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:

April 24, 2014

TO:

Office of Commission Clerk (Stauffer)

FROM:

Division of Accounting and Finance (Buys, Cicchetti)

Office of the General Counsel (Klancke)

RE:

Docket No. 140006-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), F.S.

AGENDA: 05/09/14 - Regular Agenda - Proposed Agency Action - Interested Persons May

Participate

COMMISSIONERS ASSIGNED: All Commissioners

PREHEARING OFFICER:

Graham

CRITICAL DATES:

None

SPECIAL INSTRUCTIONS:

None

FILE NAME AND LOCATION

S:\PSC\AFD\WP\140006.RCM.DOC

Case Background

Section 367.081(4)(f), Florida Statutes (F.S.), authorizes the Commission to establish, not less than once each year, a leverage formula to calculate a reasonable range of returns on equity (ROE) for water and wastewater (WAW) utilities. The leverage formula methodology currently in use was established in Order No. PSC-01-2514-FOF-WS. On October 23, 2008, the Commission held a formal hearing in Docket No. 080006-WS to allow interested parties to

Order No. PSC-01-2514-FOF-WS, issued December 24, 2001, in Docket No. 010006-WS, 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.

provide testimony regarding the validity of the leverage formula.² Based on the record in that proceeding, the Commission approved the 2008 leverage formula in Order No. PSC-08-0846-FOF-WS.³ In that order, the Commission reaffirmed the methodology that was previously approved in Order No. PSC-01-2514-FOF-WS.

Staff continues to use the leverage formula methodology established in Order No. PSC-01-2514-FOF-WS and reaffirmed in Order No. PSC-08-0846-FOF-WS. This methodology uses ROEs derived from financial models applied to an index of natural gas utilities. Based on the results of staff's annual review, there is an insufficient number of WAW utilities that meet the requisite criteria to assemble an appropriate proxy group using only WAW utilities. Therefore, since 2001, the Commission has used natural gas utilities as the proxy companies for the leverage formula. There are many natural gas utilities that have actively traded stocks and forecasted financial data. Staff uses natural gas utilities that derive at least 50 percent of their revenue from regulated rates. These utilities have market power and are influenced significantly by economic regulation. As explained in Issue 1, the model results based on natural gas utilities are adjusted to reflect the risks faced by Florida WAW utilities.

In 2011, the Commission approved the leverage formula currently in effect (2011 leverage formula) by Order No. PSC-11-0287-PAA-WS.⁴ In 2012 and 2013, the Commission approved staff's recommendations to continue to use the 2011 leverage formula for establishing the authorized ROE for WAW utilities by Order Nos. PSC-12-0339-PAA-WS⁵ and PSC-13-0241-PAA-WS.⁶ In 2012 and 2103, the Commission found that the range of returns on equity derived from the leverage formulas were not optimal for determining the appropriate authorized ROE for WAW utilities due to Federal Reserve monetary policies that resulted in historically low interest rates. Consequently, the Commission decided that the range of returns on equity of 8.74 percent to 11.16 percent from the 2011 leverage formula was more reasonable.

Additional precedent for continuing the use of the current leverage formula occurred in 1996 when staff recommended, and the Commission voted, to continue to base the authorized ROE for WAW utilities on the leverage formula instituted in 1995. In Order No. PSC-96-0729-FOF-WS, the Commission found that the leverage formula range of returns from the prior year

² At the May 20, 2008, Commission Conference, upon request of the Office of Public Counsel, the Commission voted to set the establishment of the appropriate leverage formula directly for hearing.

³ Order No. PSC-08-0846-FOF-WS, issued December 31, 2008, in Docket No. 080006-WS, <u>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.</u>

⁴ Order No. PSC-11-0287-PAA-WS, issued July 5, 2011, in Docket No. 110006-WS, <u>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.</u>

⁵ Order No. PSC-12-0339-PAA-WS, issued June 28, 2012, in Docket No. 120006-WS, <u>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.</u>

⁶ Order No. PSC-13-0241-PAA-WS, issued June 3, 2013, in Docket No. 130006-WS, <u>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.</u>

⁷ Order No. PSC-96-0729-FOF-WS, issued May 31, 1996, in Docket No. 960006-WS, <u>In re: Annual reestablishment of authorized range of returns on common equity of water and wastewater utilities, pursuant to Section</u> 367.081(4)(f), F.S.

were still reasonable and found it appropriate to continue to base the authorized range of returns on common equity for WAW utilities on the leverage formula from the prior year.

