0000102852

NOTICE OF FILING APPENDIX IN SUPPORT OF INITIAL POST-HEARING BRIEF OF UNS GAS, INC.

PART 2 OF 2
BARCODE # 0000102852

TO REVIEW PART 1 PLEASE SEE:

BARCODE # 0000102827

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BEFORE THE ARIZONA CORPORATION COMMISSION

KRISTIN K. MAYES
Chairman
GARY PIERCE
Commissioner
PAUL NEWMAN
Commissioner
SANDRA D. KENNEDY
Commissioner
BOB STUMP
Commissioner

IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS GAS, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.	DOCKET NO. G-04204A-08-0571

DIRECT

TESTIMONY

OF

DAVID C. PARCELL

ON BEHALF OF THE

UTILITIES DIVISION STAFF

ARIZONA CORPORATION COMMISSION

JUNE 08, 2009

The second decision is Federal Power Comm'n v. Hope Natural Gas Co., 320 U.S. 591 (1942). In that decision, the Court stated:

> The rate-making process under the [Natural Gas] Act, i.e., the fixing of 'just and reasonable' rates, involves a balancing of the **investor** and **consumer interests** . . . . From the investor or company point of view it is important that there be enough revenue not only for operating expenses but also for the capital costs of the business. These include service on the debt and dividends on the stock. By that standard the **return** to the equity **owner** should be **commensurate** with **returns** on **investments** in **other enterprises having corresponding risks**. That return, moreover, should be sufficient to assure confidence in the **financial integrity** of the enterprise, so as to **maintain its credit** and to **attract capital. [Emphasis added.]**

The Hope case is also frequently credited with establishing the "end result" doctrine, which maintains that the methods utilized to develop a fair return are not important as long as the end result is reasonable.

The three economic and financial parameters in the Bluefield and Hope decisions - comparable earnings, financial integrity, and capital attraction - reflect the economic criteria encompassed in the "opportunity cost" principle of economics. The opportunity cost principle provides that a utility and its investors should be afforded an opportunity (not a guarantee) to earn a return commensurate with returns they could expect to achieve on investments of similar risk. The opportunity cost principle is consistent with the

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BEFORE THE ARIZONA CORPORATION COMMISSION

IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS GAS, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.

DOCKET NO. G-04204A-08-0571

At: Phoenix, Arizona

Date: August 10, 2009

Filed: August 14, 2009

REPORTER'S TRANSCRIPT OF PROCEEDINGS

VOLUME I
(Pages 1 through 238)

ARIZONA REPORTING SERVICE, INC.
Court Reporting
Suite 502
2200 North Central Avenue
Phoenix, Arizona 85004-1481

By: MICHELE E. BALMER
Certified Reporter
Certificate No. 50489

Prepared for:

the 10.2 to 11.2, whatever, the 11 percent is at the high end of the 11 percent, correct? Or of the range, correct?

A. It's towards the high end of that range, and it's specifically for the reasons that I lay out on Page 24 and Page 25 of my direct testimony. UNS Gas is a much smaller company than any of these publicly traded companies who have much more financial wherewithal. The proxy group has a median credit rating of single-A or high BBB, whereas, UNS Gas has the lowest investment grade credit rating of Baa3.

The company, UNS Gas, has not been in a position to pay a common dividend since the company was acquired in 2003. All of the other companies in the proxy group pay regular common dividends. So there are clear distinctions in terms of what an investor would consider when they look at UNS Gas versus a proxy group of fairly large publicly traded gas utilities.

Q. Okay. Just so I can kind of grasp the overall totality of what you're saying, with investors being more risk adverse and the Commission approved cost of equity is basically coming down, is what you're saying -- and your range of return on equities in your proxy group being what it is, the 10.2 to 11.2, is what you're saying that the high end of that range, the need for the 11 percent return on equity basically is grounded in the fact that the

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Direct Testimony of

Kentton C. Grant

on Behalf of

UNS Gas, Inc.

November 7, 2008

Q. How did you determine the cost of equity for UNS Gas?

A. This is best accomplished by comparing the risk profile of UNS Gas to that of the comparable company group and selecting an appropriate point estimate based on the well established relationship between risk and expected return.

Q. How does the risk profile of UNS Gas differ from that of the comparable company group?

A. Relative to an investment in the group of comparable companies, an equity investment in UNS Gas is decidedly riskier. First, UNS Gas is much smaller than any of the comparable companies, thereby limiting the Company's ability to withstand financial shocks arising from unforeseen events. As indicated in Exhibit KCG-2, the smallest company in the comparable company group had a market capitalization of nearly $1 billion as of August 2008. Second, all of the companies in the comparable company group provide a current return to their shareholders in the form of a dividend, something that UNS Gas has not been able to do since the Company's inception in 2003. Third, while the Company's senior unsecured debt obligations were recently assigned an investment-grade credit rating of Baa3, this rating is at the low end of the credit ratings enjoyed by companies in the comparable company group. As may be seen in Exhibit KCG-2, the median issuer rating for the comparable company group is "A" from Standard & Poor's, "A3/Baa1" from Moody's and A- from Fitch. Consequently, it is reasonable to conclude that the cost of capital (both debt and equity) would be higher for UNS Gas relative to the comparable company group. As may be seen Exhibit KCG-12, investors require a higher rate of return (or YTM) on Baa-rated public utility bonds relative to A-rated public utility bonds. As of August 2008, this credit spread risk premium was approximately 60 basis points (or 0.6%). Since common stock investments are inherently riskier than investment-grade bond investments, this observed risk premium from the bond market can be used as an estimate of the *minimum* equity risk premium required by equity investors in a Baa-rated public utility relative to an A-rated public utility.

Q. What is your estimate of the cost of equity capital for UNS Gas?

A. In light of the risk factors cited above, as well as the credit spread and equity risk premiums applicable to lower-rated utilities, it is reasonable to conclude that the cost of equity for UNS Gas is near the high end of the range established for the comparable company group. As such, a reasonable point estimate for UNS Gas is 11.0%.

Q. Are you recommending an allowed ROE equal to the cost of equity for UNS Gas?

A. Yes I am, assuming that UNS Gas is provided with an opportunity to actually earn something close to its 11.0% cost of equity capital. An allowed ROE of 11.0% is fair to both the Company and its customers based on the analysis presented above. This level of return should also be sufficient to support the financial integrity of UNS Gas, so long as other key aspects of the Company's rate request are granted.

V. COST OF DEBT CAPITAL.

Q. What was UNS Gas' embedded cost of debt for the test-year?

A. As shown on Schedule D-2 of the Company's Application, the weighted average cost of debt for UNS Gas was 6.49% as of the end of the test-year.

Q. What cost of debt do you recommend in this case?

A. I recommend use of the 6.49% cost at the end of the test-year. This cost reflects the interest rate of 6.23% on the two long-term notes issued by UNS Gas in 2003, the amortization of related debt issuance costs, and 50% of the issuance cost amortization and commitment fees on the joint revolving credit facility shared with UNS Electric. Although UNS Gas had no borrowings outstanding on the revolving credit facility at the end of the test-year, maintenance of this facility is critical for purposes of funding

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Direct Testimony of

Kentton C. Grant

on Behalf of

UNS Gas, Inc.

November 7, 2008

I. INTRODUCTION.

Q. Please state your name and business address.

A. My name is Kentton C. Grant. My business address is One South Church Avenue, Tucson, Arizona, 85701.

Q. What is your employment position?

A. I am Vice President of Finance and Rates for UniSource Energy Corporation ("UniSource Energy") and Tucson Electric Power Company ("TEP"). In this role I am responsible for providing financial and regulatory support services to UniSource Energy and its regulated utility subsidiaries. These subsidiaries include UNS Gas, Inc. ("UNS Gas" or the "Company"), UNS Electric, Inc. ("UNS Electric") and TEP.

Q. Please summarize your professional experience and education.

A. I received a Master of Business Administration degree with a concentration in finance from the University of Texas at Austin, as well as a Bachelor of Science degree in Civil Engineering from Purdue University. I am a member of the Chartered Financial Analyst ("CFA") Institute, and in 1995, I was awarded the professional designation of CFA. I am also a member of the Society of Utility and Regulatory Financial Analysts, and in 1992, I was awarded the designation of Certified Rate of Return Analyst ("CRRA").

From 1984 to 1995, I was employed by the Public Utility Commission of Texas. During this period I served in various staff positions, including Director of the Financial Review Division. In that role I directed a staff responsible for performing financial analyses, accounting reviews and management audits of electric and telecommunications utilities. As a staff member I provided expert testimony on a variety of financial topics including

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Kentton C. Grant

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November 7, 2008

investment-grade credit rating is also important in obtaining trade credit from gas suppliers and other vendors that UNS Gas does business with. The maintenance of adequate trade credit is essential to the Company's natural gas procurement program and the purchasing of other goods and services needed to provide retail gas service. Without such credit, it would be difficult, if not impossible, for the Company to lock-in purchases of natural gas in the forward markets as it does today. Over time such forward purchases help to stabilize the cost of gas supplied to and paid for by customers of UNS Gas.

III. CAPITAL STRUCTURE.

Q. Please describe the capital structure for UNS Gas as of the end of the test-year.

A. The capital structure for UNS Gas as of June 30, 2008 consisted of $100 million principal amount of long-term debt and approximately $99 million of common equity. After adjusting for unamortized issuance expenses, the long-term debt balance as of June 30, 2008 was $99.3 million. As reflected in the following table, long-term debt and common equity each comprised approximately 50% of total capital:

($ Thousands)	6/30/08	% of Total
Long-Term Debt	$99,265	50.01%
Common Equity	99,242	49.99%
Total Capital	$198,507	100.00%

Q. Do you recommend using the actual test-year capital structure for rate setting purposes?

A. Yes, I do. A capital structure consisting of a 50/50 mix of debt and equity capital is in line with the industry average and is consistent with the capital structure adopted by the Commission in the Company's most recent rate case. Additionally, this level of equity will also support UNS Gas' efforts to maintain its investment-grade credit rating.

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BEFORE THE ARIZONA CORPORATION COMMISSION

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BEFORE THE ARIZONA CORPORATION COMMISSION

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DIRECT

TESTIMONY

OF

DAVID C. PARCELL

ON BEHALF OF THE

UTILITIES DIVISION STAFF

ARIZONA CORPORATION COMMISSION

JUNE 08, 2009

These common equity ratios are somewhat lower than those of UNS Gas.

Q. How do these capital structures compare to those of investor-owned electric utilities?

A. Schedule 5 shows the common equity ratios (including short-term debt in capitalization) for the two groups of proxy utilities utilized in my cost of equity analyses. These are:

Year	Proxy Group	Grant Group
2004	41.5%	52.5%
2005	43.6%	52.4%
2006	45.1%	53.3%
2007	48.0%	54.9%
2008	47.3%	56.0%

These common equity ratios for the proxy group are lower than those of UNS Gas while those of the Grant Group are higher.

Q. What capital structure ratios has UNS Gas requested in this proceeding?

A. The Company requests use of the following capital structure:

Long-Term Debt	50.01%
Common Equity	49.99%

UNS GAS, INC.

DOCKET NO. G-04204A-08-0571

DIRECT TESTIMONY

OF

WILLIAM A. RIGSBY, CRRA

ON BEHALF OF

THE

RESIDENTIAL UTILITY CONSUMER OFFICE

JUNE 8, 2009

Q. Do you agree with Mr. Grant's inclusion of the amortized debt discount and expenses and losses attributed to reacquired debt and the credit facility fees to arrive at his final cost of debt figure of 6.49 percent?

A. Yes.

Q. What cost of long-term debt are you recommending for UNSG?

A. I am recommending that the Commission adopt the Company proposed cost of debt of 6.49 percent.

CAPITAL STRUCTURE

Q. Have you reviewed UNSG's testimony regarding the Company's proposed capital structure?

A. Yes.

Q. Please describe the Company's proposed capital structure.

A. The Company is proposing that the Commission adopt the Company's actual test year capital structure comprised of 50.01 percent long-term debt and 49.99 percent common equity.

Q. What capital structure are you proposing for UNSG?

A. I am also recommending that the Commission adopt the Company's actual test year capital structure comprised of 50.01 percent long-term debt and 49.99 percent common equity.

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BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS
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Kentton C. Grant

on Behalf of

UNS Gas, Inc.

November 7, 2008

seasonal working capital needs and future PGA bank balances, as well as funding a portion of capital expenditures. As such, it is appropriate to reflect the annual fixed cost of this facility in the cost of debt for UNS Gas.

VI. WEIGHTED AVERAGE COST OF CAPITAL.

Q. Please summarize your findings regarding the weighted average cost of capital for UNS Gas.

A. Based on the recommended capital structure, the proposed cost of debt, and UNS Gas' cost of equity capital, I recommend the Commission adopt a WACC of 8.75%, calculated as follows:

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BEFORE THE ARIZONA CORPORATION COMMISSION

IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS GAS, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.	DOCKET NO. G-04204A-08-0571 EVIDENTIARY HEARING

At: Phoenix, Arizona

Date: August 17, 2009

Filed: August 25, 2009

REPORTER'S TRANSCRIPT OF PROCEEDINGS

VOLUME V

(Pages 733 through 808, inclusive)

ARIZONA REPORTING SERVICE, INC.
Court Reporting
Suite 502
2200 North Central Avenue
Phoenix, Arizona 85004-1481

Prepared for:

By: Kate E. Baumgarth, RPR
Certified Reporter
Certificate No. 50582

A. Yes.

Q. You should have before you what is marked as RUCO's Exhibit 13, your direct testimony, and RUCO's Exhibit No. 14, your surrebuttal.

Is that testimony that you prepared in this matter?

A. Yes.

Q. Do you have any additions or corrections to that testimony at this point?

A. No.

Q. Mr. Rigsby, can you give a brief summary of your testimony?

ACALJ NODES: I'm sorry. What were your numbers for Mr. Rigsby's testimony?

MR. POZEFSKY: 13 for direct and 14 for surrebuttal, Your Honor.

ACALJ NODES: Thank you.

THE WITNESS: Yes. Just a brief summary.

I'm recommending that the Commission adopt the company-proposed capital structure comprised of 50.1 percent long-term debt and 49.99 percent common equity.

I'm also recommending that the Commission adopt the company-proposed cost of debt, which is 6.49 percent.

And I'm also recommending that the Commission

BEFORE THE ARIZONA CORPORATION COMMISSION

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IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS GAS, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.	)	DOCKET NO. G-04204A-08-0571

DIRECT

TESTIMONY

OF

DAVID C. PARCELL

ON BEHALF OF THE

UTILITIES DIVISION STAFF

ARIZONA CORPORATION COMMISSION

JUNE 08, 2009

According to Schedule D-1 of UNS Gas' filing, this is the proforma or adjusted test year capital structure of the Company at June 30, 2008.

Q. What capital structure do you propose to use in this proceeding?

A. I use the capital structure ratios as proposed by UNS Gas.

Q. What is the cost rate of debt in the company's application?

A. The Company's filing cites a cost of long-term debt of 6.49 percent. This is represented to be the Company's actual cost at June 30, 2008. I also use this cost of long-term debt in my cost of capital analyses.

Q. Can the cost of common equity be determined with the same degree of precision as the costs of debt?

A. No. The cost rates of debt are largely determined by interest payments, issue prices, and related expenses. The cost of common equity, on the other hand, cannot be precisely quantified, primarily because this cost is an opportunity cost. There are, however, several models which can be employed to estimate the cost of common equity. Three of the primary methods – DCF, CAPM, and CE – are developed in the following sections of my testimony.

VII. SELECTION OF PROXY GROUPS

Q. How have you estimated the cost of common equity for UNS Gas?

A. UNS Gas is not a publicly-traded company. UniSource, UNS Gas' parent company, is a publicly-traded company. Consequently, it is possible to directly apply cost of equity models to UniSource. However, it is generally desirable to analyze groups of comparison

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BEFORE THE ARIZONA CORPORATION COMMISSION

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Kentton C. Grant

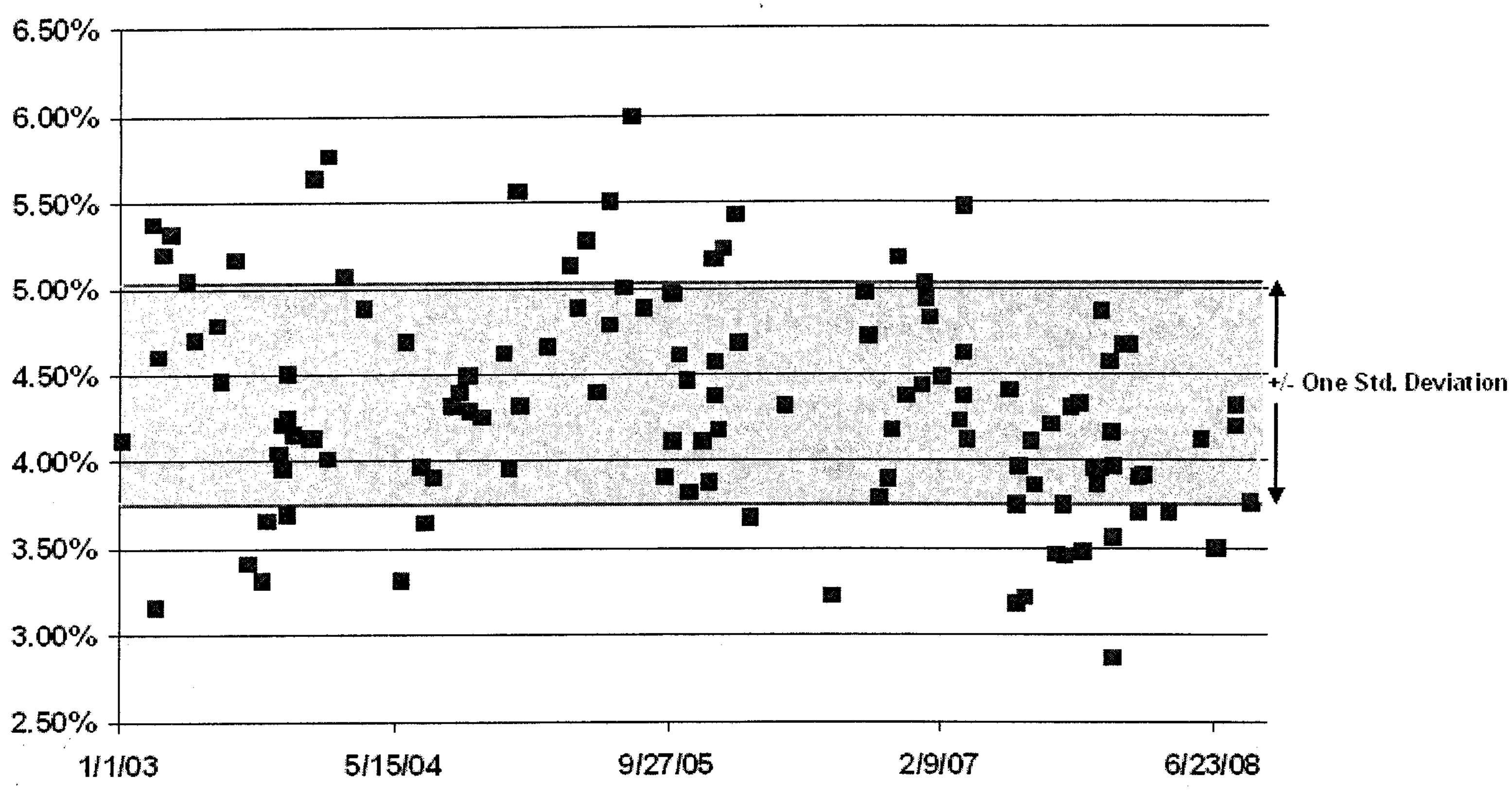
on Behalf of

UNS Gas, Inc.

November 7, 2008

Exhibit KCG - 11

UNS Gas, Inc.
Allowed ROE Risk Premium over Avg. Public Utility Bond Yield



Sources: Allowed ROE data is from SNL Financial. Public Utility bond yields are from Mergent Bond Record.

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BEFORE THE ARIZONA CORPORATION COMMISSION

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standard deviation, a commonly used statistical measure of central tendency.

Q. What is the resulting estimate for the cost of equity capital for gas distribution utilities?

A. Adding the estimated equity risk premium of 3.75% to 5.0% to the average YTM on public utility bonds of 6.48% observed for month of August 2008 results in an estimated cost of equity of approximately 10.2% to 11.5%.

E. Cost of Equity for Comparable Companies.

Q. What conclusions have you reached regarding the cost of equity for the comparable company group?

A. As may be seen in the table below, the range of overlapping values obtained from all three approaches (DCF, CAPM and bond yield plus risk premium) is 10.2% to 11.2%. Recognizing that each methodology has its own strengths and weaknesses, and recognizing that cost of equity analysis is not an exact science, we have selected this range of overlapping values as our estimate of the cost of equity for the comparable company group. The low end of this range represents the minimum value obtained from both the CAPM and the bond yield plus risk premium approach, while the high end of this range represents the high value obtained from the DCF analysis.

Summary of Comparable Company Analysis

	DCF Model	CAPM	Risk Premium	Conclusion
Low end of range	9.5%	10.2%	10.2%	10.2%
High end of range	11.2%	11.3%	11.5%	11.2%

F. Cost of Equity for UNS Gas.

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IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS GAS, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.	)	DOCKET NO. G-04204A-08-0571 EVIDENTIARY HEARING

At: Phoenix, Arizona

Date: August 18, 2009

Filed: August 25, 2009

REPORTER'S TRANSCRIPT OF PROCEEDINGS

VOLUME VI

(Pages 809 through 929, inclusive)

ARIZONA REPORTING SERVICE, INC.
Court Reporting
Suite 502
2200 North Central Avenue
Phoenix, Arizona 85004-1481

Prepared for:

By: Kate E. Baumgarth, RPR
Certified Reporter
Certificate No. 50582

ACC

A. In a longer-term broader-brush perspective, I think the answer is yes. But over the past year I think the answer is no.

I mean, the capital markets have been -- it's been so screwed up. If you look at long-term interest rates for corporations, for BBB utilities, for example -- I'm on schedule 2, page 4 -- in November of last year, the average yield was like almost 9 percent. And if you tried to focus on interest rates as an indicator of economic conditions across the capital, that would -- I think it produced skewed results just like I think CAPM produces maybe skewed results now.

It's just hard to use the period of time from September to at least March of this year as a standard. And in fact I know that the company stopped its cost of capital analysis in August of '08. I'm going to give them some credit; that was a gutsy move to come into a rate case and say we will stop in August and when the update comes, do the same thing. I give them credit; they chose not to jump on the bandwagon of high interest rates. And I think I did the same thing basically by not looking at the CAPM results.

But your question, is there a method, there really is not because during the record time of this case, you just can't look at traditional measures of yield

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Certificate No. 50582

A. In a longer-term broader-brush perspective, I think the answer is yes. But over the past year I think the answer is no.

I mean, the capital markets have been -- it's been so screwed up. If you look at long-term interest rates for corporations, for BBB utilities, for example -- I'm on schedule 2, page 4 -- in November of last year, the average yield was like almost 9 percent. And if you tried to focus on interest rates as an indicator of economic conditions across the capital, that would -- I think it produced skewed results just like I think CAPM produces maybe skewed results now.

It's just hard to use the period of time from September to at least March of this year as a standard. And in fact I know that the company stopped its cost of capital analysis in August of '08. I'm going to give them some credit; that was a gutsy move to come into a rate case and say we will stop in August and when the update comes, do the same thing. I give them credit; they chose not to jump on the bandwagon of high interest rates. And I think I did the same thing basically by not looking at the CAPM results.

But your question, is there a method, there really is not because during the record time of this case, you just can't look at traditional measures of yield

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BEFORE THE ARIZONA CORPORATION COMMISSION

KRISTIN K. MAYES
Chairman
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Commissioner
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SANDRA D. KENNEDY
Commissioner
BOB STUMP
Commissioner

IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS GAS, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.	)	DOCKET NO. G-04204A-08-0571

DIRECT

TESTIMONY

OF

DAVID C. PARCELL

ON BEHALF OF THE

UTILITIES DIVISION STAFF

ARIZONA CORPORATION COMMISSION

JUNE 08, 2009

environment, it would be counter-productive to make any claim that UNS Gas should have a higher return at this time due to the above-cited market turmoil.

XII. TOTAL COST OF CAPITAL

Q. What is the total cost of capital for UNS Gas?

A. Schedule 1 reflects the total cost of capital for the Company using UNS Gas' proposed capital structure and cost of debt along with the range of common equity costs my analyses support. The resulting total cost of capital is a range of 7.99 percent to 8.49 percent. I recommend that a 8.24 percent total cost of capital be established for UNS Gas.

Q. Does your cost of capital recommendation provide the company with a sufficient level of earnings to maintain its financial integrity?

A. Yes, it does. Schedule 14 shows the pre-tax coverage that would result if UNS Gas earned my cost of capital recommendation. As the results indicate, my recommended range would produce a coverage level above the benchmark range for a BBB rated utility. In addition, the debt ratio (which reflects the Company's proposed capital structure) is within the benchmark for a BBB rated utility.

XIII. COMMENTS ON COMPANY TESTIMONY

Q. Have you reviewed the testimony and cost of capital recommendation of UNS Gas witness Kentton C. Grant?

A. Yes, I have. Mr. Grant is recommending the following cost of capital for UNS Gas.

BEFORE THE ARIZONA CORPORATION COMMISSION

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This dividend yield component recognizes the timing of dividend payments and dividend increases.

The P_0 in my yield calculation is the average (of high and low) stock price for each proxy company for the most recent three month period (February-April, 2009). The D_0 is the current annualized dividend rate for each proxy company.

Q. How have you estimated the dividend growth component of the DCF equation?

A. The dividend growth rate component of the DCF model is usually the most crucial and controversial element involved in using this methodology. The objective of estimating the dividend growth component is to reflect the growth expected by investors that is embodied in the price (and yield) of a company's stock. As such, it is important to recognize that individual investors have different expectations and consider alternative indicators in deriving their expectations. This is evidenced by the fact that every investment decision resulting in the purchase of a particular stock is matched by another investment decision to sell that stock. Obviously, since two investors reach different decisions at the same market price, their expectations differ.

A wide array of indicators exists for estimating the growth expectations of investors. As a result, it is evident that no single indicator of growth is always used by all investors. It therefore is necessary to consider alternative indicators of dividend growth in deriving the growth component of the DCF model.

