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: June 4, 2015

TO: Office of Commission Clerk (Stauffer)

FROM: Division of Accounting and Finance (D. Buys, Cicchetti)
Office of the General Counsel (Janjic, Mapp)

RE: Docket No. 150006-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: 06/18/15 – Regular Agenda – Proposed Agency Action – Interested Persons May Participate

COMMISSIONERS ASSIGNED: All Commissioners

PREHEARING OFFICER: Graham

CRITICAL DATES: None

SPECIAL INSTRUCTIONS: None

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.[1] On October 23, 2008, the Commission held a formal hearing in Docket No. 080006-WS to allow interested parties to provide testimony regarding the validity of the leverage formula.[2] Based on the record in that

[1] 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.

[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.

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 are 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, 2013, and 2014, 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-WS,[5] PSC-13-0241-PAA-WS,[6] and PSC-14-0272-PAA-WS.[7] In 2012, 2103, and 2014, 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.[8] In Order No. PSC-96-0729-

[3] Order No. PSC-08-0846-FOF-WS, issued December 31, 2008, in Docket No. 080006-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.

[4] Order No. PSC-11-0287-PAA-WS, issued July 5, 2011, in Docket No. 110006-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.

[5] Order No. PSC-12-0339-PAA-WS, issued June 28, 2012, in Docket No. 120006-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.

[6] Order No. PSC-13-0241-PAA-WS, issued June 3, 2013, in Docket No. 130006-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.

[7] Order No. PSC-14-0272-PAA-WS, issued May 29, 2014, in Docket No. 140006-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.

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

FOF-WS, the Commission found that the leverage formula range of returns from the prior year 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

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

Recommendation: Staff recommends that the current leverage formula approved by the Commission in Order No. PSC-14-0272-PAA-WS continue to be used until the leverage formula is readdressed in 2016. Accordingly, staff recommends the following leverage formula:

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

Where the Equity Ratio = Common Equity ÷ (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. (D. Buys)

Staff Analysis: 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 2014, by Order No. PSC-14-0272-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 through 2014 are expected to continue in 2015.[9]

In the instant docket, staff updated the leverage formula using the most recent 2015 financial data and the Commission approved methodology. Using the updated financial data in the leverage formula decreases the lower end of the current allowed ROE range by 95 basis points while increasing the upper end of the range by 35 basis points relative to the current leverage formula. The spread between the range of returns on equity based on the updated leverage formula is 372 basis points (7.79 percent to 11.51 percent). This is the second largest spread for the allowed ROE for WAW utilities in the approximately 33 years the leverage formula has been in use in Florida. In comparison, the spread in the range of returns on equity for the existing 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 updated leverage formula relative to the 2011 leverage formula is caused by the very low bond rates resulting from the

[9] See Federal Reserve System, minutes of the Federal Open Market Committee on April 28-29, 2015, p. 10, available at http://www.federalreserve.gov/monetarypolicy/files/fomcminutes20150429.pdf.

Federal Reserve's various monetary policies and quantitative easing programs, which are still in effect. In its press release dated April 29, 2015, the Federal Reserve stated:

> To support continued progress toward maximum employment and price stability, the Committee today reaffirmed its view that the current 0 to 1/4 percent target range for the federal funds rate remains appropriate. In determining how long to maintain this target range, 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 and international developments. The Committee anticipates that it will be appropriate to raise the target range for the federal funds rate when it has seen further improvement in the labor market and is reasonably confident that inflation will move back to its 2 percent objective over the medium term.[10]

In the same press release, the Federal Reserve further stated:

> When the Committee decides to begin to remove policy accommodation, it will take a balanced approach consistent with its longer-run goals of maximum employment and inflation of 2 percent. The Committee currently anticipates that, even after employment and inflation are near mandate-consistent levels, economic conditions may, for some time, warrant keeping the target federal funds rate below levels the Committee views as normal in the longer run.

The most recent assumed Baa3 bond rate of 5.31 percent used in the updated 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 existing 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 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 year's leverage formula produced a slope consistent with the slopes produced by financial data for 2012 through 2014. As shown on the following page, Chart 1-1 illustrates the change in the slope of the leverage formula using updated data compared to the current leverage formula.