Although Section 367.081(4)(f), F.S., authorizes the Commission to establish a range of returns for setting the authorized ROE for WAW utilities, the Commission may set an ROE for WAW utilities based on record evidence in any proceeding. If one or more parties file testimony in opposition to the use of the leverage formula, the Commission will determine the appropriate ROE based on the evidentiary record in that proceeding.

The Commission has jurisdiction pursuant to Section 367.081, F.S.

Discussion of Issues

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

<u>Recommendation</u>: Staff recommends that the current leverage formula approved by the Commission in Order No. PSC-13-0241-PAA-WS continue to be used until the leverage formula is readdressed in 2015. Accordingly, staff recommends the following leverage formula:

Return on Common Equity = 7.13% + (1.610 ÷ Equity Ratio)

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

Range: 8.74% @ 100% equity to 11.16% @ 40% equity

Additionally, staff recommends that the Commission cap returns on common equity at 11.16 percent for all WAW utilities with equity ratios less than 40 percent. Staff believes this will discourage imprudent financial risk. This cap is consistent with the methodology in Order No. PSC-08-0846-FOF-WS. (Buys)

<u>Staff Analysis</u>: Section 367.081(4)(f), F.S., authorizes the Commission to establish a leverage formula to calculate a reasonable range of returns on common equity for WAW utilities. The Commission must establish this leverage formula not less than once a year.

In 2013, by Order No. PSC-13-0241-PAA-WS, the Commission approved staff's recommendation to continue to use the leverage formula initially approved in 2011. The Commission kept the 2011 leverage formula in place because Federal Reserve monetary policies lowered interest rates to historically low levels, thereby increasing the slope of the leverage formula graph relative to previous years. The Federal Reserve's monetary policies and resulting capital market conditions that existed in 2012 and 2013 are expected to continue through 2014.

In the instant docket, staff updated the leverage formula using the most recent 2014 financial information and the Commission approved methodology. The updated 2014 leverage formula decreases the lower end of the current allowed ROE range by 50 basis points while increasing the upper end of the range by 58 basis points relative to the current leverage formula. The spread between the range of returns on equity for the 2014 leverage formula is 350 basis points (8.24 percent to 11.74 percent). This is the second largest spread for the allowed ROE for WAW utilities in the approximately 30 years the leverage formula has been in use in Florida. In comparison, the spread in the range of returns on equity for the 2011 leverage formula is 242 basis points (8.74 percent to 11.16 percent).

The increase in the spread in the range of the ROE from the 2014 leverage formula relative to the 2011 leverage formula is caused by the very low bond rates resulting from the

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⁸ <u>See</u> Federal Reserve System, minutes of the Federal Open Market Committee on March 18-19, 2014, p. 5, available at http://www.federalreserve.gov/monetarypolicy/files/fomcminutes20140319.pdf

Federal Reserve's various monetary policies and quantitative easing programs, which are still in effect. In its press release dated March 19, 2014, the Federal Reserve stated:

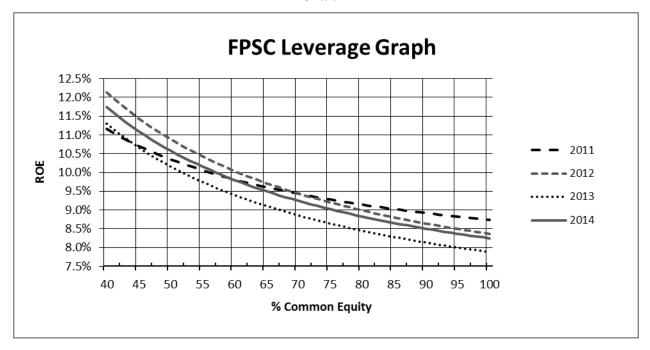
To support continued progress toward maximum employment and price stability, the Committee today reaffirmed its view that a highly accommodative stance of monetary policy remains appropriate. In determining how long to maintain the current 0 to 1/4 percent target range for the federal funds rate, the Committee will assess progress--both realized and expected--toward its objectives of maximum employment and 2 percent inflation. This assessment will take into account a wide range of information, including measures of labor market conditions, indicators of inflation pressures and inflation expectations, and readings on financial developments. The Committee continues to anticipate, based on its assessment of these factors, that it likely will be appropriate to maintain the current target range for the federal funds rate for a considerable time after the asset purchase program ends, especially if projected inflation continues to run below the Committee's 2 percent longer-run goal, and provided that longer-term inflation expectations remain well anchored.

