUL**

1 available earnings cover fixed charges, such as interest expense and preferred stock  
2 dividends) provides an indication of the earnings protection for creditors. Higher  
3 levels of coverage, and hence earnings protection for fixed charges, are usually  
4 associated with superior grades of creditworthiness. The five-year average pre-tax  
5 interest coverage (excluding AFUDC) was 3.3 times for the Florida Division, 3.0 times  
6 for the Barometer Group, and 3.3 times for the S&P Public Utilities.

7 Quality of Earnings. Measures of earnings quality are usually revealed by the  
8 percentage of Allowance for Funds Used During Construction ("AFUDC") related to  
9 income available for common equity, relative amounts of deferred costs, and the  
10 effective income tax rate. These measures of earnings quality usually influence a firm's  
11 internally generated funds because poor quality of earnings would not generate high  
12 levels of cash flow. Quality of earnings has not been a significant concern for the  
13 Florida Division, the Barometer Group, and the S&P Utilities in recent years.

14 Internally Generated Funds. Historically, the five-year 1994-1998 average  
15 percentage of internally generated funds ("IGF") to capital expenditures was 85.0%  
16 for the Florida Division, 66.9% for the Barometer Group, and 125.9% for the S&P  
17 Public Utilities. The percentage of IGF to construction for the Florida Division and  
18 the Barometer Group has lagged behind that of S&P Public Utilities.

19 Betas. The financial data I have been discussing relate primarily to company-  
20 specific risks. Market risk for firms with traded stock is measured by beta coefficients,  
21 which attempt to identify systematic risk, i.e., the risk associated with changes in the  
22 overall market for common equities. Merrill Lynch publishes such a statistical measure

**DIRECT TESTIMONY OF PAUL R. MOUL**

1 of a stock's relative historical volatility to the rest of the market.<sup>3</sup> A comparison of  
2 market risk is shown by the betas provided on page 2 of Schedule 3 -- .50 for the  
3 Barometer Group and page 4 of Schedule 4 -- .56 average beta for the S&P Public  
4 Utilities and .52 for the S&P Public Utilities Index which is market weighted. Keeping  
5 in mind that the gas industry has changed significantly during the past several years,  
6 the systematic risk percentage was 89% ( $.50 \div .56$ ) for the Barometer Group using the  
7 S&P Public Utilities' average beta as a benchmark. Alternatively, the systematic risk  
8 percentage for the Barometer Group was 96% ( $.50 \div .52$ ) using the beta of the S&P  
9 Public Utilities Index.

10 **Q. Please summarize your risk evaluation of the Company and the Barometer**  
11 **Group.**

12 **A.** In my opinion, the Barometer Group provides a reasonable proxy to measure the cost  
13 of equity for the Florida Division. In certain respects, the Company has higher risk  
14 traits as shown by its much smaller size and more variable returns. Overall the  
15 Barometer Group provides a reasonable basis to measure the Company's market  
16 determined cost of equity.

---

<sup>3</sup> The Merrill Lynch beta coefficient is derived from a straight regression based upon the percentage change in the price of an individual common stock and percentage change in the S&P Composite Index using monthly data over a five-year period. The raw historic beta is adjusted by Merrill Lynch for the measurement effect resulting in underestimates of low beta stocks and overestimates of high beta stocks. A common stock that has a beta less than 1.0 is considered to have less systematic risk than the market as a whole and would be expected to rise and fall more slowly than the rest of the market. A stock with a beta above 1.0 would have more systematic risk. Merrill Lynch also provides the coefficient of determination ( $R^2$ ) which indicates the percent of price fluctuation in the stock which can be attributed to the fluctuation in the S&P Composite Index. Since the coefficients of determination are low (i.e., .03 for the Barometer Group, and .05 as the average for the S&P Public Utilities), it is apparent that the vast majority of the investment risk is unsystematic and hence not explained by the beta.

**DIRECT TESTIMONY OF PAUL R. MOUL**

**CAPITAL STRUCTURE RATIOS**

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22

**Q. Please explain the selection of capital structure ratios for the Florida Division .**

A. In the situation where the operating public utility raises its own debt directly in the capital markets, it is usually the practice to employ the capital structure ratios and senior capital cost rates of the regulated public utility for rate of return purposes. In that case, the property and earnings of the operating public utility form the basis of the capital employed and the capital cost rates are directly identifiable.

As previously noted, the Company has no separate capital structure because it relies upon CUC for all its external capital needs. As such, the capitalization of CUC represents the basis for the capital structure ratios for ratesetting purposes. Since the minimum filing requirements do not recognize cost-free capital as a rate base deduction, those amounts are included in the rate of return calculation. The capital structure ratios for the future test year 2001 are shown on page 1 of Schedule 5. These ratios were taken from Schedule G-3 of the minimum filing requirements.

**Q. What capital structure ratios do you propose for the Company in this case?**

A. My proposal is that the Company should use capital structure ratios that include 33.95% long-term debt, 11.28% short-term debt and 54.77% common equity when considering investor-provided capital alone. These capital structure ratios conform with the ratios expected by investors for a small gas distribution utility and are reasonable for this case. In further support of these capital structure ratios, the credit rating agencies expect that a utility having a "4" business profile will employ 43.0% to 49.5% debt for an A rating. The combined debt ratio of 45.23% (33.95% + 11.28%)

**DIRECT TESTIMONY OF PAUL R. MOUL**

1 is within this range. Therefore, the capital structure ratios proposed for the Florida  
2 Division in this case are reasonable because they conform with a reasonable level of  
3 credit quality.

