BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Water and wastewater industry annual reestablishment of authorized range of return on common equity of water and wastewater utilities, pursuant to Section 367.081(4)(f), F.S.

Docket No.: 010006-WS

Date Filed: September 7, 2001

PREPARED DIRECT TESTIMONY

OF

MARK A. CICCHETTI

ON BEHALF OF

THE OFFICE OF PUBLIC COUNSEL

STATE OF FLORIDA
OFFICE OF THE PUBLIC COUNSEL

c/o The Florida Legislature
111 West Madison St.
Room 812
Tallahassee, Florida 32399-1400
850-488-9330

JACK SHREVE
PUBLIC COUNSEL

September 7, 2001

Ms. Blanca S. Bayó, Director
Division of the Commission Clerk
and Administrative Services
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, FL 32399-0870

RE: Docket No. 010006-WS

Dear Ms. Bayó:

Enclosed are an original and fifteen copies of Prepared Direct Testimony of Mark A. Cicchetti for filing in the above-referenced docket.

Also enclosed is a 3.5 inch diskette containing Prepared Direct Testimony of Mark A. Cicchetti in WordPerfect for Windows 6.1. Please indicate receipt of filing by date-stamping the attached copy of this letter and returning it to this office. Thank you for your assistance in this matter.

Sincerely,

Stephen C. Burgess
Deputy Public Counsel

SCB/dsb
Enclosures

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BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

PREPARED DIRECT TESTIMONY AND EXHIBITS

OF MARK A. CICCHETTI

ON BEHALF OF

THE OFFICE OF PUBLIC COUNSEL

DOCKET NO. 010006-WS

Q. Please state your name and address and on whose behalf you are testifying in this proceeding.

A. My name is Mark Anthony Cicchetti and my business address is 2931 Kerry Forest Parkway, Suite 202, Tallahassee, Florida 32309. I am testifying on behalf of the Office of Public Counsel.

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

A. I am a Senior Financial Consultant and Manager of the Tallahassee Office for C.H. Guernsey & Co. Guernsey & Co. is an engineering, architectural and consulting firm that has been in business for over 70 years. The services Guernsey provides include: cost of service and rate studies; regulatory and litigation support; economic and financial studies; valuation studies; power supply planning, solicitation, and procurement; fuel purchasing; transmission and distribution planning and facilities design; strategic planning; telecommunications and e-business applications; architectural design for headquarters and warehouse facilities; environmental assessments; security systems, and; web site development and internet applications.

For ten years prior to joining C.H. Guernsey & Co., I was President of Cicchetti & Co., a financial research and consulting firm specializing in public utility finance, economics, and regulation. I also have been employed by the Florida State Board of Administration as Manager of Arbitrage Compliance and the Florida Public Service Commission as Chief of Finance. A detailed narrative description of my experience and qualifications is contained in Exhibit No. ____ (MAC - 1).

Q. Have you previously testified before this Commission?

A. Yes, I have testified before this Commission numerous times.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to address the appropriateness of the leverage formula and the allowed return on common equity incorporated by the Commission in Proposed Agency Action (PAA) Order No. PSC-01-1226-PAA-WS, issued June 1, 2001, pursuant to Section 367.081(4)(f), Florida Statutes.

Q. Please summarize your testimony.

A. The assumptions and conclusions contained in Commission Order No. PSC-01-1226-PAA-WS are reasonable and appropriate for determining allowed returns on common equity for water and wastewater ("WAW") utilities in Florida.

Q. What is the leverage formula?

A. The leverage formula is a linear equation that, using a given set of assumptions, estimates changes in equity cost for given changes in financial leverage (i.e. the use of debt). The leverage formula has been in use in Florida since the late 1970's.

The theories underlying the leverage formula, as used in Florida, are based on the works of Modigliani and Miller (1958) and Miller (1977). According to Modigliani and Miller, the overall cost of capital remains constant despite changes in financial leverage. Therefore, the major premise underlying the leverage formula is that firms with different equity ratios will have different costs of equity even though they have the same business risk and the same overall cost of capital. This means that the increase in the required return on equity resulting from the use of leverage completely offsets the advantage of the increased use of lower cost debt. (See Modigliani and Miller, "The Cost of Capital, Corporation Finance and the Theory of Investment," *American Economic Review*, June 1958, pp. 261-297 and Miller, "Debt and Taxes," *Journal of Finance*, May 1977, pp. 261-275.)