The most recent assumed Baa3 bond rate of 5.91 percent used in the 2014 leverage formula calculation, which includes a 50 basis point adjustment for small company risk and a 50 basis point adjustment for a private placement premium, remains low relative to historic levels. In comparison, the assumed Baa3 bond rate used in the 2011 leverage formula is 7.13 percent.

Because interest rates are at historically low levels, thereby increasing the slope of the leverage formula relative to prior years, staff believes the range of returns on equity produced from the updated 2014 leverage formula is not optimal for determining the appropriate authorized ROE for Florida WAW utilities at this time. An increase in the slope of the leverage formula means a given change in the equity ratio will result in a greater change to the cost of equity. The results of this years leverage formula produced a slope almost identical to the slope of the 2013 leverage formula, but with returns that are on average 40 basis points higher. As shown below, Chart 1 illustrates the change in the slope of the leverage formula for the four years 2011 through 2014.

⁹ <u>See</u> Federal Reserve System, Press Release, issued March 19, 2014, available at http://www.federalreserve.gov/newsevents/press/monetary/20140319a.htm

Chart 1



In staff's opinion, the 2011 leverage formula range of 8.74 percent to 11.16 percent is still reasonable for WAW utilities. Therefore, staff recommends that the current leverage formula approved in Docket No. 110006-WS continue to be used for determining the return on equity for WAW utilities in 2014. Staff believes retaining the use of the current in-place leverage formula until the leverage formula is addressed again in 2015 is a reasonable alternative to updating the formula using current 2014 financial information.

Staff continues to believe the leverage formula is a sound, workable methodology that reduces the costs and administrative burdens in WAW rate cases by eliminating the need for cost of equity testimony. Many of the WAW utilities under the Commission's jurisdiction are small operations that find it beneficial to avoid the costs associated with presenting cost of equity testimony.

Although staff recommends the current 2011 leverage formula remain in place, staff has provided the updated 2014 leverage formula using the most recent financial information should the Commission decide to not continue to use the 2011 leverage formula and approve the updated 2014 leverage formula. The updated model produced the following leverage formula:

Return on Common Equity = $5.91\% + (2.334 \div \text{Equity Ratio})$

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

Range: 8.24% @ 100% equity to 11.74% @ 40% equity

In conjunction with the 2014 leverage formula, the returns on common equity should be capped at 11.74 percent for all WAW utilities with equity ratios less than 40 percent to discourage imprudent financial risk. This cap is consistent with the methodology in Order No. PSC-08-0846-FOF-WS.

In developing the updated leverage formula for 2014, staff used the same methodologies used in the 2011 docket. Staff notes that the leverage formula depends on four basic assumptions:

- 1) Business risk is similar for all WAW utilities;
- 2) The cost of equity is an exponential function of the equity ratio but a linear function of the debt to equity ratio over the relevant range;
- 3) The marginal weighted average cost of investor capital is constant over the equity ratio range of 40 percent to 100 percent; and
- 4) The debt 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 percent to 100 percent.

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

The leverage formula relies on two ROE models. Staff adjusted the results of these models to reflect differences in risk and debt cost between the index of companies used in the models and 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 that have publicly traded stock and are followed by the Value Line Investment Survey (Value Line). This DCF model is an annual model and uses prospective growth rates.
- The index consists of eight natural gas companies that derive at least 50 percent of their total revenue from gas distribution service. These companies have a median Standard and Poor's bond rating of A-.
- 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 for the index of natural gas utilities. The market return for the 2014 leverage formula was calculated using a quarterly DCF model with stock prices as of April 7, 2014.

Staff averaged the indicated returns of the above models and adjusted the result as follows:

• A bond yield differential of 44 basis points is added to reflect the difference in yields between an A-/A3 rated bond, which is the median bond rating for the natural gas

utility index, and a BBB-/Baa3 rated bond. Florida WAW utilities are assumed to be comparable to 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 because 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 natural gas utilities. The derivation of the leverage formula using the current methodology with updated financial information is presented in Attachment 1.

