State of Florida

Public Service Commission

CAPITAL CIRCLE OFFICE CENTER • 2540 SHUMARD OAK BOULEVARD
TALLAHASSEE, FLORIDA 32399-0850

-M-E-M-O-R-A-N-D-U-M-

DATE: MAY 22, 2003

TO: DIRECTOR, DIVISION OF THE COMMISSION CLERK & ADMINISTRATIVE SERVICES (BAYÓ)

FROM: DIVISION OF ECONOMIC REGULATION (LESTER) PL DM
OFFICE OF THE GENERAL COUNSEL (VINING) AEV Mail

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RE: DOCKET NO. 030006-WS - WATER AND WASTEWATER INDUSTRY ANNUAL REESTABLISHMENT OF AUTHORIZED RANGE OF RETURN ON COMMON EQUITY FOR WATER AND WASTEWATER UTILITIES PURSUANT TO SECTION 367.081(4)(f), FLORIDA STATUTES

AGENDA: 06/03/03 - REGULAR AGENDA - PROPOSED AGENCY ACTION - INTERESTED PERSONS MAY PARTICIPATE

CRITICAL DATES: DECEMBER 31, 2003 - PURSUANT TO SECTION 367.081 (4)(f) FLORIDA STATUTES

SPECIAL INSTRUCTIONS: NONE

FILE NAME AND LOCATION: S:\PSC\ECR\WP\030006.RCM

CASE BACKGROUND

Section 367.081(4)(f), Florida Statutes, authorizes the Commission to establish, not less than once each year, a leverage formula to calculate a reasonable range of returns on equity for water and wastewater utilities. In Docket No. 020006-WS, the Commission established the current leverage formula by Order No. PSC-02-0898-PAA-WS, issued on July 5, 2002. Order No. PSC-02-1252-CO-WS, issued September 11, 2002 made final the portion of the PAA Order regarding the leverage formula methodology.

This staff recommendation utilizes the current leverage formula methodology set forth in Order No. PSC-01-2514-FOF-WS, which uses returns on equity from financial models based upon an index of natural gas utilities.

DISCUSSION OF ISSUES

ISSUE 1: What is the appropriate range of returns on common equity for water and wastewater (WAW) utilities pursuant to Section 367.081(4)(f), Florida Statutes?

RECOMMENDATION: Staff recommends that the current leverage formula methodology be applied using updated financial data. Staff recommends the following leverage formula:

Return on Common Equity = 8.16% + 1.518/Equity Ratio

Where the Equity Ratio = Common Equity / (Common Equity + Preferred Equity + Long-Term and Short-Term Debt)

Range: 9.68% @ 100% equity to 11.96% @ 40% equity

(LESTER)

STAFF ANALYSIS: Section 367.081(4)(f), Florida Statutes, authorizes the Commission to establish a leverage formula to calculate a reasonable range of returns on equity for WAW utilities. The Commission must establish this leverage formula not less than once a year.

Staff notes that the leverage formula depends on four basic assumptions listed below.

1) Business risk is similar for all WAW utilities.

2) The cost of equity is an exponential function of the equity ratio.

3) The marginal weighted average cost of investor capital is constant over the equity ratio range of 40% to 100%.

4) The cost rate at an assumed Moody's Baa3 bond rating, plus a 50 basis point private placement premium and a 50 basis point small utility risk premium, represents the average marginal cost of debt to a Florida WAW utility over an equity ratio range of 40% to 100%.

For these reasons, the leverage formula is assumed to be appropriate for the average Florida WAW utility.

The leverage formula relies on two return on equity (ROE) models and several adjustments for differences in risk and debt cost in order to conform the results of the models to the average Florida WAW utility. Both models include a four percent adjustment for flotation costs. The models are as follows:

- A Discounted Cash Flow (DCF) model applied to an index of natural gas utilities (NG) that have publicly traded stock and are followed by the Value Line Investment Survey (Value Line). The DCF model is an annual model and uses prospective growth rates.

- A Capital Asset Pricing Model (CAPM) using a market return for companies followed by Value Line, the average yield on the Treasury's long-term bonds projected by the Blue Chip Financial Forecasts, and the average beta of the index of NG utilities. The market return is adjusted to assume a quarterly model by adding 20 basis points to the result.