Q. Why is the leverage formula used to determine the allowed return on common equity for WAW utilities in Florida?

A. There are 300 WAW utilities under the jurisdiction of the Florida Public Service Commission ("FPSC") -- many with multiple certificates of service. Without a workable methodology such as the leverage formula, the costs and administrative burdens associated with cost of equity testimony, in potentially hundreds of rate cases, could become quite onerous. Additionally, many WAW utilities are small operations that find it beneficial to avoid the costs associated with presenting cost of equity testimony. Consequently, applying a workable methodology such as the leverage formula lowers costs to all parties and serves the public interest.

Q. What are the assumptions underlying the leverage formula?

A. As stated in Order No. PSC-01-1226-PAA-WS, the four basic assumptions are: 1.) Business risk is similar for all WAW utilities; 2) The cost of equity is a function of the equity ratio; 3) The marginal weighted average cost of investor capital is constant over the equity range of 40% to 100%; and 4) The cost rate at an assumed Moody's bond rating of baa3 plus 50 basis points represents the average marginal cost of debt to a Florida WAW utility over an equity ratio range of 40% to 100%.

Q. Are these assumptions reasonable?

A. Under the circumstances, yes. Any model that is going to be applied to a group of companies for the purpose of determining the cost of equity is, by necessity, going to have a number of limiting assumptions. An examination of the assumptions listed above indicates they are appropriate and necessary for practical application of the leverage formula.

Q. Please give a brief overview of the assumptions.

A. Business risk is defined as the uncertainty inherent in projections of a firm's operating income. The most important factors affecting business risk include the stability of demand for a firm's products, sales price variability, the variability of input prices, the ability to adjust output prices for changes in input prices, and the extent to which costs are fixed. As regulated WAW utilities, the factors that affect business risk are similar for Florida WAW utilities as well as regulated WAW utilities nationwide. For example, WAW utilities nationwide are experiencing increased costs due to environmental regulations.

Furthermore, many of the practices of the FPSC, such as pass-throughs for certain increases in costs, staff assisted rate cases, recognizing reuse facilities as 100% used and useful, allowances for funds prudently invested, and the use of the leverage formula tend to lower the business risk of Florida WAW utilities relative to those nationwide.

The assumptions that the cost of equity is a function of the equity ratio and that the weighted average cost of capital is constant over an equity ratio range of 40% to 100% are reasonable based on the works of Modigliani and Miller. Limiting the low end of the equity ratio to 40% provides an incentive to the companies to avoid imprudent amounts of debt.

Finally, it is reasonable to assume the average marginal cost of debt to a Florida WAW utility over an equity ratio range of 40% to 100% is equal to Moody's bond rating of baa3 plus 50 basis points. A bond rating below baa3 is not investment grade. Certain financial institutions, pension funds, and others with fiduciary responsibility only can invest in investment grade securities. Bonds below investment grade are characterized, at best, as "uncertain as to position" by Moody's.

In defining its baa rating, Moody's states, "Such bonds lack outstanding investment characteristics and in fact have speculative characteristics as well." It would be unreasonable to assume that the debt of Florida-regulated WAW utilities is below that described by Moody's baa rating and therefore below investment grade. Furthermore, it would be unreasonable to assume that the ability of prudently operated Florida WAW utilities to pay their debts is "uncertain."

The 50 basis point private placement premium recognizes that small firms, on average, incur a higher cost of debt due to their inability to tap the major financial markets.

Q. What methods did you use to determine the appropriateness of the of allowed return on common equity incorporated by the Commission in Order No. PSC-01-1226-PAA-WS?

A. To determine the required return on common equity, I used a two-stage, annually compounded discounted cash flow (DCF) model and a risk-premium analysis.