4 **COST OF SENIOR CAPITAL**

5 **Q. What cost rate have you assigned to the long-term debt portion of the Florida**  
6 **Division 's capital structure?**

7 A. The determination of the cost of debt is essentially an arithmetic exercise. This is due  
8 to the fact that a Company has contracted for the use of this capital for a specific  
9 period of time at a specified cost rate. As shown on page 2 of Schedule 5, the  
10 embedded cost rate of long-term debt is estimated to be 7.52% for the rate year 2001.

11 **COST OF EQUITY DETERMINATION**

12 **Q. Please describe the process you employed to determine the cost of equity for the**  
13 **Company.**

14 A. Although my fundamental financial analysis provides the required framework to  
15 establish the risk relationships among the Florida Division, the Barometer Group, and  
16 the S&P Public Utilities, the cost of equity must be measured by standard financial  
17 models that I describe in Appendix D. Differences in risk traits, such as size, business  
18 diversification, geographical diversity, regulatory policy, financial leverage, and bond  
19 ratings must be considered when analyzing the cost of equity. It is also important to  
20 reiterate that no one method or model for determining the cost of equity can be applied  
21 in an isolated manner. Rather, informed judgment must be used to take into  
22 consideration the relative risk traits of the firm. It is for this reason that I have used

**DIRECT TESTIMONY OF PAUL R. MOUL**

1 more than one method to measure the Company's cost of equity. As noted in  
2 Appendix D, each of the methods used to measure the cost of equity contains certain  
3 incomplete and/or overly restrictive assumptions and constraints that are not optimal.  
4 Therefore, I favor considering the results from all methods that I have considered. In  
5 this regard, I have applied each of these methods with data taken from the Barometer  
6 Group and have arrived at a cost of equity of 13.0%.

7 **DISCOUNTED CASH FLOW ANALYSIS**

8 **Q. Please describe your use of the Discounted Cash Flow approach to determine the**  
9 **cost of equity.**

10 A. The details of my use of the DCF approach and the calculations and evidence in  
11 support of my conclusions are set forth in Appendix E. I will summarize them here.  
12 The Discounted Cash Flow ("DCF") model seeks to explain the value of an asset as  
13 the present value of future expected cash flows discounted at the appropriate risk-  
14 adjusted rate of return. In its simplest form, the DCF return on common stocks  
15 consists of a current cash (dividend) yield and future price appreciation (growth) of the  
16 investment. The cost of equity based on a combination of these two components  
17 represents the total return that investors can expect with regard to an equity  
18 investment.

19 Among other limitations of the model, there is a certain element of circularity  
20 in the DCF when applied in public utility rate cases. This is because investors'  
21 expectations for the future depend upon regulatory decisions. In turn, when regulators  
22 depend upon the DCF model to set the cost of equity, they rely upon investor

**DIRECT TESTIMONY OF PAUL R. MOUL**

1 expectations which include an assessment of how regulators will decide rate cases.  
2 Due to this circularity, the DCF model may not fully reflect the true risk of a utility.

3 As I describe in Appendix E, the DCF approach has certain limitations which  
4 diminish its usefulness when stock prices diverge significantly from book values in the  
5 ratesetting process. When stock prices diverge from book values by a significant  
6 margin, the DCF method will lead to a misspecified cost of equity. If regulators rely  
7 upon the results of the DCF (which are based on the market price of the stock of the  
8 companies analyzed) and apply those results to a net original cost (book value) rate  
9 base, the resulting earnings will not produce the level of required return specified by  
10 the model when market prices vary from book value. That is to say, such distortions  
11 tend to produce DCF results that understate the cost of equity to regulated firms when  
12 using a book value rate base. As I will explain later in my testimony, in at least one  
13 respect, the DCF model can be modified to account for differences in risk attributed  
14 to changes in financial leverage when market prices and book values diverge.

15 **Q. Please explain the dividend yield component of the DCF analysis.**

16 A. The DCF methodology requires the use of an expected dividend yield to establish the  
17 investor-required cost of equity. For the twelve months ended February 2000, the  
18 monthly dividend yields for the Barometer Group are shown graphically on Schedule  
19 6. The monthly dividend yields shown on Schedule 6 reflect an adjustment to the  
20 month-end prices to reflect the build up of the dividend in the price that has occurred  
21 since the last ex-dividend date (i.e., the date by which a shareholder must own the  
22 shares to be entitled to the dividend payment--usually about two to three weeks prior

**DIRECT TESTIMONY OF PAUL R. MOUL**

1 to the actual payment). An explanation of this adjustment is provided in Appendix E.

2 For the twelve months ended February 2000, the average dividend yield was  
3 4.79% for the Barometer Group based upon a calculation using annualized dividend  
4 payments and adjusted month-end stock prices. The dividend yields for the more  
5 recent six- and three-month periods were 4.96% and 5.16%, respectively, for the  
6 Barometer Group. I have used, for the purpose of my direct testimony, a dividend  
7 yield of 4.96% for the Barometer Group which represents the six-month average yield.  
8 The use of this dividend yield will reflect current capital costs while avoiding spot  
9 yields.

10 For the purpose of a DCF calculation, the average dividend yield must be  
11 adjusted to reflect the prospective nature of the dividend payments, i.e., the higher  
12 expected dividends for the future. Recall that the DCF is an expectational model  
13 which must reflect investor anticipated future cash flows. For the Barometer Group,  
14 I have adjusted the 4.96% dividend yield in three different but generally acceptable  
15 manners, and used the average of the three adjusted values of 5.15% as calculated in  
16 Appendix E.