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BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS
MIKE GLEASON - CHAIRMAN
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IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS GAS, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.	DOCKET NO. G-04204A-08-0571

Direct Testimony of

Kentton C. Grant

on Behalf of

UNS Gas, Inc.

November 7, 2008

Q. How did you determine the cost of equity for UNS Gas?

A. This is best accomplished by comparing the risk profile of UNS Gas to that of the comparable company group and selecting an appropriate point estimate based on the well established relationship between risk and expected return.

Q. How does the risk profile of UNS Gas differ from that of the comparable company group?

A. Relative to an investment in the group of comparable companies, an equity investment in UNS Gas is decidedly riskier. First, UNS Gas is much smaller than any of the comparable companies, thereby limiting the Company's ability to withstand financial shocks arising from unforeseen events. As indicated in Exhibit KCG-2, the smallest company in the comparable company group had a market capitalization of nearly $1 billion as of August 2008. Second, all of the companies in the comparable company group provide a current return to their shareholders in the form of a dividend, something that UNS Gas has not been able to do since the Company's inception in 2003. Third, while the Company's senior unsecured debt obligations were recently assigned an investment-grade credit rating of Baa3, this rating is at the low end of the credit ratings enjoyed by companies in the comparable company group. As may be seen in Exhibit KCG-2, the median issuer rating for the comparable company group is "A" from Standard & Poor's, "A3/Baa1" from Moody's and A- from Fitch. Consequently, it is reasonable to conclude that the cost of capital (both debt and equity) would be higher for UNS Gas relative to the comparable company group. As may be seen Exhibit KCG-12, investors require a higher rate of return (or YTM) on Baa-rated public utility bonds relative to A-rated public utility bonds. As of August 2008, this credit spread risk premium was approximately 60 basis points (or 0.6%). Since common stock investments are inherently riskier than investment-grade bond investments, this observed risk premium from the bond market can be used as an estimate of the *minimum* equity risk

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BEFORE THE ARIZONA CORPORATION COMMISSION

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UNS Gas, Inc.

November 7, 2008

company group. The low end of this range represents the minimum value obtained from both the CAPM and the bond yield plus risk premium approach, while the high end of this range represents the high value obtained from the DCF analysis.

Summary of Comparable Company Analysis

	DCF Model	CAPM	Risk Premium	Conclusion
Low end of range	9.5%	10.2%	10.2%	10.2%
High end of range	11.2%	11.3%	11.5%	11.2%

F. Cost of Equity for UNS Gas.

Q. How did you determine the cost of equity for UNS Gas?

A. This is best accomplished by comparing the risk profile of UNS Gas to that of the comparable company group and selecting an appropriate point estimate based on the well established relationship between risk and expected return.

Q. How does the risk profile of UNS Gas differ from that of the comparable company group?

A. Relative to an investment in the group of comparable companies, an equity investment in UNS Gas is decidedly riskier. First, UNS Gas is much smaller than any of the comparable companies, thereby limiting the Company's ability to withstand financial shocks arising from unforeseen events. As indicated in Exhibit KCG-2, the smallest company in the comparable company group had a market capitalization of nearly $1 billion as of August 2008. Second, all of the companies in the comparable company group provide a current return to their shareholders in the form of a dividend, something that UNS Gas has not been able to do since the Company's inception in 2003. Third,

while the Company's senior unsecured debt obligations were recently assigned an investment-grade credit rating of Baa3, this rating is at the low end of the credit ratings enjoyed by companies in the comparable company group. As may be seen in Exhibit KCG-2, the median issuer rating for the comparable company group is "A" from Standard & Poor's, "A3/Baa1" from Moody's and A- from Fitch. Consequently, it is reasonable to conclude that the cost of capital (both debt and equity) would be higher for UNS Gas relative to the comparable company group. As may be seen Exhibit KCG-12, investors require a higher rate of return (or YTM) on Baa-rated public utility bonds relative to A-rated public utility bonds. As of August 2008, this credit spread risk premium was approximately 60 basis points (or 0.6%). Since common stock investments are inherently riskier than investment-grade bond investments, this observed risk premium from the bond market can be used as an estimate of the *minimum* equity risk premium required by equity investors in a Baa-rated public utility relative to an A-rated public utility.

Q. What is your estimate of the cost of equity capital for UNS Gas?

A. In light of the risk factors cited above, as well as the credit spread and equity risk premiums applicable to lower-rated utilities, it is reasonable to conclude that the cost of equity for UNS Gas is near the high end of the range established for the comparable company group. As such, a reasonable point estimate for UNS Gas is 11.0%.

Q. Are you recommending an allowed ROE equal to the cost of equity for UNS Gas?

A. Yes I am, assuming that UNS Gas is provided with an opportunity to actually earn something close to its 11.0% cost of equity capital. An allowed ROE of 11.0% is fair to both the Company and its customers based on the analysis presented above. This level of return should also be sufficient to support the financial integrity of UNS Gas, so long as other key aspects of the Company's rate request are granted.

V. COST OF DEBT CAPITAL.

Q. What was UNS Gas' embedded cost of debt for the test-year?

A. As shown on Schedule D-2 of the Company's Application, the weighted average cost of debt for UNS Gas was 6.49% as of the end of the test-year.

Q. What cost of debt do you recommend in this case?

A. I recommend use of the 6.49% cost at the end of the test-year. This cost reflects the interest rate of 6.23% on the two long-term notes issued by UNS Gas in 2003, the amortization of related debt issuance costs, and 50% of the issuance cost amortization and commitment fees on the joint revolving credit facility shared with UNS Electric. Although UNS Gas had no borrowings outstanding on the revolving credit facility at the end of the test-year, maintenance of this facility is critical for purposes of funding seasonal working capital needs and future PGA bank balances, as well as funding a portion of capital expenditures. As such, it is appropriate to reflect the annual fixed cost of this facility in the cost of debt for UNS Gas.

VI. WEIGHTED AVERAGE COST OF CAPITAL.

Q. Please summarize your findings regarding the weighted average cost of capital for UNS Gas.

A. Based on the recommended capital structure, the proposed cost of debt, and UNS Gas' cost of equity capital, I recommend the Commission adopt a WACC of 8.75%, calculated as follows:

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BEFORE THE ARIZONA CORPORATION COMMISSION

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IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS GAS, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.	)	DOCKET NO. G-04204A-08-0571

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ARIZONA CORPORATION COMMISSION

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The second decision is Federal Power Comm'n v. Hope Natural Gas Co., 320 U.S. 591 (1942). In that decision, the Court stated:

> The rate-making process under the [Natural Gas] Act, i.e., the fixing of 'just and reasonable' rates, involves a balancing of the **investor** and **consumer interests** . . . . From the investor or company point of view it is important that there be enough revenue not only for operating expenses but also for the capital costs of the business. These include service on the debt and dividends on the stock. By that standard the **return** to the equity **owner** should be **commensurate** with **returns** on **investments** in **other enterprises having corresponding risks**. That return, moreover, should be sufficient to assure confidence in the **financial integrity** of the enterprise, so as to **maintain its credit** and to **attract capital. [Emphasis added.]**

The Hope case is also frequently credited with establishing the "end result" doctrine, which maintains that the methods utilized to develop a fair return are not important as long as the end result is reasonable.

The three economic and financial parameters in the Bluefield and Hope decisions - comparable earnings, financial integrity, and capital attraction - reflect the economic criteria encompassed in the "opportunity cost" principle of economics. The opportunity cost principle provides that a utility and its investors should be afforded an opportunity (not a guarantee) to earn a return commensurate with returns they could expect to achieve on investments of similar risk. The opportunity cost principle is consistent with the

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IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS GAS, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.	DOCKET NO. G-04204A-08-0571 EVIDENTIARY HEARING

At: Phoenix, Arizona

Date: August 18, 2009

Filed: August 25, 2009

REPORTER'S TRANSCRIPT OF PROCEEDINGS

VOLUME VI

(Pages 809 through 929, inclusive)

ARIZONA REPORTING SERVICE, INC.
Court Reporting
Suite 502
2200 North Central Avenue
Phoenix, Arizona 85004-1481

Prepared for:

By: Kate E. Baumgarth, RPR
Certified Reporter
Certificate No. 50582

ACC

APS in the company's last rate proceeding. Even though a lower cost of equity (for example, the midpoint of my 9.0 to 11.0 percent range) could be justified, my 11.0 percent recommendation reflects Staff's desire to aid APS in its efforts to attract capital investment, as cited in the testimony of Staff witness Johnson."

Q. All right. So in that case there is a recommendation to set the return on equity at the high end of your range?

A. That's correct, for reasons stated.

Q. All right. Could you turn to Exhibit UNSG-39 --

A. Sure.

Q. -- which you should have a copy of.

A. I do indeed. Thank you.

Q. And for the record this is page 36 --

A. Yes.

Q. -- of your direct testimony in the TEP rate case filed on February 29, 2008 in docket 07-0402; is that right? This was filed before the settlement was entered into?

A. Yes.

Q. And at that point this was still a contested case?

A. Correct.

Q. And on line 12 of page 26 you indicate that the

midpoint of your range was 10 percent; correct?
A. Yes.
Q. But you recommended 10.5 percent at lines 14 through 20 because TEP was more risky than your sample companies; correct?
A. 10.25.
Q. I'm sorry, 10.25.
And was that because TEP was more risky than your sample companies?
A. Yes.
Q. And that higher risk was due to a lower bond rating and a lower equity ratio?
A. Yes. That's correct. TEP's -- I don't have it here -- but it's equity ratio was way down in the -- right at 40 percent, I believe, if memory serves me correct.
Q. All right. And in this case we have had some discussion about your ROE recommendation of a range of 9.5 to 10.5 percent; correct?
A. Yes.
Q. And so a recommendation on the higher end of your range also would be a reasonable result; correct?
A. Mathematically it would, but given -- as I stated in my testimony, I think given capital market conditions it would be inappropriate; but mathematically it would be appropriate.

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BEFORE THE ARIZONA CORPORATION COMMISSION

MIKE GLEASON
Chairman
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IN THE MATTER OF THE APPLICATION OF TUCSON ELECTRIC POWER COMPANY FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA	DOCKET NO. E-01933A-07-0402
IN THE MATTER OF THE FILING BY TUSCON ELECTRIC POWER COMPANY TO AMEND DECISION NO. 62103.	DOCKET NO. E-01933A-05-0650

DIRECT

TESTIMONY

OF

DAVID C. PARCELL

ON BEHALF OF THE

UTILITIES DIVISION STAFF

ARIZONA CORPORATION COMMISSION

FEBRUARY 29, 2008

UNSG-39

XI. RETURN ON EQUITY RECOMMENDATION

Q. Please summarize the results of your three cost of equity analyses.

A. My three methodologies produce the following:

Discounted Cash Flow	9.5-10.5%
Capital Asset Pricing Model	9.5-9.8%
Comparable Earnings	10.0-10.5%

My overall conclusion from these results is a reasonable range of 9.5 percent to 10.5 percent, which focuses on the respective individual model findings.

The mid-point of this range is 10.0 percent, which is applicable to the proxy companies. However, this 10.0 percent mid-point is not applicable to TEP, which has higher risk and thus a lower cost of capital than the proxy group companies. This higher risk is due to the following:

- Lower bond ratings of TEP versus the bond ratings of the proxy companies; and,
- Lower equity ratio, and thus higher financial risk, for TEP versus the proxy companies.

I recommend a cost of equity at the upper end of this range, or 10.25 percent for TEP, to recognize these differences.

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BEFORE THE ARIZONA CORPORATION COMMISSION

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COMMISSIONERS
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November 7, 2008

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Q. Are you recommending an allowed ROE equal to the cost of equity for UNS Gas?

A. Yes I am, assuming that UNS Gas is provided with an opportunity to actually earn something close to its 11.0% cost of equity capital. An allowed ROE of 11.0% is fair to both the Company and its customers based on the analysis presented above. This level of return should also be sufficient to support the financial integrity of UNS Gas, so long as other key aspects of the Company's rate request are granted.

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BEFORE THE ARIZONA CORPORATION COMMISSION

IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS GAS, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.	DOCKET NO. G-04204A-08-0571 EVIDENTIARY HEARING

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VOLUME VI

(Pages 809 through 929, inclusive)

ARIZONA REPORTING SERVICE, INC.
Court Reporting
Suite 502
2200 North Central Avenue
Phoenix, Arizona 85004-1481

Prepared for:

By: Kate E. Baumgarth, RPR
Certified Reporter
Certificate No. 50582

ACC

Q. And, Mr. Parcell, could you review lines 18 through 25 of that?

A. I would be glad to, yes.

Q. And on those lines you agree that the proxy group should have similar risk and therefore a similar expected cost of capital to the subject company; correct?

A. Yes.

Q. And you still agree with that today, don't you?

A. Yes, subject, of course, to the fact that the subject company for the rate case is UNS Gas, but the subject company for the raising of equity dollars is UNS West Energy. As long as you reflect that, I agree, yes.

Q. Could you turn to Schedule 6 of your direct testimony?

A. Sure.

Q. And Schedule 6 indicates proxy groups that you used; is that correct?

A. That is correct.

Q. And is it fair to say that each of the utilities shown in Parcell proxy group are much larger than UNS Gas; is that correct?

A. Well, those aren't -- those aren't utilities; those are holding companies, which in some cases have multiple utility subsidiaries, just like UNS Energy does.

0430002 0001

BEFORE THE ARIZONA CORPORATION COMMISSION

Arizona Corporation Commission
DOCKETED
JUL 06 1992
DOCKETED BY JDL

RENZ D. JENNINGS
CHAIRMAN
MARCIA WEEKS
COMMISSIONER
DALE H. MORGAN
COMMISSIONER

IN THE MATTER OF THE APPLICATION OF LITCHFIELD PARK SERVICE COMPANY FOR AN INCREASE IN WATER AND SEWER RATES.

DOCKET NOS. U-1427-91-152
U-1428-91-153

DECISION NO. 57944

OPINION AND ORDER

DATES OF HEARING: February 4 and 5, 1992

PLACE OF HEARING: Phoenix, Arizona

PRESIDING OFFICER: Lyn Farmer

APPEARANCES: SNELL & WILMER, by Mr. Thomas L. Mumaw on behalf of Litchfield Park Service Company;

MARTINEZ & CURTIS, by Mr. William P. Sullivan, on behalf of the City of Litchfield Park, Arizona;

Mr. Roger Schwartz, Chief Counsel, on behalf of the Residential Utility Consumer Office; and

Ms. Janice M. Alward, Staff Attorney, Legal Division, on behalf of the Arizona Corporation Commission Staff.

BY THE COMMISSION:

On May 13, 1991, Litchfield Park Service Company ("LPSCO", Company, or "Applicant") filed with the Arizona Corporation Commission ("Commission") an application in Docket Nos. U-1427-91-152 and U-1427-91-153 for a permanent increase in water and sewer rates.

On June 10, 1991, intervention was granted to the City of Litchfield Park, Arizona ("City"), and on June 14, 1991, intervention was granted to the Residential Utility Consumer Office ("RUCO").

By Procedural Order dated September 10, 1991, the matter was set for hearing on January 28, 1992. By Procedural Order dated November ratepayers by not using the cost of equity in the amount of plant held for future use to determine the appropriate cost of capital. The use of a hypothetical capital structure would penalize LPSCO for its debt equity exchange which was approved in the last rate proceeding as being in the interest of the rate payers. We will take the equity position into account in determining the appropriate cost of equity.

Therefore, we find that the appropriate capital structure for the water division is 100 percent common equity, and the appropriate capital structure for the sewer division is 48.2 percent long-term debt and 51.8 percent common equity.

COST OF DEBT

LPSCO recommended using 10.26 percent as the cost of debt. Staff recommended using 8.1 percent, which was 108 percent of the prime rate and which was the interest rate LPSCO's sewer division was paying on its debt to its parent. The City recommended that since the Company's filing based the cost of debt on the prevailing prime rate, the current prime rate of 6.5 percent be used in the cost of capital determination. We find that 7.02 percent, which is 108 percent of the prime rate at the time of the hearing, is the appropriate cost to be assigned this variable rate debt.

COST OF EQUITY

LPSCO recommended using 14 percent as the cost of common equity. LPSCO believes that it has increased replacement risk associated with the amount of contributed property and because the investor-supplied plant is old and more fully depreciated than other comparable investor-owned water companies. LPSCO did not conduct a discounted cash flow or other mathematical analysis to support the requested 14 percent.

Staff recommended using 11.5 percent as the cost of common equity. Staff conducted a comparable earnings analysis and a discounted cash flow ("DCF") analysis. Staff gave more weight to the DCF results that reflected dividend growth and those produced a range of 9.4 percent to 12.4 percent. The 1990 comparable earnings results ranged from 10.6 percent to 12.0 percent. The average of the four comparable earnings results and the four DCF results using dividend growth was 10.8 percent. Staff accounted for company-specific risks such a volatility of earnings and LPSCO's small size in recommending the cost of equity at 11.5 percent.

The Commission has expressed its preference for objective market-based measures provided by the DCF analysis. Accordingly, we find that the DCF and comparable earnings analysis conducted by Staff are more accurate representations of the appropriate cost of common equity for LPSCO and that Staff has given appropriate weight to LPSCO's financial risk. We will, therefore, authorize 11.5 percent as the cost of equity for LPSCO's sewer division.

However, LPSCO has chosen to capitalize the water division with all equity. There is, thus, no interest expense to reduce the return to the equity investors, thereby reducing the risk that the equity investors will not receive their required return. To reflect the reduced risk to the equity investors, the cost of equity should be lowered. We will, therefore, authorize the cost of equity for LPSCO's water division at 10.1 percent, which is the average of the low range from Staff's DCF and comparable earnings analyses.

RATE OF RETURN SUMMARY

For the water division, application of an 10.1 percent cost of equity to a capital structure consisting of 100 percent common equity

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IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS GAS, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.	DOCKET NO. G-04204A-08-0571 EVIDENTIARY HEARING

At: Phoenix, Arizona

Date: August 18, 2009

Filed: August 25, 2009

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(Pages 809 through 929, inclusive)

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Prepared for:

By: Kate E. Baumgarth, RPR
Certified Reporter
Certificate No. 50582

ACC

But the holding company is larger than UNS Gas, yes.

Q. All right. And APS is also much larger than UNS Gas; isn't it?

A. Say it again.

Q. APS is also -- Arizona Public Service is also much larger than UNS Gas; correct?

A. Yes, APS is the largest utility in the state.

Q. You understand that UNS Gas' senior unsecured debt is now rated by Moody's as BAA3; correct?

A. Yes, since October of last year.

Q. All right. And only two of the 17 companies shown on Schedule 6 have a rating that low; is that correct?

A. That's correct.

Q. And all other things being equal, would investors require a higher return on the utility with a lower bond rating as opposed to a higher rated utility?

A. All else, yes, but you need to realize that UNS Gas just got that rating late last year, and the reason why it was not rated like that before that was because it was acquired by UniSource in, I think, 2004. It was acquired as a business, not as a company.

So the managers of UniSource decided how to finance the company and bring it along, and they started

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Direct Testimony of

Kentton C. Grant

on Behalf of

UNS Gas, Inc.

November 7, 2008

while the Company's senior unsecured debt obligations were recently assigned an investment-grade credit rating of Baa3, this rating is at the low end of the credit ratings enjoyed by companies in the comparable company group. As may be seen in Exhibit KCG-2, the median issuer rating for the comparable company group is "A" from Standard & Poor's, "A3/Baa1" from Moody's and A- from Fitch. Consequently, it is reasonable to conclude that the cost of capital (both debt and equity) would be higher for UNS Gas relative to the comparable company group. As may be seen Exhibit KCG-12, investors require a higher rate of return (or YTM) on Baa-rated public utility bonds relative to A-rated public utility bonds. As of August 2008, this credit spread risk premium was approximately 60 basis points (or 0.6%). Since common stock investments are inherently riskier than investment-grade bond investments, this observed risk premium from the bond market can be used as an estimate of the *minimum* equity risk premium required by equity investors in a Baa-rated public utility relative to an A-rated public utility.

Q. What is your estimate of the cost of equity capital for UNS Gas?

A. In light of the risk factors cited above, as well as the credit spread and equity risk premiums applicable to lower-rated utilities, it is reasonable to conclude that the cost of equity for UNS Gas is near the high end of the range established for the comparable company group. As such, a reasonable point estimate for UNS Gas is 11.0%.

Q. Are you recommending an allowed ROE equal to the cost of equity for UNS Gas?

A. Yes I am, assuming that UNS Gas is provided with an opportunity to actually earn something close to its 11.0% cost of equity capital. An allowed ROE of 11.0% is fair to both the Company and its customers based on the analysis presented above. This level of return should also be sufficient to support the financial integrity of UNS Gas, so long as other key aspects of the Company's rate request are granted.

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Prepared for:

equity or authorized rate of return that you had.

A. Well, actually, in my testimony I cite a Value Line publication that indicates gas utilities on average are earning 11 to 12 percent, not 10 percent. Mr. Parcell's own comparable earnings analysis also indicate that gas utilities are earning returns on equity in the 11 to 12 percent range.

Q. My question would be, given that your equity position to debt ratio is roughly comparable to the rest of the industry, why is it that UNS is unable to provide a return or dividend to its investors when these other companies are able to do that?

A. Weak earnings and weak cash flow.

Q. And why the weak earnings?

A. Well, for one reason, we were granted, I believe, $5 million or thereabouts in our last rate case compared to -- I believe it was about $9.5 million requested increase in our last case. Another reason being that we have a heavily volumetric rate design, so it's feast or famine as far as the weather is concerned.

Q. And yet you acknowledge that at the beginning part of 2008, the company benefited from the feast, so to speak, on the weather, and yet you still projected that for 2008 the company is going to struggle financially, correct?

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with 35 percent equity percent ratio and it had a four-year freeze. So it took a while for the finances to work themselves through, and the debt that UNS Gas has, if memory serves me correctly, was probably placed with some insurance company so there was no need to have a rating yet.

But the company has come a long way since then, and that's what you have to consider when you look at the BAA plus.

Plus, UniSource's rating is the same as UNS Gas. It does -- if you're looking at the same range, as I have done on the page of my testimony, on an apples-to-apples basis, UniSource has the same rating as -- page 16, has the same rating as UNS Gas -- I'm sorry -- Tucson does; UniSource is lower comparing them.

The senior unsecured for both APS in Tucson -- both the Tucson and UNS Gas is BAA3, so they are tied together.

Q. Do many of the companies shown on your Schedule 6 pay dividends?

A. Yes. If they did not, I would not have chose them as a proxy company.

Q. And UNS Gas has not paid a dividend since its inspection in 2003; is that right?

A. That's correct, but again, realize they were

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investment as being safe, then the company doesn't have to offer a high rate of return to get people interested in purchasing that stock.

Q. Don't investors have a higher expectation when the economy is good?

A. It depends. It depend on the type of investor you are talking about.

Q. In a general sense, though, when things are going good, don't investors have a higher expectation, a higher return that they are looking for?

A. Again, not necessarily. Some investors are out there, you know. There is a full market, and they take the opportunity to invest in a stock that they think has growth potential in it. Certainly there are investors out there that are of less risk adverse than others.

Utilities typically attract income-oriented investors, people that are interested in getting a regular steady dividend from the utility; one that perhaps grows, you know, on a steady basis. They are not looking -- I don't think it's fair to say --

In the past utility investors were people who, again, rely on those stocks for income, not growth. Okay? They don't invest in it expecting the -- necessarily invest in it and expect the price of the stock to double over some period of time.

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Q. Mr. Rigsby, are you aware of too many investments that there are these days where investors could earn a return of 8.6 percent?

A. I'm sorry. What was the question again?

Q. Are you aware of too many investments these days where investors are getting returns of 8.61 percent?

A. Yeah. As I said, if you look at the selected yields page that, you know, we introduced as evidence today, you can see that, you know, most of the relatively safe treasury instruments, they don't have very high yields right now. A lot of that has to do with the fact that the Federal Reserve has been cutting rates over the last year or so trying to stimulate the economy.

And so when you look at the cost of equity that I'm proposing here, I think that is quite attractive. I do know that in the Value Line universe of utilities they follow, utilities typically have the highest -- a higher dividend yield. And again, if you are an income-oriented investor, then that is what you want to look at.

Q. One last question, Mr. Rigsby.

In a general sense, investors look at utilities as safer investments than non-regulated entities; isn't that correct?

A. Yes. And, again, typically, in the past that was -- you know, retirees and so forth would tend to have

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utilities in their portfolio of stocks and so forth. And the reason for that was because they -- in the past they have been perceived as relatively safe investments.

And, as I said, if you look at the write-ups that have been in Value Lines recently, I think that still holds true today, that regulated monopolies, their rates are set by state commissions, and, you know, they're customer-based for the most part, and it will be fairly stable so investors can rely on them to pay out fairly stable dividends over a period of type.

MR. POZEFSKY: Thank you, Mr. Rigsby. That is all I have.

ACALJ NODES: Anything further, Mr. Patten? Ms. Mitchell?

MS. MITCHELL: No.

ACALJ NODES: Okay. Thank you, Mr. Rigsby. You are excused.

Are there any other exhibits or anything else anyone needs to deal with?

Mr. Dion.

MR. DION: Your Honor, yes. The first installment of some exhibits that Commissioners have asked for, I just wanted to put them on the record quickly. And believe I put a packet up there on your desk for your review.

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GARY PIERCE

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Direct Testimony of

David G. Hutchens

on Behalf of

UNS Gas, Inc.

November 7, 2008

hook-up fees in this rate case filing. Mr. Smith discusses the Company's proposals for increased contributions in greater detail in his Direct Testimony.

IX. DEMAND-SIDE MANAGEMENT AND LOW-INCOME PROGRAMS.

Q. Mr. Hutchens, has UNS Gas reevaluated its Demand-Side Management programs?

A. Yes. Ms. Denise Smith's Direct Testimony provides an overview of each UNS Gas Demand-Side Management ("DSM") program, including a status update on each program, and potential new DSM program additions that UNS Gas is reviewing for possible future implementation.

Q. Mr. Hutchens, is UNS Gas proposing to maintain its Customer Assistance Residential Energy Support ("CARES") program?

A. Yes, the Company is proposing to maintain the same basic monthly charge for CARES customers at $7, and the same non-commodity volumetric charge at $0.1770 per therm for the first 100 therms per month in the billing months of November to April. For all therms sold in excess of the initial 100 therms per month, the price is $0.3270 per therm. These charges cover non-commodity costs. The CARES customer charge has not increased since our acquisition of the Citizens system.

