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BEFORE THE ARIZONA CORPORATION COMMISSION

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IN THE MATTER OF THE APPLICATION OF CHAPARRAL CITY WATER COMPANY, INC., AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES FOR UTILITY SERVICE BASED THEREON.	Docket No. W-02113A-07-0551

Arizona Corporation Commission
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RUCO'S REPLY BRIEF ON COST OF CAPITAL

INTRODUCTION

The Residential Utility Consumer Office ("RUCO") submits its Reply Brief on Cost of Capital in support of its position that the Arizona Corporation Commission ("Commission") should determine Chaparral City Water Company's ("the Company's") operating income utilizing the methodology adopted in Decision 70441.[1] RUCO recommends a capital structure composed of 4.08% short-term debt, 19.17% long-term debt, and 76.75% common equity. RUCO recommends a cost of short-term debt of 2.71%, and a cost of long-term debt of 5.34%. RUCO further recommends a cost of equity of 6.83%, which is RUCO's unadjusted cost of equity of 8.83% reduced 200 basis points for general inflation. RUCO recommends an overall

[1] In the Matter of the Application of Chaparral City Water Company, July 28, 2008, Docket No. W-02113A-04-0616.

cost of capital of 6.38%, which is conservative and results in a fair and reasonable recommended rate of return.

ISSUES IN DISPUTE

1. RUCO'S SUSTAINED GROWTH ESTIMATE MIRRORS THE COMPANY'S.

The Company complains that RUCO's constant Discounted Cash Flow ("DCF") analysis should be rejected because it is based on a sustainable growth method that cannot be replicated.[2] This argument is a red herring. Each expert develops his analysis using his own methodology and judgment. Regardless of the methodology used by the experts in this case, there is virtually no difference in their final conclusions. In his analysis, Thomas Bourassa, the Company's cost of capital expert, estimated the average sustainable growth to be 6.39% for his water utility sample.[3] Mr. Rigsby's estimate of average sustainable growth for his water utility proxy is 6.30% or 9 basis points lower than Mr. Bourassa's estimate.[4] There is essentially no difference between the experts' estimates of average sustainable growth for water utility proxies. RUCO urges the Commission to reject the Company's argument.

2. RUCO'S USE OF A GAS UTILITY PROXY IS APPROPRIATE.

The Company complains that RUCO relied on a gas utility proxy in estimating its cost of equity capital.[5] The average beta for RUCO's natural gas sample is 0.82.[6] The Company contends that gas utilities are less risky investments than water companies as evidenced by their low beta and therefore, should not be used as proxies for the Company.[7] As David C. Parcell, Staff's expert cost of capital witness testified:

> *[T]here are four measures of risk. Beta is one, and beta is a market measure.... I would also look at Value Line safety, which is done by Value Line using their computer*

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[2] Company's Closing Brief (Cost of Capital) at 38
[3] <u>See</u> Exhibit A-19 Bourassa Direct Testimony at 33, Schedule D-4.7.
[4] <u>See</u> Exhibit R-14 Rigsby Direct Testimony, WAR Schedule 4 page 1 of 2.
[5] <u>See</u> Exhibit R-14 Rigsby Direct Testimony
[6] T: 572-573. <u>*See also*</u> Exhibit R-14 Rigsby Direct Testimony, Schedule WAR 7, page 2 of 2.
[7] T: 572

models, Value Line financial strength, and Standard & Poor's stock ranking. So if you want to compare risk, you have to use more than one factor.... I would not agree...risk [is] based only upon the comparison of betas.... [8]

The Company's assertion that gas utilities with beta in the range of 0.80-0.90 are not comparable for purposes of establishing a proxy group is erroneous because beta is not the only measurement of risk to establish comparability.

Courts require greater analysis of elements of comparability than suggested by the Company.[9] In Litchfield Park Service Corporation v. Arizona Corporation Commission, the Arizona Court of Appeals held that to determine an appropriate cost of equity capital, the Commission needs to consider all relevant factors, including: (1) comparisons with other companies having corresponding risks, (2) the attraction of capital, (3) current financial and economic conditions, (4) the cost of capital, (5) the risks of the enterprise, (6) the financial policy and capital structure of the utility, (7) the competence of management, and (8) the company's financial history.[10] Mr. Rigsby testified that he used gas utilities as a proxy because they have similar operating characteristics to water companies in terms of distribution and share similar risks.[11] Mr. Parcell supports Mr. Rigsby's analysis.[12] Mr. Parcell confirmed that the movement among cost of capital analysts is to use gas utility proxies to derive cost of capital for water companies.[13] Mr. Parcell further testified that he "has seen a company witness do so recently and has given consideration to doing so [himself]."[14] Given that the gas utilities share similar operating characteristics and similar risks and that the movement among