17 **Q. What investor-expected growth rate is appropriate in a DCF calculation?**

18 A. Historical performance and analysts' forecasts support my opinion of the growth  
19 expected by investors. Although some DCF devotees would advocate that  
20 mathematical precision should be followed when selecting a growth rate (i.e., precise  
21 input variables often considered within the confines of retention growth), the fact is  
22 that investors, when establishing the market prices for a firm, do not behave in the

**DIRECT TESTIMONY OF PAUL R. MOUL**

1 same manner assumed by the constant growth rate models using accounting values.  
2 Rather, investors consider both company-specific variables and overall market  
3 sentiment (i.e., level of inflation rates, interest rates, economic conditions, etc.) when  
4 balancing their capital gains expectations with their current dividend yield  
5 requirements. Some regulatory agencies have acknowledged that a blended approach,  
6 which recognizes the preceding factors, is required in the selection of the DCF growth  
7 rate. I have followed an approach that is not rigidly formatted, because investors do  
8 not behave in such a manner. Therefore, in my opinion, all relevant growth rate  
9 indicators using a variety of techniques should be evaluated when formulating a  
10 judgment of investor expected growth.

11 **Q. What data have you considered in your growth rate analysis?**

12 A. The bar graph provided on Schedule 7 shows the historical growth rates in earnings  
13 per share, dividends per share, book value per share, and cash flow per share for the  
14 Barometer Group. Value Line serves primarily as the source of the historical growth  
15 rates shown on Schedule 7. These growth rates have been supplemented with  
16 historical earnings per share growth published by Zacks. Zacks only publishes  
17 historical earnings per share growth rates. As shown on page 1 of Schedule 7, the  
18 historical earnings per share growth rates were in the range of 1.85% to 6.86% for the  
19 Barometer Group. The historical growth rates in earnings per share contain instances  
20 of negative values for individual companies within the Barometer Group. Obviously,  
21 negative growth rates provide no reliable guide to gauge investor expected growth for  
22 the future. Investor expectations always encompass long-term positive growth rates

## DIRECT TESTIMONY OF PAUL R. MOUL

1 and, as such, could not be represented by sustainable negative rates of change.  
2 Therefore, statistics that include negative growth rates should not be given any weight  
3 when formulating a composite investors' growth expectation for the future. The  
4 prospect of rate increases granted by regulators, the continued obligation to provide  
5 service as required by customers, and the ongoing growth of customers mandate  
6 investor expectations of positive future growth rates. Stated simply, there is no reason  
7 for investors to expect that a utility will wind up its business and distribute its common  
8 equity capital to shareholders, which would be symptomatic of a long-term permanent  
9 earnings decline. Because, in the long-run, investors will always expect positive  
10 growth, negative values will not provide a reasonable representation of future growth  
11 expectations. This is because, although investors have knowledge that negative growth  
12 and losses can occur, their expectations always include positive growth. Rational  
13 investors always expect positive returns, otherwise they will hold cash rather than  
14 invest with the expectation of a loss.

15 Schedule 8 shows both long-run and short-run earnings per share growth rates  
16 taken from the forecasts provided in the I/B/E/S, Zacks, and Value Line publications.  
17 The I/B/E/S and Zacks forecasts are restricted to earnings per share growth, while  
18 Value Line makes projections of other financial variables. The Value Line forecasts  
19 of dividends per share, book value per share, and cash flow per share have also been  
20 included on page 1 of Schedule 8.

21 Although long-run forecasts usually receive the most attention in the growth  
22 analysis for DCF purposes, present market performance has been strongly influenced

**DIRECT TESTIMONY OF PAUL R. MOUL**

1 by short-term earnings forecasts. Each of the major publications provide earnings  
2 forecasts for the current and subsequent year. As reported on page 2 of Schedule 8,  
3 these short-term earnings forecasts receive prominent coverage, and indeed they  
4 dominate these publications. The short-term earnings forecasts indicate double digit  
5 growth rates for the Barometer Group. While the DCF model typically focuses upon  
6 long-run estimates of earnings, stock prices are clearly influenced by current and near-  
7 term earnings forecasts.

8 As to five-year forecast growth rates, page 1 of Schedule 8 indicates that the  
9 projected earnings per share growth rates for the Barometer Group are 7.00% by  
10 IBES, 6.99% by Zacks, and 9.30% by Value Line. The Value Line projections  
11 indicate that earnings per share will grow prospectively at a more rapid rate (i.e.,  
12 9.30%) than dividends per share (i.e., 4.50%) which suggests a declining payout ratio  
13 in the future. With no expected change in price-earnings multiple, the value of a firm's  
14 equity (i.e., its stock price) will grow at the same rate as earnings per share, thus  
15 producing a capital gains yield to investors at the higher earnings per share growth  
16 rate.