Q. Is UNS Gas proposing to expand its low-income assistance programs?

A. Yes. The Company is proposing to hold meetings of interested stakeholders to discuss modifications to the CARES program that could limit increases in gas commodity costs borne by these customers. If consensus can be reached, the Company will file testimony in support of the changes. The Company proposes that the CARES stakeholder group discuss expanding assistance beyond the 150% of poverty threshold applicable to CARES. Mr. Erdwurm provides greater detail on these topics in his testimony.

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A. No, they did not.
Q. Was there a reason those meetings didn't take place?
A. That I don't know. The way that it was filed, I thought that that was an offer to basically do that as part of this process, not necessarily during it.
Q. Okay. So as a result of that, the issues that have been raised really haven't been resolved from a company perspective, even though there appears to be some interest in some of the low income program modifications?
A. Which specific issues are you referring to?
Q. Well, I'm talking about the increase to 200 percent of poverty and some of those other issues.
A. That one has not been addressed other than the -- well, I think it was discussed in the opening comments, but we have already started auto enrolling people who qualify for LIHEAP dollars into our CARES program. And that is at the 200 percent level, and so we are making those steps towards doing that.
Q. Thank you. And when did that start?
A. I believe it was July. July 1, if I'm not mistaken.
CHMN. MAYES: Ms. Zwick, could I just interject?
So what are you doing with your current customers that are at 150 percent?

THE WITNESS: The 150 percent are still on the self-certified basis. So they are enrolled if they come in and do the self-certification.

CHMN. MAYES: And then anybody new will come -- you are enrolling up to 200 percent for anybody new?

THE WITNESS: We are enrolling people who come in with LIHEAP dollars who have basically been receiving those LIHEAP funds, which goes up to the 200 percent of poverty level. But those people are qualified through the government for LIHEAP versus the 150 percent who are qualified through self-certification.

Q. (BY MS. ZWICK) To follow up on that question, what about the folks that come in through Warm Spirits, who are receiving Warm Spirits assistance at 150? Are they automatically enrolled as well?

A. I'm not sure if they are automatically enrolled, but I'll get you an answer to that.

MS. ZWICK: Sorry, Commissioner Mayes. I didn't mean to interrupt.

CHMN. MAYES: No.

Q. (BY MS. ZWICK) Mr. Hutchens, do you know how many UNS customers are currently enrolled in your CARES program?

A. I don't think I have that number.

Q. Or what percentage of your customer base is

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VIII. RATE OF RETURN ON FAIR VALUE RATE BASE.

Q. What ROR do you recommend be applied to the Company's FVRB?

A. I recommend that a ROR of 6.80% be applied to the FVRB, even though I believe, as discussed below, that UNS Gas could justify a ROR of 7.30%. The primary reason to forego the full 7.30% is to mitigate the rate impact on our customers in these challenging economic times.

Q. How did you arrive at this value?

A. This ROR, when applied to the Company's FVRB of approximately $256 million, produces an overall rate increase that would provide UNS Gas with a reasonable opportunity to actually earn its cost of capital, to support its creditworthiness and to attract capital on reasonable terms.

Q. How does this ROR compare with the value that would be obtained from the methodology adopted by the Commission in Decision No. 70441 involving Chaparral City Water Company ("Chaparral") and the revised methodology subsequently recommended by the Commission Staff?

A. The ROR requested by UNS Gas is lower. If the approach adopted by the Commission in Decision No. 70441 is applied to the Company's 8.75% WACC (see Section VI of my Direct Testimony) with an estimated inflation rate of 2.9% (see Section IV.B. of my Direct Testimony), the resulting ROR on FVRB would be 7.30%. Likewise, this same value of 7.30% would be obtained from the revised methodology being recommended by the Commission Staff in the current Chaparral rate proceeding (Docket No. W-02113A-07-0551).

Q. Please explain how a ROR value of 7.30% would be obtained using either approach.

A. Certainly. With respect to the approach adopted in Decision No. 70441, where the ROR on FVRB was derived by adjusting the cost of equity downward by the expected rate of inflation, the following result would be obtained for UNS Gas using a 2.9% rate of inflation:

	% of Capital Structure	Modified Cost *	Weighted Average Cost
Long-Term Debt	50.01%	6.49%	3.25%
Common Equity	49.99%	8.10%	4.05%
Total	100.00%		7.30%

* Note: Modified cost of equity = 11.0% - 2.9% = 8.1%.

Staff's revised methodology, which is explained in the Direct Testimony of Gordon L. Fox, dated October 3, 2008, in Docket No. W-02113A-07-0551, employs a slightly different inflation rate adjustment. Instead of adjusting only the cost of equity by the full rate of inflation, the modified approach adopted by Mr. Fox adjusts both the cost of debt and cost of equity by one-half of the expected rate of inflation. Using the 2.9% expected rate of inflation discussed earlier in my testimony, the following result would be obtained for UNS Gas:

	% of Capital Structure	Modified Cost *	Weighted Average Cost
Long-Term Debt	50.01%	5.04%	2.53%
Common Equity	49.99%	9.55%	4.77%
Total	100.00%		7.30%

* Note: Modified cost of debt = 6.49% - 1.45% = 5.04%.
Modified cost of equity = 11.0% - 1.45% = 9.55%.

Q. In the Arizona Court of Appeals ruling that led to Commission Decision No. 70441, did the Court specify any particular method for the determination of an appropriate ROR on FVRB?

A. No. My non-legal understanding of that decision, dated February 13, 2007, is that the Court of Appeals found that the Commission has wide latitude in setting the ROR on FVRB. Although the Court found the method used in the original Chaparral Decision to be unconstitutional, no particular method of determining the ROR on FVRB was specified by the Court.

Q. Why is UNS Gas requesting a ROR on FVRB that is lower than would be obtained through other methods that have been approved by the Commission and recommended by the Commission Staff?

A. There are several reasons. First, it appears that the Commission has wide discretion in setting the ROR on FVRB, provided that fair value is adequately considered in the rate setting process. Second, the Company believes that the requested ROR, when applied to the proposed FVRB, will be sufficient to provide UNS Gas with an opportunity to earn its cost of capital and to attract new capital on reasonable terms. Third, in light of the current economic environment, the Company would like to limit the impact of its rate request on customers. Under these circumstances, it appears that the public interest would be best served if the Commission were to use its discretion in setting a ROR on FVRB that gives UNS Gas an opportunity to earn its cost of capital while at the same time limiting the impact on customers.

IX. CARRYING COST ON PURCHASED GAS ADJUSTOR BALANCE.

Q. What is the current carrying cost applicable to PGA balances carried by UNS Gas?

A. The current rate applicable to PGA balances, whether they are in an over- or under-

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into account the substantial deterioration in capital market conditions that has occurred since September 2008.

With respect to the rate of return on fair value, I recommend use of the same calculation methodology adopted by the Commission in Decision No. 70441 involving Chaparral City Water Company.

Now, in my direct testimony, I derived a rate of return on fair value rate base of 7.30 percent using this methodology. I then discounted this value to 6.8 percent, as we discussed this morning, in order to limit the impact of the proposed rate increase on customers. However, as I discuss in my rebuttal testimony, such a discounting appears now to be inappropriate given the severe revenue requirement reductions being recommended by Staff and RUCO.

The company needs to have a certain level of rate of return in order to provide itself with an opportunity to earn its cost of capital. Had Staff simply followed the same calculation methodology that the Commission used in Docket 70441, or the alternative calculation methodology also advocated by Staff in a recent Chaparral City water case, a rate of return on fair value rate base of 7.25 percent would have been obtained using Staff's own cost of capital and estimated inflation rate. And that 7.25 percent is nearly identical to the 7.3 percent I

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BEFORE THE ARIZONA CORPORATION COMMISSION

IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS GAS, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.	DOCKET NO. G-04204A-08-0571 EVIDENTIARY HEARING

At: Phoenix, Arizona

Date: August 17, 2009

Filed: August 25, 2009

REPORTER'S TRANSCRIPT OF PROCEEDINGS

VOLUME V

(Pages 733 through 808, inclusive)

ARIZONA REPORTING SERVICE, INC.
Court Reporting
Suite 502
2200 North Central Avenue
Phoenix, Arizona 85004-1481

Prepared for:

By: Kate E. Baumgarth, RPR
Certified Reporter
Certificate No. 50582

MR. PATTEN: I don't have anything, Your Honor.

ACALJ NODES: Ms. Mitchell?

MS. MITCHELL: No, I don't have anything. I thought about it, but that's okay.

ACALJ NODES: And, Mr. Pozefsky?

MR. POZEFSKY: I do.

REDIRECT EXAMINATION

BY MR. POZEFSKY:

Q. Mr. Rigsby, the Judge started his questions by asking you about what the impact was of the stated economy and how much that should affect a return on equity analysis -- a cost of --

ACALJ NODES: That is not at all what I asked.

MR. POZEFSKY: And I apologize from the stand.

ACALJ NODES: That is not even close to what I asked.

MR. POZEFSKY: I thought what you were asking -- maybe I misunderstood it, Your Honor.

ACALJ NODES: You apparently did.

MR. POZEFSKY: -- is how much did the economy affect the cost of capital.

ACALJ NODES: I asked how the Commission should factor into the formulas the various economic indicators.

Just so we are clear -- I don't want the record to reflect something I didn't ask.

Q. BY MR. POZEFSKY: Let me ask you some follow-up in a general sense, Mr. Rigsby.

Isn't the measure of the cost of capital, isn't what the objective is is to determine investors' expectations? Isn't that one of the bases that we are trying to measure, making cost of capital determination, what investors' expectations are?

A. Well, hopefully you will come out with a result that is going to allow the company to be able to track money on reasonable terms. And, again -- and I had -- I think I discussed this with Judge Nodes.

Again, if you look at the current economic environment, if you look at what analysts have said recently regarding the national gas distribution industry at this point in time, Value Line's analysts see it as relatively safe investments, one that income-oriented investors might want to look at. Certainly it's going to provide -- I think it's reasonable to presume that it will give them a better return on than what they get on treasury instruments at this time.

And so I think those are things that you have to take into consideration when you are setting your cost of equity capital. If investors out there perceive an

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ACC

Q. I think I indicated -- I asked whether it would be improving, not as good as it was before.

A. Right, improving, but from a very low and depressed pace. And I apologize if I was not direct on my answer there.

Q. All right. Return on equity is intended to be forward looking, isn't it?

A. Yes.

Q. And, Mr. Parcell, if you set the return on equity at the low end of the range, that would result in reduced earnings for the company; correct?

A. Compared to a higher point range, yes.

Q. And that could result in increased cost of debt for the company?

A. Possibly, but probably not.

Q. And reduced earnings also could result in less favorable credit terms for the company; isn't that true?

A. Well, within that range, likely not.

Q. Could you turn to what has been marked as Exhibit UNSG-40?

A. Sure.

Q. And for the record, this is page 1119 of the transcript in the last UNS Gas rate case docket 06-0463.

Do you have that in front of you?

A. Yes, sir.

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BEFORE THE ARIZONA CORPORATION COMMISSION

Arizona Corporation Commission
DOCKETED
APR 17 2002
DOCKETED BY VL

WILLIAM A. MUNDELL
CHAIRMAN
JIM IRVIN
COMMISSIONER
MARC SPITZER
COMMISSIONER

IN THE MATTER OF THE APPLICATION OF BLACK MOUNTAIN GAS COMPANY, A MINNESOTA CORPORATION, TO DETERMINE EARNINGS FOR RATEMAKING PURPOSES, TO FIX A JUST AND REASONABLE RATE OF RETURN THEREON AND TO APPROVE RATE SCHEDULES DESIGNED TO DEVELOP SUCH RETURN FOR ITS PAGE DIVISION.

DOCKET NO. G-03703A-01-0263

DECISION NO. 64727

OPINION AND ORDER

DATE OF HEARING: January 23 and 24, 2002

PLACE OF HEARING: Phoenix, Arizona

ADMINISTRATIVE LAW JUDGE: Teena Wolfe

APPEARANCES: Mr. Timothy Berg and Ms. Theresa Dwyer, FENNEMORE CRAIG, P.C., on behalf of Black Mountain Gas Company;

Mr. Daniel Pozefsky, Attorney, on behalf of the Residential Utility Consumer Office;

Mr. Paul R. Michaud, MARTINEZ & CURTIS, P.C., on behalf of the City of Page; and

Mr. Timothy J. Sabo, Attorney, Legal Division, on behalf of the Commission's Utilities Division of the Arizona Corporation Commission.

BY THE COMMISSION:

INTRODUCTION

On March 28, 2001, Black Mountain Gas Company ("Black Mountain" or "Company") filed with the Arizona Corporation Commission ("Commission") an application for a permanent rate increase for its Page Division ("Application").

Black Mountain provides underground public propane distribution in the vicinity of the City of Page, Coconino County, Arizona. Black Mountain also provides public natural gas distribution

Company's proposed test year Operating Expenses of $1,451,081. We therefore adopt adjusted test year Operating Expenses of $1,310,527.

C. Statement of Operating Income

Consistent with the foregoing discussion, Black Mountain's Page Division adjusted test year Revenues are $1,393,520, and its adjusted test year Operating Expenses are $1,310,527, for an adjusted test year Operating Income of $82,993.

III. COST OF GAS

The Company requests that the Commission set the base cost of propane gas for the Page Division at $0.65 per therm based upon a weighted average of the historical cost of gas from June 1999 through August 2001. RUCO agreed with the Company's recommended cost of gas, and the City did not take a position on this issue. Staff believes that the cost of gas should be based on a number of factors, such as market conditions and futures prices, in addition to historical prices, and recommends that the Company's base cost of gas be set at $0.55 per therm.

We agree with Staff that in setting a base cost for the commodity of propane gas, historical prices should not be viewed in isolation, but that it is preferable to consider past, present and future prices. In addition, we agree with Staff's position that in the interest of maintaining rate stability for natural gas and propane customers, large swings in the base cost of gas should be avoided whenever possible. In the long term, due to the existence of an adjuster mechanism, Black Mountain's customers will pay roughly the same amount for the Company's propane purchases whether we adopt the Company's proposed base cost of gas or Staff's. However, if the base cost is raised from its current $0.5087 to the Company's proposed $0.65, rates could be driven higher in the short term. Given that an overall rate increase is necessary, a more conservative increase in the base cost of gas is preferable. For these reasons, we adopt Staff's recommended base cost of gas of $0.55 per therm.

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Q. All right. Return on equity is intended to be forward looking, isn't it?

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A. Compared to a higher point range, yes.

Q. And that could result in increased cost of debt for the company?

A. Possibly, but probably not.

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A. Well, within that range, likely not.

Q. Could you turn to what has been marked as Exhibit UNSG-40?

A. Sure.

Q. And for the record, this is page 1119 of the transcript in the last UNS Gas rate case docket 06-0463.

Do you have that in front of you?

A. Yes, sir.

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SECOND SET OF DATA REQUESTS
FROM UNS GAS, INC.
TO RESIDENTIAL UTILITY CONSUMER OFFICE
(DOCKET NO. G-04204A-08-0571)

UNSG 2.30 Referring to the statement on page 28, line 1, of Mr. Rigsby's Direct Testimony:

a. Does Mr. Rigsby believe that systematic risk is the only risk of importance to investors? Please explain.

b. Please provide any published research supporting the contention that systematic risk is the only risk of importance to investors.

Response:

a. No. The statement made by Mr. Rigsby is intended to point out one of the underlying assumptions that the CAPM model relies on Systematic risk might be one of a number of risk factors that individual investors consider to be important.

b. A large body of academic research has been published on the underlying assumptions of the CAPM model. Mr. Rigsby is unable to cite every piece of research that has challenged or supported the underlying assumption that systematic risk is the only risk of importance to investors. Having said that, RUCO offers the attached paper authored by Andre F. Perold which provides additional insight into the theoretical concept of the CAPM model.

Respondent: Bill Rigsby

Witness: Bill Rigsby

UNSG-34

solely in terms of expected return and standard deviation of return measured over the same single holding period. Second, capital markets are perfect in several senses: all assets are infinitely divisible; there are no transactions costs, short selling restrictions or taxes; information is costless and available to everyone; and all investors can borrow and lend at the risk-free rate. Third, investors all have access to the same investment opportunities. Fourth, investors all make the same estimates of individual asset expected returns, standard deviations of return and the correlations among asset returns.

These assumptions represent a highly simplified and idealized world, but are needed to obtain the CAPM in its basic form. The model has been extended in many ways to accommodate some of the complexities manifest in the real world. But under these assumptions, given prevailing prices, investors all will determine the same highest Sharpe Ratio portfolio of risky assets. Depending on their risk tolerance, each investor will allocate a portion of wealth to this optimal portfolio and the remainder to risk-free lending or borrowing. Investors all will hold risky assets in the same relative proportions.

For the market to be in equilibrium, the price (that is, the expected return) of each asset must be such that investors collectively decide to hold exactly the supply of the asset. If investors all hold risky assets in the same proportions, those proportions must be the proportions in which risky assets are held in the market portfolio—the portfolio comprised of all available shares of each risky asset. In equilibrium, therefore, the portfolio of risky assets with the highest Sharpe Ratio must be the market portfolio.

If the market portfolio has the highest attainable Sharpe Ratio, there is no way to obtain a higher Sharpe Ratio by holding more or less of any one asset. Applying the portfolio improvement rule, it follows that the risk premium of each asset must satisfy $E_S - r_f = \beta(E_M - r_f)$, where E_S and E_M are the expected return on the asset and the market portfolio, respectively, and β is the sensitivity of the asset's return to the return on the market portfolio.

We have just established the Capital Asset Pricing Model: In equilibrium, the expected return of an asset is given by

$$E_S = r_f + \beta(E_M - r_f).$$

This formula is the one that Sharpe, Treynor, Lintner and Mossin successfully set out to find. It is the relationship between expected return and risk that is consistent with investors behaving according to the prescriptions of portfolio theory. If this rule does not hold, then investors will be able to outperform the market (in the sense of obtaining a higher Sharpe Ratio) by applying the portfolio improvement rule, and if sufficiently many investors do this, stock prices will adjust to the point where the CAPM becomes true.

Another way of expressing the CAPM equation is

$$\text{Sharpe Ratio of Asset } S = \rho \times \text{Sharpe Ratio of the Market Portfolio.}^{6}$$

[6] Using the fact that that $\beta = \rho\sigma_S/\sigma_M$, the equation $E_S = r_f + \beta(E_M - r_f)$ can be rearranged to give $(E_S - r_f)/\sigma_S = \rho(E_M - r_f)/\sigma_M$, which is the expression in the text.

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A. In a longer-term broader-brush perspective, I think the answer is yes. But over the past year I think the answer is no.

I mean, the capital markets have been -- it's been so screwed up. If you look at long-term interest rates for corporations, for BBB utilities, for example -- I'm on schedule 2, page 4 -- in November of last year, the average yield was like almost 9 percent. And if you tried to focus on interest rates as an indicator of economic conditions across the capital, that would -- I think it produced skewed results just like I think CAPM produces maybe skewed results now.

It's just hard to use the period of time from September to at least March of this year as a standard. And in fact I know that the company stopped its cost of capital analysis in August of '08. I'm going to give them some credit; that was a gutsy move to come into a rate case and say we will stop in August and when the update comes, do the same thing. I give them credit; they chose not to jump on the bandwagon of high interest rates. And I think I did the same thing basically by not looking at the CAPM results.

But your question, is there a method, there really is not because during the record time of this case, you just can't look at traditional measures of yield

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concerns me, is why it dropped. And it dropped because of all the movement of moneys into the government securities because it was a safe haven at that point in time.

And the second reason that I would give less weight to a CAPM is the company cost of debt is about 6.5 percent. That is their weighted cost of debt basis on historical rates. And my CAPM results are only about 100 basis points higher than that. If the company sold debt today, it would probably be at the CAPM rate. And I think the cost of equity should be higher than the cost of debt.

Q. Is that an indication that the CAPM methodology is influenced much more by current economic conditions than the other methodologies and as such perhaps is not as influential in an analyst's overall evaluation in general terms?

A. In general terms, yes. But it's complicated. I will keep this answer short though.

The CAPM, when the risk-free rate drops a bunch and the stock market fell so much in '08, which influenced both risk-free rate and the risk premium, the CAPM dropped a lot. But these results are also influenced because as stock prices drop, the yields go up.

But the real thing with the DCF is the growth rates. If you look at analysts' projections, for example,

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Do you have that?

A. Yes.

Q. And did you prepare that response?

A. Yes.

Q. Could you read the request and your response?

A. UNSG 2.37, "Does Mr. Rigsby believe that an increase in investor risk aversion implies a corresponding increase in investor risk premiums for riskier securities? If the answer is no, please explain."

My response was yes.

Q. All right. Mr. Rigsby, at page 32 of your direct testimony you are proposing an 8.61 percent return on equity; is that correct?

A. I'm sorry. What page was that again?

Q. 32.

MR. PATTEN: Your Honor, while he is looking, I would move admission of UNSG-35.

THE WITNESS: Yes, that --

ACALJ NODES: Wait a minute. Wait a minute.

Did you move 34?

MR. PATTEN: I did move 34.

ACALJ NODES: All right. UNSG-35, any objection?

MS. MITCHELL: No, Your Honor.

ACALJ NODES: Okay, UNSG-35 admitted.

(UNSG-35 was admitted into evidence.)

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Respondent: Bill Rigsby

Witness: Bill Rigsby

RUCO'S RESPONSE TO UNSG 2.30

Journal of Economic Perspectives—Volume 18, Number 3—Summer 2004—Pages 3–24

The Capital Asset Pricing Model

André F. Perold

A fundamental question in finance is how the risk of an investment should affect its expected return. The Capital Asset Pricing Model (CAPM) provided the first coherent framework for answering this question. The CAPM was developed in the early 1960s by William Sharpe (1964), Jack Treynor (1962), John Lintner (1965a, b) and Jan Mossin (1966).

The CAPM is based on the idea that not all risks should affect asset prices. In particular, a risk that can be diversified away when held along with other investments in a portfolio is, in a very real way, not a risk at all. The CAPM gives us insights about what kind of risk is related to return. This paper lays out the key ideas of the Capital Asset Pricing Model, places its development in a historical context, and discusses its applications and enduring importance to the field of finance.

Historical Background

In retrospect, it is striking how little we understood about risk as late as the 1960s—whether in terms of theory or empirical evidence. After all, stock and option markets had been in existence at least since 1602 when shares of the East India Company began trading in Amsterdam (de la Vega, 1688); and organized insurance markets had become well developed by the 1700s (Bernstein, 1996). By 1960, insurance businesses had for centuries been relying on diversification to spread risk. But despite the long history of actual risk-bearing and risk-sharing in organized financial markets, the Capital Asset Pricing Model was developed at a time when the theoretical foundations of decision making under uncertainty were relatively new and when basic empirical facts about risk and return in the capital markets were not yet known.

■ *André F. Perold is the George Gund Professor of Finance and Banking, Harvard Business School, Boston, Massachusetts. His e-mail address is ⟨aperold@hbs.edu⟩.*

Rigorous theories of investor risk preferences and decision-making under uncertainty emerged only in the 1940s and 1950s, especially in the work of von Neumann and Morgenstern (1944) and Savage (1954). Portfolio theory, showing how investors can create portfolios of individual investments to optimally trade off risk versus return, was not developed until the early 1950s by Harry Markowitz (1952, 1959) and Roy (1952).

Equally noteworthy, the empirical measurement of risk and return was in its infancy until the 1960s, when sufficient computing power became available so that researchers were able to collect, store and process market data for the purposes of scientific investigation. The first careful study of returns on stocks listed on the New York Stock Exchange was that of Fisher and Lorie (1964) in which they note: "It is surprising to realize that there have been no measurements of the rates of return on investments in common stocks that could be considered accurate and definitive." In that paper, Fisher and Lorie report average stock market returns over different holding periods since 1926, but not the standard deviation of those returns. They also do not report any particular estimate of the equity risk premium—that is, the average amount by which the stock market outperformed risk-free investments—although they do remark that rates of return on common stocks were "substantially higher than safer alternatives for which data are available." Measured standard deviations of broad stock market returns did not appear in the academic literature until Fisher and Lorie (1968). Carefully constructed estimates of the equity risk premium did not appear until Ibbotson and Sinquefield (1976) published their findings on long-term rates of return. They found that over the period 1926 to 1974, the (arithmetic) average return on the Standard and Poor's 500 index was 10.9 percent per annum, and the excess return over U.S. Treasury bills was 8.8 percent per annum.[1] The first careful study of the historical equity risk premium for UK stocks appeared in Dimson and Brealey (1978) with an estimate of 9.2 percent per annum over the period 1919–1977.

In the 1940s and 1950s, prior to the development of the Capital Asset Pricing Model, the reigning paradigm for estimating expected returns presupposed that the return that investors would require (or the "cost of capital") of an asset depended primarily on the manner in which that asset was financed (for example, Bierman and Smidt, 1966). There was a "cost of equity capital" and a "cost of debt capital," and the weighted average of these—based on the relative amounts of debt and equity financing—represented the cost of capital of the asset.

The costs of debt and equity capital were inferred from the long-term yields of those instruments. The cost of debt capital was typically assumed to be the rate of interest owed on the debt, and the cost of equity capital was backed out from the cash flows that investors could expect to receive on their shares in relation to the current price of the shares. A popular method of estimating the cost of equity this way was the Gordon and Shapiro (1956) model, in which a company's dividends are

[1] These are arithmetic average returns. Ibbotson and Sinquefield (1976) were also the first to report the term premium on long-term bonds: 1.1 percent per annum average return in excess of Treasury bills over the period 1926–1974.

assumed to grow in perpetuity at a constant rate g. In this model, if a firm's current dividend per share is D, and the stock price of the firm is P, then the cost of equity capital r is the dividend yield plus the dividend growth rate: $r = D/P + g$.[2]

From the perspective of modern finance, this approach to determining the cost of capital was anchored in the wrong place. At least in a frictionless world, the value of a firm or an asset more broadly does not depend on how it is financed, as shown by Modigliani and Miller (1958). This means that the cost of equity capital likely is determined by the cost of capital of the asset, rather than the other way around. Moreover, this process of inferring the cost of equity capital from future dividend growth rates is highly subjective. There is no simple way to determine the market's forecast of the growth rate of future cash flows, and companies with high dividend growth rates will be judged by this method to have high costs of equity capital. Indeed, the Capital Asset Pricing Model will show that there need not be any connection between the cost of capital and future growth rates of cash flows.