For administrative efficiency, the leverage formula is used to determine the appropriate return for an average Florida WAW utility. Traditionally, the Commission has applied the same leverage formula to all WAW utilities. As is the case with other regulated companies under the Commission's jurisdiction, the Commission has discretion in the determination of the appropriate ROE based on the evidentiary record in any proceeding. If one or more parties file testimony in opposition to the use of the leverage formula, the Commission will determine the appropriate ROE based on the evidentiary record in that proceeding.

Based on the aforementioned, staff believes that the current range of returns on common equity of 8.74 percent to 11.16 percent is still reasonable for WAW utilities. As such, staff recommends the current leverage formula authorized by the Commission in Order No. PSC-13-0241-PAA-WS remain unchanged until the leverage formula is readdressed in 2015.

<u>Issue 2</u>: 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 changes in capital market conditions and to readdress the reasonableness of the leverage formula as conditions warrant. (Klanke)

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 changes in capital market conditions and to readdress the reasonableness of the leverage formula as conditions warrant.

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SUMMARY OF LEVERAGE FORMULA RESULTS

	Updated Results (2014)	Currently in Effect (2011)
(A) DCF ROE for Natural Gas Utility Index(B) CAPM ROE for Natural Gas Utility IndexAVERAGE	8.57% 10.38% <u>9.47%</u>	8.25% 9.40% 8.83%
Bond Yield Differential	0.44%	0.57%
Private Placement Premium	0.50%	0.50%
Small-Utility Risk Premium	0.50%	0.50%
Adjustment to Reflect ROE at 40% Equity Ratio	0.83%	0.76%
Cost of Equity for Average Florida WAW Utility with a capital structure containing a 40% Equity Ratio	<u>11.74%</u>	<u>11.16%</u>

2011 Leverage Formula (Currently in Effect)

Return on Common Equity = 7.13% + (1.610 ÷ Equity Ratio)

Range of Returns on Equity (100% to 40%) = 8.74% to 11.16%

2014 Leverage Formula (Using Current Data)

Return on Common Equity = 5.91% + (2.334 ÷ Equity Ratio)

Range of Returns on Equity (100% to 40%) = 8.24% to 11.74%

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MARGINAL COST OF INVESTOR CAPITAL (2014 Leverage Formula Result)

Average Marginal Cost Rate of the Natural Gas Utility Index

Capital Component	<u>Ratio</u>	Marginal Cost Rate	Weighted Marginal <u>Cost Rate</u>
Common Equity Total Debt	46.60% <u>53.40%</u> 100.0%	10.92% 5.91% *	5.09% <u>3.15%</u> 8.24%

Average Marginal Cost Rate at a 40% Equity Ratio

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 $5.91\% + (2.334 \div 0.40) = 11.74\%$

Capital Component	Ratio	Marginal Cost Rate	Weighted Marginal Cost Rate
Common Equity	40.00%	11.74%	4.70%
Total Debt	60.00%	5.91%*	<u>3.54%</u>
	100.00%		8.24%

Common Equity Ratio = Common Equity \div (Common Equity + Preferred Equity + Long-Term Debt + Short-Term Debt)

Sources: Moody's Credit Perspectives and Value Line Selection and Opinion

^{*}Assumed 120-month average Baa3 rate as of March 2014 (4.91%) plus a 50 basis point private placement premium and a 50 basis point small utility risk premium.

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ANNUAL DISCOUNTED CASH FLOW MODEL