17 **Q. What conclusion have you drawn from these data?**

18 A. As explained in Appendix E, historical performance and published forecasts support  
19 my opinion that a company-specific growth rate of 7.00% is indicated for the  
20 Barometer Group. While the DCF growth rate cannot be established solely with a  
21 mathematical formulation, the prospective growth rate for the Barometer Group is  
22 within the array of growth rates shown by earnings per share, dividends per share,

**DIRECT TESTIMONY OF PAUL R. MOUL**

1 book value per share, retention growth, and cash flow per share. Due to restructuring  
2 and consolidation now taking place in the utility industry, and as the utility industry  
3 successfully adapts to the new business environment, additional opportunities (both  
4 regulated and non-regulated) will develop beyond the next five years typically  
5 considered in the analysts' forecasts that will enhance the growth prospects of the  
6 Barometer Group. Moreover, expectations concerning merger and acquisition  
7 ("M&A") activities also impact stock prices. M&A premiums have the effect of  
8 raising prices, and therefore reducing observed dividend yields, without necessarily  
9 showing up in higher long-term growth rate forecasts. In that case, the traditional  
10 DCF calculation would understate the required cost of equity. This is a further reason  
11 why a simple DCF rate of return requires adjustment. For the gas distribution  
12 industry, M&A activity has elevated stock prices based upon investors' expectations  
13 of enhanced market returns that arise from those combinations. M&A premiums  
14 embedded in stock prices usually result in a disconnection of those prices from the  
15 analysts' growth forecasts.

16 In addition, market-wide factors also influence the capital gains expected by  
17 investors. As previously indicated, there are a wide variety of factors that influence  
18 investor expected returns which are not linked specifically to company-specific  
19 performance. In an article in Standard & Poor's The Outlook (February 21, 1996), the  
20 relative valuation of common stocks was explained in part by qualitative factors (i.e.,  
21 favorable psychology). Those factors which influence investor-expected growth  
22 include overall business conditions, monetary policy, fiscal and tax policy, the value

**DIRECT TESTIMONY OF PAUL R. MOUL**

1 of the dollar in foreign trade, and the balance of trade, all of which I would categorize,  
2 at least from an investors' perspective, as qualitative influences on investors' total  
3 return expectations. In addition, investors make independent valuation assessments  
4 based upon market sentiment that includes relative P/Es, dividend yields, interest rates,  
5 the supply of stocks, etc. The combination of both quantitative factors, as shown by  
6 company-specific variables, and qualitative factors, as shown by general investor  
7 sentiment, together form the foundation for the capital appreciation (i.e., capital gains  
8 yield) that investors expect from owning a common stock.

9 **Q. At this point, what is the sum of the dividend yield and growth rate?**

10 A. Although this summation would not provide a complete representation of the cost of  
11 equity, the dividend yield and growth rate would provide a combined 12.15% (5.15%  
12 + 7.00%) return for the Barometer Group.

13 **Q. In the development of the rate of return on common equity in the ratesetting  
14 context, should another component be included in the DCF model of the cost of  
15 equity?**

16 A. Yes. As noted previously and as demonstrated in Appendix E, the divergence of stock  
17 prices from book values creates a conflict within the DCF model when the results of  
18 a market-derived cost of equity are applied to a utility's common equity account  
19 measured at book value in the ratesetting context. This is the situation today where  
20 the market price of stock exceeds its book value for most gas distribution utilities.  
21 This divergence of price and book value also creates a financial risk difference,  
22 whereby the capitalization of a utility measured at its market value contains relatively

**DIRECT TESTIMONY OF PAUL R. MOUL**

1           less debt and more equity than the capitalization measured at its book value. It is a  
2           well accepted fact of financial theory that a relatively higher proportion of equity in the  
3           capitalization has less financial risk than another capital structure more heavily  
4           weighted with debt. This is the situation for the Barometer Group where the market  
5           value of its capitalization contains more equity than is shown by the book  
6           capitalization. The following comparison demonstrates this situation where the market  
7           capitalization is developed by taking the "Fair Value of Financial Instruments"  
8           (Disclosures about Fair Value of Financial Instruments -- Statement of Financial  
9           Accounting Standards ("FAS") No. 107) as shown in the annual report for each  
10          company and the market value of the common equity using the market price of stock  
11          at year-end 1999. The comparison of capital structure ratios are:

<u>Barometer</u> <u>Group</u>	<u>Capitalization at Market Value</u> <u>(Fair Value)</u>	<u>Capitalization at Book Value</u> <u>(Carrying Amounts)</u>
14          Long-term Debt	39.07%	48.98%
15          Preferred Stock	0.93	1.14
16          Common Equity	<u>60.00</u>	<u>49.88</u>
17		
18          Total	<u>100.00%</u>	<u>100.00%</u>

19          With regard to the capital structure ratios represented by the carrying amounts shown  
20          above, there are some variances from the ratios shown on Schedule 3. These variances  
21          arise from the use of balance sheet values in computing the capital structure ratios  
22          shown on Schedule 3 and the use of the Carrying Amounts of the Financial  
23          Instruments according to FAS 107 (the Carrying Amounts were used in the table  
24          shown above to be comparable to the Fair Value amounts used in the comparison

**DIRECT TESTIMONY OF PAUL R. MOUL**

1        calculations).

2        **Q.    What are the implications of the capital structure ratios measured with the**  
3        **market value of the Barometer Group's securities as compared to the book value**  
4        **of the capitalization?**

5        A.    The capital structure ratios of the Barometer Group measured at their book value  
6        show more financial leverage, and hence higher risk, than the capitalization measured  
7        at their market values. This means that a market derived cost of equity, using models  
8        such as DCF and CAPM, reflects a level of financial risk that is different from that  
9        shown by the book value capitalization of the Barometer Group. Hence, it is necessary  
10       to adjust the market-determined cost of equity upward to reflect the higher financial  
11       risk related to the book value capitalization used for ratesetting purposes. Failure to  
12       make this modification would result in a mismatch of the lower financial risk related  
13       to market value used to measure the cost of equity and the higher financial risk of the  
14       book value capital structure used in the ratesetting process. That is to say, the cost  
15       equity for the Barometer Group that is related to the 49.88% common equity ratio  
16       using book value has much higher financial risk than the 60.00% common equity ratio  
17       using market values. Because the ratesetting process utilizes the book value  
18       capitalization, it is necessary to adjust the market-determined cost of equity for the  
19       higher financial risk related to the book value of the capitalization.