In the pre-CAPM paradigm, risk did not enter directly into the computation of the cost of capital. The working assumption was often that a firm that can be financed mostly with debt is probably safe and is thus assumed to have a low cost of capital; while a firm that cannot support much debt is probably risky and is thus assumed to command a high cost of capital. These rules-of-thumb for incorporating risk into discount rates were ad hoc at best. As Modigliani and Miller (1958) noted: "No satisfactory explanation has yet been provided . . . as to what determines the size of the risk [adjustment] and how it varies in response to changes in other variables."

In short, before the arrival of the Capital Asset Pricing Model, the question of how expected returns and risk were related had been posed, but was still awaiting an answer.

Why Investors Might Differ in Their Pricing of Risk

Intuitively, it would seem that investors should demand high returns for holding high-risk investments. That is, the price of a high-risk asset should be bid sufficiently low so that the future payoffs on the asset are high (relative to the price). A difficulty with this reasoning arises, however, when the risk of an investment depends on the manner in which it is held.

To illustrate, consider an entrepreneur who needs to raise $1 million for a risky new venture. There is a 90 percent chance that the venture will fail and end up worthless; and there is a 10 percent chance that the venture will succeed within a year and be worth $40 million. The expected value of the venture in one year is therefore $4 million, or $4 per share assuming that the venture will have a million shares outstanding.

Case 1: If a single risk-averse individual were to fund the full $1 million—where

[2] The cost of equity capital in this model is the "internal rate of return," the discount rate that equates the present value of future cash flows to the current stock price. In the Gordon-Shapiro model, the projected dividend stream is D, $D(1 + g)$, $D(1 + g)^2$ . . . The present value of these cash flows when discounted at rate r is $D/(r - g)$, which when set equal to the current stock price, P, establishes $r = D/P + g$.

the investment would represent a significant portion of the wealth of that individual—the venture would have to deliver a very high expected return, say 100 percent. To achieve an expected return of 100 percent on an investment of $1 million, the entrepreneur would have to sell the investor a 50 percent stake: 500,000 shares at a price per share of $2.

Case II: If the funds could be raised from someone who can diversify across many such investments, the required return might be much lower. Consider an investor who has $100 million to invest in 100 ventures with the same payoffs and probabilities as above, except that the outcomes of the ventures are all independent of one another. In this case, the probability of the investor sustaining a large percentage loss is small—for example, the probability that all 100 ventures fail is a miniscule .003 percent (= 0.9^{100})—and the diversified investor might consequently be satisfied to receive an expected return of only, say, 10 percent. If so, the entrepreneur would need to sell a much smaller stake to raise the same amount of money, here 27.5 percent (= $1.1 million/$4 million); and the investor would pay a higher price per share of $3.64 (= $1 million/275,000 shares).

Cases I and II differ only in the degree to which the investor is diversified; the stand-alone risk and the expected future value of any one venture is the same in both cases. Diversified investors face less risk per investment than undiversified investors, and they are therefore willing to receive lower expected returns (and to pay higher prices). For the purpose of determining required returns, the risks of investments therefore must be viewed in the context of the other risks to which investors are exposed. The CAPM is a direct outgrowth of this key idea.

Diversification, Correlation and Risk

The notion that diversification reduces risk is centuries old. In eighteenth-century English language translations of *Don Quixote*, Sancho Panza advises his master, "It is the part of a wise man to . . . not venture all his eggs in one basket." According to Herbison (2003), the proverb "Do not keep all your eggs in one basket" actually appeared as far back as Torriano's (1666) *Common Place of Italian Proverbs*.

However, diversification was typically thought of in terms of spreading your wealth across many *independent* risks that would cancel each other if held in sufficient number (as was assumed in the new ventures example). Harry Markowitz (1952) had the insight that, because of broad economic influences, risks across assets were correlated to a degree. As a result, investors could eliminate some but not all risk by holding a diversified portfolio. Markowitz wrote: "This presumption, that the law of large numbers applies to a portfolio of securities, cannot be accepted. The returns from securities are too intercorrelated. Diversification cannot eliminate all variance."

Markowitz (1952) went on to show analytically how the benefits of diversification depend on correlation. The correlation between the returns of two assets measures the degree to which they fluctuate together. Correlation coefficients range between −1.0 and 1.0. When the correlation is 1.0, the two assets are perfectly positively correlated. They move in the same direction and in fixed proportions (plus a constant). In this case, the two assets are substitutes for one another. When the correlation is −1.0, the returns are perfectly negatively correlated meaning that when one asset goes up, the other goes down and in a fixed proportion (plus a constant). In this case, the two assets act to insure one another. When the correlation is zero, knowing the return on one asset does not help you predict the return on the other.

To show how the correlation among individual security returns affects portfolio risk, consider investing in two risky assets, A and B. Assume that the risk of an asset is measured by its standard deviation of return, which for assets A and B is denoted by σ_A and σ_B, respectively. Let ρ denote the correlation between the returns on assets A and B; let x be the fraction invested in Asset A and y (= 1 − x) be the fraction invested in Asset B.

When the returns on assets within a portfolio are perfectly positively correlated ($\rho = 1$), the portfolio risk is the weighted average of the risks of the assets in the portfolio. The risk of the portfolio then can be expressed as

$$\sigma_P = x\sigma_A + y\sigma_B.$$

The more interesting case is when the assets are not perfectly correlated ($\rho < 1$). Then there is a nonlinear relationship between portfolio risk and the risks of the underlying assets. In this case, at least some of the risk from one asset will be offset by the other asset, so the standard deviation of the portfolio σ_P is always less than the weighted average of σ_A and σ_B.[3] Thus, the risk of a portfolio is less than the average risk of the underlying assets. Moreover, the benefit of diversification will increase the farther away that the correlation ρ is from 1.

These are Harry Markowitz's important insights: 1) that diversification does not rely on individual risks being uncorrelated, just that they be imperfectly correlated; and 2) that the risk reduction from diversification is limited by the extent to which individual asset returns are correlated. If Markowitz were restating Sancho Panza's advice, he might say: It is safer to spread your eggs among imperfectly correlated baskets than to spread them among perfectly correlated baskets.

Table 1 illustrates the benefits of diversifying across international equity markets. The table lists the world's largest stock markets by market capitalization as of December 31, 2003, the combination of which we will call the world equity market

[3] The portfolio standard deviation, σ_P, can be expressed in terms of the standard deviations of assets A and B and their correlation using the variance formula:

$$\sigma_P^2 = x^2\sigma_A^2 + y^2\sigma_B^2 + 2xy\rho\sigma_A\sigma_B.$$

This expression can be algebraically manipulated to obtain

$$\sigma_P^2 = (x\sigma_A + y\sigma_B)^2 - 2xy(1 - \rho)\sigma_A\sigma_B.$$

When $\rho = 1$, the final term disappears, giving the formula in the text. When $\rho < 1$, then the size of the second term will increase as ρ declines, and so the standard deviation of the portfolio will fall as ρ declines.

Table 1
Market Capitalizations and Historical Risk Estimates for 24 Countries, January 1994–December 2003

	Market Capitalization ($ Billions, 12/31/03)	*Capitalization Weight*	*S.D. of Return*	*Beta vs. WEMP*	*Correlation vs. WEMP*
U.S.	$14,266	47.8%	16.1%	1.00	0.95
Japan	2,953	9.9%	22.3%	0.83	0.57
UK	2,426	8.1%	14.3%	0.78	0.83
France	1,403	4.7%	19.3%	1.00	0.79
Germany	1,079	3.6%	21.7%	1.10	0.77
Canada	910	3.0%	19.9%	1.13	0.87
Switzerland	727	2.4%	17.1%	0.73	0.65
Spain	726	2.4%	21.5%	0.92	0.65
Hong Kong	715	2.4%	29.2%	1.33	0.70
Italy	615	2.1%	23.9%	0.90	0.58
Australia	586	2.0%	18.4%	0.93	0.77
China	513	1.7%	43.3%	1.26	0.45
Taiwan	379	1.3%	33.0%	1.15	0.53
Netherlands	368	1.2%	19.5%	1.02	0.79
Sweden	320	1.1%	24.3%	1.25	0.78
South Korea	298	1.0%	47.7%	1.55	0.50
India	279	0.9%	26.7%	0.63	0.36
South Africa	261	0.9%	26.9%	1.09	0.62
Brazil	235	0.8%	45.6%	1.81	0.63
Russia	198	0.7%	76.9%	2.34	0.47
Belgium	174	0.6%	17.2%	0.65	0.58
Malaysia	168	0.6%	38.6%	0.81	0.32
Singapore	149	0.5%	28.6%	1.04	0.56
Mexico	123	0.4%	35.1%	1.40	0.61
WEMP	$29,870	100%	15.3%	1.00	1.00
S.D. of WEMP assuming perfect correlation			19.9%		
S.D. of WEMP assuming zero correlation			8.4%		

Notes: WEMP stands for World Equity Market Portfolio. S.D. is standard deviation expressed on an annualized basis. Calculations are based on historical monthly returns obtained from Global Financial Data Inc.

portfolio, labeled in the table as WEMP. The capitalization of the world equity market portfolio was about $30 trillion—comprising over 95 percent of all publicly traded equities—with the United Statese representing by far the largest fraction. Table 1 includes the standard deviation of monthly total returns for each country over the ten-year period ending December 31, 2003, expressed on an annualized basis.

Assuming that the historical standard deviations and correlations of return are good estimates of future standard deviations and correlations, we can use this data to calculate that the standard deviation of return of the WEMP—given the capitalization weights as of December 2003—is 15.3 percent per annum. If the country returns were all perfectly correlated with each other, then the standard deviation of the WEMP would be the capitalization-weighted average of the standard deviations, which is 19.9 percent per annum. The difference of 4.6 percent per annum represents the diversification benefit—the risk reduction stemming from the fact that the world's equity markets are imperfectly correlated. Also shown in Table 1 is that the standard deviation of the WEMP would be only 8.4 percent per annum if the country returns were uncorrelated with one another. The amount by which this figure is lower than the actual standard deviation of 15.3 percent per annum is a measure of the extent to which the world's equity markets share common influences.

Portfolio Theory, Riskless Lending and Borrowing and Fund Separation

To arrive at the CAPM, we need to examine how imperfect correlation among asset returns affects the investor's tradeoff between risk and return. While risks combine nonlinearly (because of the diversification effect), expected returns combine linearly. That is, the expected return on a portfolio of investments is just the weighted average of the expected returns of the underlying assets. Imagine two assets with the same expected return and the same standard deviation of return. By holding both assets in a portfolio, one obtains an expected return on the portfolio that is the same as either one of them, but a portfolio standard deviation that is lower than any one of them individually. Diversification thus leads to a reduction in risk *without any sacrifice in expected return.*

Generally, there will be many combinations of assets with the same portfolio expected return but different portfolio risk; and there will be many combinations of assets with the same portfolio risk but different portfolio expected return. Using optimization techniques, we can compute what Markowitz coined the "efficient frontier." For each level of expected return, we can solve for the portfolio combination of assets that has the lowest risk. Or for each level of risk, we can solve for the combination of assets that has the highest expected return. The efficient frontier consists of the collection of these optimal portfolios, and each investor can choose which of these best matches their risk tolerance.

The initial development of portfolio theory assumed that all assets were risky. James Tobin (1958) showed that when investors can borrow as well as lend at the risk-free rate, the efficient frontier simplifies in an important way. (A "risk-free" instrument pays a fixed real return and is default free. U.S. Treasury bonds that adjust automatically with inflation—called Treasury inflation-protected instruments, or TIPS—and short-term U.S. Treasury bills are considered close approximations of risk-free instruments.)

To see how riskless borrowing and lending affects investors' decision choices, consider investing in the following three instruments: risky assets M and H, and the riskless asset, where the expected returns and risks of the assets are shown in Table 2. Suppose first that you had the choice of investing all of your wealth in *just one* of these assets. Which would you choose? The answer depends on your risk tolerance. Asset H has the highest risk and also the highest expected return. You would choose

Table 2
How Riskless Borrowing and Lending Affect Investors' Choices

	Expected return	*Risk (S.D.)*
Riskless asset	5% (r_f)	0%
Asset *M*	10% (E_M)	20% (σ_M)
Asset *H*	12% (E_H)	40% (σ_H)

Asset *H* if you had a high tolerance for risk. The riskless asset has no risk but also the lowest expected return. You would choose to lend at the risk-free rate if you had a very low tolerance for risk. Asset *M* has an intermediate risk and expected return, and you would choose this asset if you had a moderate tolerance for risk.

Suppose next that you can borrow and lend at the risk-free rate, that you wish to invest some of your wealth in Asset *H* and the balance in riskless lending or borrowing. If x is the fraction of wealth invested in Asset *H*, then $1 - x$ is the fraction invested in the risk-free asset. When $x < 1$, you are lending at the risk-free rate; when $x > 1$, you are borrowing at the risk-free rate. The expected return of this portfolio is $(1 - x)r_f + xE_H$, which equals $r_f + x(E_H - r_f)$, and the risk of the portfolio is $x\sigma_H$. The risk of the portfolio is proportional to the risk of Asset *H*, since Asset *H* is the only source of risk in the portfolio.

Risk and expected return thus both combine *linearly*, as shown graphically in Figure 1. Each point on the line connecting the risk-free asset to Asset *H* represents a particular allocation (x) to Asset *H* with the balance in either risk-free lending or risk-free borrowing. The slope of this line is called the Sharpe Ratio—the risk premium of Asset *H* divided by the risk of Asset *H*:

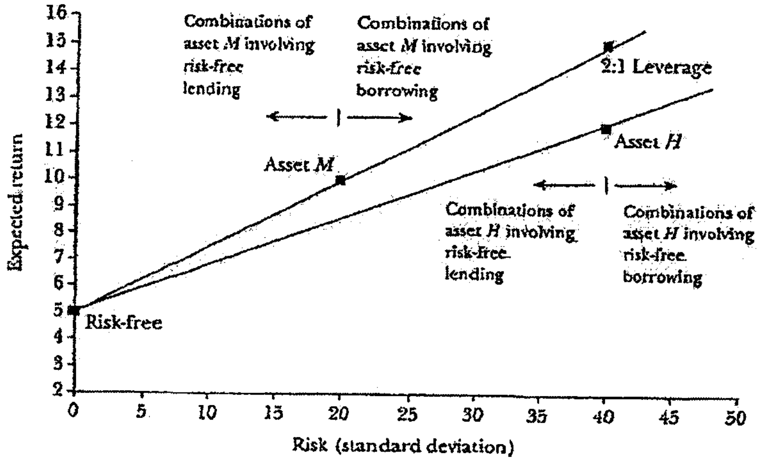
$$\text{Sharpe Ratio} = (E_H - r_f)/\sigma_H.$$

The Sharpe Ratio of Asset *H* evaluates to 0.175 (= (12 percent − 5 percent)/40 percent) and all combinations of Asset *H* with risk-free borrowing or lending have this same Sharpe Ratio.

Also shown in Figure 1 are the risks and expected returns that can be achieved by combining Asset *M* with riskless lending and borrowing. The Sharpe Ratio of Asset *M* is 0.25, which is higher than that of Asset *H*, and any level of risk and return that can be obtained by investing in Asset *H* along with riskless lending or borrowing is dominated by some combination of Asset *M* and riskless lending or borrowing. For example, for the same risk as Asset *H*, you can obtain a higher expected return by investing in Asset *M* with 2:1 leverage. As shown in Figure 1, the expected return of a 2:1 leveraged position in Asset *M* is 15 percent (that is, (2 × 10 percent) − (1 × 5 percent)), which is higher than the 12 percent expected return of Asset *H*. If you could hold only one risky asset along with riskless lending or borrowing, it unambiguously would be Asset *M*.

Being able to lend and borrow at the risk-free rate thus dramatically changes

Figure 1
Combining a Risky Asset with Risk-Free Lending and Borrowing



our investment choices. The asset of choice—if you could choose only one risky asset—is the one with the highest Sharpe Ratio. Given this choice of risky asset, you need to make a second decision, which is how much of it to hold in your portfolio. The answer to the latter question depends on your risk tolerance.

Figure 2 illustrates the approach in the case where we can invest in combinations of two risky assets, *M* and *H*, plus riskless lending and borrowing. The correlation between the returns of assets *M* and *H* is assumed to be zero. In the figure, the curve connecting assets *M* and *H* represents all expected return/standard deviation pairs that can be attained through combinations of assets *M* and *H*. The combination of assets *M* and *H* that has the highest Sharpe Ratio is 74 percent in Asset *M* and 26 percent in Asset *H* (the tangency point). The expected return of this combination is 10.52 percent, and the standard deviation is 18.09 percent. The Sharpe Ratio evaluates to 0.305, which is considerably higher than the Sharpe Ratios of assets *M* and *H* (0.25 and 0.175, respectively). Investors who share the same estimates of expected return and risk all will locate their portfolios on the tangency line connecting the risk-free asset to the frontier. In particular, they all will hold assets *M* and *H* in the proportions 74/26.

The optimal portfolio of many risky assets can be found similarly. Figure 3 offers a general illustration. Use Markowitz's algorithm to obtain the efficient frontier of portfolios of risky assets. Find the portfolio on the efficient frontier that has the highest Sharpe Ratio, which will be the point where a ray stretching up from the risk-free point is just tangent to the efficient frontier. Then, in accordance with your risk tolerance, allocate your wealth between this highest Sharpe Ratio portfolio and risk-free lending or borrowing.

This characterization of the efficient frontier is referred to as "fund separation." Investors with the same beliefs about expected returns, risks and correlations all will invest in the portfolio or "fund" of risky assets that has the highest Sharpe

Figure 2
Efficient Frontier with Two Risky Assets

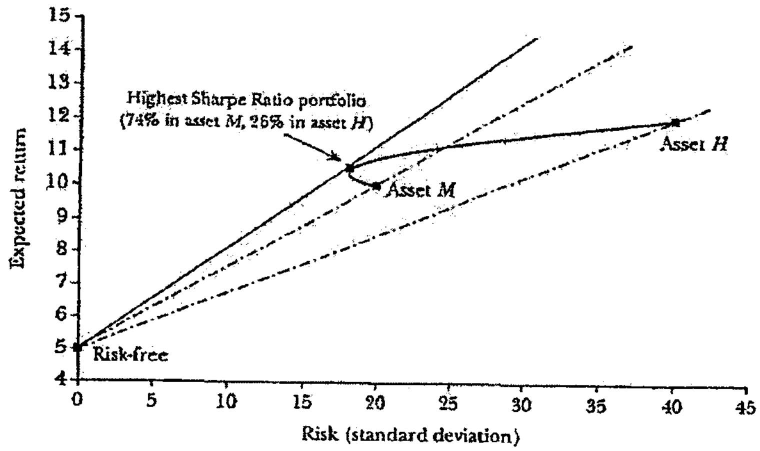
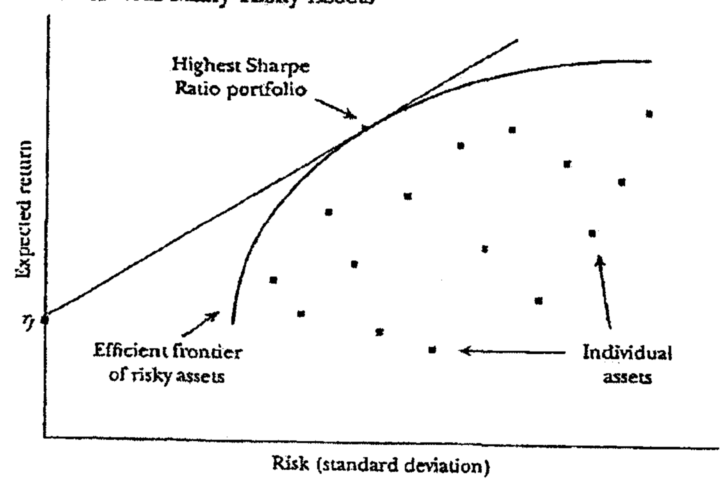


Figure 3
Efficient Frontier with Many Risky Assets



Ratio, but they will differ in their allocations between this fund and risk-free lending or borrowing based on their risk tolerance. Notice in particular that the composition of the optimal portfolio of risky assets does *not* depend on the investor's tolerance for risk.

Market-Determined Expected Returns and Stand-Alone Risk

Portfolio theory prescribes that investors choose their portfolios on the efficient frontier, given their beliefs about expected returns and risks. The Capital

Asset Pricing Model, on the other hand, is concerned with the pricing of assets in equilibrium. CAPM asks: What are the implications for asset prices if everyone heeds this advice? In equilibrium, all assets must be held by someone. For the market to be in equilibrium, the expected return of each asset must be such that investors collectively decide to hold exactly the supply of shares of the asset. The Capital Asset Pricing Model will tell us how investors determine those expected returns—and thereby asset prices—as a function of risk.

In thinking about how expected return and risk might be related, let us ask whether, *as a rule*, the expected return on an investment could possibly be a function of its stand-alone risk (measured by standard deviation of return). The answer turns out to be "no." Consider the shares of two firms with the same stand-alone risk. If the expected return on an investment was determined solely by its stand-alone risk, the shares of these firms would have the same expected return, say 10 percent. Any portfolio combination of the two firms would also have an expected return of 10 percent (since the expected return of a portfolio of assets is the weighted average of the expected returns of the assets that comprise the portfolio). However, if the shares of the firms are not perfectly correlated, then a portfolio invested in the shares of the two firms will be less risky than either one stand-alone. Therefore, if expected return is a function solely of stand-alone risk, then the expected return of this portfolio must be less than 10 percent, contradicting the fact that the expected return of the portfolio is 10 percent. Expected returns, therefore, cannot be determined solely by stand-alone risk.

Accordingly, any relationship between expected return and risk must be based on a measure of risk that is not stand-alone risk. As we will soon see, that measure of risk is given by the incremental risk that an asset provides when added to a portfolio, as discussed in the next section.

Improving the Sharpe Ratio of a Portfolio

Suppose you were trying to decide whether to add a particular stock to your investment portfolio of risky assets. If you could borrow and lend at the risk-free rate, you would add the stock if it improved the portfolio's Sharpe Ratio. It turns out there is a simple rule to guide the decision—a rule that can be derived by understanding the two special cases: 1) when the additional stock is uncorrelated with the existing portfolio, and 2) when the additional stock is perfectly correlated with the existing portfolio. The rule will lead us directly to the equilibrium risk-return relationship specified by the Capital Asset Pricing Model.

In what follows, it will be helpful to think in terms of "excess return," the return of an instrument in excess of the risk-free rate. The expected excess return is called the risk premium.

Adding a Stock that is Uncorrelated with the Existing Portfolio

When should a portfolio be diversified into an uncorrelated stock? If the excess returns on the stock and existing portfolio are uncorrelated, adding a small amount of the stock has almost no effect on the risk of the portfolio.[4] At the margin, therefore, the stock is a substitute for investing in the risk-free asset. Including the stock will increase the portfolio's Sharpe Ratio if the stock's expected return E_S exceeds the risk-free rate r_f. Said another way, the additional stock should be included in the portfolio if its risk premium $E_S - r_f$ is positive.

Adding a Stock that is Perfectly Correlated with the Existing Portfolio

If the stock and portfolio excess returns are perfectly correlated, investing in the stock becomes a substitute for investing in the portfolio itself. To see this, recall that a perfect correlation means that the stock and the portfolio excess returns move together in a fixed ratio plus a constant. The fixed ratio is called beta, denoted by β, and the constant is called alpha, denoted by α. In other words, the excess return of the stock is equal to alpha plus beta times the excess return of the portfolio. It also follows that the *expected* excess return of the stock is alpha plus beta times the *expected* excess return on the portfolio—that is, $E_S - r_f = \alpha + \beta(E_P - r_f)$. The constant alpha is therefore given by the difference between the risk premium of the stock and beta times the risk premium of the portfolio. Since the stock and the portfolio move together in a fixed proportion, beta is given by the ratio of stock to portfolio standard deviations of excess return: $\beta = \sigma_S/\sigma_P$.

Compare now an investment of $1 in the stock with the following "mimicking" strategy: invest $\$\beta$ in the portfolio and the balance $\$(1 - \beta)$ in the risk-free asset, assuming that $\beta < 1$. For example, if beta is 0.5, then investing $0.50 in the portfolio and $0.50 in the riskless asset is a strategy that will gain or lose 0.5 percent of excess return for every 1 percent gain or loss in the portfolio excess return. The excess return of the mimicking strategy is beta times the excess return of the portfolio. The mimicking strategy will behave just like the stock up to the constant difference alpha. The mimicking strategy can be thought of as a "stock" with the given beta but an alpha of zero.

Similarly, if $\beta > 1$, the mimicking strategy involves investing $\$\beta$ in the portfolio of which $\$(\beta - 1)$ is borrowed at the riskless rate. For example, if beta is 3, the mimicking portfolio involves investing $3 in the portfolio of which $2 is borrowed at the risk-free rate. This strategy will gain or lose 3 percent of excess return for every 1 percent gain or loss in the portfolio excess return. Again, the mimicking strategy will behave just like the stock up to the constant difference alpha.

When should a stock be added to the portfolio if its return is perfectly correlated with that of the portfolio? Since, up to the constant alpha, the stock is just a substitute for the portfolio, adding $1 of the stock to the portfolio amounts to owning $\$\beta$ more of the portfolio. But owning more of the portfolio by itself does not change its Sharpe Ratio. Therefore, adding the stock will increase the portfolio's Sharpe Ratio if the

[4] Assume that you have $1 of wealth invested in the portfolio. Then, adding an investment of $\$x$ in shares of the stock increases the portfolio variance to $\sigma_P^2 + x^2\sigma_S^2$, where σ_P^2 is the variance of the portfolio and $x^2\sigma_S^2$ is the variance of the additional stock, weighted by the number of dollars invested in the stock. Remember, the variance of a combination of uncorrelated risks equals the sum of the variances of the individual risks. The increase in portfolio risk (standard deviation as well as variance) is proportional to x^2, which implies that the change in portfolio risk is negligible for small x. The $\$x$ needed to purchase the shares can come from holding less of the risk-free asset or by borrowing at the risk-free rate.

stock's expected excess return exceeds that of the mimicking portfolio. This occurs if $\alpha > 0$ or equivalently if $E_S - r_f > \beta(E_P - r_f)$, meaning that the stock's risk premium must exceed beta times the portfolio risk premium.