[10] See Federal Reserve System, Monetary Policy Releases, available at http://www.federalreserve.gov/newevents/press/monetary/ 20150429a.htm.

Chart 1-1

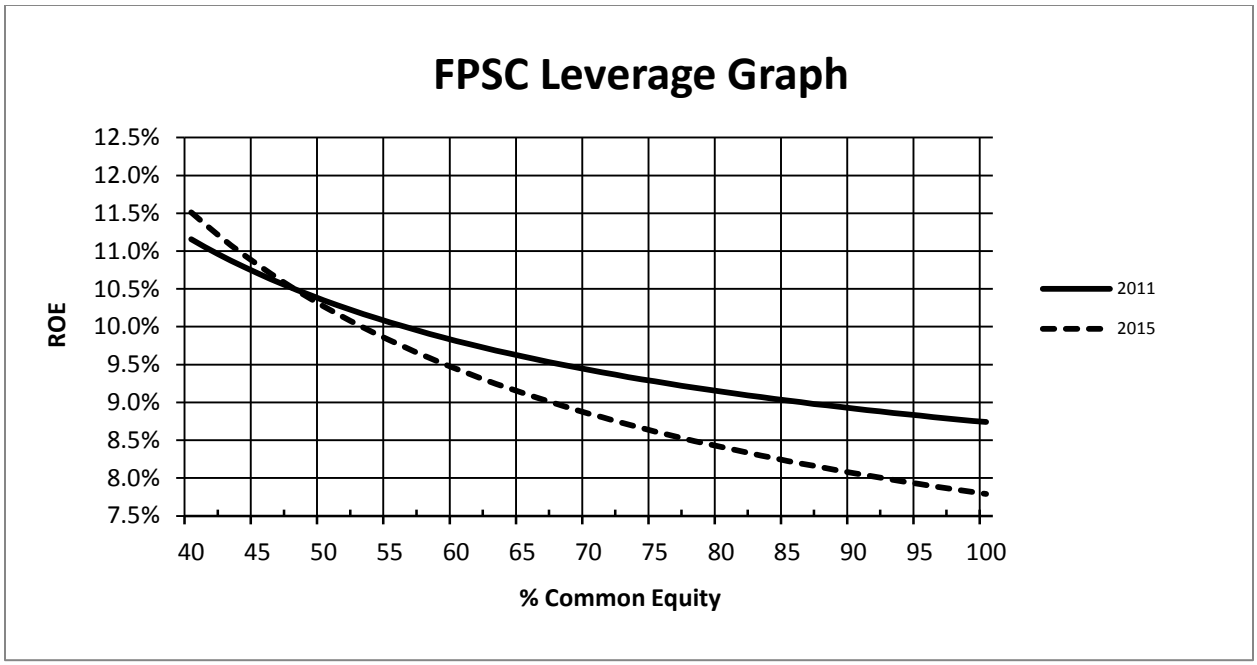
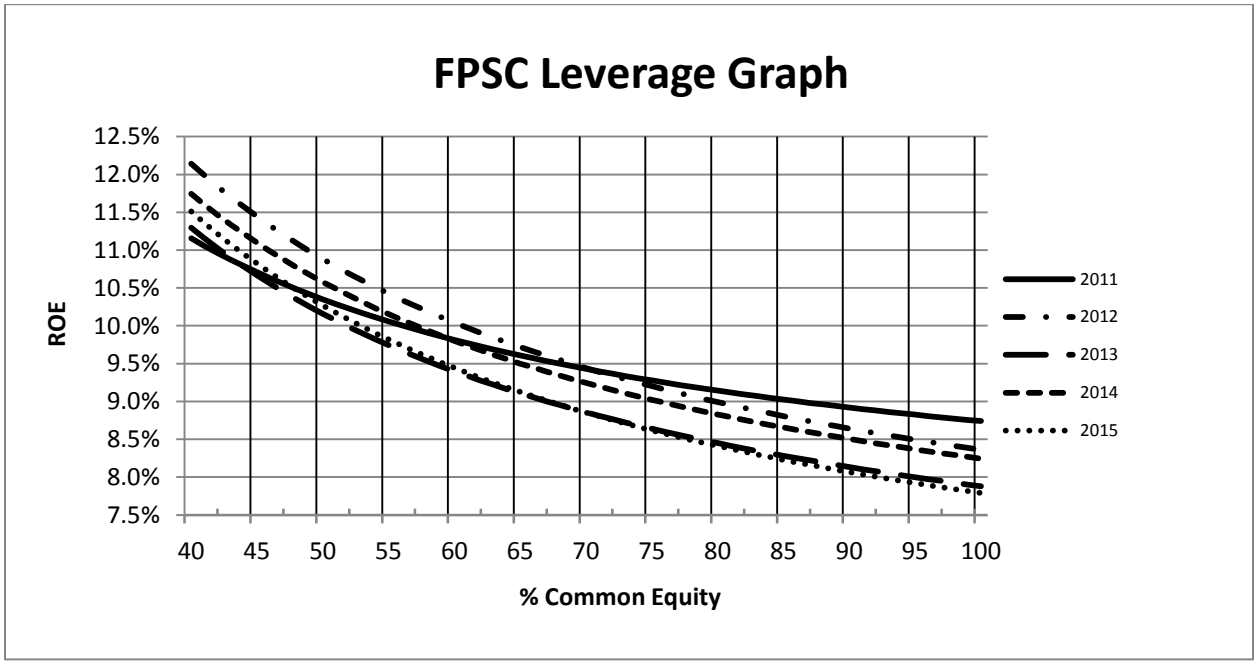