It is important to note that estimating the cost of common equity is a subjective procedure. It is impossible to measure it precisely and it is generally estimated within a range. The cost of common equity is a function of investor expectations and it is impossible to know all investors' expectations at any point in time. Consequently, professional judgment must be exercised when determining proxies for investor expectations. When analyzing cost of equity estimates, it is important to understand the rationale underlying the subjective inputs and how well the models relied upon reflect reality.

Q. How did you apply the DCF and risk premium models to obtain the cost of common equity?

A. I conducted a DCF analysis on an index of publicly traded water companies and a risk premium analysis on Moody's Gas Distribution index and adjusted the results for the difference in risk between the indices and an average WAW utility in Florida. The investment risk characteristics for both indices are shown on Exhibit No. ____ (MAC - 2).

Relying on an index of companies, rather than a single company, helps minimize forecasting errors and should provide more reliable information for use in measuring the cost of common equity.

Q. Please briefly describe the models you used.

A. The discounted cash flow model is the most commonly used market-based approach for estimating a utility investor's required return on common equity capital. In a DCF analysis, the cost of equity is the discount rate which equates the present value of the expected cash flows associated with a share of stock to the present price of the stock.

A risk premium analysis recognizes that equity is riskier than debt. Equity investors thus require a "risk premium" over the cost of debt as compensation for assuming additional risk.

Q. Please describe the discounted cash flow model used in your analysis.

A. I used a two-stage variable growth rate DCF model in order to use the specific dividend forecasts for the next five years provided by *Value Line*. *Value Line* is an independent, respected, widely circulated source of investment information.

Exhibit No. ____ (MAC - 3) shows a two-stage DCF model. In the two-stage model, dividend growth is estimated on an individual basis for an initial growth period. After the initial period, dividends are assumed to grow into perpetuity at the expected long-term growth rate.

Q. How did you use this model to determine the cost of common equity capital for the indices?

A. The current stock price (P_o) was determined by averaging the high and the low stock price for each company. I assumed an initial growth period based upon *Value Line's* explicit dividend forecasts (n) for the next five years. I used *Value Line's* forecast of dividends, and assumed a constant rate of growth in between to estimate the expected dividends (D_t) during the initial growth period. The long-term constant rate of growth expected (g_n) was calculated using the earnings retention method (b x r approach) and *Value Line's* expected return on equity (r) and expected retention rate (b) for 2005.

Q. Did you incorporate an allowance for flotation costs in applying your DCF model?

A. Yes. The DCF calculations I performed include an adjustment of 3% to recognize the expenses associated with issuing stock. An allowance for issuance costs enables the utility to recover the costs incurred when issuing common stock. Issuance expenses include registration, legal, and underwriter fees, and printing and mailing expenses. Investors would never be able to earn the required return on their investment without an issuance cost adjustment because the sales price will always exceed the net proceeds to the company as a result of incurring issuance costs. These costs will be incurred whether the stock is publicly traded or privately held.

Conceptually, the situation with common stock is similar to that of bonds and preferred stock. With bonds for example, the issuance expenses are reflected in the cost charged to ratepayers and are recovered over the life of the bond. The cost to the company for a specific bond issue is the interest expense plus the amortization of issuance costs divided by the principal value less the unamortized issuance costs. The result is that the cost to the utility is greater than the return to the creditor.

Unlike the case of bonds, however, common stock does not have a finite life. Therefore, issuance costs cannot be amortized and must be recovered by an upward adjustment to the allowed return on equity. This adjustment reflects the fact that, due to the issuance costs, the utility earns a return on an equity balance that is less than the actual amount paid by investors. (See Brigham, E.F., Aberwald, D., and Gapenski, L.D., "Common Equity Flotation Costs and Rate Making," Public Utilities Fortnightly, May 2, 1985, pp. 28-36). Historically, utility underwriting expenses associated with issuing common stock have averaged 3 to 4 percent of gross proceeds. (See Petteway, R.H., "A Note on the Flotation Costs of New Equity Capital Issues of Electric Companies," Public Utilities Fortnightly, March 18, 1982, pp. 68-69).

Q. What is the required return on common equity for the index of water companies based upon your two-stage annually-compounded DCF model?

A. Solving the equation shown on Exhibit No. ____ (MAC - 3) for the cost of equity (K) produces a required return on common equity for the index of 9.00% (rounded). Exhibit No. ____ (MAC - 3) shows the inputs and results of my analysis.