The General Case: Adding a Stock that is Imperfectly Correlated with the Existing Portfolio

Suppose next that the returns on the stock and the portfolio are correlated to some degree $(0 < \rho < 1)$. In this case, the stock's return can be separated into a return component that is *perfectly correlated* with the portfolio and a return component that is *uncorrelated* with the portfolio. Since the standard deviation of the stock is σ_S, the standard deviation of the perfectly correlated component of the stock's return is $\rho\sigma_S$.[5] Thus, the beta of the perfectly correlated component of the stock's excess return to the portfolio's excess return is given by the ratio of standard deviations: $\beta = \rho\sigma_S/\sigma_P$.

As just discussed, the component of the stock's return that is perfectly correlated with the portfolio is a substitute for the portfolio itself and can be mimicked through an investment of β in the portfolio and $(1 - \beta)$ in the riskless asset. The component of the stock's excess return that is uncorrelated with the portfolio can, at the margin, be diversified away and will thus have no effect on the risk of the portfolio. This component of return can be mimicked through an investment in the risk-free asset. We can therefore conclude that adding the stock to the portfolio will improve the Sharpe Ratio if the stock's risk premium exceeds the sum of the risk premia of the two mimicking portfolios: $\beta(E_P - r_f)$ for the perfectly correlated return component and zero for the uncorrelated return component.

This insight establishes a rule for improving the portfolio. Adding a marginal share of stock to a portfolio will increase the portfolio's Sharpe Ratio if the stock's alpha is positive, that is, if its risk premium satisfies

$$E_S - r_f > \beta(E_P - r_f).$$

Conversely, selling short a marginal share of the stock will increase the portfolio's Sharpe Ratio if the alpha is negative, $E_S - r_f < \beta(E_P - r_f)$. The portfolio has the highest attainable Sharpe Ratio if $E_S - r_f = \beta(E_P - r_f)$ for every stock—that is, if the risk premium for each stock is equal to beta times the risk premium for the portfolio as a whole.

The Capital Asset Pricing Model

The rule for improving the Sharpe Ratio of a portfolio allows us to derive the Capital Asset Pricing Model in a straightforward and intuitive way. We begin with four assumptions. First, investors are risk averse and evaluate their investment portfolios

[5] The correlation coefficient ρ is the "R" in "R-squared"—the fraction of the stock's variance that is attributable to movements in the portfolio. If $\rho < 0$, the standard deviation of the perfectly correlated component is $|\rho|\sigma_S$.

solely in terms of expected return and standard deviation of return measured over the same single holding period. Second, capital markets are perfect in several senses: all assets are infinitely divisible; there are no transactions costs, short selling restrictions or taxes; information is costless and available to everyone; and all investors can borrow and lend at the risk-free rate. Third, investors all have access to the same investment opportunities. Fourth, investors all make the same estimates of individual asset expected returns, standard deviations of return and the correlations among asset returns.

These assumptions represent a highly simplified and idealized world, but are needed to obtain the CAPM in its basic form. The model has been extended in many ways to accommodate some of the complexities manifest in the real world. But under these assumptions, given prevailing prices, investors all will determine the same highest Sharpe Ratio portfolio of risky assets. Depending on their risk tolerance, each investor will allocate a portion of wealth to this optimal portfolio and the remainder to risk-free lending or borrowing. Investors all will hold risky assets in the same relative proportions.

For the market to be in equilibrium, the price (that is, the expected return) of each asset must be such that investors collectively decide to hold exactly the supply of the asset. If investors all hold risky assets in the same proportions, those proportions must be the proportions in which risky assets are held in the market portfolio—the portfolio comprised of all available shares of each risky asset. In equilibrium, therefore, the portfolio of risky assets with the highest Sharpe Ratio must be the market portfolio.

If the market portfolio has the highest attainable Sharpe Ratio, there is no way to obtain a higher Sharpe Ratio by holding more or less of any one asset. Applying the portfolio improvement rule, it follows that the risk premium of each asset must satisfy $E_S - r_f = \beta(E_M - r_f)$, where E_S and E_M are the expected return on the asset and the market portfolio, respectively, and β is the sensitivity of the asset's return to the return on the market portfolio.

We have just established the Capital Asset Pricing Model: In equilibrium, the expected return of an asset is given by

$$E_S = r_f + \beta(E_M - r_f).$$

This formula is the one that Sharpe, Treynor, Lintner and Mossin successfully set out to find. It is the relationship between expected return and risk that is consistent with investors behaving according to the prescriptions of portfolio theory. If this rule does not hold, then investors will be able to outperform the market (in the sense of obtaining a higher Sharpe Ratio) by applying the portfolio improvement rule, and if sufficiently many investors do this, stock prices will adjust to the point where the CAPM becomes true.

Another way of expressing the CAPM equation is

$$\text{Sharpe Ratio of Asset } S = \rho \times \text{Sharpe Ratio of the Market Portfolio.}^{6}$$

[6] Using the fact that that $\beta = \rho\sigma_S/\sigma_M$, the equation $E_S = r_f + \beta(E_M - r_f)$ can be rearranged to give $(E_S - r_f)/\sigma_S = \rho(E_M - r_f)/\sigma_M$, which is the expression in the text.

In other words, in equilibrium, the Sharpe Ratio of any asset is no higher than the Sharpe Ratio of the market portfolio (since $\rho \leq 1$). Moreover, assets having the same correlation with the market portfolio will have the same Sharpe Ratio.

The Capital Asset Pricing Model tells us that to calculate the expected return of a stock, investors need know two things: the risk premium of the overall equity market $E_M - r_f$ (assuming that equities are the only risky assets) and the stock's beta versus the market. The stock's risk premium is determined by the component of its return that is perfectly correlated with the market—that is, the extent to which the stock is a substitute for investing in the market. The component of the stock's return that is uncorrelated with the market can be diversified away and does not command a risk premium.

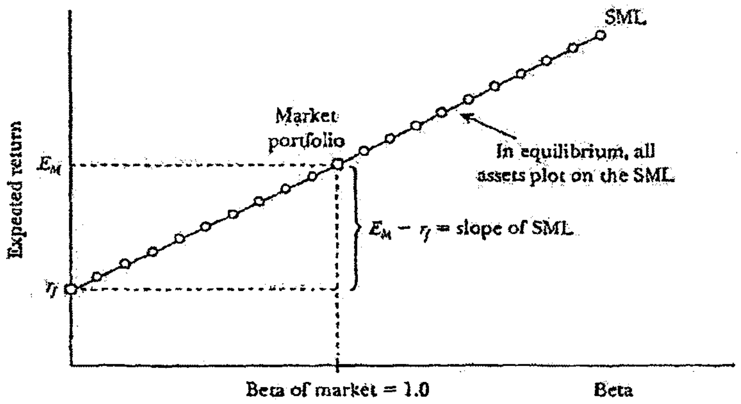
The Capital Asset Pricing Model has a number of important implications. First, perhaps the most striking aspect of the CAPM is what the expected return of an asset does *not* depend on. In particular, the expected return of a stock does not depend on its stand-alone risk. It is true that a high beta stock will tend to have a high stand-alone risk because a portion of a stock's stand-alone risk is determined by its beta, but a stock need not have a high beta to have a high stand-alone risk. A stock with high stand-alone risk therefore will only have a high expected return to the extent that its stand-alone risk is derived from its sensitivity to the broad stock market.

Second, beta offers a method of measuring the risk of an asset that cannot be diversified away. We saw earlier that any risk measure for determining expected returns would have to satisfy the requirement that the risk of a portfolio is the weighted average of the risks of the holdings in the portfolio. Beta satisfies this requirement. For example, if two stocks have market betas of 0.8 and 1.4, respectively, then the market beta of a 50/50 portfolio of these stocks is 1.1, the average of the two stock betas. Moreover, the capitalization weighted average of the market betas of all stocks is the beta of the market versus itself. The average stock therefore has a market beta of 1.0.

On a graph where the risk of an asset as measured by beta is on the horizontal axis and return is on the vertical axis, all securities lie on a single line—the so-called Securities Market Line shown in Figure 4. If the market is in equilibrium, all assets must lie on this line. If not, investors will be able to improve upon the market portfolio and obtain a higher Sharpe Ratio. In contrast, Figure 3 presented earlier measured risk on the horizontal axis as stand-alone risk, the standard deviation of each stock, and so stocks were scattered over the diagram. But remember that not all of the stand-alone risk of an asset is priced into its expected return, just that portion of its risk, $\rho\sigma_S$, that is correlated with the market portfolio.

Third, in the Capital Asset Pricing Model, a stock's expected return does not depend on the growth rate of its expected future cash flows. To find the expected return of a company's shares, it is thus not necessary to carry out an extensive financial analysis of the company and to forecast its future cash flows. According to the CAPM, all we need to know about the specific company is the beta of its shares, a parameter that is usually much easier to estimate than the expected future cash flows of the firm.

Figure 4
The Securities Market Line (SML)



Is the CAPM Useful?

The Capital Asset Pricing Model is an elegant theory with profound implications for asset pricing and investor behavior. But how useful is the model given the idealized world that underlies its derivation? There are several ways to answer this question. First, we can examine whether real world asset prices and investor portfolios conform to the predictions of the model, if not always in a strict quantitative sense, and least in a strong qualitative sense. Second, even if the model does not describe our current world particularly well, it might predict future investor behavior—for example, as a consequence of capital market frictions being lessened through financial innovation, improved regulation and increasing capital market integration. Third, the CAPM can serve as a benchmark for understanding the capital market phenomena that cause asset prices and investor behavior to deviate from the prescriptions of the model.

Suboptimal Diversification

Consider the CAPM prediction that investors all will hold the same (market) portfolio of risky assets. One does not have to look far to realize that investors do not hold identical portfolios, which is not a surprise since taxes alone will cause idiosyncratic investor behavior. For example, optimal management of capital gains taxes involves early realization of losses and deferral of capital gains, and so taxable investors might react very differently to changes in asset values depending on when they purchased the asset (Constantinides, 1983). Nevertheless, it will still be a positive sign for the model if most investors hold broadly diversified portfolios. But even here the evidence is mixed. On one hand, popular index funds make it possible for investors to obtain diversification at low cost. On the other hand, many workers hold concentrated ownership of company stock in employee retirement savings plans and many executives hold concentrated ownership of company stock options.

One of the most puzzling examples of suboptimal diversification is the so-called home bias in international investing. In almost all countries, foreign ownership of assets is low, meaning that investors tend to hold predominantly home country assets. For example, in 2003, foreign ownership accounted for only 10 percent of publicly traded U.S. equities and 21 percent of publicly traded Japanese equities. Japanese investor portfolios therefore deviate significantly from the world equity market portfolio: they own the vast majority of their home country equities, but only a tiny share of U.S. equities. By contrast, and as shown in Table 1, an investor holding the world equity market portfolio would be invested 48 percent in U.S. equities and only 10 percent in Japanese equities.

Why is suboptimal diversification so pervasive? Common explanations are that obtaining broad diversification can be costly, in terms of direct expenses and taxes, and that investors are subject to behavioral biases and lack of sophistication. None of these reasons, if valid, would mean that the CAPM is not useful. The CAPM tells us that investors pay a price for being undiversified in that they are taking risks for which they are not being compensated. Thus, there exists the potential for portfolio improvement, which in turn creates opportunities for investor education and financial innovation. Indeed, foreign ownership of equities in many countries has more than doubled over the last 20 years, most likely due to the increased availability of low-cost vehicles to invest globally and greater investor appreciation of the need for diversification. Investors today seem to be much better diversified than in decades past, a trend that appears likely to continue.

Performance Measurement

One of the earliest applications of the Capital Asset Pricing Model was to performance measurement of fund managers (Treynor, 1965; Sharpe, 1966; Jensen, 1968). Consider two funds, A and B, that are actively managed in the hope of outperforming the market. Suppose that the funds obtained returns of 12 percent and 18 percent, respectively, during a period when the risk-free rate was 5 percent and the overall market returned 15 percent. Assume further that the standard deviation of funds A and B were 40 percent per annum and 30 percent per annum, respectively. Which fund had the better performance?

At first glance, fund A had greater risk and a lower return than fund B, so fund B would appear to have been the better performing fund. However, we know from the CAPM that focusing on stand-alone risk is misleading if investors can hold diversified portfolios. To draw a firmer conclusion, we need to know how these funds are managed: Suppose that fund A consists of a high-risk but "market-neutral" portfolio that has long positions in some shares and short positions in others, with a portfolio beta of zero. Fund B, on the other hand, invests in selected high beta stocks, with a portfolio beta of 1.5.

Instead of investing in funds A and/or B, investors could have held corresponding mimicking or "benchmark" portfolios. For fund A, since its beta is zero, the benchmark portfolio is an investment in the risk-free asset; for fund B, the benchmark is a position in the market portfolio leveraged 1.5:1 with borrowing at the risk-free rate. The benchmark portfolios respectively would have returned 5 percent and 20 percent (= 5 percent + 1.5 × (15 percent − 5 percent)). Fund

Table 3
Evaluating Portfolio Managers with the CAPM

	Return	*Risk (S.D.)*	*Beta*	*Alpha*
Riskless asset	5%	0%	0.0	0%
Market portfolio	15%	20%	1.0	0%
Fund *A*	12%	40%	0.0	7%
Fund *B*	18%	30%	1.5	−2%

A thus outperformed its benchmark by 7 percent, while fund *B* underperformed its benchmark by 2 percent, as shown in Table 3.

In terms of the CAPM framework, funds *A* and *B* had alphas of 7 percent and −2 percent, respectively, where alpha is the difference between a fund's performance and that predicted given the beta of the fund. Appropriately risk adjusted, fund *A*'s performance (alpha = 7 percent) exceeded that of fund *B* (alpha = −2 percent). An investor who held the market portfolio would, at the margin, have obtained a higher return *for the same risk* by allocating money to fund *A* rather than to fund *B*.[7]

The key idea here is that obtaining high returns by owning high beta stocks does not take skill, since investors can passively create a high beta portfolio simply through a leveraged position in the market portfolio. Obtaining high returns with low beta stocks is much harder, however, since such performance cannot be replicated with a passive strategy. Investors therefore need to assess performance based on returns that have been appropriately risk adjusted. The CAPM provides a clear framework for thinking about this issue.

The CAPM and Discounted Cash Flow Analysis

According to the CAPM, the appropriate discount rate for valuing the expected future cash flows of a company or of a new investment project is determined by the risk-free rate, the market risk premium and the beta versus the market of the company or project. Accuracy in estimating these parameters matters greatly for real world decisionmaking since, for long-dated cash flows, an error in the discount rate is magnified manyfold when calculating the net present value.

Beta is usually estimated with use of linear regression analysis applied to historical stock market returns data. Beta can in many circumstances be accurately measured this way even over a relatively short period of time, provided that there is sufficient high-frequency data. When the company or project being valued is not publicly traded or there is no relevant return history, it is customary to infer beta from comparable entities whose betas can be estimated. But measurement issues can arise even if the availability of market returns data is not an issue, for example when the covariance with

[7] This assumes that the beta of the overall portfolio is held constant—by holding more of the market portfolio if money is allocated to fund *A* and less of the market portfolio if money is allocated to fund *B*.

the market is time varying and when local stock market indexes are used as proxies for the broad market portfolio because the latter is not well specified.

The hardest of all parameters to estimate is usually the market risk premium. The historical risk premium is estimated from the average of past returns and, unlike variance-related measures like beta, average returns are very sensitive to the beginning and ending level of stock prices. The risk premium must therefore be measured over long periods of time, and even this may not be sufficient if the risk premium varies over time.

None of these measurement questions poses a problem for the CAPM per se, however. The market risk premium is common to all models of cash flow valuation, and its estimation needs to be performed regardless of the difficulty of the task. Provided that the CAPM is the "right" model, beta too needs to be estimated, irrespective of difficulty.

Extensions of the CAPM

The Capital Asset Pricing Model has been extended in a variety of ways. Some of the best-known extensions include allowing heterogenous beliefs (Lintner, 1969; Merton, 1987); eliminating the possibility of risk-free lending and borrowing (Black, 1972); having some assets be nonmarketable (Mayers, 1973); allowing for multiple time periods and investment opportunities that change from one period to the next (Merton, 1973; Breeden, 1979); extensions to international investing (Solnik, 1974; Stulz, 1981; Adler and Dumas, 1983); and employing weaker assumptions by relying on arbitrage pricing (Ross, 1976). In most extensions of the CAPM, no single portfolio of risky assets is optimal for everyone. Rather, investors allocate their wealth differentially among several risky portfolios, which across all investors aggregate to the market portfolio.

To illustrate, consider the International Capital Asset Pricing Model. This model takes into account that investors have consumption needs particular to the country in which they are resident. Thus, British investors will worry about the purchasing power of pounds while American investors worry about the purchasing power of dollars, which means that British and American investors will differently assess the incremental contribution that any particular asset makes to portfolio risk. As a result, they will hold somewhat different portfolios.[8] In the basic CAPM, investors care about only one risk factor—the overall market. In this international version of the model, they are also concerned about real currency fluctuations. This insight leads to a model of expected returns involving not only the beta of an asset versus the overall market, but also the betas of the asset versus currency movements and any other risk that is viewed differently by different investor segments.

Almost all variants of the CAPM have a multi-beta expression for expected

[8] British investors who own American assets will hedge a portion of their real pound/dollar exchange rate exposure by borrowing in dollars and lending in pounds, and American investors who own British assets will hedge a portion of their real dollar/pound exchange rate exposure by borrowing in pounds and lending in dollars. British and American investors thus will lend to and borrow from each other, and they will have opposite exposures to the dollar/pound exchange rate.

return. They are derived from the same basic notions: 1) investors will hold portfolios that are optimized given their specific needs, constraints and risk preferences; 2) in equilibrium, asset prices reflect these demands; and 3) assets with high expected returns are those that are correlated with any risk that a significant group of investors has been unable to eliminate from their portfolios.

Whether the basic CAPM or one of its multifactor extensions is the "correct" model of asset prices is ultimately an empirical question, one that is discussed in detail by Fama and French in their companion paper in this journal. Initial tests of the CAPM by Black, Jensen and Scholes (1972) and Fama and MacBeth (1973) supported the theory in that high beta stocks were found to have had higher returns than low beta stocks. However, the relationship between beta and average returns was not as steep as indicated by the theoretical Securities Market Line.

Since this early work, a vast body of research has looked for additional risk factors that affect expected returns. Most notably, Fama and French (1992) find that adding a "value" factor and a "size" factor (in addition to the overall market) greatly improves upon the explanatory power of the CAPM. The pervasiveness of these findings in follow-up research across time and other countries provides strong evidence that more than one systematic risk factor is at work in determining asset prices. However, the value and size factors are not explicitly about risk; at best, they are proxies for risk. For example, size per se cannot be a risk factor that affects expected returns, since small firms would then simply combine to form large firms. Another criticism of the Fama-French findings is that their value effect is based on giving equal weight to small and large companies and is much stronger than observed in capitalization-weighted value indexes. Until the risks that underlie the Fama-French factors are identified, the forecast power of their model will be in doubt and the applications will be limited.

Conclusion

The Capital Asset Pricing Model is a fundamental contribution to our understanding of the determinants of asset prices. The CAPM tells us that ownership of assets by diversified investors lowers their expected returns and raises their prices. Moreover, investors who hold undiversified portfolios are likely to be taking risks for which they are not being rewarded. As a result of the model, and despite its mixed empirical performance, we now think differently about the relationship between expected returns and risk; we think differently about how investors should allocate their investment portfolios; and we think differently about questions such as performance measurement and capital budgeting.

■ *I thank Josh Coval, Mihir Desai, Craig French, Ken Froot, Jim Hines, Elon Kohlberg, Adam Perold, Melissa Perold, Andrei Shleifer, Bill Sharpe, René Stulz, Timothy Taylor, Luis Viceira and Michael Waldman for helpful discussions and comments.*

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BEFORE THE ARIZONA CORPORATION C...

COMMISSIONERS

Arizona Corporation Commission
DOCKETED
NOV 27 2007

DOCKETED BY ne

MIKE GLEASON, Chairman
WILLIAM A. MUNDELL
JEFF HATCH-MILLER
KRISTIN K. MAYES
GARY PIERCE

IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS GAS, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.	DOCKET NO. G-04204A-06-0463
IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. TO REVIEW AND REVISE ITS PURCHASED GAS ADJUSTOR.	DOCKET NO. G-04204A-06-0013
IN THE MATTER OF THE INQUIRY INTO THE PRUDENCE OF THE GAS PROCUREMENT PRACTICES OF UNS GAS, INC.	DOCKET NO. G-04204A-05-0831 DECISION NO. 70011 **OPINION AND ORDER**

DATES OF HEARING:	April 16, 17, 18, 19, 20, 24, and 25, 2007.
PLACE OF HEARING:	Phoenix, Arizona
ADMINISTRATIVE LAW JUDGE:	Dwight D. Nodes
IN ATTENDANCE:	Mike Gleason, Chairman Kristin K. Mayes, Commissioner
APPEARANCES:	Mr. Michael W. Patten and Mr. Timothy Sabo, ROSHKA, DEWULF & PATTEN, P.L.C. and Ms. Michelle Livengood, UNISOURCE ENERGY SERVICES, on behalf of Applicant; Mr. Scott S. Wakefield, Chief Counsel, on behalf of the Residential Utility Consumer Office; Ms. Cynthia Zwick, Executive Director, Arizona Community Action Association; Mr. Marshall Magruder, in propria persona; and Mr. Keith Layton and Ms. Maureen Scott, Staff Attorneys, Legal Division, on behalf of the Utilities Division of the Arizona Corporation Commission.

RUCO

RUCO witness William Rigsby proposes adoption of a ROE of 9.84 percent based on his analysis using DCF and CAPM methodologies (RUCO Ex. 8 at 2). As noted above, Mr. Rigsby employed a single-stage DCF analysis, as opposed to the multi-stage version used by UNS. RUCO contends that Mr. Rigsby's DCF analysis is appropriate because it takes into consideration both short-term and long-term growth projections that are specific to the LDCs used in Mr. Rigsby's proxy group (RUCO Ex. 7 at 46).

RUCO is critical of Company witness Grant's DCF model, which RUCO claims assumes a long-term growth rate for LDCs that would be comparable to an inflation-adjusted growth rate for all goods and services produced by labor and property in the United States in perpetuity. According to Mr. Rigsby, a valid argument could be made that regulated utility company growth rates may not be comparable to national Gross Domestic Product ("GDP") growth rates, and therefore, the multi-stage DCF advocated by UNS is inappropriate (*Id.*). Mr. Rigsby also stated that the multi-stage DCF used by the FERC requires more weight to be given to short-term growth expectations rather than inflation-adjusted estimates of future GDP growth (RUCO Ex. 8 at 9). Mr. Rigsby pointed out that if the Company's DCF inputs (excluding Cascade Natural Gas – which RUCO claims has a stock price that is affected by a merger proposal) were applied to RUCO's single-stage DCF model, the resulting mean average would be significantly less than even Mr. Rigsby's DCF estimate (RUCO Ex. 7 at 47).

With respect to its CAPM analysis, RUCO asserts that the use of both geometric and arithmetic means of historical returns is more reasonable than the Company's exclusive reliance on arithmetic returns (*Id.* at 28). Similar to the arguments made by Staff (see below), RUCO contends that it is appropriate to use both means in the CAPM analysis, because investors have access to both forms of information regarding historical returns. Mr. Rigsby added that he believes the geometric mean provides "a truer picture of the effects of compounding on the value of an investment when return variability exists" (RUCO Ex. 8 at 12).

RUCO also disagrees with UNS regarding the effect that customer growth should have on the Company's return on equity. Contrary to the Company's claim that high growth presents additional risk that must be reflected through a higher authorized return, RUCO argues that high growth in

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BEFORE THE ARIZONA CORPORATION COMMISSION

IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS GAS, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.

DOCKET NO. G-04204A-08-0571

At: Phoenix, Arizona

Date: August 10, 2009

Filed: August 14, 2009

REPORTER'S TRANSCRIPT OF PROCEEDINGS

VOLUME I
(Pages 1 through 238)

ARIZONA REPORTING SERVICE, INC.
Court Reporting
Suite 502
2200 North Central Avenue
Phoenix, Arizona 85004-1481

By: MICHELE E. BALMER
Certified Reporter
Certificate No. 50489

Prepared for:

equity or authorized rate of return that you had.

A. Well, actually, in my testimony I cite a Value Line publication that indicates gas utilities on average are earning 11 to 12 percent, not 10 percent. Mr. Parcell's own comparable earnings analysis also indicate that gas utilities are earning returns on equity in the 11 to 12 percent range.

Q. My question would be, given that your equity position to debt ratio is roughly comparable to the rest of the industry, why is it that UNS is unable to provide a return or dividend to its investors when these other companies are able to do that?

A. Weak earnings and weak cash flow.

Q. And why the weak earnings?

A. Well, for one reason, we were granted, I believe, $5 million or thereabouts in our last rate case compared to -- I believe it was about $9.5 million requested increase in our last case. Another reason being that we have a heavily volumetric rate design, so it's feast or famine as far as the weather is concerned.

Q. And yet you acknowledge that at the beginning part of 2008, the company benefited from the feast, so to speak, on the weather, and yet you still projected that for 2008 the company is going to struggle financially, correct?

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UNS GAS, INC.

DOCKET NO. G-04204A-08-0571

DIRECT TESTIMONY

OF

WILLIAM A. RIGSBY, CRRA

ON BEHALF OF

THE

RESIDENTIAL UTILITY CONSUMER OFFICE

JUNE 8, 2009

Q. What are the results of your CAPM analysis?

A. As shown on pages 1 and 2 of Schedule WAR-7, my CAPM calculation using a geometric mean to calculate the risk premium results in an average expected return of 5.26 percent. My calculation using an arithmetic mean results in an average expected return of 6.39 percent.

Q. Please summarize the results derived under each of the methodologies presented in your testimony.

A. The following is a summary of the cost of equity capital derived under each methodology used:

METHOD	**RESULTS**
DCF	11.40%
CAPM	5.26% – 6.39%

Based on these results, my best estimate of an appropriate range for an original cost of equity capital for UNSG is 5.26 percent to 11.40 percent. My final recommended original cost of equity capital figure is 8.61 percent.