Chart 1-2 illustrates the change in the slope of the leverage formula for the five years 2011 through 2015.

Chart 1-2



In staff's opinion, the existing leverage formula range of 8.74 percent to 11.16 percent initially approved in 2011 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 2015. Staff believes retaining the use of the current leverage formula until the leverage formula is addressed again in 2016 is a reasonable alternative to updating the formula using current 2015 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 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 leverage formula. The updated model produced the following leverage formula:

Return on Common Equity = 5.31% + (2.480 ÷ Equity Ratio)

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

Range: 7.79% @ 100% equity to 11.51% @ 40% equity

In conjunction with the updated leverage formula, the returns on common equity should be capped at 11.51 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, 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 2015 leverage formula was calculated using a quarterly DCF model with stock prices as of May 15, 2015.

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-14-0272-PAA-WS remain unchanged until the leverage formula is readdressed in 2016.

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 changes in capital market conditions and to readdress the reasonableness of the leverage formula as conditions warrant. (Janjic, Mapp)

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.

SUMMARY OF LEVERAGE FORMULA RESULTS

	Updated Results (2015)	Currently in Effect (2011)
(A) DCF ROE for Natural Gas Utility Index	8.40%	8.25%
(B) CAPM ROE for Natural Gas Utility Index	10.12%	9.40%
AVERAGE	9.29%	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	0.81%	0.76%
Cost of Equity for Average Florida WAW Utility with a capital structure containing a 40% Equity Ratio	11.51%	11.16%

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%

2015 Leverage Formula (Using Current Data)

Return on Common Equity = 5.31% + (2.480 ÷ Equity Ratio)
Range of Returns on Equity (100% to 40%) = 7.79% to 11.51%

MARGINAL COST OF INVESTOR CAPITAL
(2015 Leverage Formula Result)

Average Marginal Cost Rate of the Natural Gas Utility Index

Capital Component	Ratio	Marginal Cost Rate	Weighted Marginal Cost Rate
Common Equity	45.95%	10.70%	4.92%
Total Debt	54.05%	5.31% *	2.87%
	100.0%		7.79%

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 5.31% + (2.480 ÷ 0.40) = 11.51%

Capital Component	Ratio	Marginal Cost Rate	Weighted Marginal Cost Rate
Common Equity	40.00%	11.51%	4.60%
Total Debt	60.00%	5.31%*	3.18%
	100.00%		7.79%

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

*Assumed 120-month average Baa3 rate as of April 2015 (4.31%) plus a 50 basis point private placement premium and a 50 basis point small utility risk premium.