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[8] T: 777

[9] Litchfield Park Service Corporation v. Arizona Corporation Commission, 178 Ariz. 431, 874 P.2d 988 (Ariz. App. Div. 1 1994). See also United Railways & Electric Company of Baltimore v. West, 280 U.S. 234, 249-50, 251, 50 S.Ct. 123, 125, 125-26, 74 L.Ed. 390 (1930); Simms v. Round Valley Light & Power Company, 80 Ariz.145, 154, 294 P. 378, 384 (1956).

[10] Id.

[11] T: 674, 693. See also R-14 Rigsby Direct Testimony, Schedule A and R-12 Value Line Industry Report

[12] T: 776

[13] Id.

[14] Id.

analysts is to utilize gas utilities, RUCO recommends the Commission reject the Company's argument.

Chaparral's criticism of RUCO's use of a gas utility proxy is further undermined by the Company's use of Connecticut, and Middlesex Water Companies in its water proxy. Connecticut and Middlesex Water Companies have betas ranging between 0.80 and 0.90, respectively.[15] Chaparral cannot complain that RUCO used gas utilities with betas in the range of 0.80-0.90 when one third of the utilities in the Company's water proxy have the same beta range. Beta is just one of several ways of evaluating the risk of a security.[16] The best way to evaluate risk is to look at the accounting data and the actual returns paid.[17] Higher betas do not necessarily indicate that water companies are more risky.[18] For these reasons, RUCO's use of a gas utility proxy is appropriate.

3. SOUTHWEST WATER IS COMPARABLE TO AMERICAN STATES WATER AND THEREFORE AN APPROPRIATE WATER PROXY.

The Company complains that RUCO should not have used Southwest Water Company in its water proxy because it is involved in unregulated business and has a different market risk.[19] The Company use American States (AWR"), Chaparral's parent as a proxy. Southwest Water Company and AWR share the same market beta of 1.05.[20] AWR provides the same type of services as Southwest Water Company.[21] AWR also provides unregulated contract water and wastewater services, operation and management at seven military bases through its subsidiary ASUS.[22] AWR's annual report for 2007 states:

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[15] T: 573.

[16] T: 690-692, 777. *See also* United Railways & Electric Company of Baltimore v. West, 280 U.S. 234, *249-50,* 251, 50 S.Ct. 123, 125, 125-26, 74 L.Ed. 390 (1930); Simms v. Round Valley Light & Power Company, 80 Ariz.145, 154, 294 P. 378, 384 (1956).

[17] Id.

[18] Id.

[19] T: 560. See also Exhibit A-21 Bourassa's Rejoinder Testimony at 27-28.

[20] See Exhibit R-14 Rigsby Direct Testimony, Schedule 7, pages 1-2.

[21] See Exhibit R-12, Value Line Utility Industry Report dated October 24, 2008.

[22] T: 565-569. *See also* Exhibit R-13 AWR 2007 Annual Report.

> AWR is the parent of Golden State Water Company, Chaparral and American States Water Services ("ASUS").... ASUS, a non-regulated company and its wholly-owned subsidiaries, Fort Bliss Water Services Company, Terrapin Utility Services, Old dominion Utility Services, Palmetto State Utility services and Old North Utility Services provides full service contracts to operate and maintain water and wastewater systems for the U.S. Army and Air force in Texas/ New Mexico, Maryland, Virginia, South Carolina and North Carolina, respectively.[23]

Given that the Company used AWR in its water proxy, and Southwest Water and AWR, (through its subsidiary ASUS), offer nearly identical services and share identical risk as measured by beta, there is no merit to the Company's complaint that RUCO included Southwest Water in its analysis.

4. RUCO'S ESTIMATE OF MARKET RISK PREMIUM IS MORE CONSISTENT WITH RECENT EMPIRICLE DATA AND RESPECTED AUTHORITIES THAN THE COMPANY'S ESTIMATE.