20       **Q.    How is the DCF-determined cost of equity adjusted for the financial risk**  
21       **associated with the book value of the capitalization?**

22       A.    In pioneering work, Modigliani and Miller developed several theories about the role

**DIRECT TESTIMONY OF PAUL R. MOUL**

1 of leverage in a firm's capital structure. As part of that work, Modigliani and Miller  
2 established that as the borrowing of a firm increases, the expected return on  
3 stockholders' equity also increases. This principle is incorporated into my leverage  
4 adjustment which recognizes that the expected return on equity increases to reflect the  
5 increased risk associated with the higher financial leverage shown by the book value  
6 capital structure, as compared to the market value capital structure that contains lower  
7 financial risk. Modigliani and Miller proposed several approaches to quantify the  
8 equity return associated with various degrees of debt leverage in a firm's capital  
9 structure. These formulas point toward an increase in the equity return associated with  
10 the higher financial risk of the book value capital structure.

11 **Q. How can the Modigliani and Miller theory be applied to calculate the rate of**  
12 **return on book common equity using the market derived cost of equity as a**  
13 **starting point?**

14 **A. It is necessary to first calculate the cost of equity for a firm without any leverage. The**  
15 **cost of equity for an unleveraged firm using the capital structure ratios calculated with**  
16 **market values is:**

$$17 \quad k_u = k_e - ((k_u - i) (1-t) D / E) - (k_u - d) P / E$$
$$18 \quad 10.79\% = 12.15\% - ((10.79\% - 7.74\%) \cdot .65) 39.07\% / 60.00\% - (10.79\% - 6.68\%) 0.93\% / 60.00\%$$

19 where  $k_u$  = cost of equity for an all-equity firm,  $k_e$  = market determined cost equity,  
20  $i$  = cost of debt<sup>4</sup>,  $d$  = dividend rate on preferred stock<sup>5</sup>,  $D$  = debt ratio,  $P$  = preferred

---

<sup>4</sup> The cost of debt is the twelve month average yield on Moody's A rated public utility bonds.

<sup>5</sup> The cost of preferred is the twelve month average yield on Moody's "a" rated preferred stock.

**DIRECT TESTIMONY OF PAUL R. MOUL**

1 stock ratio, and  $E$  = common equity ratio. The formula shown above indicates that the  
2 cost of equity for a firm with 100% equity is 10.79% using the market value of the  
3 Barometer Group's capitalization.

4 Having determined that the cost of equity is 10.81% for a firm with 100%  
5 equity, I then calculated the rate of return on common equity using the book value  
6 capital structure. This provides:

$$7 \quad k_e = k_u + ((k_u - i)(1-t) D / E) + (k_u - d) P / E$$
$$8 \quad 12.82\% = 10.79\% + (((10.79\% - 7.74\%) \cdot 65) / 49.88\%) + (10.79\% - 6.68\%) \cdot 1.14\% / 49.88\%$$

9 Hence the Modigliani and Miller theory shows that the cost of equity increases by  
10 0.67% (12.82% - 12.15%) when the common equity ratio declines from 60.00% using  
11 the market value of equity to 49.88% using the book value of equity.

12 **Q. What is the sum of the dividend yield, growth rate and leverage adjustment for**  
13 **the Barometer Group?**

14 **A.** Again, while not completely representing the cost of equity, the sum of the dividend  
15 yield, growth rate, and leverage adjustment would provide a 12.86% (5.15% + 7.00%  
16 + 0.67%) rate of return on equity.

17 **Q. Please provide the DCF return based upon your preceding discussion of dividend**  
18 **yield, growth, and leverage.**

19 **A.** As previously explained, I have utilized a six-month average dividend yield (" $D_1/P_0$ ")  
20 adjusted in a forward-looking manner for my DCF calculation. This dividend yield is  
21 used in conjunction with the growth rate (" $g$ ") previously developed. The DCF also  
22 includes the leverage modification (" $lev.$ ") to recognize that the book value equity

**DIRECT TESTIMONY OF PAUL R. MOUL**

1 ratio is used in the ratesetting process rather than the market value equity ratio related  
2 to the price of stock. The cost of equity must also include an adjustment to cover  
3 flotation costs ("flot."). Therefore, a flotation cost adjustment must be applied to the  
4 DCF result (i.e., "k") which provides an additional increment to the rate of return on  
5 equity (i.e., "K"). The factor used to develop the modification which would account  
6 for the flotation cost adjustment is provided in Schedule 9 and Appendix F. Even in  
7 the situation where no new stock was to be issued, failure to recognize a flotation cost  
8 adjustment would not give a utility a realistic opportunity to earn the return required  
9 by investors. The resulting DCF cost rate is:

$$10 \quad D_1/P_0 + g + lev. = k \times flot. = K$$
$$11 \quad 5.15\% + 7.00\% + 0.67\% = 12.82\% \times 1.025 = 13.14\%$$

12 As indicated by the DCF result shown above, the flotation cost adjustment adds 0.32%  
13 (13.14% - 12.82%) to the rate of return on common equity for the Barometer Group.  
14 In my opinion, this adjustment is reasonable for reasons explained in Appendix F. The  
15 DCF result shown above represents the simplified (i.e., Gordon) form of the model  
16 which contains a constant growth assumption. I should reiterate, however, that the  
17 DCF indicated cost rate provides an explanation of the rate of return on common stock  
18 market prices without regard to the prospect of a change in the price-earnings  
19 multiples. An assumption that there will be no change in the price-earnings multiple  
20 is not supported by the realities of the equity market because price-earnings multiples  
21 do not remain constant.

