

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: 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), F.S.

DOCKET NO. 030006-WS  
ORDER NO. PSC-03-0707-PAA-WS  
ISSUED: June 13, 2003

The following Commissioners participated in the disposition of this matter:

LILA A. JABER, Chairman  
J. TERRY DEASON  
BRAULIO L. BAEZ  
RUDOLPH "RUDY" BRADLEY  
CHARLES M. DAVIDSON

NOTICE OF PROPOSED AGENCY ACTION  
ORDER ESTABLISHING AUTHORIZED RANGE OF RETURNS ON  
COMMON EQUITY FOR WATER AND WASTEWATER UTILITIES

BY THE COMMISSION:

NOTICE is hereby given by the Florida Public Service Commission that the action discussed herein is preliminary in nature and will become final unless a person whose interests are substantially affected files a petition for a formal proceeding, pursuant to Rule 25-22.029, Florida Administrative Code.

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 leverage formula methodology. This Order utilizes the current leverage formula methodology, with updated financial data, as set forth in Order No. PSC-01-2514-FOF-WS, which uses returns on equity from financial

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models based upon an index of natural gas utilities. We hereby approve the following leverage formula:

$$\text{Return on Common Equity} = 8.16\% + 1.518/\text{Equity Ratio}$$

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

We note 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 are made, 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.

Based on the foregoing, it is

ORDERED by the Florida Public Service Commission that the leverage formula methodology, summarized herein and in Attachment 1, used to calculate a range of returns on equity for water and wastewater utilities, is hereby approved. It is further

ORDERED that Attachment 1 is herein incorporated by reference. It is further

ORDER NO. PSC-03-0707-PAA-WS  
DOCKET NO. 030006-WS  
PAGE 4

ORDERED that returns on common equity are hereby capped at 11.96 percent for all water and wastewater utilities with equity ratios of less than 40 percent in order to discourage imprudent financial risk. It is further

ORDERED that the provisions of this Order, issued as proposed agency action, shall become final and effective upon the issuance of a Consummating Order unless an appropriate petition, in the form provided by Rule 28-106.201, Florida Administrative Code, is received by the Director, Division of the Commission Clerk and Administrative Services, 2540 Shumard Oak Boulevard, Tallahassee, Florida 32399-0850, by the close of business on the date set forth in the "Notice of Further Proceedings" attached hereto. It is further

ORDERED that in the event this Order becomes final, this docket shall remain open to allow our staff to monitor the movement in capital costs and to readdress the reasonableness of the leverage formula as conditions warrant.

By ORDER of the Florida Public Service Commission this 13th Day of June, 2003.

BLANCA S. BAYÓ, Director  
Division of the Commission Clerk  
and Administrative Services

By: Kay Flynn  
Kay Flynn, Chief  
Bureau of Records and Hearing  
Services

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NOTICE OF FURTHER PROCEEDINGS OR JUDICIAL REVIEW

The Florida Public Service Commission is required by Section 120.569(1), Florida Statutes, to notify parties of any administrative hearing that is available under Section 120.57, Florida Statutes, as well as the procedures and time limits that apply. This notice should not be construed to mean all requests for an administrative hearing will be granted or result in the relief sought.

Mediation may be available on a case-by-case basis. If mediation is conducted, it does not affect a substantially interested person's right to a hearing.

The action proposed herein is preliminary in nature. Any person whose substantial interests are affected by the action proposed by this order may file a petition for a formal proceeding, in the form provided by Rule 28-106.201, Florida Administrative Code. This petition must be received by the Director, Division of the Commission Clerk and Administrative Services, 2540 Shumard Oak Boulevard, Tallahassee, Florida 32399-0850, by the close of business on July 4, 2003.

In the absence of such a petition, this order shall become final and effective upon the issuance of a Consummating Order.

Any objection or protest filed in this/these docket(s) before the issuance date of this order is considered abandoned unless it satisfies the foregoing conditions and is renewed within the specified protest period.

**SUMMARY OF RESULTS**

Leverage Formula Update

	<u>Updated Results</u>	<u>Currently in Effect</u>
(A) CAPM ROE for Natural Gas Index	9.53%	8.93%
(B) DCF ROE for Natural Gas Index	<u>10.74%</u>	<u>10.13%</u>
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	<u>.38%</u>	<u>.17%</u>
Cost of Equity for Average Florida WAW		
Utility at a 40% Equity Ratio	<u>11.96%</u>	<u>11.10%</u>

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 (Approved)

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

<u>Capital Component</u>	<u>Ratio</u>	<u>Marginal Cost Rate</u>	<u>Weighted Marginal Cost Rate</u>
Common Equity	44.48%	11.57%	5.15%
Total Debt	<u>55.52%</u>	8.16% *	<u>4.53%</u>
	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

<u>Capital Component</u>	<u>Ratio</u>	<u>Marginal Cost Rate</u>	<u>Weighted Marginal Cost Rate</u>
Common Equity	40.00%	11.96%	4.78%
Total Debt	<u>60.00%</u>	8.16% *	<u>4.90%</u>
	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 COMPANY	NATURAL GAS INDEX				VALUE LINE ISSUE: Ed. 3 - MARCH 21, 2003				MARCH			
	DIV1	DIV2	DIV3	DIV4	EPS4	ROE4	GR1-4	GR4+	HI-PR	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	
<b>AVERAGE</b>	<b>1.2944</b>	<b>1.3202</b>	<b>1.3469</b>	<b>1.3744</b> <b>1.4510</b>	<b>2.40</b>	<b>13.1111</b>	<b>1.0163</b>	<b>1.0557</b>			<b>24.396</b>	

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

$$K = RF + \text{Beta}(\text{MR} - \text{RF})$$

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)

$$\underline{9.53\%} = 5.34\% + .68(11.17\% - 5.34\%) + .20\%$$

**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.

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**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