The indicated returns of the above models are averaged and the resulting estimate is adjusted in the following manner:

- A bond yield differential of 44 basis points to reflect the difference in yields between an A/A2 rated bond, which is the average bond rating for the NG utility index, and a BBB-/Baa3 rated bond. Florida WAW utilities are assumed to be comparable to WAW companies with the lowest investment grade bond rating, which is Baa3. This adjustment compensates for the difference between the credit quality of "A" rated debt and the credit quality of the minimum investment grade rating.

- A private placement premium of 50 basis points is added to reflect the difference in yields on publicly traded debt and privately placed debt, which is illiquid. Investors require a premium for the lack of liquidity of privately placed debt.

- A small utility risk premium of 50 basis points is added to reflect that the average Florida WAW utility is too small to qualify for privately placed debt.

After the above adjustments, the resulting cost of equity estimate is included in the average capital structure for the NG utilities. The cost of equity is determined at a 40% equity ratio and the leverage formula is derived. The leverage formula derived using the current methodology with updated financial data is presented in Attachment 1.

ISSUE 2: Should this docket be closed?

RECOMMENDATION: No. Upon expiration of the protest period, if a timely protest is not received from a substantially affected person, the decision should become final and effective upon the issuance of a Consummating Order. However, this docket should remain open to allow staff to monitor the movement in capital costs and to readdress the reasonableness of the leverage formula as conditions warrant. (VINING)

STAFF ANALYSIS: Upon expiration of the protest period, if a timely protest is not received from a substantially affected person, the decision should become final and effective upon the issuance of a Consummating Order. However, this docket should remain open to allow staff to monitor the movement in capital costs and to readdress the reasonableness of the leverage formula as conditions warrant.

SUMMARY OF RESULTS

Leverage Formula Update

	Updated Results	Currently in Effect
(A) CAPM ROE for Natural Gas Index	9.53%	8.93%
(B) DCF ROE for Natural Gas Index	10.74%	10.13%
AVERAGE	10.13%	9.53%
Bond Yield Differential	.44%	.40%
Private Placement Premium	.50%	.50%
Small-Utility Risk Premium	.50%	.50%
Adjustment to Reflect Required Equity Return at a 40% Equity Ratio	.38%	.17%
Cost of Equity for Average Florida WAW Utility at a 40% Equity Ratio	11.96%	11.10%

2002 Leverage Formula (Currently in Effect)

Return on Common Equity = 9.65% + .582/ER

Range of Returns on Equity = 10.23% - 11.10%

2003 Leverage Formula (Recommended)

Return on Common Equity = 8.16% + 1.518/ER

Range of Returns on Equity = 9.68% - 11.96%

Marginal Cost of Investor Capital
Average Water and Wastewater Utility

Capital Component	Ratio	Marginal Cost Rate	Weighted Marginal Cost Rate
Common Equity	44.48%	11.57%	5.15%
Total Debt	55.52%	8.16% *	4.53%
	100.00%		9.68%

A 40% equity ratio is the floor for calculating the required return on common equity. The return on equity at a 40% equity ratio is 8.16% + 1.518/.40 = 11.96%

Marginal Cost of Investor Capital
Average Water & Wastewater Utility at 40% Equity Ratio

Capital Component	Ratio	Marginal Cost Rate	Weighted Marginal Cost Rate
Common Equity	40.00%	11.96%	4.78%
Total Debt	60.00%	8.16% *	4.90%
	100.00%		9.68%

Where: ER = Equity Ratio = Common Equity/(Common Equity + Preferred Equity + Long-Term Debt + Short-Term Debt)

* Assumed Baa3 rate for March 2003 plus a 50 basis point private placement premium and a 50 basis point small utility risk premium.