**RISK PREMIUM ANALYSIS**

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22

**Q. Please describe your use of the Risk Premium approach to determine the cost of equity.**

A. The details of my use of the Risk Premium approach and the evidence in support of my conclusions are set forth in Appendix H. I will summarize them here. With this method, the cost of equity capital is determined by reference to corporate bond yields plus a premium to account for the fact that common equity is exposed to greater investment risk than debt capital.

**Q. What long-term public utility debt cost rate did you use in your risk premium analysis?**

A. In my opinion, an 8.00% yield represents a reasonable estimate of the prospective long-term debt cost rate for a public utility with an A bond rating. As I will subsequently discuss, the Moody's index and the Blue Chip forecasts support this figure.

The historical yields for long-term public utility debt are shown graphically on page 1 of Schedule 10. For the twelve months ended February 2000, the average monthly yield on Moody's A rated index of public utility bonds was 7.83%. As described in Appendix G, there was generally an upward trend in public utility bond yields throughout this period.

I have determined the forecast yields on A rated public utility debt by using the Blue Chip Financial Forecasts ("Blue Chip") along with the spread in yields that I describe in Appendix G. The Blue Chip Financial Forecasts is published monthly and

**DIRECT TESTIMONY OF PAUL R. MOUL**

1 contains consensus forecasts of a variety of interest rates compiled from a panel of 45  
 2 banking, brokerage, and investment advisory services. In early 1999, Blue Chip  
 3 stopped publishing forecasts of yields on A rated public utility bonds because the Fed  
 4 deleted these yields from its Statistical Release H.15. To independently project a  
 5 forecast of the yields on A rated public utility bonds, I have combined the forecast  
 6 yields on thirty-year Treasury bonds published on March 1, 2000 and the yield spread  
 7 of 1.75% that I describe in Appendix G. These spreads can be traced to a general  
 8 aversion to risk, as well as the perceived scarcity of long-term treasury obligations and  
 9 an unusually shaped yield curve for Treasury issues. For comparative purposes, I have  
 10 also shown the Blue Chip Financial Forecasts of Aaa rated and Baa rated corporate  
 11 bonds. These forecasts are:

Quarter	Blue Chip Financial Forecasts			A-rated Utility	
	Corporate bonds		30-Year	Spread	Yield
	Aaa rated	Baa rated	Treasury		
1st Qtr. 2000	7.7%	8.4%	6.4%	1.75%	8.15%
2nd Qtr. 2000	7.7	8.4	6.4	1.75	8.15
3rd Qtr. 2000	7.7	8.5	6.4	1.75	8.15
4th Qtr. 2000	7.6	8.4	6.3	1.75	8.05
1st Qtr. 2001	7.6	8.3	6.3	1.75	8.05
2nd Qtr. 2001	7.6	8.3	6.2	1.75	7.95

21 Given these forecasts and the historical long-term interest rates, an 8.00% yield on A  
 22 rated public utility bonds represents a reasonable expectation.

23 **Q. What equity risk premium have you determined for public utilities?**

24 **A.** Appendix H provides a discussion of the financial returns that I relied upon to develop  
 25 the appropriate equity risk premium for the S&P Public Utilities. It should be  
 26 recognized that the S&P Public Utility index is a subset of the overall S&P 500

**DIRECT TESTIMONY OF PAUL R. MOUL**

1 Composite index. The S&P Public Utility index is intended to represent firms engaged  
2 in regulated activities and today is comprised of electric companies and gas companies.  
3 With the equity risk premiums developed for the S&P Public Utilities as a base, I  
4 derived the equity risk premium for the Barometer Group. The S&P Public Utility  
5 index contains companies that are more closely aligned with the gas distribution  
6 industry than some broader market indexes, such as the S&P 500 Composite index.  
7 Use of the S&P Public Utility index reduces the role of subjective judgment in  
8 establishing the risk premium for gas utilities.

9 **Q. What equity risk premium for the S&P Public Utilities have you determined for**  
10 **this case?**

11 A. To develop an appropriate risk premium, I analyzed the results for the S&P Public  
12 Utilities by averaging (i) the midpoint of the range shown by the geometric mean and  
13 median and (ii) the arithmetic mean. This procedure has been employed to provide a  
14 comprehensive way of measuring the central tendency of the historical returns. As  
15 shown by the values indicated on page 2 of Schedule 11, the indicated risk premiums  
16 for the various time periods analyzed are 5.23% (1928-1999), 6.08% (1952-1999),  
17 5.23% (1974-1999), and 5.31% (1979-1999). The selection of the shorter periods  
18 from the entire historical series is designed to provide a risk premium that conforms  
19 more nearly with present investment fundamentals and removes some of the more  
20 distant data from the analysis.