Q. Please describe the risk premium approach of determining the cost of common equity.

A. The return to equity owners is a residual return and is less certain than the yield on bonds. Therefore, equity owners must be compensated for this additional risk. The risk premium approach estimates the cost of common equity by adding a premium to the cost rate of debt to compensate the investor for the greater risk inherent in an equity investment. The basic

risk premium model takes the form: $K_e = B_y + R_p$ where: K_e = the cost of common equity; B_y = the yield on debt; R_p = the risk premium on common stock.

In order to apply the methodology, a risk premium for common stock over some measure of debt cost must be estimated. The debt security used in a risk premium analysis should be risk free to isolate the spread component of the return and avoid default risk and circularity concerns that are associated with debt securities issued by companies.

Q. How did you estimate the equity - debt risk premium?

A. I began my analysis by estimating the required market returns for Moody's Natural Gas Distribution Index for each month of the January 1991 to December 2000 ten-year period using the same DCF methodology previously described. This was accomplished by using the *Value Line* data that was available to investors each month of the January 1991 to December 2000 period, and the then current stock prices.

Q. How was the equity-debt risk premium determined?

A. For each month, the required returns on common equity derived from my DCF analyses were compared to the then current yield on long-term government bonds, as reported by Federal Reserve Board, to determine the risk premium for common equity over the yield on long-term government bonds.

Q. What is your estimate of the equity - debt risk premium for the index?

A. As shown on Exhibit No.____ (Mac - 4) the equity - debt risk premium for the index averaged 3.10% (rounded) over the period January 1991 to December, 2000.

Q. What gauge of debt cost did you add to the risk premium to determine the cost of equity?

A. I used the July, 2001 *Blue Chip Financial Forecasts'* (Blue Chip) consensus forecast for long-term government bond yields for the coming year of 5.5%. *Blue Chip* is a publication that provides interest rate forecasts from leading economists and financial analysts.

Q. What is the risk premium cost of common equity for the index?

A. Combining the next four quarters expected yield on long-term government bonds of 5.5% with the equity-debt risk premium of 3.10% results in a risk premium cost of equity of 8.60% for the index. Exhibit No. ____ (MAC - 5) shows the results of my risk premium analysis.

Q. Did you make an adjustment to the required return on equity to recognize the difference in risk between the indices and an average WAW utility in Florida?

A. Yes. I used a bond yield differential to estimate the additional return required by an average WAW utility in Florida over the indices. I believe the average differential between the yields of A1 and Baa3 bonds of .41% over the last 10 years (which is still the same as shown on Attachment 1 of Order No. PSC-01-1226-PAA-WS), is a reasonable estimate of the additional return required.

Q. What is the risk adjusted cost of equity based on your DCF and risk premium analyses?

A. As shown on Exhibit No. ____ (MAC - 6) the risk adjusted cost of equity is 9.71%.

Q. What is your conclusion as to the required rate of return on common equity for use in the leverage formula?

A. Based on my analyses, I conclude the investor required rate of return on common equity adopted by the Commission in Order No. PSC-01-1226-PAA-WS for use in the leverage formula (10.09% prior to the adjustment to reflect a 40% equity ratio and 10.24% after the adjustment) is reasonable and appropriate. In my opinion, such a return should allow the average WAW to attract capital at a reasonable cost.

Q. Does this conclude your testimony?

A. Yes.

Experience and Qualifications

I received a Bachelor of Science degree in Business Administration in 1980 and a Master of Business Administration degree in Finance in 1981, both from Florida State University. Upon graduation I accepted a planning analyst position with Flagship Banks, Inc., a bank holding company. As a planning analyst, my duties included merger and acquisition analysis, lease-buy analysis, branch feasibility analysis, and special projects.

In 1983, I accepted a regulatory analyst position with the Florida Public Service Commission. As a regulatory analyst, I provided in-depth analysis of the cost of equity and required overall rate of return in numerous major and minor rate cases. I reviewed and analyzed the current and forecasted economic conditions surrounding those rate cases and applied financial integrity tests to determine the impacts of various regulatory treatments. I also co-developed an integrated spreadsheet model which links all elements of a rate case and calculates revenue requirements. I received a meritorious service award from the Florida Public Service Commission for my contributions to the development of that model.