Source: Moody's Credit Perspectives

ANNUAL DISCOUNTED CASH FLOW MODEL

INDEX NATURAL GAS INDEX

VALUE LINE ISSUE: Ed. 3 - MARCH 21, 2003

COMPANY	DIV1	DIV2	DIV3	DIV4	EPS4	ROE4	GR1-4	GR4+	MARCH HI-PR	MARCH LO-PR	AVER-PR
AGL RESOURCES	1.08	1.08	1.08	1.08	2.10	12.00	1.0000	1.0583	23.70	22.03	22.865
ATMOS ENERGY	1.22	1.25	1.29	1.32	2.20	15.00	1.0266	1.0600	21.90	20.85	21.375
CASCADE NATURAL GAS	0.96	0.97	0.97	0.98	1.75	15.00	1.0069	1.0660	19.63	18.20	18.915
LACLEDE GAS	1.34	1.35	1.36	1.37	1.85	10.50	1.0074	1.0272	23.96	21.90	22.930
NICOR, INC.	1.94	2.04	2.14	2.24	3.60	18.00	1.0491	1.0680	31.85	23.70	27.775
NORTHWEST NATURAL GAS	1.28	1.30	1.31	1.33	2.40	11.00	1.0129	1.0490	25.72	24.13	24.925
PIEDMONT NATURAL GAS	1.72	1.78	1.84	1.90	3.15	14.50	1.0337	1.0575	35.88	33.53	34.705
SOUTHWEST GAS	0.82	0.82	0.82	0.82	2.15	10.00	1.0000	1.0619	20.89	19.30	20.095
WGL HOLDINGS	1.29	1.30	1.32	1.33	2.40	12.00	1.0102	1.0535	26.96	25.00	25.980
AVERAGE	1.2944	1.3202	1.3469	1.3744 1.4510	2.40	13.1111	1.0163	1.0557			24.396

S&P STOCK GUIDE: April 2003 with March Stock Prices

Stock Price w/four Percent Flotation Costs 23.4203 Annual 10.74% ROE

1.1929 1.0987 1.0123 0.9383 19.1780
23.4203

$23.42 = March 2003 average stock price with a 4% flotation cost.

10.74% = Cost of equity required to match the current stock price with the expected cash flows.

Sources:
1. Stock Prices - S&P Stock Guide, April 2003 Edition.
2. DPS, EPS, ROE - Value Line Edition 3, March 21, 2003.

Capital Asset Pricing Model Cost of Equity for
Water and Wastewater Industry

CAPM analysis formula

K = RF + Beta(MR - RF)

K = Investor's required rate of return

RF = Risk-free rate (Blue Chip forecast for Long-term Treasury bond)

Beta = Measure of industry-specific risk (Average for water utilities followed by Value Line)

MR = Market return (Value Line Investment Survey For Windows, April 2003)

9.53% = 5.34% + .68(11.17% - 5.34%)+ .20%

Note: We calculated the market return using an annual DCF model for a large number of dividend paying stocks followed by Value Line. For March 2003 stock prices, the result was 10.97%. We have added 20 basis points to allow for the quarterly compounding of dividends. The resulting market return is 11.17%. We have also added 20 basis points to the CAPM result to allow for a four-percent flotation cost.