…

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Moody's Investors Service

Global Credit Research
Credit Opinion
23 JUL 2009

Credit Opinion: UNS Gas, Inc.

UNS Gas, Inc.

Tucson, Arizona, United States

Ratings

Category	Moody's Rating
Outlook	Stable
Bkd Senior Unsecured	Baa3
Ult Parent: UniSource Energy Corporation	
Outlook	Stable
Sr Sec Bank Credit Facility	Ba1

Contacts

Analyst	Phone
Laura Schumacher/New York	212.553.3853
William L. Hess/New York	212.553.3837

Opinion

Rating Drivers

Stable regulated operations with in historically challenging regulatory environment

Limited non-regulated exposure and ring-fencing

Strong credit metrics

Cross-support within UES family

Corporate Profile

UNS Gas, Inc. (UNSE: Baa3 senior unsecured (guaranteed), stable) is local distribution utility serving approximately 146,000 retail customers in Arizona. UNSG and UNS Electric, Inc. (UNSE: Baa3 senior unsecured (guaranteed), stable), a regulated electric utility in Arizona, are both subsidiaries of UniSource Energy Services (UES) which is the guarantor. UES is a wholly owned subsidiary of UniSource Energy Corporation (UNS: Ba1 senior secured bank credit facility (security limited to stock of certain subsidiaries), stable), whose largest subsidiary is Tucson Electric Power (TEP: Baa3 senior unsecured, stable), a regulated electric utility in Arizona.

SUMMARY RATING RATIONALE

The Baa3 rating assigned to UNSG's senior unsecured notes reflects the interdependence that currently exists between the company and its affiliate UNSE as a result of their shared credit facility and parental guarantee from UES. The rating reflects our view of the consolidated credit quality of UES, which guarantees the debt of both UNSG and UNSE. On a stand-alone basis, UNSG has a credit profile moderately better than its rating as evidenced by metrics that map to rating levels within the LDC gas utility methodology that are somewhat stronger than its rating category.

TAILED RATING CONSIDERATIONS

Regulated operations in historically challenging environment

Virtually all of UNSG's operations are regulated. Moody's generally views a significant percentage of regulated

UNSG-19

operations as positive for credit quality as regulated cash flows tend to be more stable and predictable than those of unregulated companies. This key factor is tempered somewhat by the regulatory environment of Arizona, which Moody's generally ranks below average for U.S. regulatory jurisdictions in terms of expectation of timely recovery of costs and predictability of rate decisions. Moody's also notes that three new commissioners began their term in ' ıuary 2009 and it is not clear how or whether this might impact Moody's perception of the regulatory ironment in Arizona over time.

Regulatory lag continues although moderating capital expenditures are a mitigant

UNSG's last fully litigated rate case was resolved in approximately 16 months with new rates in place reflecting a historic test year that ended two years before the decision. This level of regulatory lag makes adequate and timely recovery difficult to achieve. UNS Gas filed a general rate case in November 2008 requesting a $10 million rate increase (6%) premised on an 11% ROE and 50% equity ratio using a June 2008 test year end. A decision is expected by late 2009 or early 2010. Moody's expects further need for rate cases over the medium-term due to regulatory lag and on-going capital expenditures. The utility is not expected to earn its 10% allowed ROE during this time unless it receives adequate rate relief.

Capital expenditures were above $22 million annually from 2005-2007 but are expected to generally remain below $20 million over the near-term. Moderating capital expenditures reduces the need for regulatory relief though lag is expected to continue.

Effective recovery of purchased gas costs

UNSG has a gas cost recovery mechanism that appears to be functioning adequately. The Purchased Gas Adjustor mechanism may be changed monthly based on a comparison of rolling twelve-month average actual gas cost and gas costs in base rates, though there are limits to the levels of adjustments over a twelve month period. UNSG may also request a surcharge to recover deferred balances. As of March 31, 2009, UNSG had a $6 million over recovered purchased gas costs balance included as a current liability.

Due to the traditionally challenging regulatory environment in Arizona, as well as the uncertainty surrounding the impact of new commissioners, the regulatory supportiveness factor has been scored in the Ba range in the LDC methodology framework.

...ı-regulated exposure and ring-fencing within UES is limited

Although UNSG's risk of exposure to non-regulated activities is considered quite modest as both UNSG and UNSE are fully regulated, there is significant interdependence between the UES subsidiaries in the form of a shared credit agreement and parental guarantee. Services are also shared with UniSource's primary regulated utility TEP. UNSG contributed approximately 63% of consolidated UES' EBIT and 14% of consolidated UNS' EBIT.

The Arizona Corporation Commission (ACC) has not restricted UNSG's ability to pay dividends to its parent; however, the utility has not paid a dividend over the last several years. There are dividend restrictions under the company's notes and credit agreement, but UNSG is well within the limits imposed by these documents. Overall, ring-fencing at UNSG maps within the Baa criteria outlined in the LDC Methodology.

Cross support of debt within UES constrains rating

The rating also recognizes the position of UNSE and UNSG as indirect subsidiaries of UNS through UES. UES is an intermediate holding company with no operations or debt. Debt at UNSE and UNSG is guaranteed by UES, which creates cross-support. UES has not historically received any dividend payments from its utility subsidiaries, and none are anticipated for the foreseeable future. UNS has periodically contributed equity to UNSG in support of its capital program and to strengthen its balance sheet.

Improved metrics provide credit support for weaker regulatory environment

Credit metrics overall reflect on-going regulatory lag issues as well as the benefits of cost controls, and a modest debt profile.

ROE, EBIT/Customer and EBIT/Interest

ȝG's average ROE, EBIT/Customer and EBIT/Interest have historically mapped to the lower Baa/high Ba level. In 2008, metrics improved moderately due to the impact of the base rate increase in late 2007 and slowing customer growth; however, they continue to map to the high Ba/low Baa level. UNSG's metrics could improve moderately within the Baa rating range if regulatory lag is reduced or the company receives better than anticipated rate relief.

RCF/Debt, Debt to Capitalization and FCF/FFO

UNSG's cash flow and debt-related credit metrics have historically mapped to the upper Baa/low A level. Retained and free cash flow have improved as UNSG has not paid dividends to its parent recently and capital expenditures have begun to decline. This has allowed retained earnings to increase equity capitalization and also reduce the need for new debt financing. Continued moderating levels of capital expenditures are expected to increase free cash flow and debt financing is expected to be minimal over the near-term. Beyond 2010, free cash flow is expected to once again become negative unless rate relief is better than anticipated. Over time, these metrics could improve to the low A range.

Liquidity Profile

UNSG's cash flow profile has generally been stable with operating cash flow approximately covering capital expenditures; however, in 2008, cash from operations of $2.8 million were significantly below capital expenditures of approximately $16 million. Cash on hand was used to meet the shortfall as cash flow was significantly impacted by collateral postings and refunds from over-recovered purchased gas costs. Over the near-term, capital expenditures of $19-21 million annually are expected to continue to be funded roughly by cash flow from operations.

UNSG has two $50 million issues of senior unsecured notes outstanding, one maturing in August 2011 and one maturing in 2015. UNSG's short term liquidity needs are supported by a joint UNSG/UNSE $60 million credit facility which matures August 2011. Either borrower may borrow up to a maximum of $45 million, so long as the combined amount does not exceed $60 million. As of March 31, 2009, there were no amounts drawn on the facility but UNSE had $17 million of letters of credit outstanding and UNSG had $5 million of letters of credit outstanding which reduced availability under the facility.

The UNSG/UNSE credit facility contains two financial covenants applicable to each borrower: for UNSE a maximum debt to capital ratio of 65% and a minimum interest coverage ratio of 2.25 times, for UNSG a maximum debt to capital ratio of 67%, and a minimum interest coverage of 2.25 times. As of March 31, 2009, the ratios were 54% and 4.01 times at UNSE and 50% and 4.02 times at UNSG. The credit facility requires a material adverse change (MAC) representation at each new borrowing. In Moody's opinion, the requirement of a MAC representation significantly increases the risk that the credit facility may not be available when liquidity needs are greatest.

Moody's assumes that UNSG will manage the amount of its near term obligations within the limits of its available sources of cash, including its committed bank credit facilities.

Rating Outlook

The stable outlook for UNSG reflects our expectations of continued stable or modestly improved cash flows resulting from expected rate case decisions, an assumption that any increases in the cost of gas will continue to be recovered on a relatively timely basis, and our understanding that future capital expenditures will be financed in a manner intended to maintain UNSG's current level of financial strength and flexibility.

What Could Change the Rating - Up

UNSG's rating is currently constrained by its interdependence with UNSE and our view of the consolidated credit quality of UES. In the event this interdependence was reduced while UNSG retained its similar credit profile, the rating or outlook could be revised upward. Alternatively, if there were to be an improvement in the consolidated credit quality of UES, this could result in positive rating action for UNSG.

What Could Change the Rating - Down

A downward revision could occur if there is deterioration in the credit quality or ratings of UES or UNSE or UNSG credit metrics decline to the low Baa/high Ba range, for example, RCF/Debt below 10% or EBIT / Interest coverage of less than 2x, or if regulatory support significantly worsens, then there could be a downward revision in the rating or outlook.

Rating Factors

UNS Gas, Inc.

Local Gas Distribution	Aaa	Aa	A	Baa	Ba	B	Caa
Factor 1: Sustainable Profitability (20%)							

a) Return on Equity (15%)				X			
b) EBIT to Customer Base (5%)				X			
Factor 2: Regulatory Support (10%)							
Regulatory Support and Relationship					X		
Factor 3: Ring Fencing (10%)							
a) Ring Fencing				X			
Factor 4: Financial Strength and Flexibility (60%)							
a) EBIT/Interest (15%)				X			
b) Retained Cash Flow/Debt (15%)			X				
c) Debt to Book Capitalization (excluding goodwill) (15%)				X			
d) Free Cash Flow/Funds from Operations (15%)			X				
Rating:							
a) Methodology Model Implied Senior Unsecured Rating				**Baa2**			
b) Actual Senior Unsecured Equivalent Rating				**Baa3**			

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DATA REQUEST PACKET NO. 2

Staff's Responses to UNS Gas' Data Requests:

UNSG 2.28	UNSG 3.88
UNSG 2.36	UNSG 3.92
UNSG 2.43	UNSG 3.95
UNSG 2.44	UNSG 3.98
UNSG 3.78	UNSG 3.102
UNSG 3.83	UNSG 3.103
UNSG 3.84	UNSG 3.104
	UNSG 3.105

UNSG-36

UNSG 3.92 Regarding the discussion of investor expectations appearing on page 26, lines 9-17, of Mr. Parcell's Direct Testimony:

a. Does Mr. Parcell agree that two investors could have identical expectations of future dividends and earnings, yet reach different conclusions regarding valuation of a stock due to different perceptions of risk or different tolerances for bearing risk? If the answer is no, please explain.

b. Does Mr. Parcell agree that stock price declines can be produced by changing perceptions of risk or changes in investor risk aversion, even if future expectations of dividends and earnings have not changed? If the answer is no, please explain.

RESPONSE:

a. **Yes, in part. Other factors could also play a role in the different conclusions.**

b. **Yes, but in the recent several months, it is widely believed that the financial crisis and recession are largely responsible for the declines in stock prices.**

RESPONDENT: **DAVID C. PARCELL**

WITNESS: **DAVID C. PARCELL**

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BEFORE THE ARIZONA CORPORATION COMMISSION

KRISTIN K. MAYES
Chairman
GARY PIERCE
Commissioner
PAUL NEWMAN
Commissioner
SANDRA D. KENNEDY
Commissioner
BOB STUMP
Commissioner

IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS GAS, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.	)	DOCKET NO. G-04204A-08-0571

DIRECT

TESTIMONY

OF

DAVID C. PARCELL

ON BEHALF OF THE

UTILITIES DIVISION STAFF

ARIZONA CORPORATION COMMISSION

JUNE 08, 2009

commercial and industrials – and, in most cases, the impact is greater than is the case for UNS Gas. UNS Gas is a regulated utility that sells a product that has no real substitutes and is a product that consumers can do little to control the amount they use. As such, UNS Gas and utilities are partially, if not largely, insulated from the impacts of depressed economic conditions.

Second, the major impact of a recession will be to depress the profits of most enterprises. As a result, it is to be expected that capital costs will decrease in tandem with a significant recession. There is no justification for increasing the profit level of a regulated utility such as UNS Gas at the same time that other enterprises are experiencing lower profits.

Third, even if UNS Gas were to incur higher costs of debt and/or other capital costs, these costs can be passed along to ratepayers at the next rate proceeding. Unregulated firms cannot do this.

Fourth, there is no indication that UNS Gas' risks have increased since its last rate proceeding. Absent a demonstration that UNS Gas' risks have increased, there is no justification for increasing its cost of equity.

Fifth, the United States and global governments have and are taking extraordinary measures to avoid a further worsening of the current market turmoil. Most of these measures are designed to put liquidity into the credit markets and make credit more accessible again and, in the process, restore more confidence to the financial markets. All of these measures are clearly designed to lower the cost of capital. In this

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DATA REQUEST PACKET NO. 2

Staff's Responses to UNS Gas' Data Requests:

UNSG 2.28
UNSG 2.36
UNSG 2.43
UNSG 2.44
UNSG 3.78
UNSG 3.83
UNSG 3.84
UNSG 3.88
UNSG 3.92
UNSG 3.95
UNSG 3.98
UNSG 3.102
UNSG 3.103
UNSG 3.104
UNSG 3.105

UNSG-36

UNSG 3.95 Regarding the five points raised by Mr. Parcell in support of his assertion that the cost of capital has not increased for UNS Gas, which appear on pages 38-40 of his Direct Testimony:

As to the first point, please explain in detail how UNS Gas is "partially, if not largely, insulated from the impacts of depressed economic conditions."

a. Has Mr. Parcell examined the sales levels of UNS Gas since the "depressed financial conditions and financial crisis" arrived in late 2008? If so, please provide any analysis performed along with the conclusions reached.

b. If the "availability of capital" has been reduced, as discussed on page 14, lines 24-25 of his Direct Testimony, please explain how UNS Gas would be "insulated" from this problem.

c. As to the second point, please explain in detail how depressed profits in a recession cause a decreased in "capital costs."

   i. In this context, does Mr. Parcell equate "capital cost" with the "cost of capital"? Please explain.

d. As to the third point, is it Mr. Parcell's position that the Commission should ignore any increases to UNS Gas' cost of capital for purposes of setting rates in this proceeding, even if such increase is demonstrated and amply supported through evidence presented in this proceeding? Please explain.

e. As to the fourth point, does Mr. Parcell agree that an increase in the market price of risk (i.e., increase in investor risk aversion) can result in an increase in the cost of capital to a firm, even if that firm's risk profile has not changed? If the answer is no, please explain.

f. As to the fifth point, how would it be "counter-productive" to claim that UNS Gas should have a higher return at this time?

g. To whom would it be "counter-productive," and in what sense?

RESPONSE:

a. UNS Gas provides a service for which there are limited substitutes, at least in the short term. In addition, there are limited opportunities for substantially reducing the usage of natural gas. This is in contrast to the services or products sold by many unregulated firms.

b. He has not.

c. **Objection, this data request misstates Mr. Parcell's testimony. Mr. Parcell did not claim that UNS Gas is insulated from the "availability of capital" concept he cited in his testimony. On the other hand, Mr. Parcell observes that UNS Gas has raised new debt capital in recent months.**

d. **Decreased profits in a recession reflect a decline in the opportunity cost – the returns available from alternative investments.**

e. **Mr. Parcell believes that any actual costs, including capital costs, should be considered by the Commission for inclusion in rates.**

f. **Mr. Parcell believes such a situation is not the facts at this time.**

g. **It would be counter productive to use the existence of governmental efforts to reduce the cost of capital as an excuse to increase the cost of equity for a regulated utility.**

RESPONDENT: DAVID C. PARCELL

WITNESS: DAVID C. PARCELL

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BEFORE THE ARIZONA CORPORATION COMMISSION

IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS GAS, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.

DOCKET NO. G-04204A-08-0571

At: Phoenix, Arizona

Date: August 10, 2009

Filed: August 14, 2009

REPORTER'S TRANSCRIPT OF PROCEEDINGS

VOLUME I
(Pages 1 through 238)

ARIZONA REPORTING SERVICE, INC.
Court Reporting
Suite 502
2200 North Central Avenue
Phoenix, Arizona 85004-1481

By: MICHELE E. BALMER
Certified Reporter
Certificate No. 50489

Prepared for:

testimony at the time we filed the case, we believed that would allow us to earn the 11 percent cost of equity that we've indicated.

Since that time, our sales have decreased fairly significantly, and now we're looking at, at best, turning to 10 percent return on equity with that $9.5 million rate increase.

CHMN. MAYES: Okay.

ACALJ NODES: One other question before I give it back to Mr. Pozefsky.

FURTHER EXAMINATION

Q. (BY ACALJ NODES) He referenced the rating agencies and their view of the Arizona Commission's, I guess, support for utility companies in general. Do you recall that?

A. Yes.

Q. Would you agree that rating agencies are looking at public utility regulatory commissions solely from the perspective of investor interests, and not in any way from the perspective of customer interests?

A. I would say generally you're correct. I mean, they're interested in looking at the probability of a bondholder recovering his principal and earning his or her

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BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS
KRISTIN K. MAYES - CHAIRMAN
GARY PIERCE
PAUL NEWMAN
SANDRA D. KENNEDY
BOB STUMP

IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS GAS, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.	DOCKET NO. G-04204A-08-0571

Rebuttal Testimony of

Kentton C. Grant

on Behalf of

UNS Gas, Inc.

July 8, 2009

impact on the validity of the results obtained. Unfortunately, based on a review of the growth rates selected by Mr. Parcell, it is apparent that many of the growth rates he used are unrealistically low, especially when adjusted for inflation. As a result, the cost of equity he determined from his DCF analysis, 9.5% to 10.5%, is much too low.

Q. What has the Commission said about the constant growth version of the DCF?

A. The Commission has often rejected use of the constant growth or single stage DCF when used in isolation. The Commission has recognized that investors do not expect a single, uniform growth rate, explaining that use of the multi-stage DCF "properly recognizes that investors expect both non-constant short-term growth as well as constant long term growth."[2] Thus, the Commission often considers both types of DCF, and averages the results of the two to produce an overall DCF estimate. Staff has proposed, and the Commission has approved, that approach to the DCF in many orders.[3]

Q. Please explain your concern over the growth rates selected by Mr. Parcell.

A. The growth rates used by Mr. Parcell in his DCF analysis can be found in the next to last column of data on page 4 of Schedule 7 attached to his Direct Testimony. These "average" growth rates reflect the numerical average of five growth rates, two of which are based on historical financial data and three of which are forward-looking estimates. If you look carefully at the "average" growth rates used by Mr. Parcell, two things stand out. First, the range of values selected is quite wide, especially for the group of gas distribution utilities labeled as the "Grant Comparable Company Group." Since all of these companies operate within the same heavily regulated industry, and face many of the same threats and opportunities as other firms in this industry, it is unrealistic to believe that investors would expect infinite growth rates ranging from a low of 3.3% to a high of 7.3%. While it is

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[2] Decision 66849 at 22.

[3] See e.g. No. 68176 at page 21 (stating Staff's approach) and 26 (agreeing with Staff); Decision No. 68858 at 25, 28; Decision No. 69164 at 23, 26; Decision No. 69440 at 18, 20; Decision No. 70209 at 27, 30.

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ORIGINAL

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

Arizona Corporation Commission
DOCKETED

MAR 1 9 2004

DOCKETED BY

MARC SPITZER, Chairman
WILLIAM A. MUNDELL
JEFF HATCH-MILLER
MIKE GLEASON
KRISTIN K. MAYES

IN THE MATTER OF THE APPLICATION OF ARIZONA WATER COMPANY, AN ARIZONA CORPORATION, FOR ADJUSTMENTS TO ITS RATES AND CHARGES FOR UTILITY SERVICE FURNISHED BY ITS EASTERN GROUP AND FOR CERTAIN RELATED APPROVALS.

DOCKET NO. W-01445A-02-0619

DECISION NO. 66849

OPINION AND ORDER

DATES OF HEARING:	March 31, 2003 and September 17, 2003 (pre-hearings), September 22, 23, 24, 25 and 26, 2003, December 8, 2003 (oral argument)
PLACE OF HEARING:	Phoenix, Arizona
ADMINISTRATIVE LAW JUDGE:	Dwight D. Nodes
IN ATTENDANCE:	Mike Gleason, Commissioner
APPEARANCES:	Mr. Jay Shapiro and Mr. Norman James, FENNEMORE CRAIG, on behalf of Arizona Water Company;
	Mr. Daniel Pozefsky on behalf of the Residential Utility Consumer Office;
	Ms. Kay Bigelow, City Attorney, on behalf of the City of Casa Grande;
	Mr. Robert Skiba, in propria persona; and
	Mr. Timothy J. Sabo and Mr. Gary Horton, Staff Attorneys, Legal Division, on behalf of the Utilities Division of the Arizona Corporation Commission.

Arizona Corporation Commission
DOCKETED

MAR 1 9 2004

DOCKETED BY

BY THE COMMISSION:

I. INTRODUCTION

On August 14, 2002, Arizona Water Company ("Arizona Water," "Company" or Applicant") filed an application with the Arizona Corporation Commission ("Commission") for a rate increase for the Company's Eastern Group systems. Arizona Water supplies water to approximately 60,000 customers in eight Arizona counties under 18 separate water systems. The rate application filed in companies used in RUCO's analyses, thus reducing the risk associated with investing in Arizona Water (Id. at 32-39). RUCO argues that the Company's cost of capital recommendation fails to recognize Arizona Water's lower risk. RUCO requests that its proposed cost of capital recommendation be adopted for purposes of setting rates in this proceeding.

We agree that Staff's analysis represents a fair and reasonable estimate of Arizona Water's cost of equity for purposes of this proceeding. As described above, Staff calculated an estimated equity cost of 9.2 percent by taking an average of two DCF models (constant growth and multi-stage) and the CAPM model. Although Arizona Water's witnesses are critical of Staff's analysis, we believe the Company's recommendation has several flaws.

First, Arizona Water's infinite growth DCF model averaged the near-term growth forecast for the entire water utility industry rather than an average of near-term growth forecasts. As Mr. Reiker pointed out, including the entire industry creates a mismatch between the expected dividend growth rate and the expected dividend yield, thereby producing a less accurate cost of equity estimation (Ex. S-38, at 38). We also agree with Staff's witness that the Company's exclusive reliance on analyst forecasts erroneously assumes that investors rely only on near-term earnings and sustainable growth without considering past earnings. Reliance solely on analyst projections tends to result in inflated growth projections without considering DPS and past EPS growth, information that even Dr. Zepp has acknowledged should be considered in determining estimated growth (Id. at 44-45). We believe that Staff's multiple component DCF analysis properly recognizes that investors expect both non-constant short-term growth as well as long-term constant growth.

With respect to the competing "risk premium" analyses, we believe Staff's CAPM model properly takes into account risk for purposes of estimating equity costs. Mr. Reiker stated that Arizona Water's reliance on forecasted Baa bond rates is less reliable because such bond forecasts have historically been inaccurate. Thus, according to Staff, the accuracy of the Company's risk premium analysis is suspect. We agree with Staff that assessing the risk premium based on corporate bond yields is inappropriate because the default risk for corporate bonds can change significantly over time (Ex. S-38, at 46-49). We believe Staff's CAPM analysis, which includes a risk variable, is a reasonable means of estimating Arizona Water's cost of equity in this case and is preferable to the

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BEFORE THE ARIZONA CORPORATION COMMISSION

Arizona Corporation Commission
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COMMISSIONERS

JEFF HATCH-MILLER, Chairman
WILLIAM A. MUNDELL
MARC SPITZER
MIKE GLEASON
KRISTIN K. MAYES

IN THE MATTER OF THE APPLICATION OF CHAPARRAL CITY WATER COMPANY, AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE CURRENT 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-04-0616

DECISION NO. 68176

OPINION AND ORDER

DATE OF PRE-HEARING CONFERENCE:	May 26, 2005
DATE OF HEARING:	May 31, June 1, June 6 and June 8, 2005
PLACE OF HEARING:	Phoenix, Arizona
ADMINISTRATIVE LAW JUDGE:	Teena Wolfe
IN ATTENDANCE:	Kristen K. Mayes, Commissioner
APPEARANCES:	Norman D. James and Jay L. Shapiro, FENNEMORE CRAIG, on behalf of Chaparral City Water Company; Daniel Pozefsky, on behalf of the Residential Utility Consumer Office; and David Ronald, Staff Attorney, Legal Division, on behalf of the Utilities Division of the Arizona Corporation Commission.

BY THE COMMISSION:

I. INTRODUCTION

A. Procedural History

On August 24, 2004, Chaparral City Water Company ("Chaparral City" or "Company") filed with the Arizona Corporation Commission ("Commission") an application for a determination of the current fair value of its utility plant and property and for increases in its rates and charges for utility

While the Company does not disagree regarding the basic formula RUCO used to derive its sustainable growth rate to derive its estimate of dividend growth, the Company argues that RUCO's witness Rigsby's reliance on his personal analysis of *Value Line* forecasts depresses his dividend growth estimate and reduces the equity cost produced by Mr. Rigsby's DCF model (Zepp Rb. at 31-33; Tr. at 296-99). Dr. Zepp claims that RUCO's dividend growth estimate is flawed in that its external "sv" growth rate includes an understated estimate of the stock financing rate ("s") compared to forecasted stock financing rates (Zepp Rb. at 32, Rebuttal Table 15). Dr. Zepp is also critical of RUCO's estimates of the "v" in its external growth rate, and asserts that that there is no evidence supporting Mr. Rigsby's opinion, based on Dr. Morin's text on regulatory finance (*see* Hearing Exhibit A-16), that the market prices of a utility stock will move toward book value. Using equity cost estimates based on Mr. Rigsby's data, but using different inputs, Dr. Zepp produced a restatement of RUCO's constant growth DCF model in two different ways. Dr. Zepp used RUCO's dividend yields, adjusted RUCO's historical average retention growth rate ("br") growth rate and stock financing ("vs") growth rate estimates to reach an equity cost of 10.7 percent (Zepp Rb. at 31-33 and Rebuttal Tables 15 and 16). Dr. Zepp performed another restatement of RUCO's DCF analysis using forecasts of growth instead of sustainable growth and reached an equity cost estimate of 10.6 percent (Zepp Rj. at 22 and Rejoinder Table 9).