In February 1987, I was promoted to Chief of the Bureau of Finance. In that capacity I provided expert testimony on the cost of common equity, risk and return, corporate structure, capital structure, and industry structure. I provided technical guidance to the Office of General Counsel regarding the development of financial rules and

regulations. In addition, I authored the Commission's rules regarding diversification and affiliated transactions, chaired the Commission's Committee on Leveraged Buyouts, supervised the finance bureau's regulatory analysts, co-developed and presented a seminar on public utility regulation to help educate the Florida Public Service Commission attorneys, and provided technical expertise to the Commission in all areas of public utility finance for all industries.

In February 1990, I accepted the position of Chief of Arbitrage Compliance in the Division of Bond Finance, Department of General Services. As Manager of the Arbitrage Compliance Section, I was responsible for assuring that over $16 billion of State of Florida tax-exempt securities remained in compliance with the federal arbitrage requirements enacted by the Tax Reform Act of 1986. I provided investment advice to trust fund managers on how to maximize yields while remaining in compliance with the federal arbitrage regulations. I designed and implemented the first statewide arbitrage compliance system which included data gathering, financial reporting, and computation and analysis subsystems.

In July 1990, I founded Cicchetti & Company. Through Cicchetti & Company I provided financial research and consulting services, including the provision of expert testimony, in the areas of public utility finance, economics, and regulation. Topics I have

testified on include cost of equity, capital structure, corporate structure, regulatory theory, cross-subsidization, industry structure, the overall cost of capital, incentive regulation, the establishment of the leverage formula for the water and wastewater industry, reconciling rate base and capital structure, risk and return, and the appropriate regulatory treatment of construction work in progress, used and useful property, construction cost recovery charges, and the tax gross-up associated with contributions-in-aid-of-construction.

In January, 2001, I joined C.H. Guernsey & Co. as a Senior Financial Consultant and Manager of the Tallahassee, Florida Office.

In 1985, I was certified by the Florida Public Service Commission as a Class B Practitioner in the areas of finance and accounting.

In June, 1985, I published an article in Public Utilities Fortnightly titled "Reconciling Rate Base and Capital Structure: The Balance Sheet Method." In September, 1986, I was awarded third place in the annual, national, Competitive Papers Session sponsored by Public Utilities Reports, Inc., in conjunction with the University of Georgia and Georgia State University, for my paper titled "The Quarterly Discounted Cash Flow Model, the Ratemaking Rate of Return, and the Determination of Revenue Requirements for Regulated Public Utilities." An updated version of that paper was published in the June, 1989 edition of the National Regulatory Research Institute Quarterly Bulletin. I subsequently served twice as a referee for the Competitive Papers Sessions. On June

15, 1993, I published an article on incentive regulation in *Public Utilities Fortnightly* titled "Irregular Incentives." I am a past President and past member of the Board of Directors of the Society of Utility and Regulatory Financial Analysts ("SURFA"). I was awarded the designation Certified Rate of Return Analyst by SURFA in 1992. I am a member of the Financial Management Association International and have been listed in Who's Who in the World and Who's Who in America.

I have made public utility and finance related presentations to various groups such as the Southeastern Public Utilities Conference, the National Society of Rate of Return Analysts, the National Association of State Treasurers, and the Government Finance Officers Association.

WATER COMPANY INDEX
INVESTMENT CHARACTERISTICS

	VALUE LINE SAFETY RANK	VALUE LINE BETA	VALUE LINE EQUITY RATIO	S&P BOND RATING
AMER. STATES WTR.	3	.65	50.0%	A+
AMER. WATER WKS.	1	.55	40.0%	
CALIFORNIA WATER	2	.65	49.5%	AA-
PHILA. SUBURBAN	2	.55	48.0%	A+
AVERAGE	2	.60	46.88%	A+