NATURAL GAS UTILITY INDEX										ST	OCK PRIC	Œ
										MARCH 7,	2014 - AP	RIL 7, 2014
COMPANY	DIV0	DIV1	DIV2	DIV3	DIV4	EPS4	ROE4	GR1-4	GR4+	HI-PR	LO-PR	AVG-PR
AGL RESOURCES INC.	1.96	2.00	2.13	2.26	2.40	3.95	10.00	1.0627	1.0392	50.28	46.65	48.465
ATMOS ENERGY CORPORATION	1.48	1.52	1.58	1.64	1.70	3.50	9.00	1.0380	1.0392	48.36	44.84	46.600
LACLEDE GROUP, INC.	1.76	1.80	1.89	1.99	2.10	4.05	10.50	1.0527	1.0506	47.48	44.75	46.115
NORTHWEST NATURAL GAS CO.	1.87	1.91	1.97	2.03	2.10	3.25	10.00	1.0321	1.0354	44.34	41.58	42.960
PIEDMONT NATURAL GAS CO., INC.	1.27	1.31	1.35	1.39	1.43	2.10	11.00	1.0296	1.0351	36.36	33.80	35.080
SOUTH JERSEY INDUSTRIES, INC.	1.95	2.10	2.25	2.42	2.60	4.80	16.00	1.0738	1.0733	56.95	54.11	55.530
SOUTHWEST GAS CORPORATION	1.46	1.56	1.64	1.72	1.80	4.00	11.00	1.0489	1.0605	54.73	52.42	53.575
WGL HOLDINGS, INC.	1.74	1.78	1.81	1.84	1.87	3.00	10.50	1.0166	1.0396	40.41	36.36	38.385
AVERAGE	1.6863	1.7475	1.8274	1.9114	2.0000	3.5813	11.0000	1.0443	1.0475			45.839
TIVERIOE	1.0003	1.7 175	1.0271	1.7111	2.0950	3.3013				t flotation cos	et•	44.0052
		Annual DC	F Result:	8.57%	2.0730		этоск рисс	mending a	rour percen	a Hotation co.	,	44.0052
Cash Flows 1.5672 Present Value of Cash Flows 44.0052	1.4994	1.4442	1.3915	1.3414	36.7614							

NOTE: The cash flows for this multi-stage DCF Model are derived using the average forecasted dividends and the near term and long term growth rates. The discount rate equates the cash flows with the average stock price less flotation cost.

\$44.01 = Average stock price from March 7, 2014, through April 7, 2014, with a 4 percent flotation cost.

8.57% = Cost of equity required to match the current stock price with the expected cash flows. Sources:

1. Stock Prices - Yahoo Finance.

2. Dividends (DIV), Dividends Per Share (DPS), Earnings Per Share (EPS), ROE - Value Line Ratings and Reports issued March 7, 2014.

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CAPITAL ASSET PRICING MODEL

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,

April 1, 2014)

Beta = Measure of industry-specific risk (Average for natural gas utilities

followed by Value Line)

MR = Market return (Value Line Investment Analyzer Web Browser, as of April

7, 2014)

10.38% = 4.22% + 0.756(12.10% - 4.22%) + 0.20%

Note: Staff calculated the market return using a quarterly DCF model for a large number of dividend paying stocks followed by Value Line. As of April 7, 2014, the result was 12.10%. Staff 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 Month, Year A2 Spread A3 Spread Baa1 Spread Baa2 Spread Baa3									
		F		F		г		- F	
March, 2014	4.620	0.047	4.667	0.047	4.713	0.047	4.760	0.047	4.807
120-Month Average							4.760	0.1476	4.91%

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UTILITY INDEX STATISTICS AND FACTS

Natural Gas Distribution Utility Companies	S&P Bond Rating	% of Gas Revenue	Value Line Market Capital (millions)	Equity Ratio	Value Line Beta
				12 12 1	
AGL Resources Inc.	BBB+	71%	\$ 5,861.18	42.15%	0.80
Atmos Energy Corporation	BBB+	70%	\$ 4,346.88	45.83%	0.85
Laclede Group, Inc.	A-	88%	\$ 1,529.14	51.45%	0.65
Northwest Natural Gas Co.	A+	96%	\$ 1,193.47	44.71%	0.70
Piedmont Natural Gas Co., Inc.	A	100%	\$ 2,795.06	40.69%	0.75
South Jersey Industries, Inc.	BBB+	61%	\$ 1,783.59	43.94%	0.75
Southwest Gas Corporation	A-	67%	\$ 2,487.00	50.39%	0.85
WGL Holdings, Inc.	A+	52%	\$ 2,064.83	53.63%	0.70
Average:	A-			46.60%	0.756

Sources:

Value Line Investment Analyzer Web Browser, April 2014 S.E.C. Forms 10Q and 10K for the natural gas utility companies AUS Utilities Report, issued April 1, 2014 Standard & Poor's RatingsDirect