2. Staff

Staff's witness Ramirez prepared estimates of the cost of equity using market-based models: a constant-growth DCF model, a multi-stage, or non-constant growth DCF model, and a CAPM analysis. To calculate dividend yield in its constant-growth DCF calculation, Staff divided the expected annual dividend as forecasted by *Value Line* by the spot stock price on April 20, 2005. Staff states that it used a spot stock price, rather than a historical average of stock prices, in order to be consistent with the efficient markets hypothesis of finance theory, which holds that the current capital for the energy and gas industry companies it regulates is appropriately applied to monopoly water utilities. We disagree with the use of a risk premium analysis for cost of equity estimation for the reasons Staff states, as set forth above. We find, after examining the evidence presented, that Staff's DCF methodology provides a more reasonable cost of equity estimate than the Company's. Staff's analysis is based on sound economic principles, and produces a cost of equity estimate that represents a fair and reasonable estimate of Chaparral City's cost of equity for purposes of this proceeding, and will produce a return commensurate with returns on investment in other enterprises with risk corresponding to that of the Company. As described above, Staff arrived at a 9.3 percent cost of equity estimate through application of both the constant growth and multi-stage DCF models and the CAPM.

C. Cost of Capital Summary

	Percentage	Cost	Weighted Cost
Long-Term Debt	41.2%	5.1%	2.1%
Common Equity	58.8%	9.3%	5.5%
Weighted Average Cost of Capital			7.6%

VIII. RATE OF RETURN

Chaparral City advocates that its proposed cost of capital be adopted as a rate of return to be applied to its FVRB to determine required operating income (Bourassa Rb. at 2). Staff recommends that the weighted average cost of capital be used to determine a fair value rate of return in accordance with the Commission's traditional rate of return methodology. As stated earlier, RUCO recommends that its recommended OCRB be adopted as the Company's FVRB without regard to the Company's RCND, and recommends that its proposed weighted average cost of capital be applied to the resulting FVRB.

The Company claims that both Staff and RUCO "ignored FVRB" when they multiplied their recommended rates of return by their recommended OCRBs to determine Chaparral City's operating

BEFORE THE ARIZONA CORPORATION COMMISSION

Arizona Corporation Commission
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COMMISSIONERS

JEFF HATCH-MILLER, Chairman
WILLIAM A. MUNDELL
MARC SPITZER
MIKE GLEASON
KRISTIN K. MAYES

IN THE MATTER OF THE APPLICATION OF ARIZONA-AMERICAN WATER COMPANY, AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE CURRENT FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES BASED THEREON FOR UTILITY SERVICE BY ITS PARADISE VALLEY WATER DISTRICT.	DOCKET NO. W-01303A-05-0405
IN THE MATTER OF THE APPLICATION OF ARIZONA-AMERICAN WATER COMPANY FOR APPROVAL OF AN AGREEMENT WITH THE PARADISE VALLEY COUNTRY CLUB.	DOCKET NO. W-01303A-05-0910 DECISION NO. 68858 **OPINION AND ORDER**

DATES OF HEARING: March 27, 28, 29, and April 3, 2006

PLACE OF HEARING: Phoenix, Arizona

ADMINISTRATIVE LAW JUDGE: Teena Wolfe

APPEARANCES:

Mr. Craig A. Marks, Corporate Counsel, on behalf of Arizona-American Water Company;

Mr. Daniel Pozefsky, Attorney, on behalf of the Residential Utility Consumer Office; and

Ms. Maureen A. Scott, Senior Staff Counsel, and Mr. Keith A. Layton, Attorney, Legal Division, on behalf of the Utilities Division of the Arizona Corporation Commission.

10.08 percent for his water company sample and a range from 8.99 percent to 10.55 percent for his gas company sample (*id.* at 31-32, Sched. WAR-7). Using his CAPM results as a check on the results of his DCF analysis, Mr. Rigsby based his recommendation on the 9.50 percent result of his DCF analysis for water companies (*id.*). Just as he did in Arizona-American's most recent rate proceeding,[17] Mr. Rigsby added 50 basis points to his cost of equity estimate to account for the increased financial risk faced by Arizona-American as a result of the Company's debt-heavy capital structure (*id.* at 32-34). RUCO believes that the 10 percent cost of common equity estimated by Mr. Rigsby is very reasonable when the Company's capital structure of 36.7 percent equity and 63.3 percent debt is compared with the capital structures of other publicly traded water providers used in Mr. Rigsby's analysis, which averaged 49.9 percent equity and 50.1 percent debt (*id.* at 48).

3. Staff

Staff's cost of capital witness Dennis Rogers states that he chose the DCF model and the CAPM model to estimate the Company's cost of equity because the models are widely recognized and accepted as appropriate financial models to estimate cost of equity and this Commission has consistently relied on their results (Direct Testimony of Dennis Rogers, Hearing Exh. S-3 at 13). To calculate his DCF estimate of Arizona-American's cost of equity, Staff's witness used both a constant-growth DCF model and a multi-stage or non-constant growth DCF model using six publicly traded water utilities (*id.* at 13-14, Sched. DRR-3). Staff's resulting constant growth DCF estimate was 9.7 percent (*id.* at 24, Sched. DRR-2) and its multi-stage DCF estimate was 9.4 percent (*id.* at 26, Sched. DRR-8). Mr. Rogers calculated Staff's overall DCF estimate by averaging his constant-growth DCF estimate with his multi-stage DCF estimate, and reached an overall DCF estimate of 9.6 percent (*id.* at 26, Sched. DRR-2). Mr. Rogers then used the same sample companies to compute the CAPM to estimate the Company's cost of equity, reaching an overall CAPM estimate of 10.0 percent (*id.* at 27-31). Mr. Rogers obtained the risk-free rate of interest used in his CAPM calculations by averaging three intermediate-term U.S. Treasury securities' spot rates as published in the November 2, 2005 edition of the *Wall Street Journal* (*id.* at 29). Mr. Rogers states that while the Company's

[17] Decision No. 67093 (June 30, 2004).

federal mandates are forcing the Company to heavily invest in new arsenic remediation facilities, and that its customers are demanding massive new infrastructure investments to satisfy new fire flow requirements. In this very proceeding, however, we are granting the District's request to implement an ACRM mechanism which enables the Company to seek approval for expedited recovery of capital costs and a significant portion of O&M costs associated with arsenic remediation. We are also approving both a High Block surcharge and a Public Safety surcharge to pay for fire flow investments. These mechanisms mitigate the risks associated with those capital investment requirements, and eliminate the need for the higher rates of return the Company advocates.

The Company has provided inadequate justification for acceptance of its "equitable leverage compensation" methodology, which would constitute a break with long-standing precedent. As Staff points out, the methodology proposed by the Company has been rejected or not adopted by every state commission before which it has been presented with the exception of one; by the FERC; and by regulatory bodies outside the United States (Staff Br. at 15). RUCO and Staff appropriately addressed the Company's higher debt ratio by the generally accepted regulatory means of accounting for financial risk, adding basis points to the results of their CAPM and DCF analyses. The Company's methodology would result in an upward adjustment of 360 basis points as compared with Staff's proposed upward adjustment of 60 basis points and RUCO's proposed 50 basis point adjustment. We find such an upward adjustment to be outside the zone of reasonableness and must reject it.

Finally, while the Company complains that the most recent authorized returns on equity authorized by this Commission for other Arizona-American operating districts are at the lower end of the range that has been authorized for its subsidiaries throughout the United States, Staff demonstrated at the hearing that the median rate of return on equity for the subsidiaries is currently at 10.09 percent, and Staff's recommended 10.4 percent return on equity would put the District in the upper range of authorized returns on equity for Arizona-American's other subsidiaries nationwide (Hearing Exh. S-12 at 2). We find that Staff's recommended cost of equity capital in this proceeding achieves an appropriate result that is supported by the evidence, and that adoption of Staff's recommendation results in a just and reasonable return for the District based on the record in this

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

JEFF HATCH-MILLER, Chairman
WILLIAM A. MUNDELL
MIKE GLEASON
KRISTIN K. MAYES
BARRY WONG

IN THE MATTER OF THE APPLICATION OF BLACK MOUNTAIN SEWER CORPORATION, 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. SW-02361A-05-0657

DECISION NO. 69164

OPINION AND ORDER

DATE OF HEARING:	June 7, 8, 9, and 20, 2006
PLACE OF HEARING:	Phoenix, Arizona
ADMINISTRATIVE LAW JUDGE:	Dwight D. Nodes
APPEARANCES:	Jay Shapiro, FENNEMORE CRAIG, P.C., on behalf of Black Mountain Sewer Corporation;
	Daniel Pozefsky, on behalf of the Residential Utility Consumer Office;
	David W. Garbarino, MOHR, HACKETTT, PEDERSON, BLAKLEY & RANDOLPH, P.C., on behalf of Intervenor Town of Carefree;
	Robert Williams, on behalf of Intervenor Boulders Homeowners Association; and
	Keith Layton, Staff Attorney, Legal Division, on behalf of the Utilities Division of the Arizona Corporation Commission.

BY THE COMMISSION:

On September 16, 2005, Black Mountain Sewer Corporation ("BMSC" or "Company") filed an application with the Arizona Corporation Commission ("Commission") for a rate increase. BMSC currently provides wastewater service to approximately 1,957 customers in and around Carefree, Arizona, 1,836 of which are residential customers and 121 are commercial (Ex. A-4, at 3).

BMSC's current rates and charges were authorized in Decision No. 59944 (December 26, equity. BMSC argues that RUCO's witness ignored the actual and forecasted stock financing rates reported in his own schedules.

RUCO's Position

RUCO witness Rigsby based his ROE recommendation on the results of his DCF and CAPM analyses, which ranged from 8.89 percent to 10.69 percent for his sample group of publicly traded water and gas companies. His 9.49 percent ROE recommendation is the result of the DCF analysis, which utilized a sample of publicly traded water companies (RUCO Ex. 14, at 8).

RUCO contends that Mr. Rigsby's DCF model relied on objective estimates of external growth using *Value Line* analyst projections as a guide (RUCO Ex. 15, at 24). RUCO argues that Mr. Rigsby's growth estimates properly recognize that the market price of a utility's common stock will tend to move towards book value if regulators allow a rate of return that is equal to the cost of capital (*Id.* at 19-20). According to RUCO, the Commission recently adopted the same methodology in determining the cost of common equity for Southwest Gas Company in Decision No. 68487 (February 23, 2006).

RUCO asserts that the Company's criticism of the CAPM employed by RUCO and Staff is unfounded. RUCO claims that the Company's risk premium analysis is simply a variation of the CAPM, but the RPM fails to account for the additional market-based information that is included in the CAPM. RUCO contends that the estimated return produced by either the CAPM or the RPM is one of a number of factors that investors take into consideration when evaluating a company's stock. RUCO also argues that, despite *Value Line* projections of lower ROEs for water utilities, the Company made no comparable downward adjustment to its original 11.0 percent recommendation. RUCO claims that its cost of capital recommendation is reasonable and should be adopted by the Commission.

Staff's Position

In formulating its ROE recommendation in this case, Staff employed a constant growth DCF model, a multi-stage DCF model, and a two-part CAPM analysis. The two CAPM estimates were based on an historical market risk premium and a current market risk premium. Staff's DCF model produced a ROE of 9.6 percent; the average of its two CAPM results was 9.5 percent; and the objective data that is publicly available through *Value Line* and other investor publications. We agree with Staff that the Company's proposal to exclude Middlesex Water, because its cost of equity was perceived by the Company to be too low for inclusion in its DCF analysis, is an artificial means of skewing the end result in the Company's favor.

We are not persuaded by the Company's legal arguments that adoption of Staff's cost of equity recommendation would result in a violation of the Commission's authority under the Arizona Constitution, the case law interpreting that authority, or of the *Hope*, *Bluefield, and Duquesne* decisions[11]. Article 15, Section 3 of the Arizona Constitution provides in relevant part that the Commission "shall have full power to, and shall, prescribe just and reasonable classifications to be used and just and reasonable rates and charges to be made and collected, by public service corporations within the State for service rendered therein." In determining just and reasonable rates, the Commission has broad discretion subject to the obligation to ascertain the fair value of the utility's property, and establishing rates that "meet the overall operating costs of the utility and produce a reasonable rate of return." *Scates, et al. v. Arizona Corp. Comm'n*, 118 Ariz. 531, 534, 578 P.2d 612 (Ct. App. 1978). Under the Arizona Constitution, a utility company is entitled to a fair rate of return on the fair value of its properties, "no more and no less." *Litchfield Park Service Co. v. Arizona Corp. Comm'n*, 178 Ariz. 431, 434, 874 P.2d 988 (Ct. App. 1994), *citing Arizona Corp. Comm'n v. Citizens Utilities Co.*, 120 Ariz. 184 (Ct. App. 1978). The oft cited *Hope* and *Bluefield* cases provide that the return determined by the Commission must be equal to an investment with similar risks made at generally the same time, and should be sufficient under efficient management to enable the Company to maintain its credit standing and raise funds needed for the proper discharge of its duties.

For the reasons described above, we believe that adoption of Staff's recommendation for a 9.60 cost of equity capital, which is also its overall cost of capital with a 100 percent equity capital structure, complies with these obligations. Staff's expert witness, although primarily relying on the well-established DCF method for calculating his cost of equity capital, also employed two other tests

[11] *Federal Power Commission et al. v. Hope Natural Gas Co.*, 320 U.S. 591 (1944); *Bluefield Waterworks & Improvement Co. v. Public Service Commission of West Virginia, et al.*, 262 U.S. 679 (1923); *Duquesne Light Co. v. Barasch*, 488 U.S. 299 (1989).

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

Arizona Corporation Commission
DOCKETED
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MIKE GLEASON, Chairman
WILLIAM A. MUNDELL
JEFF HATCH-MILLER
KRISTIN K. MAYES
GARY PIERCE

IN THE MATTER OF THE APPLICATION OF ARIZONA-AMERICAN WATER COMPANY, AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE CURRENT FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES BASED THEREON FOR UTILITY SERVICE FOR THE MOHAVE WATER AND WASTEWATER DISTRICTS

DOCKET NO. WS-01303A-06-0014

DECISION NO. 69440

OPINION AND ORDER

DATE OF HEARING:	November 14, 15, and 16, 2006
PLACE OF HEARING:	Phoenix, Arizona
ADMINISTRATIVE LAW JUDGE:	Dwight D. Nodes
IN ATTENDANCE:	Mike Gleason, Commissioner Kristin K. Mayes, Commissioner Barry Wong, Commissioner
APPEARANCES:	Mr. Craig A. Marks, CRAIG A. MARKS, P.L.C., on behalf of Arizona-American Water Company; Mr. Daniel Pozefsky, on behalf of the Residential Utility Consumer Office; and Ms. Janice Alward, Mr. Keith Layton, and Mr. Charles Hains, Staff Attorneys, Legal Division, on behalf of the Utilities Division of the Arizona Corporation Commission.

BY THE COMMISSION:

On January 13, 2006, Arizona-American Water Company ("Arizona-American" or "Company") filed with the Arizona Corporation Commission ("Commission") an application for a determination of the current fair value of its utility plant and property and for increases in its rates and charges for utility service based thereon for the Mohave Water and Wastewater Districts.

On February 13, 2006, the Commission's Utilities Division ("Staff") filed a letter of insufficiency, and attached a list of deficiencies that Staff indicated needed to be remedied.

higher leveraged capital structure.

Staff's Position

In formulating its ROE recommendation in this case, Staff employed a constant growth DCF model, a multi-stage DCF model, and a two-part CAPM analysis. The two CAPM estimates were based on an historical market risk premium and a current market risk premium. Staff's DCF model produced an average ROE of 9.0 percent; the average of its two CAPM results was 10.3 percent; and the average of the DCF and CAPM results was 9.7 percent. Staff added a 100 basis point "Hamada" financial risk adjustment to account for Arizona-American's highly leveraged capital structure (Ex. S-3, at 2) For purposes of its analysis, Staff selected six publicly traded water companies that derive most of their earnings from regulated operations and which are analyzed by *Value Line* publications (Ex. S-2, at 30)[1].

Staff argues that, although the Company's ROE analysis also relies on DCF and CAPM models, Dr. Villadsen gave greater weight to her empirical capital asset pricing model ("ECAPM") and ATWACC methodology to account for financial risk. According to Staff, adoption of the Company's proposed methodology would represent a departure from long standing precedent in determining return on equity. Staff witness Chaves stated that the Commission previously rejected the ATWACC methodology (in Decision No. 68858) on the basis that it would produce an inflated estimate of risk and would result in overcompensation for investors (Ex. S-2, at 35-36). Staff points out that the Company's methodology has been rejected by every state regulatory commission, except one, where it has been proposed. In the one state where it was accepted (Missouri), the state regulatory commission granted only a partial risk adjustment based on the methodology (Tr. 176-177). Mr. Chaves criticized what he believes are significant flaws in the Company's proposed methodology, especially the ECAPM's use of a market value capital structure rather than a book value capital structure (Ex. S-3, at 6). Mr. Chaves also testified that investors understand that state regulatory commissions use book value capital structure for purposes of setting authorized returns on equity (Tr. 172).

[1] The six proxy companies chosen by Staff are American States Water, California Water, Aqua America, Connecticut Water, Middlesex Water, and SJW Corp. (*Id.*, Sched. PMC-6).

less." *Litchfield Park Service Co. v. Arizona Corp. Comm'n*, 178 Ariz. 431, 434, 874 P.2d 988 (Ct. App. 1994), *citing Arizona Corp. Comm'n v. Citizens Utilities Co.*, 120 Ariz. 184 (Ct. App. 1978). The oft cited *Hope* and *Bluefield* cases provide that the return determined by the Commission must be equal to an investment with similar risks made at generally the same time, and should be sufficient under efficient management to enable the Company to maintain its credit standing and raise funds needed for the proper discharge of its duties.

For the reasons described above, we believe that adoption of Staff's recommendation for a 10.7 cost of equity capital, as set forth in its surrebuttal testimony[3], is reasonable and should be adopted in this proceeding. Staff's expert witness relied on the well-established DCF and CAPM models for calculating his cost of equity capital recommendation. We believe that adoption of Staff's recommendation results in a just and reasonable return for Arizona-American based on the record of this proceeding.

We therefore adopt a cost of equity of 10.7 percent which, combined with a 5.72 percent cost of debt and a capital structure consisting of 40 percent equity and 60 percent debt, results in an overall weighted cost of capital of 7.71 percent.

	Percentage	Cost	Avg.Weighted Cost
Common Equity	40.0%	10.70%	3.43%
Total Debt	60.0%	5.72%	4.28%
			7.71%

AUTHORIZED INCREASE

Based on our findings herein, we determine that Arizona-American Mohave Water is entitled to a gross revenue increase of $405,175 and Arizona-American Mohave Wastewater is entitled to a gross revenue increase of $111,157.

Mohave Water

Fair Value Rate Base	$9,042,619
Adjusted Operating Income	448,585

[3] Although Staff's post-hearing schedules produced a 10.4 percent ROE, because we did not adopt Staff's recommendation, at this time, regarding the Company's Tolleson plant obligation, we find that the 10.7 percent ROE set forth in Staff's surrebuttal testimony accurately reflects Staff's cost of equity analysis.

BEFORE THE ARIZONA CORPORATIO

Arizona Corporation Commission
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COMMISSIONERS

MIKE GLEASON - Chairman
WILLIAM A. MUNDELL
JEFF HATCH-MILLER
KRISTIN K. MAYES
GARY PIERCE

IN THE MATTER OF THE APPLICATION OF ARIZONA-AMERICAN WATER COMPANY, AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE CURRENT FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES BASED THEREON FOR UTILITY SERVICE BY ITS SUN CITY WASTEWATER AND SUN CITY WEST WASTEWATER DISTRICTS.

DOCKET NO. WS-01303A-06-0491

DECISION NO. 70209

OPINION AND ORDER

DATES OF HEARING:	August 17, 2007 (Pre-Hearing Conference), August 23, 24, 27, 28, and September 5, 2007.
PLACE OF HEARING:	Phoenix, Arizona
DATE OF PUBLIC COMMENT HEARINGS:	May 16, 2007
PLACE OF PUBLIC COMMENT HEARINGS:	Sun City, Arizona
ADMINISTRATIVE LAW JUDGE:	Teena Wolfe
IN ATTENDANCE:	Mike Gleason, Chairman William A. Mundell, Commissioner Jeff Hatch-Miller, Commissioner Kristin K. Mayes, Commissioner Gary Pierce, Commissioner
APPEARANCES:	Mr. Craig A. Marks, CRAIG MARKS, PLC, and Mr. Paul Li, on behalf of Arizona-American Water Company; Mr. Daniel Pozefsky, on behalf of the Residential Utility Consumer Office; Ms. Tracy Spoon, for the Sun City Taxpayers Association; Mr. Philip Jansen, pro per; Ms. Maureen Scott, Senior Staff Counsel, and Mr. Keith Layton, Staff Attorney, on behalf of the Utilities Division of the Arizona Corporation Commission.

discrepancy in perceived risk between the Company and RUCO's proxy, RUCO made a 50 basis point upward adjustment to its recommended cost of equity. (*Id.* at 56.) RUCO made this upward adjustment in addition proposing a hypothetical capital structure, which contains more equity than the Company's actual capital structure. (*Id.*)

RUCO recommends that the Commission adopt its recommended cost of equity of 10.03 percent and weighted average cost of capital of 7.23 percent, as follows:

	Percentage	Cost	Weighted Cost
Long-term Debt	60.0%	5.37%	3.22%
Common Equity	40.0%	10.03%	4.01%
Weighted Average Cost of Capital			7.23%

3. Staff

In its cost of equity analysis, Staff used the same group of water companies as the Company's witness, with the exclusion of Southwest Water Company and York Water Company. (Direct Testimony of Staff witness Pedro M. Chaves, Exh. S-12 at 14.) Staff chose those six publicly traded water companies because they derive most of their earnings from regulated operations, and they are currently analyzed by both the Standard and the Small and Mid-Cap Editions of *Value Line*. (*Id.*) In reaching its cost of equity estimate, Staff used two versions of the DCF model; a constant growth DCF model,[12] and a multi-stage, or non-constant growth DCF model. (*Id.* at 15-16.) Staff also used the CAPM, with a historical MRP and a current MRP. (*Id.* at 28-32.)

To calculate the dividend yield component of the DCF formula, Staff used a spot stock price instead of a historical average of stock prices, because Staff believes a historical average is stale and representative of underlying conditions that may have changed, and it illogically discounts the most

[12] The constant-growth DCF formula Staff used in its analysis is:

$$K = \frac{D_1}{P_0} + g$$

where: K = the cost of equity
D_1 = the expected annual dividend (*Value Line* Summary & Index 4-27-07)
P_0 = the current stock price (the spot stock price after the close of the market May 11, 2007, as reported by *MSN Money*.)
g = the expected infinite annual growth rate of dividends

DPS inputs in its estimation of growth rates. She believes that historical data are incorporated in analysts' forecasts, and that to implement a truly forward looking DCF model, only forward-looking growth rates should be included. (Exh. A-16 at 29.) However, she also states that no publicly available analysts' forecasts provide information beyond at most five years, and consequently, assumptions have to be made regarding the growth rate of companies beyond that horizon. (*Id.* at 23.) Dr. Villadsen chose, for her multi-stage DCF model, a perpetual growth rate based on forecasted GDP. (Exh. A-15 at 38.) Dr. Villadsen believes the use of forecasted GDP mitigates analysts' growth forecasts, which she admits have been optimistic on average in the past. (Exh. A-15 at 40-41.) Staff chose, for its constant-growth DCF model, a methodology that gives equal weight to historical and projected DPS, EPS, and sustainable growth. (Exh. S-12 at 17.) After considering the parties' DCF methodologies, we find Staff's method of choosing DCF growth rate inputs to be more balanced than the Company's, and more likely than the Company's to dispel the effects of the optimism known to be present in analysts' forecasts.

The Company argues that its ATWCC methodology provides a superior means to account for the Company's financial risk than the risk adjustment methodology employed by Staff and RUCO. We disagree, and find that it would overcompensate the Company for financial risk. Staff appropriately addressed the Company's financial risk by the generally accepted regulatory means of adding basis points to the results of its cost of equity analysis.

For the reasons discussed herein, we find that adoption of Staff's recommendation for a 10.6 percent cost of equity capital is reasonable and should be adopted in this proceeding. Staff's recommendation is based on well-established and widely accepted methodologies for the estimation of cost of equity capital. Based on the record of this proceeding, adoption of Staff's cost of equity capital recommendation results in a just and reasonable return for Arizona-American.

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BEFORE THE ARIZONA CORPORATION COMMISSION

KRISTIN K. MAYES
Chairman
GARY PIERCE
Commissioner
PAUL NEWMAN
Commissioner
SANDRA D. KENNEDY
Commissioner
BOB STUMP
Commissioner

IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS GAS, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.	)))))))))	DOCKET NO. G-04204A-08-0571

DIRECT

TESTIMONY

OF

DAVID C. PARCELL

ON BEHALF OF THE

UTILITIES DIVISION STAFF

ARIZONA CORPORATION COMMISSION

JUNE 08, 2009

XI. RETURN ON EQUITY RECOMMENDATION

Q. Please summarize the results of your three cost of equity analyses.

A. My three methodologies produce the following:

Discounted Cash Flow	9.5-10.5%
Capital Asset Pricing Model	7.3-7.7%
Comparable Earnings	9.5-10.5%

Q. What is your cost of equity recommendation for UNS Gas?

A. I recommend a cost of equity of 9.5 percent to 10.5 percent for UNS Gas. This reflects two of my three cost of equity model results. Within this range, I recommend a 10.0 percent level, the same return on equity approved for UNS Gas in the Company's last rate proceeding.

Q. Please explain how the recent and current economic and financial crisis impacts the cost of equity for UNS Gas.

A. It is well chronicled that, over the past two years and especially over the past several months, the United States and global financial markets have been in turmoil. The impacts of this have been far-reaching and extreme, with global credit markets virtually coming to a standstill. This crisis and its impact, however, do not imply that the cost of equity for gas utilities such as UNS Gas have increased. I say this for the following reasons.