Source: Value Line, Ed. 9, 8/3/01
S&P.com, 9/01

MOODY'S NATURAL GAS INDEX
INVESTMENT CHARACTERISTICS

	VALUE LINE SAFETY RANK	VALUE LINE BETA	VALUE LINE EQUITY RATIO	S&P BOND RATING
AGL RESOURCES	2	.55	40.5%	A-
KEYSPAN CORP.	2	.55	37.0%	A
LACLEDE GAS	2	.50	54.5%	AA-
N.W. NAT'L GAS	2	.55	50.0%	A
PEOPLES ENERGY	1	.65	53.0%	AA
WGL HOLDINGS	1	.50	54.0%	AA-
AVERAGE	1.67	.55	48.17%	A+

Source: Value Line, Ed. 3, 6/22/01
S&P Bond Guide, 7/01

Two-Stage, Annually Compounded
Discounted Cash Flow Model

	Expected Dividends					est. EPS	est. ROE	Dividend Growth	Stock Price
	2001	2002	2003	2004	2005	2005	2005+	2005+	8/01
Amer Sts.	1.30	1.32	1.35	1.39	1.42	2.60	10.50	4.77%	36.60
Amer. Wtr.	0.94	0.98	1.02	1.06	1.11	2.65	13.00	7.55%	33.37
Cal. Wtr.	1.12	1.14	1.16	1.18	1.20	2.00	13.00	5.20%	25.08
Phil. Sub.	0.62	0.64	0.67	0.69	0.72	1.35	12.50	5.83%	27.28
Average	1.00	1.02	1.05	1.08	1.11	2.15	12.25	5.84%	30.58

The cost of common equity is calculated using a two-stage, annually compounded discounted cash flow model:

$$Po(1-fc) = \sum_{t=1}^{n} Dt/(1+k)^t = (Dn(1+gn))/(k-gn) * (1/(1+k))^t$$

Solving the above equation for k using Po = $30.58, fc =3%, and n = 5,

Provides a cost of common equity of: 9.00%

1) Data obtained or calculated from information provided in Value Line, Edition 9, 8/3/01.

2) The average stock price is the average of the high and low stock price for August 2001, Nomura Research Institute, Ltd.

RISK PREMIUM ANALYSIS

1991 - 2000

MONTH	GAS INDEX COST OF EQUITY	RISK FREE RATE	RISK PREMIUM
Jan 91	10.74	8.24	2.50
Feb	10.89	8.27	2.62
Mar	10.87	8.03	2.84
Apr	10.58	8.29	2.29
May	10.53	8.21	2.32
Jun	10.54	8.27	2.27
Jul	10.52	8.47	2.05
Aug	10.51	8.45	2.06
Sep	10.41	8.14	2.27
Oct	10.72	7.95	2.77
Nov	10.49	7.93	2.56
Dec	10.47	7.92	2.55
Jan 92	10.34	7.70	2.64
Feb	10.39	7.58	2.81
Mar	10.44	7.85	2.59
Apr	10.43	7.97	2.46
May	10.54	7.96	2.58
Jun	10.48	7.89	2.59
Jul	10.28	7.84	2.44
Aug	10.12	7.60	2.52
Sep	9.95	7.39	2.56
Oct	9.61	7.34	2.26
Nov	9.81	7.53	2.28
Dec	9.89	7.61	2.28
Jan 93	9.44	7.44	2.00
Feb	9.31	7.34	1.97
Mar	9.13	7.09	2.04
Apr	8.93	6.82	2.11
May	9.04	6.85	2.19
Jun	9.17	6.92	2.25
Jul	9.38	6.81	2.57

MONTH	GAS INDEX COST OF EQUITY	RISK FREE RATE	RISK PREMIUM
Aug 93	8.61	6.63	1.97
Sep	8.62	6.32	2.30
Oct	8.68	6.00	2.68
Nov	8.69	5.94	2.75
Dec	8.97	6.21	2.76
Jan 94	8.96	6.25	2.71
Feb	8.63	6.29	2.34
Mar	8.72	6.49	2.23
Apr	8.97	6.91	2.06
May	9.23	7.27	1.96
Jun	9.36	7.41	1.95
Jul	9.55	7.40	2.15
Aug	9.51	7.58	1.93
Sep	9.60	7.49	2.11
Oct	9.73	7.71	2.02
Nov	9.62	7.94	1.68
Dec	9.97	8.08	1.89
Jan 95	10.12	7.87	2.25
Feb	9.83	7.85	1.98
Mar	9.68	7.61	2.07
Apr	9.67	7.45	2.22
May	9.04	7.36	1.68
Jun	9.68	6.95	2.73
Jul	9.67	6.57	3.10
Aug	9.66	6.72	2.94
Sep	9.74	6.86	2.88
Oct	9.32	6.55	2.77
Nov	9.39	6.37	3.02
Dec	9.43	6.26	3.17