The Company claims that RUCO's CAPM analysis is not reliable because it is based on a historic market risk premium calculated using a geometric mean.[24] RUCO estimated its historic risk premium, using both geometric and arithmetic means ranging between 4.90 percent and 6.5 percent, respectively.[25] A historic market risk premium calculated using an average of geometric and arithmetic means is appropriate. Staff's witness concurs.[26]

Regardless of the methodology or analysis, in the end, recent empirical research supports RUCO's analysis of market risk premium.[27] Mr. Rigsby testified that empirical studies performed by Aswarth Damdaran and Felicia C. Marston, professors of finance from New York University and the University of Virginia, respectively, indicate that market risk premiums in

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[23] Id.
[24] See Exhibit A-21 Bourassa Rejoinder Testimony at 25-27 and Company's Closing Brief (Cost of Capital) at 39-45.
[25] See Exhibit R-14 Rigsby Direct Testimony at 33.
[26] T: 747
[27] T: 647-649

excess of 4.5 to 5.5 percent are overstated.[28] Indeed, the text cited by Mr. Rigsby and Mr. Bourassa, *Valuation: Measuring and managing the Value of Companies*, 4th Edition,[29] states:

> *Although many in the finance profession disagree about how to measure the market risk premium, we believe 4.5-5.5 percent is an appropriate range. Historical estimates found in most textbooks (and locked in the mind of many), which often report numbers near 8 percent, are too high for valuation purposes because they compare the market risk premium versus short-term bonds, use only 75 years of data, and are biased by the historical strength of the U.S. market.*[30]

Mr. Bourassa's risk premium using an arithmetic mean is 7.5 percent.[31] RUCO's historic risk premium using both an arithmetic and geometric means ranges between 4.90 percent and 6.5 percent.[32] The average of RUCO's historic market premium using geometric and arithmetic means is 5.7 percent, and falls reasonably close to the range identified as reasonable by recent empirical research.[33] Mr. Bourassa's risk premium does not. The Commission should accept RUCO's cost of equity capital recommendation because it is based on a market risk premium that more closely approximates the appropriate range identified by recent empirical data, financial authorities and treatises.

5. RUCO'S CAPM ANALYSIS IS RELIABLE

The Company claims that RUCO's CAPM analysis is not reliable because it is based on mismatched treasury instruments.[34] Initially, RUCO used intermediate and long-term securities to estimate the risk-free rate of return.[35] RUCO then recalculated its historic market risk premium using matching intermediate treasuries.[36] RUCO's recalculated historic risk premium, using both geometric and arithmetic means changes in range from 4.9 percent to 6.5 percent

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28 T: 648
29 See Exhibit R-15 *Valuation: Measuring and managing the Value of Companies*, 4th Edition
30 Id. at 306. See also, Exhibit A-21 at 14 and R-7, Rigsby's Direct Testimony at 21-22
31 See Company's Final Schedule D-4.13.
32 See Exhibit R-14 Rigsby Direct Testimony at 30-35
33 T: 647-649.
34 See Exhibit A-21 Bourassa Rejoinder Testimony at 25-27 and Company's Closing Brief (Cost of Capital) at 39-45.
35 See Exhibit R-14 Rigsby Direct Testimony at 30-35
36 T: 655-656. See also Exhibit R-17 Schedule WAR-1 Cost of Capital Summary and Exhibit R-18, Updated Schedule WAR-1 Cost of Capital Summary

to between 5.1 percent and 6.7 percent.[37] If RUCO then recalculated the cost of equity capital based on the Company's methodology, the impact on its cost of equity capital would be an additional 10 basis points or 6.38 percent to 6.48 percent.[38] The difference is negligible when the higher market risk premium is taken into consideration. RUCO is not modifying its recommended cost of equity capital because its original figure of 6.38 percent is based upon a market risk premium, which exceeds the market risk premium recommended by the authorities and empirical data referenced above. If RUCO used a market risk premium of 4.5-5.5 percent as recommended by those authorities, its cost of equity capital would be much lower. RUCO urges the Commission to reject the Company's argument and to adopt RUCO's risk free rate of return as originally calculated.

6. THE COMPANY'S COST OF EQUITY CAPITIAL IS UNRELIABLE BECAUSE IT IS BASED, IN PART, ON A CURENT MARKET RISK PREMIUM.

The Company arrived at its CAPM 14.6% cost of equity capital by averaging a historical market risk premium of 9.8% and a 19.4% current market risk premium.[39] Neither Staff nor RUCO's expert witnesses agrees with the use of a current market risk premium in the present depressed economy. Mr. Parcell testified that the current risk premium CAPM is not a proper model in a very depressed market.[40] Mr. Parcell further testified that "the current market risk premium CAPM model relies on a growth rate developed from a DCF analysis--based on the growth of stock prices at a time when those stock prices have been extremely depressed."[41] Mr. Parcell further testified that development of a growth rate from stocks priced in an

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[37] Geometric mean risk free premium recalculated is 10.4% – 5.30% = 5.1%, Arithmetic Mean risk free premium recalculated is 12.3% - 5.5% = 6.7%.