BOND YIELD DIFFERENTIALS
Public Utility Long Term Bond Yield Averages

Long-Term Corporate Bond Yield Averages for Avg. Public Utility

120 Month Average -		0.1103		0.1103		0.1103		0.1103	
MONTH/YEAR	A2	SPREAD	A3	SPREAD	Baa1	SPREAD	Baa2	SPREAD	Baa3
Mar-2003	6.79	0.09	6.88	0.09	6.96	0.09	7.05	0.09	7.14
Feb-2003	6.93	0.08	7.01	0.08	7.09	0.08	7.17	0.08	7.25
Jan-2003	7.06	0.14	7.20	0.14	7.33	0.14	7.47	0.14	7.61
Dec-2002	7.07	0.18	7.25	0.18	7.43	0.18	7.61	0.18	7.79
Nov-2002	7.14	0.21	7.35	0.21	7.55	0.21	7.76	0.21	7.97
Oct-2002	7.23	0.26	7.49	0.26	7.74	0.26	8.00	0.26	8.26
Sep-2002	7.08	0.18	7.26	0.18	7.44	0.18	7.62	0.18	7.80
Aug-2002	7.17	0.19	7.36	0.19	7.55	0.19	7.74	0.19	7.93
Jul-2002	7.31	0.26	7.57	0.26	7.82	0.26	8.08	0.26	8.34
Jun-2002	7.41	0.28	7.69	0.28	7.97	0.28	8.25	0.28	8.53
May-2002	7.52	0.27	7.79	0.27	8.06	0.27	8.33	0.27	8.60
Apr-2002	7.57	0.23	7.80	0.23	8.02	0.23	8.25	0.23	8.48
Mar-2002	7.76	0.19	7.95	0.19	8.13	0.19	8.32	0.19	8.51
Feb-2002	7.54	0.21	7.75	0.21	7.97	0.21	8.18	0.21	8.39
Jan-2002	7.66	0.16	7.82	0.16	7.97	0.16	8.13	0.16	8.29
Dec-2001	7.83	0.15	7.98	0.15	8.12	0.15	8.27	0.15	8.42
Nov-2001	7.57	0.13	7.70	0.13	7.83	0.13	7.96	0.13	8.09
Oct-2001	7.63	0.13	7.76	0.13	7.89	0.13	8.02	0.13	8.15
Sep-2001	7.75	0.12	7.87	0.12	8.00	0.12	8.12	0.12	8.24
Aug-2001	7.59	0.12	7.71	0.12	7.83	0.12	7.95	0.12	8.07
Jul-2001	7.78	0.09	7.87	0.09	7.96	0.09	8.05	0.09	8.14
Jun-2001	7.85	0.06	7.91	0.06	7.96	0.06	8.02	0.06	8.08
May-2001	7.99	0.04	8.03	0.04	8.07	0.04	8.11	0.04	8.15
Apr-2001	7.94	0.04	7.98	0.04	8.02	0.04	8.06	0.04	8.10
Mar-2001	7.68	0.06	7.74	0.06	7.79	0.06	7.85	0.06	7.91
Feb-2001	7.74	0.07	7.81	0.07	7.87	0.07	7.94	0.07	8.01
Jan-2001	7.80	0.06	7.86	0.06	7.93	0.06	7.99	0.06	8.05
Dec-2000	7.84	0.06	7.90	0.06	7.95	0.06	8.01	0.06	8.07
Nov-2000	8.11	0.05	8.16	0.05	8.20	0.05	8.25	0.05	8.30
Oct-2000	8.14	0.05	8.19	0.05	8.24	0.05	8.29	0.05	8.34
Sep-2000	8.23	0.03	8.26	0.03	8.29	0.03	8.32	0.03	8.35
Aug-2000	8.13	0.04	8.17	0.04	8.21	0.04	8.25	0.04	8.29
Jul-2000	8.25	0.03	8.28	0.03	8.30	0.03	8.33	0.03	8.36
Jun-2000	8.36	0.04	8.40	0.04	8.43	0.04	8.47	0.04	8.51
May-2000	8.70	0.05	8.75	0.05	8.81	0.05	8.86	0.05	8.91
Apr-2000	8.35	0.02	8.37	0.02	8.38	0.02	8.40	0.02	8.42
Mar-2000	8.28	0.04	8.32	0.04	8.36	0.04	8.40	0.04	8.44
Feb-2000	8.25	0.03	8.28	0.03	8.30	0.03	8.33	0.03	8.36
Jan-2000	8.35	0.02	8.37	0.02	8.38	0.02	8.40	0.02	8.42

Source: Moody's Credit Perspectives

INDEX STATISTICS AND FACTS

Value Line Listed Gas Utilities	S & P Bond Rating	% of Gas Rev.	V/L Market Capital (billions)	Equity Ratio	Value Line Beta
AGL RESOURCES	A-	56%	1.30	43%	0.75
ATMOS ENERGY	A-	99%	0.95	39%	0.60
CASCADE NATURAL GAS	BBB+	100%	0.20	42%	0.65
LACLEDE GROUP	A+	74%	0.43	41%	0.60
NICOR, INC.	AA	81%	1.10	52%	0.90
NORTHWEST NAT. GAS	A	97%	0.68	48%	0.60
PIEDMONT NAT. GAS	A	63%	1.10	54%	0.70
SOUTHWEST GAS CORP.	BBB-	84%	0.65	33%	0.70
WGL HOLDINGS	AA-	60%	1.20	48%	0.65
Average:	A			44.48%	0.68

Source:
Value Line Edition 3, March 21, 2003.
S.E.C. Form 10Q And 10K For Companies
C.A. Turner Utilities Report May 2003
Standard and Poor's Ratings Direct Website