MONTH	GAS INDEX COST OF EQUITY	RISK FREE RATE	RISK PREMIUM
Jan 96	9.60	6.06	3.54
Feb	9.03	6.05	2.98
Mar	9.08	6.24	2.84
Apr	9.23	6.60	2.63
May	9.55	6.79	2.76
Jun	9.64	6.93	2.71
Jul	9.55	7.06	2.49
Aug	9.96	7.03	2.93
Sep	9.81	6.84	2.97
Oct	10.07	7.03	3.04
Nov	9.76	6.81	2.95
Dec	9.62	6.48	3.14
Jan 97	9.74	6.55	3.19
Feb	9.57	6.83	2.74
Mar	9.66	6 69	2.97
Apr	9.77	6.93	2.84
May	10.15	7.09	3.06
Jun	10.02	6.94	3.08
Jul	9.90	6.77	3.13
Aug	9.92	6.51	3.41
Sep	9.95	6.58	3.37
Oct	9.86	6.50	3.36
Nov	9.87	6.33	3.54
Dec	9.58	6.11	3.47
Jan 98	9.56	5.99	3.57
Feb	9.37	5.81	3.56
Mar	9.49	5.89	3.60
Apr	9.53	5.95	3.58
May	9.44	5.92	3.52
Jun	9.64	5.93	3.71

MONTH	GAS INDEX COST OF EQUITY	RISK FREE RATE	RISK PREMIUM
Jul 98	10.34	5.70	4.64
Aug	9.92	5.68	4.24
Sep	9.96	5.54	4.42
Oct	9.87	5.20	4.67
Nov	9.87	5.01	4.86
Dec	9.58	5.25	4.33
Jan 99	9.56	5.06	4.50
Feb	9.78	5.16	4.62
Mar	10.30	5.37	4.93
Apr	10.42	5.58	4.84
May	10.49	5.55	4.94
Jun	10.20	5.81	4.39
Jul	10.14	6.04	4.10
Aug	9.89	5.98	3.91
Sep	9.97	6.07	3.90
Oct	10.14	6.07	4.07
Nov	10.17	6.26	3.91
Dec	10.13	6.15	3.98
Jan 00	10.45	6.35	4.10
Feb	10.96	6.63	4.33
Mar	11.36	6.23	5.13
Apr	11.28	6.05	5.23
May	10.69	5.85	4.84
Jun	10.55	6.15	4.40
Jul	10.52	5.93	4.59
Aug	10.37	5.85	4.52
Sep	10.15	5.72	4.43
Oct	10.03	5.83	4.20
Nov	9.87	5.80	4.07
Dec	9.68	5.78	3.90
AVERAGE RISK PREMIUM			3.09

Source: Value Line 1990-2000
Federal Reserve Board

RISK PREMIUM ANALYSIS

RESULTS

Risk Premium Cost of Equity = Estimated Risk Free Rate + Equity Risk Premium

8.60% = 5.5% + 3.10%

Source: Blue Chip Financial Forecasts, 7/01

SUMMARY OF RESULTS

DCF Cost of Equity for Water Index	9.00%
Risk Premium Cost of Equity - Gas Index	8.60%
Average	8.80%
Bond Yield Differential	.41%
Private Placement Premium	.50%
Cost of Equity	9.71%

CERTIFICATE OF SERVICE
DOCKET NO. 010006-WS

I HEREBY CERTIFY that a true and exact copy of the above and foregoing PREPARED DIRECT TESTIMONY OF MARK A CICCHETTI has been furnished by hand-delivery* or U.S. Mail to the following parties of record this 7th day of September, 2001.

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