21 **Q. Do you have further support for the selection of time periods used in your equity**  
22 **risk premium determination?**

**DIRECT TESTIMONY OF PAUL R. MOUL**

1 A. Yes. First, the terminal year of my analysis presented in Schedule 11 represents the  
2 most recent calendar year of data which is available at the time this testimony was  
3 prepared. Hence, all historical periods include data through 1999. Second, the  
4 selection of the initial year of each period was based upon the events that I describe  
5 in Appendix H. These events were fixed in history and cannot be manipulated as later  
6 financial data becomes available. That is to say, using the Treasury-Federal Reserve  
7 Accord as a defining event, the year 1952 is fixed as the beginning point for the  
8 measurement period regardless of the financial results that subsequently occurred. As  
9 such, additional data is merely added to the earlier results when it becomes available,  
10 clearly showing that the periods chosen were not driven by the desired results of the  
11 study.

12 **Q. What conclusions have you drawn from these data?**

13 A. Using the summary values provided on page 2 of Schedule 11, the 1928-1999 and  
14 1974-1999 period provide the lowest indicated risk premium, while the 1952-1999  
15 period provides the highest risk premium for the S&P Public Utilities. Within these  
16 bounds, a common equity risk premium of 5.27% ( $5.23\% + 5.31\% = 10.54\% \div 2$ ) is  
17 shown from the data covering the periods 1974-1999 and 1979-1999 which represents  
18 the more recent results. Therefore, 5.27% represents a reasonable risk premium for  
19 the S&P Public Utilities in this case.

20 As noted earlier in my fundamental risk analysis, differences in risk  
21 characteristics must be taken into account when applying the results for the S&P  
22 Public Utilities to the Barometer Group. I recognized these differences in the

**DIRECT TESTIMONY OF PAUL R. MOUL**

1 development of the equity risk premium in this case. I previously enumerated various  
2 differences in fundamentals between the Barometer Group and the S&P Public  
3 Utilities, including size, market ratios, common equity ratio, return on book equity,  
4 operating ratios, coverage, quality of earnings, internally generated funds, and betas.  
5 In my opinion, these differences indicate that 4.75% represents a reasonable common  
6 equity risk premium for this case. This represents approximately 90% ( $4.75\% \div$   
7  $5.27\% = .90$ ) of the risk premium of the S&P Public Utilities and is reflective of the  
8 risk of the Barometer Group compared with that of the S&P Public Utilities.

9 **Q. What common equity cost rate would be appropriate using this equity risk**  
10 **premium and the yield on long-term public utility debt?**

11 A. The cost of equity (i.e., "*k*") is represented by the sum of the prospective yield for  
12 long-term public utility debt (i.e., "*i*") and the equity risk premium (i.e., "*RP*"). To that  
13 cost must be added an adjustment for common stock financing costs ("*flot.*"). As  
14 developed earlier in my DCF analysis, the flotation cost adjustment factor provided a  
15 0.32% increment to the cost of equity for the Barometer Group. After adjusting for  
16 this factor, the Risk Premium approach provides a cost of equity of:

$$17 \quad i + RP = k + flot. = K$$
$$18 \quad 8.00\% + 4.75\% = 12.75\% + 0.32\% = 13.07\%$$

19 **CAPITAL ASSET PRICING MODEL**

20 **Q. How have you used the Capital Asset Pricing Model to measure the cost of equity**  
21 **in this case?**

22 A. I have used the Capital Asset Pricing Model ("CAPM") in addition to my other

**DIRECT TESTIMONY OF PAUL R. MOUL**

1 methods. As with other models of the cost of equity, the CAPM contains a variety of  
2 assumptions, as I discuss in Appendix I. Therefore, this method should be used with  
3 other methods to measure the cost of equity as each will complement the other and  
4 will provide a result which will alleviate the unavoidable shortcomings found in each  
5 method.

6 **Q. What are the features of the CAPM as you have used it?**

7 A. The CAPM contains a yield on a risk-free interest bearing obligation plus a return  
8 representing a premium which is proportional to the systematic risk of an investment.  
9 The details of my use of the CAPM and evidence in support of my conclusions are set  
10 forth in Appendix I. To compute the cost of equity with the CAPM, three components  
11 are necessary, i.e., a risk-free rate of return (" $R_f$ "), the beta measure of systematic risk  
12 (" $\beta$ "), and the market risk premium (" $R_m - R_f$ ") derived from the total return on the  
13 market of equities reduced by the risk-free rate of return. The CAPM specifically  
14 accounts for differences in systematic risk (i.e., market risk as measured by the beta)  
15 between an individual firm or group of firms and the entire market of equities. As  
16 such, to calculate the CAPM, it is necessary to employ firms with traded stocks. In  
17 this regard, I have performed a CAPM calculation for the Barometer Group. In  
18 contrast, my Risk Premium approach also considers industry- and company-specific  
19 factors because it is not limited to measuring just systematic risk. As a consequence,  
20 my Risk Premium approach is more comprehensive than the CAPM. In addition, the  
21 Risk Premium approach provides a better measure of the cost of equity because it is  
22 founded upon the yields on corporate bonds rather than Treasury bonds. Due to the



**DIRECT TESTIMONY OF PAUL R. MOUL**

1           unleveraged beta, as a base, I calculated the leveraged beta of .63 for the Barometer  
2           Group associated with book value capital structure. Hence, the increase in the betas  
3           is .08 (.63 - .55) for the Barometer Group when its common equity ratio is lowered  
4           from 60.00% to 49.88%.