[38] T: 654.

[39] See Exhibit A-21 Bourassa Rejoinder Testimony at 6-8 and 25-27.

[40] T: 746.

[41] Id.

extremely depressed market leads to a CAPM which is "simply too high."[42] Mr. Parcell rejected the Company's current market risk premium CAPM model to derive a cost of equity capital.[43]

William Rigsby, RUCO's expert witness, testified that use of a historic market risk premium to derive a CAPM cost of equity capital is appropriate.[44] Reliance on past performance as an indicator of future performance is more sound than reliance on analysts' projections of market return and treasury yields, particularly in the current economic circumstances. RUCO recommends, and Staff concurs,[45] that the Commission should reject the Company's CAPM analysis because it is based, in part, on a current risk premium.

7. THE COMPANY'S COST OF EQUITY CAPITAL EXCEEDS COMPOSITE STATISTICS BY 1,190 BASIS POINTS

The Company's use of a 19.4% current market risk premium to determine a cost of equity capital is inconsistent with the most recently available market data.[46] The Value Line Quarterly Report for the Water Utility Industry, dated October 24, 2008, provides composite statistics for the water industry.[47] Value Line's projections for the return on common equity for the water industry for the five year period through 2013 is 7.50%.[48] The difference between the Company's expected return on common equity using a current market risk premium CAPM and Value Line's estimate is 1,190 basis points.[49] RUCO recommends the Commission reject the Company's CAPM analysis because it is entirely incongruent with the most recently reported composite market data for the water industry.

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[42] T: 759.
[43] T: 746, 759-761
[44] T: 686-687.
[45] T: 746, 759-761.
[46] T: 580, 759-761. See also R-12 Value Line Quarterly Report for Water Utility Industry dated Oct. 24, 2008.
[47] Id.
[48] Id.
[49] Id.

8. RUCO'S COST OF EQUITY CAPITAL WAS DETERMINED BASED UPON THE METHODOLOGY ADOPTED BY THE COMMISSION IN DECISION NO. 70441.

RUCO's methodology mirrors the methodology adopted by the Commission int the remand proceeding. RUCO recommends a cost of equity of 6.83%, which is RUCO's unadjusted cost of equity of 8.83% reduced 200 basis points for inflation. RUCO's recommended cost of equity capital meets the criteria established in the landmark Supreme Court cases of Bluefield Water Works & Improvement Co. v. Public Service Commission of West Virginia (262 U.S. 679, 1923) and Federal Power Commission v. Hope Natural Gas Company (320 U.S. 391, 1944).

The Company asserts that the role of regulation is to duplicate the competitive market.[50] RUCO acknowledges that the fundamental premise of the return on rate base approach to rate making is to allow utilities an opportunity to recover their actual costs, including their actual cost of capital, consistent with competitive industries.[51] The Company asserts that the Weighted Average Cost of Capital ("WACC") is the "fair rate of return" regardless of the rate base applied.[52] The Company is wrong. An appropriate return is one that compensates the Company for its costs, but does not overcompensate for its cost.[53] If the end result of multiplying WACC to Original Cost Rate Base ("OCRB") is just and reasonable rates, then the end result of multiplying a WACC, which fails to reflect the effects of inflation, to the Fair Value Rate Base ("FVRB") will be excessive if FVRB is systematically higher then OCRB (as it is under the Commission's rate base methodology).[54]

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50 Company's Closing Brief at 10.

51 See Exhibit R-14 Rigsby Direct Testimony at 6-7 and 36-37 referencing the Exhibit R-21 Surrebuttal Testimony of Ben Johnson, Ph.D., filed in Docket No. W-02113A-04-0616 at 8-16.

52 Company's Closing Brief at 20-24.

53 See Exhibit R-14 Rigsby Direct Testimony at 6-7 and 36-37 referencing the Exhibit R-21 Surrebuttal Testimony of Ben Johnson, Ph.D., filed in Docket No. W-02113A-04-0616 at 8-16.