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

ANNUAL DISCOUNTED CASH FLOW MODEL

NATURAL GAS UTILITY INDEX

COMPANY	DIV0	DIV1	DIV2	DIV3	DIV4	EPS4	ROE4	GR1-4	GR4+	STOCK PRICE APRIL 1, 2015 - APRIL 30, 2015 HI-PR	LO-PR	AVG-PR
AGL RESOURCES INC.	2.04	2.10	2.20	2.30	2.40	4.65	11.50	1.0455	1.0556	51.88	49.14	50.510
ATMOS ENERGY CORPORATION	1.56	1.64	1.72	1.81	1.90	3.80	10.50	1.0503	1.0525	56.67	53.67	55.170
LACLEDE GROUP, INC.	1.84	1.92	2.01	2.10	2.20	4.20	8.50	1.0464	1.0405	52.95	50.82	51.885
NORTHWEST NATURAL GAS CO.	1.87	1.91	1.97	2.03	2.10	3.30	9.00	1.0321	1.0327	49.77	46.54	48.155
PIEDMONT NATURAL GAS CO., INC.	1.31	1.35	1.39	1.43	1.47	2.10	10.50	1.0288	1.0315	38.43	36.17	37.300
SOUTH JERSEY INDUSTRIES, INC.	2.05	2.20	2.34	2.49	2.65	5.00	14.50	1.0640	1.0682	55.32	52.40	53.860
SOUTHWEST GAS CORPORATION	1.62	1.74	1.85	1.97	2.10	4.25	12.00	1.0647	1.0607	59.75	54.46	57.105
WGL HOLDINGS, INC.	1.85	1.87	1.87	1.87	1.87	3.20	11.00	1.0000	1.0457	57.94	54.79	56.365
AVERAGE	1.7675	1.8413	1.9188	2.0004	2.0863	3.8125	10.9375	1.0415	1.0484			51.294
					2.1873		Stock price including a four percent flotation cost:					**49.242**
		Annual DCF Result:		**8.40%**								

Cash Flows	1.6476	1.5835	1.5226	1.4645	1.4109	41.6130
Present Value of Cash Flows	49.2420					

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.
$49.242 = Average stock price from April 1, 2015, through April 30, 2015, with a 4 percent flotation cost.
8.40% = 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, 2015.

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, May 1, 2015)

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 May 15, 2015)

10.12% = 3.30% + 0.794(11.64% - 3.30%) + 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 May 15, 2015, the result was 11.64%. Staff 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									
Month, Year	A2	Spread	A3	Spread	Baa1	Spread	Baa2	Spread	**Baa3**
April, 2015	3.788	0.123	3.911	0.123	4.034	0.123	4.158	0.123	4.281
120-Month Average							4.158	0.1479	**4.31%**
Sources: Moody's Credit Perspectives and Value Line Selection & Opinion									

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
AGL Resources Inc.	BBB+	69%	$ 5,995.51	43.19%	0.80
Atmos Energy Corporation	A-	64%	$ 5,549.99	53.78%	0.85
Laclede Group, Inc.	A-	99%	$ 2,231.98	41.37%	0.70
Northwest Natural Gas Co.	A+	97%	$ 1,298.67	45.69%	0.70
Piedmont Natural Gas Co., Inc.	A	100%	$ 2,914.38	42.38%	0.80
South Jersey Industries, Inc.	BBB+	57%	$ 1,762.88	42.64%	0.85
Southwest Gas Corporation	BBB+	63%	$ 2,674.78	47.21%	0.85
WGL Holdings, Inc.	A+	50%	$ 2,776.69	51.35%	0.80
Average:	A-	75%	$ 3,150.61	45.95%	0.794

Sources:
Value Line Investment Analyzer Web Browser, April 2015
S.E.C. Forms 10Q and 10K for the natural gas utility companies
AUS Utilities Report, issued May 1, 2015
Standard & Poor's RatingsDirect