5                        The betas and their corresponding common equity ratios are:

	<u>Market Values</u>		<u>Book Values</u>	
	<u>Beta</u>	<u>Common Equity Ratio</u>	<u>Beta</u>	<u>Common Equity Ratio</u>
8           Barometer Group	.55	60.00%	.63	49.88%

9           The leveraged beta that I will employ in the CAPM cost of equity is .63 for the  
10          Barometer Group.

11   **Q.   What risk-free rate have you used in the traditional CAPM?**

12   A.   For reasons explained in Appendix G, I have employed the yields on long-term 30-year  
13          Treasury bonds using both historical and forecast data to match the longer-term  
14          horizon associated with the ratesetting process. As shown on page 2 of Schedule 12,  
15          I have provided the historical yields on 30-year Treasury bonds. For the twelve  
16          months ended February 2000, the average yield was 6.06% as shown on page 3 of  
17          Schedule 12. For the six months ended February 2000, the yield on 30-year Treasury  
18          bonds was 6.28%. As shown on page 4 of Schedule 12, forecasts published by Blue  
19          Chip Financial Forecasts on March 1, 2000 indicate that the yields on 30-year Treasury  
20          Bonds are expected to be in the range of 6.2% to 6.4% during the next six quarters.  
21          To conform with the use of historical and forecast data that I employ in my analysis,  
22          I have used a 6.25% yield for Treasury bonds

**DIRECT TESTIMONY OF PAUL R. MOUL**

1 **Q. What market premium have you used in the traditional CAPM?**

2 A. As developed in Appendix I, my calculation of the market premium is developed from  
3 both historical market performance (i.e., 7.8%) and with the Value Line forecasts (i.e.,  
4 14.32%). The resulting market premium is 11.06% ( $7.8\% + 14.32\% = 22.12\% \div 2$ )  
5 which represents the average market premium using the historical SBBI data and the  
6 forecasts by Value Line.

7 **Q. What CAPM result have you determined using the traditional CAPM?**

8 A. Using the 6.25% risk-free rate of return, the leverage adjusted beta of .63 for the  
9 Barometer Group, and the 11.06% market premium, the following result is indicated  
10 after adjustment for flotation costs described previously.

$$\begin{aligned} 11 \quad R_f + \beta (R_m - R_f) &= k + \text{flot.} = K \\ 12 \quad 6.25\% + .63 (11.06\%) &= 13.22\% + 0.32\% = 13.54\% \end{aligned}$$

13 **Q. What rate of return is indicated from the CAPM?**

14 A. The CAPM result is 13.54% for the Barometer Group. I should note that there will  
15 be an understatement of a firm's cost of equity with the CAPM unless the size of a firm  
16 is considered. That is to say, as the size of a firm decreases, its risk, and hence its  
17 required return increases. Moreover, in his discussion of the cost of capital, Professor  
18 Brigham has indicated that smaller firms have higher capital costs than otherwise  
19 similar larger firms (see Fundamentals of Financial Management, fifth edition, page  
20 623). Also, the Fama/French study (see "The Cross-Section of Expected Stock  
21 Returns"; The Journal of Finance, June 1992) established that size of a firm helps  
22 explain stock returns. In an October 15, 1995 article in Public Utility Fortnightly, it

## DIRECT TESTIMONY OF PAUL R. MOUL

1 was demonstrated that the CAPM could understate the cost of equity significantly  
2 according to a company's size. This was further demonstrated in the SBBI Yearbook  
3 which indicated that the returns for stocks in lower deciles (i.e., smaller stocks) had  
4 returns in excess of those shown by the simple CAPM. In this regard, the Barometer  
5 Group had an average market capitalization of its equity of \$511 million which would  
6 place it in the seventh decile according to the size of the companies traded on the New  
7 York Stock Exchange. Therefore, the Barometer Group must be viewed as a portfolio  
8 of low-cap companies consisting of those in the 6th through 8th deciles with market  
9 capitalization between \$215 million and \$872 million. This would indicate a size  
10 premium of 0.84% above the CAPM cost rate for the low-cap companies according  
11 to the SBBI 2000 Yearbook. Absent such an adjustment, the CAPM would understate  
12 the required return unless the average size of the Barometer Group is considered. The  
13 CAPM results would be 14.38% (13.54% + 0.84%) with the size adjustment for the  
14 Barometer Group.

### 15 COMPARABLE EARNINGS APPROACH

16 **Q. How have you applied the Comparable Earnings approach in this case?**

17 A. The details of my Comparable Earnings approach and the evidence in support of my  
18 conclusion are set forth in Appendix J. To implement the Comparable Earnings  
19 approach, I have used both historical realized returns and forecast returns for non-  
20 utility companies. I have not used returns for utility companies so as to avoid the  
21 circularity that arises from using regulatory influenced returns to determine a regulated  
22 return. It is appropriate to consider a relatively long measurement period in the



**DIRECT TESTIMONY OF PAUL R. MOUL**

1 A. Based upon the application of a variety of methods and models described previously,  
2 it is my opinion that the reasonable rate of return on common equity is 13.0% for the  
3 Florida Division. For reasons previously explained, the Company is only able to  
4 propose a 12.0% rate of return on common equity in this case. My studies indicate,  
5 however, that a higher 13.0% cost of equity can be justified given the Company's level  
6 of risk and management performance in successfully dealing with those risks.

7 **Q. Does this conclude your prepared direct testimony?**

8 A. Yes.