54 Id.

FVRB includes a measure of general inflation because it is based, in part, on reproduction cost.[55] In recognition thereof, RUCO suggests that an element of general inflation be deducted from the WACC to avoid the double-counting of inflation, which is reflected in both the cost of capital and the FVRB.[56] RUCO's recommendation is consistent with the Commission's prior determination of this matter. In Decision No. 70441, (the "remand proceeding"), the Commission agreed that a double-counting of inflation in rate base and the rate of return would be unfair and overcompensate investors.[57] Consequently, the Commission adopted a methodology, which factored the effects of inflation out of the cost of equity to arrive at an overall cost of capital.

In this case, consistent with the remand proceeding, RUCO deducted 200 basis points from the unadjusted cost of equity of 8.83 percent to derive its recommended cost of equity of 6.83 percent.[58] RUCO then weighted the inflation-adjusted cost of equity and cost of long and short-term debt to derive an overall cost of capital of 6.38 percent.[59] RUCO's methodology mirrors the methodology adopted by the Commission in the remand proceeding and should be adopted by the Commission in this case.

The Company relies on case law from other state jurisdictions to support its argument that the WACC should apply to FVRB.[60] The Company cited to these same authorities in the remand proceeding.[61] The Commission stated the Company's reliance on *Duke Power* was misplaced because the case was decided based on a statutory mandate particular to North

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55 Id.

56 Id.

57 See Decision No. 70441. for ease of reference RUCO will refer to Decision No. 70441` as the remand proceeding because it was a proceeding that was remanded to the Commission by the Arizona Court of Appeals. The matter was determined by the Commission in Decision No. 70441 and appealed by the Company. The appeal is currently pending.

58 See Exhibit R-14 Rigsby Direct Testimony at 35-37.

59 Id.

60 Company's Closing Brief at 23-25, citing State ex rel. Utilities Comm'n v. Duke Power Co., 206 S.E.2d 269, 281 (N.C. 1974) and City of Alton v.Commerce Comm's 165 N.E. 2d 513(Ill.1960).

61 See Decision No. 70441.

Carolina for which Arizona has no corresponding statutory or constitutional provision.[62] The Commission discounted the *City of Alton* decision indicating that the several methods of computing the appropriate rate of return in the *Alton* case seemed to be "after-the-fact determinations, as opposed to methods to use or determinations made to set rates." [63] RUCO incorporates by reference the Commission's analysis in Decision No. 70441 and urges the Commission to proceed in a manner consistent with Decision No. 70441.

9. RUCO'S OVERALL COST OF CAPITAL 6.38% IS NOT TOO LOW.

The Company asserts that RUCO's FVRB of 6.38% is too low.[64] In support of its position, the Company cited a Federal Reserve Statistical Release, ("FRSR"), asserting that the interest rate on investment grade (Baa) bonds is 9%.[65] The Company's reliance on the FRSR is misplaced because the FRSR does not distinguish the rates of return for utility bonds from other corporate bonds.[66] The rate of return for the Company should be based on the returns of regulated utilities as opposed to the returns of other corporations.[67] RUCO recommends the Commission consider the Value Line Investment Survey, ("Value Line"), which contains statistical analysis of corporate bond yields, but distinguishes yields on utility bonds from yields on other corporate bonds.[68] In the Value Line dated January 9, 2009, the return on corporate utility bonds for 25-30 year grade Baa/BBB is 6.58% and the yield three months prior was 6.61%.[69] The yields reported by Value Line support RUCO's recommended FVRB rate of return of 6.38%.

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62 Id.
63 Id.
64 T: 582. See also Exhibit A-21, Bourassa Rejoinder Testimony at 22.
65 Id. at 583, citing the Federal Reserve Statistical Release, Schedule H-15, dated (November 24, 2008). See also Exhibit A-17 Federal Reserve Statistical Release dated January 7, 2009.
66 T: 583-584.
67 T: 641-43.
68 See Exhibit R-16 Value Line Investment Survey, dated January 9, 2009.
69 Id.

CONCLUSION

The goal of regulation has always been, and remains, to produce results in the utility sectors that parallel those obtained under conditions of competition. If, as the Commission has determined in Decision No. 70441, the appropriate way to derive the Fair Value Rate of Return is by adjusting for the effects of general inflation, then the Commission should adopt RUCO's recommendation. RUCO's general inflation adjustment of 2% is conservative and allows the Company the opportunity to earn a fair rate of return (6.38%) on its investment.

RESPECTFULLY SUBMITTED this 27th day of February 2009

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