First, it must be emphasized that depressed economic conditions and the financial crisis affects virtually all sectors of the economy – households, small businesses, larger

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BEFORE THE ARIZONA CORPORATION COMMISSION

IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS GAS, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.

DOCKET NO. G-04204A-08-0571

EVIDENTIARY HEARING

At: Phoenix, Arizona

Date: August 18, 2009

Filed: August 25, 2009

REPORTER'S TRANSCRIPT OF PROCEEDINGS

VOLUME VI

(Pages 809 through 929, inclusive)

ARIZONA REPORTING SERVICE, INC.
Court Reporting
Suite 502
2200 North Central Avenue
Phoenix, Arizona 85004-1481

Prepared for:

By: Kate E. Baumgarth, RPR
Certified Reporter
Certificate No. 50582

ACC

Q. And, Mr. Parcell, could you review lines 18 through 25 of that?

A. I would be glad to, yes.

Q. And on those lines you agree that the proxy group should have similar risk and therefore a similar expected cost of capital to the subject company; correct?

A. Yes.

Q. And you still agree with that today, don't you?

A. Yes, subject, of course, to the fact that the subject company for the rate case is UNS Gas, but the subject company for the raising of equity dollars is UNS West Energy. As long as you reflect that, I agree, yes.

Q. Could you turn to Schedule 6 of your direct testimony?

A. Sure.

Q. And Schedule 6 indicates proxy groups that you used; is that correct?

A. That is correct.

Q. And is it fair to say that each of the utilities shown in Parcell proxy group are much larger than UNS Gas; is that correct?

A. Well, those aren't -- those aren't utilities; those are holding companies, which in some cases have multiple utility subsidiaries, just like UNS Energy does.

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BEFORE THE ARIZONA CORPORATION COMMISSION

KRISTIN K. MAYES
Chairman
GARY PIERCE
Commissioner
PAUL NEWMAN
Commissioner
SANDRA D. KENNEDY
Commissioner
BOB STUMP
Commissioner

IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS GAS, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.	)))))))))	DOCKET NO. G-04204A-08-0571

DIRECT

TESTIMONY

OF

DAVID C. PARCELL

ON BEHALF OF THE

UTILITIES DIVISION STAFF

ARIZONA CORPORATION COMMISSION

JUNE 08, 2009

or "proxy" companies as a substitute for UNS Gas to determine its cost of common equity.

I have examined two such groups for comparison to UNs Gas and UniSource. I have first selected one group of electric utilities similar to UNS Gas and UniSource using the criteria listed on Schedule 6.

Second, I have conducted studies of the cost of equity for the proxy group of natural gas utilities selected by UNS Gas' witness Kentton Grant.

VIII. DISCOUNTED CASH FLOW ANALYSIS

Q. What is the theory and methodological basis of the discounted cash flow ("DCF") model?

A. The DCF model is one of the oldest, as well as the most commonly-used, models for estimating the cost of common equity for public utilities. The DCF model is based on the "dividend discount model" of financial theory, which maintains that the value (price) of any security or commodity is the discounted present value of all future cash flows.

The most common variant of the DCF model assumes that dividends are expected to grow at a constant rate. This variant of the dividend discount model is known as the constant growth or Gordon DCF model. In this framework cost of capital is derived by the following formula:

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Regulatory Research Associates

REGULATORY FOCUS

January 12, 2009

MAJOR RATE CASE DECISIONS--JANUARY 2007-DECEMBER 2008
SUPPLEMENTAL STUDY

This Supplemental Study was prepared in conjunction with the Special Report entitled *Major Rate Case Decisions--January 1990-December 2007* that was uploaded to our website on Jan. 8. This study contains chronological listings of all major electric and gas cases decided during the years 2007 and 2008. These listings, with key data concerning each case, appear on pages 5 through 11 of this report. Tables summarizing industry-wide concerning cases decided in past years appear on pages 2 and 3. The average return on equity (ROE) authorized electric utilities in 2008 approximated 10.5%, compared to 10.4% in 2007. There were 37 electric ROE determinations in 2007, and 39 in 2007. The average ROE authorized gas utilities approximated 10.4% in 2008, compared to 10.2% in 2007. There were 30 gas cases that included an ROE determination in 2008, and 37 in 2007. We note that these ROEs are simple, non-weighted averages. Not included in these averages is a Sept. 17, 2008 steam rate case decision for Consolidated Edison of New York, in which the New York Public Service Commission adopted a settlement that incorporated a 9.3% return on common equity (48% of capital) and a 7.5% return on rate base.

After reaching a low in the late-1990's and early-2000's, the number of equity return determinations for energy companies has generally increased over the last several years. The total number of electric and gas equity return determinations in 2008 (67) was 180% greater than the number in 2000 (24). Increased costs, including environmental compliance expenditures, and the need for generation and delivery system infrastructure upgrades and expansion at many companies argue for a continuation of the increased level of rate case activity over the next several years. However, cost efficiencies from technological improvements, the use of multi-year settlements that do not specify return parameters, and a reduced number of companies due to mergers may prevent the number of rate cases and equity return determinations from significantly increasing further. We note that electric industry restructuring in many states has led to the unbundling of rates, with state commissions authorizing revenue requirement and return parameters for delivery operations only (which we footnote in our chronology), thus complicating historical data comparability. We also note that the financial crisis that began in September 2008 and the resulting significant increase in non-U.S. Treasury debt yields may indicate that utility equity costs have increased and lead to higher authorized ROEs by commissions.

The individual electric and gas cases listed on pages 5 through 11 are presented with the decision date shown first, followed by the company name, the abbreviation of the state issuing the decision, the authorized rate of return (ROR) and ROE, and the common equity component of the adopted capital structure. If the capital structure included cost-free capital or investment tax credit balances at the overall rate of return, an asterisk (*) follows the number in this column. Next we show the month and year in which the adopted test year ended, whether the commission utilized an average or a year-end rate base valuation, and the amount of the permanent rate change authorized. Fuel adjustment clause and other rider-related rate changes are not reflected in this study.

The table on page 2 shows the average ROE authorized annually since 1990, and by quarter since 2002, in major electric and gas rate decisions, followed by the number of observations in each period. The tables on page 3 show the composite electric and gas industry data for all the cases included in the chronology of this and earlier reports, summarized annually since 1995 and by quarter for the past eight quarters.

ALL-STATE LEGAL® EXHIBIT 5-1

(Text continued on page 4.)

Average Equity Returns Authorized January 1990 - December 2008

Year	Period	Electric Utilities ROE %	(# Cases)	Gas Utilities ROE %	(# Cases)
1990	Full Year	12.70	(44)	12.67	(31)
1991	Full Year	12.55	(45)	12.46	(35)
1992	Full Year	12.09	(48)	12.01	(29)
1993	Full Year	11.41	(32)	11.35	(45)
1994	Full Year	11.34	(31)	11.35	(28)
1995	Full Year	11.55	(33)	11.43	(16)
1996	Full Year	11.39	(22)	11.19	(20)
1997	Full Year	11.40	(11)	11.29	(13)
1998	Full Year	11.66	(10)	11.51	(10)
1999	Full Year	10.77	(20)	10.66	(9)
2000	Full Year	11.43	(12)	11.39	(12)
2001	Full Year	11.09	(18)	10.95	(7)
	1st Quarter	10.87	(5)	10.67	(3)
	2nd Quarter	11.41	(6)	11.64	(4)
	3rd Quarter	11.06	(4)	11.50	(3)
	4th Quarter	11.20	(7)	10.78	(11)
2002	**Full Year**	**11.16**	(22)	**11.03**	(21)
	1st Quarter	11.47	(7)	11.38	(5)
	2nd Quarter	11.16	(4)	11.36	(4)
	3rd Quarter	9.95	(5)	10.61	(5)
	4th Quarter	11.09	(6)	10.84	(11)
2003	**Full Year**	**10.97**	(22)	**10.99**	(25)
	1st Quarter	11.00	(3)	11.10	(4)
	2nd Quarter	10.54	(6)	10.25	(2)
	3rd Quarter	10.33	(2)	10.37	(8)
	4th Quarter	10.91	(8)	10.66	(6)
2004	**Full Year**	**10.75**	(19)	**10.59**	(20)
	1st Quarter	10.51	(7)	10.65	(2)
	2nd Quarter	10.05	(7)	10.54	(5)
	3rd Quarter	10.84	(4)	10.47	(5)
	4th Quarter	10.75	(11)	10.40	(14)
2005	**Full Year**	**10.54**	(29)	**10.46**	(26)
	1st Quarter	10.38	(3)	10.63	(6)
	2nd Quarter	10.68	(6)	10.50	(2)
	3rd Quarter	10.06	(7)	10.45	(3)
	4th Quarter	10.39	(10)	10.14	(5)
2006	**Full Year**	**10.36**	(26)	**10.43**	(16)
	1st Quarter	10.27	(8)	10.44	(10)
	2nd Quarter	10.27	(11)	10.12	(4)
	3rd Quarter	10.02	(4)	10.03	(8)
	4th Quarter	10.56	(16)	10.27	(15)
2007	**Full Year**	**10.36**	(39)	**10.24**	(37)
	1st Quarter	10.45	(10)	10.38	(7)
	2nd Quarter	10.57	(8)	10.17	(3)
	3rd Quarter	10.47	(11)	10.49	(7)
	4th Quarter	10.33	(8)	10.34	(13)
2008	**Full Year**	**10.46**	(37)	**10.37**	(30)

Electric Utilities--Summary Table*

	Period	ROR %	(# Cases)	ROE %	(# Cases)	Eq. as % Cap. Struc.	(# Cases)	Amt. $ Mil.	(# Cases)
1995	Full Year	9.44	(30)	11.55	(33)	45.90	(30)	455.7	(43)
1996	Full Year	9.21	(20)	11.39	(22)	44.34	(20)	-5.6	(38)
1997	Full Year	9.16	(12)	11.40	(11)	48.79	(11)	-553.3	(33)
1998	Full Year	9.44	(9)	11.66	(10)	46.14	(8)	-429.3	(31)
1999	Full Year	8.81	(18)	10.77	(20)	45.08	(17)	-1683.8	(30)
2000	Full Year	9.20	(12)	11.43	(12)	48.85	(12)	-291.4	(34)
2001	Full Year	8.93	(15)	11.09	(18)	47.20	(13)	14.2	(21)
2002	Full Year	8.72	(20)	11.16	(22)	46.27	(19)	-475.4	(24)
2003	Full Year	8.86	(20)	10.97	(22)	49.41	(19)	313.8	(12)
2004	Full Year	8.44	(18)	10.75	(19)	46.84	(17)	1091.5	(30)
2005	Full Year	8.30	(26)	10.54	(29)	46.73	(27)	1373.7	(36)
2006	Full Year	8.24	(24)	10.36	(26)	48.67	(23)	1465.0	(42)
	1st Quarter	8.44	(8)	10.27	(8)	47.80	(8)	403.5	(9)
	2nd Quarter	7.94	(11)	10.27	(11)	46.02	(11)	718.6	(12)
	3rd Quarter	7.90	(4)	10.02	(4)	48.34	(4)	119.1	(6)
	4th Quarter	8.38	(15)	10.56	(16)	49.59	(14)	160.7	(19)
2007	Full Year	8.22	(38)	10.36	(39)	48.01	(37)	1401.9	(46)
	1st Quarter	8.36	(9)	10.45	(10)	49.25	(8)	802.9	(9)
	2nd Quarter	8.21	(7)	10.57	(8)	47.64	(7)	510.5	(8)
	3rd Quarter	8.32	(10)	10.47	(11)	48.96	(10)	737.5	(13)
	4th Quarter	8.09	(9)	10.33	(8)	47.58	(8)	848.5	(12)
2008	**Full Year**	**8.25**	**(35)**	**10.46**	**(37)**	**48.41**	**(33)**	**2899.4**	**(42)**

Gas Utilities--Summary Table*

	Period	ROR %	(# Cases)	ROE %	(# Cases)	Eq. as % Cap. Struc.	(# Cases)	Amt. $ Mil.	(# Cases)
1995	Full Year	9.64	(16)	11.43	(16)	49.98	(15)	-61.5	(31)
1996	Full Year	9.25	(23)	11.19	(20)	47.69	(19)	193.4	(34)
1997	Full Year	9.13	(13)	11.29	(13)	47.78	(11)	-82.5	(21)
1998	Full Year	9.46	(10)	11.51	10)	49.50	(10)	93.9	(20)
1999	Full Year	8.86	(9)	10.66	(9)	49.06	(9)	51.0	(14)
2000	Full Year	9.33	(13)	11.39	(12)	48.59	(12)	135.9	(20)
2001	Full Year	8.51	(6)	10.95	(7)	43.96	(5)	114.0	(11)
2002	Full Year	8.80	(20)	11.03	(21)	48.29	(18)	303.6	(26)
2003	Full Year	8.75	(22)	10.99	(25)	49.93	(22)	260.1	(30)
2004	Full Year	8.34	(21)	10.59	(20)	45.90	(20)	303.5	(31)
2005	Full Year	8.25	(29)	10.46	(26)	48.66	(24)	458.4	(34)
2006	Full Year	8.51	(16)	10.43	(16)	47.43	(16)	444.0	(25)
	1st Quarter	8.40	(10)	10.44	(10)	48.33	(9)	158.4	(13)
	2nd Quarter	8.32	(3)	10.12	(4)	49.67	(4)	37.3	(5)
	3rd Quarter	7.88	(7)	10.03	(8)	48.70	(6)	402.0	(12)
	4th Quarter	7.97	(12)	10.27	(15)	47.74	(11)	215.7	(18)
2007	Full Year	8.12	(32)	10.24	(37)	48.37	(30)	813.4	(48)
	1st Quarter	8.78	(7)	10.38	(7)	52.07	(7)	129.6	(7)
	2nd Quarter	8.28	(3)	10.17	(3)	51.80	(3)	52.0	(4)
	3rd Quarter	8.33	(7)	10.49	(7)	50.58	(7)	312.8	(10)
	4th Quarter	8.45	(13)	10.34	(13)	49.25	(13)	390.4	(20)
2008	**Full Year**	**8.48**	**(30)**	**10.37**	**(30)**	**50.47**	**(30)**	**884.8**	**(41)**

* *Number of observations in each period indicated in parentheses.*

The table below tracks the average equity return authorized for all electric and gas rate cases combined, by year, for the last 19 years. As the table reveals, since 1990 authorized ROEs have generally trended downward, reflecting the significant decline in interest rates that has occurred over this time frame. The combined average equity returns authorized for electric and gas utilities in each of the years 1990 through 2008, and the number of observations for each year are as follows:

1990	12.69%	(75)	2000	11.41	(24)
1991	12.51	(80)	2001	11.05	(25)
1992	12.06	(77)	2002	11.10	(43)
1993	11.37	(77)	2003	10.98	(47)
1994	11.34	(59)	2004	10.67	(39)
1995	11.51	(49)	2005	10.50	(55)
1996	11.29	(42)	2006	10.39	(40)
1997	11.34	(24)	2007	10.30	(76)
1998	11.59	(20)	2008	10.42	(67)
1999	10.74	(29)			

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ELECTRIC UTILITY DECISIONS

Date	Company (State)	ROR %		ROE %		Common Eq. as % Cap. Str.	Test Year & Rate Base	Amt. $ Mil.
1/5/07	Oklahoma Gas & Electric (AR)	5.36		10.00		32.33 *	12/05-YE	5.4 (B)
1/5/07	Puget Sound Energy (WA)	8.40		10.40		44.00	9/05-A	-22.8
1/11/07	Metropolitan Edison (PA)	7.52		10.10		49.00	12/06-YE	58.7 (D)
1/11/07	Pennsylvania Electric (PA)	7.92		10.10		49.00	12/06-YE	50.2 (D)
1/11/07	Wisconsin Public Service (WI)	12.93		10.90		57.46	12/07-A/P	56.7
1/12/07	Portland General Electric (OR)	8.29		10.10		50.00 (Hy)	12/07-A	20.5 (Z)
1/19/07	Wisconsin Power and Light (WI)	9.27		10.80		54.13	12/07-A/P	36.2
3/21/07	Pacific Gas and Electric (CA)	---		---		---	12/07-A	192.2 (B,1)
3/22/07	Rockland Electric (NJ)	7.83		9.75		46.51	12/06-YE	6.4 (B,D)
2007	***1ST QUARTER: AVERAGES/TOTAL***	**8.44**		**10.27**		**47.80**		**403.5**
	MEDIAN	**8.11**		**10.10**		**49.00**		**---**
	OBSERVATIONS	**8**		**8**		**8**		**9**
5/15/07	Appalachian Power (VA)	7.36		10.00		41.11 *	12/05-YE	24.0
5/17/07	Aquila (MPS) (MO)	8.39		10.25		48.17	12/05-YE	45.2
5/17/07	Aquila (L&P) (MO)	8.93		10.25		48.17	12/05-YE	13.6
5/22/07	Monongahela Pow./Potomac Ed. (WV)	8.44		10.50		46.07	12/05-YE	-6.2
5/22/07	Union Electric (MO)	7.94		10.20		52.22	6/06-YE	41.8
5/23/07	Nevada Power (NV)	9.06		10.70		47.29	6/06-YE	120.5
5/24/07	AEP Texas North (TX)	---		---		---	6/06-YE	13.7 (B,D)
5/25/07	Public Service of New Hampshire (NH)	7.55		9.67		47.66	12/05-A	50.1 (B,I,D)
6/15/07	Entergy Arkansas (AR)	5.58		9.90		32.19 *	6/06-YE	-5.7
6/21/07	PacifiCorp (WA)	8.06		10.20		46.00	3/06-A	14.4 (R)
6/22/07	Appalachian Power (WV)	7.67	(E)	10.50	(E)	42.88 (E)	12/06-YE	85.5 (B,Z)
6/28/07	Arizona Public Service (AZ)	8.32		10.75		54.50	9/05-YE	321.7
2007	***2ND QUARTER: AVERAGES/TOTAL***	**7.94**		**10.27**		**46.02**		**718.6**
	MEDIAN	**8.06**		**10.25**		**47.29**		**---**
	OBSERVATIONS	**11**		**11**		**11**		**12**
7/3/07	El Paso Electric (NM)	---		---		---	12/05-YE	5.5 (B)
7/12/07	Granite State Electric (NH)	8.61		9.67		50.00 (Hy)	---	-2.2 (B,D,Z)
7/19/07	Delmarva Power & Light (MD)	7.68		10.00		48.63	9/06-A	14.9 (D,2)
7/19/07	Potomac Electric Power (MD)	7.99		10.00		47.69	9/06-A	10.6 (D,2)
7/27/07	Southwestern Public Service (TX)	---		---		---	9/05-YE	23.0 (B)
8/15/07	Southern Indiana Gas & Electric (IN)	7.32		10.40		47.05 *	3/06-YE	67.3 (B)
2007	***3RD QUARTER: AVERAGES/TOTAL***	**7.90**		**10.02**		**48.34**		**119.1**
	MEDIAN	**7.84**		**10.00**		**48.16**		**---**
	OBSERVATIONS	**4**		**4**		**4**		**6**
10/9/07	Public Service of Oklahoma (OK)	8.01		10.00		46.02	6/06-YE	9.8 (I)
10/18/07	Orange and Rockland Utilities (NY)	7.56		9.10		47.54	6/08-A	0.0
10/31/07	Electric Transmission Texas (TX)	7.88	(R)	9.96		40.00 (Hy)	6/08-YE	12.0 (R,Tr,3)

ELECTRIC UTILITY DECISIONS (continued)

Date	Company (State)	ROR %	ROE %	Common Eq. as % Cap. Str.	Test Year & Rate Base	Amt. $ Mil.
11/20/07	Kansas City Power & Light (KS)	---	---	---	---	28.0 (B)
11/29/07	Cheyenne Light, Fuel & Power (WY)	8.84	10.90	54.00 (Hy)	9/06-YE	6.7 (B)
11/29/07	Wisconsin Power and Light (WI)	---	---	---	12/08-A	25.8 (4)
12/6/07	Kansas City Power & Light (MO)	8.68	10.75	57.62	12/06-YE	35.3
12/6/07	PPL Electric Utilities (PA)	---	---	---	12/07-YE	55.0 (B,D)
12/13/07	AEP Texas Central (TX)	7.50	9.96	40.00 (Hy)	6/06-YE	40.8 (I,D)
12/14/07	Madison Gas and Electric (WI)	9.08	10.80	57.36	12/08-A/P	16.2
12/14/07	South Carolina Electric & Gas (SC)	8.62	10.70	53.32	3/07-YE	76.9 (B)
12/19/07	Avista Corporation (WA)	8.20	10.20	46.00	12/06-A	30.2 (B)
12/20/07	Duke Energy Carolinas (NC)	8.57	11.00	53.00	12/06-YE	-286.9 (Bp)
12/20/07	Bangor Hydro-Electric (ME)	8.60	10.20	---	---	1.1 (B,D)
12/21/07	Pacific Gas and Electric (CA)	8.79	11.35	52.00	12/08-A	0.0
12/21/07	San Diego Gas & Electric (CA)	8.40	11.10	49.00	12/08-A	8.2
12/21/07	Southern California Edison (CA)	8.75	11.50	48.00	12/08-A	-9.6
12/28/07	PacifiCorp (ID)	8.27	10.25	50.40	12/06	11.5 (B)
12/31/07	Georgia Power (GA)	---	11.25	---	7/08-A	99.7 (B)
2007	***4TH QUARTER: AVERAGES/TOTAL***	**8.38**	**10.56**	**49.59**		**160.7**
	MEDIAN	**8.57**	**10.73**	**49.70**		**---**
	OBSERVATIONS	**15**	**16**	**14**		**19**
2007	***FULL YEAR: AVERAGES/TOTAL***	**8.22**	**10.36**	**48.01**		**1401.9**
	MEDIAN	**8.28**	**10.25**	**48.17**		**---**
	OBSERVATIONS	**38**	**39**	**37**		**46**
1/8/08	Northern States Power-Wisconsin (WI)	9.67	10.75	52.51	12/08-A	39.4
1/17/08	Wisconsin Electric Power (WI)	9.26	10.75	54.36	12/08-A/P	148.4 (Z)
1/28/08	Connecticut Light & Power (CT)	7.72	9.40	48.99	12/06-YE	97.9 (D,Z)
1/30/08	Potomac Electric Power (DC)	7.96	10.00	46.55	2/07-A	28.3 (D,5)
1/31/08	Central Vermont Public Service (VT)	8.50	10.21 (R)	50.02	12/06-A	6.4 (B)
2/6/08	Interstate Power & Light (IA)	---	11.70 (6)	---	---	---
2/28/08	Idaho Power (ID)	8.10	---	---	---	32.1 (B)
2/29/08	Fitchburg Gas & Electric (MA)	8.38	10.25	42.80	12/06-YE	2.1 (D)
3/12/08	PacifiCorp (WY)	8.29	10.25	50.80	8/08	23.0 (B,7)
3/25/08	Consolidated Edison of New York (NY)	7.34	9.10	47.98	3/09-A	425.3 (D)
3/31/08	Virginia Electric Power (VA)	---	12.12 (8)	---	---	---
2008	***1ST QUARTER: AVERAGES/TOTAL***	**8.36**	**10.45**	**49.25**		**802.9**
	MEDIAN	**8.29**	**10.25**	**49.51**		**---**
	OBSERVATIONS	**9**	**10**	**8**		**9**
4/22/08	MDU Resources (MT)	8.58	10.25	50.67	12/06-A	4.1 (B,Z)
4/24/08	Public Service Co. of New Mexico (NM)	8.24	10.10	51.37	9/06-YE	34.4
5/1/08	Hawaiian Electric Company (HI)	8.66	10.70	55.79	12/05-A	44.9 (Bp,I)
5/27/08	UNS Electric (AZ)	9.02	10.00	48.85	6/06-YE	4.0
5/30/08	Idaho Power (ID)	--- (9)	---	---	---	8.9

ELECTRIC UTILITY DECISIONS (continued)

Date	Company (State)	ROR %	ROE %	Common Eq. as % Cap. Str.	Test Year & Rate Base	Amt. $ Mil.
6/10/08	Consumers Energy (MI)	6.93	10.70	41.75 *	12/08-A	221.0 (I)
6/16/08	MidAmerican Energy (IA)	---	11.70 (B,10)	---	---	---
6/27/08	Appalachian Power (WV)	7.65	10.50	41.54	12/07-YE	106.1 (B)
6/27/08	Sierra Pacific Power (NV)	8.41	10.60 (11)	43.49	6/07-YE	87.1
6/30/08	Oncor Electric Delivery (TX)	---	---	---	12/06	--- (D,12)
2008	***2ND QUARTER: AVERAGES/TOTAL***	**8.21**	**10.57**	**47.64**		**510.5**
	MEDIAN	**8.41**	**10.55**	**48.85**		**---**
	OBSERVATIONS	**7**	**8**	**7**		**8**
7/1/08	Central Maine Power (ME)	---	---	---	---	-20.3 (B,D,13)
7/2/08	NorthWestern Corporation (MT)	--- (14)	---	---	---	10.0 (B,I)
7/10/08	Otter Tail Corporation (MN)	8.33	10.43	50.00	12/06-A	3.8 (I)
7/16/08	Orange and Rockland Utilities (NY)	7.69	9.40	48.00	6/09-A	15.6 (B,D)
7/30/08	Empire District Electric (MO)	8.92	10.80	50.78	6/07-YE	22.0
7/31/08	San Diego Gas & Electric (CA)	--- (15)	--- (15)	--- (15)	12/08-A	234.0 (B,Z)
8/11/08	PacifiCorp (UT)	8.29	10.25	50.40	12/08-A	39.4 (R)
8/26/08	Southwestern Public Service (NM)	8.27	10.18	51.23	12/06-YE	13.1
8/27/08	MidAmerican Energy (IA)	---	11.70 (B,16)	---	---	---
9/10/08	Commonwealth Edison (IL)	8.36	10.30	45.04	12/06-YE	273.6 (D)
9/24/08	Central Illinois Light (IL)	8.01	10.65	46.50	12/06-YE	-2.8 (D)
9/24/08	Central Illinois Public Service (IL)	8.20	10.65	47.91	12/06-YE	22.0 (D)
9/24/08	Illinois Power (IL)	8.68	10.65	51.76	12/06-YE	103.9 (D)
9/30/08	Avista Corp. (ID)	8.45	10.20	47.94	12/07-A	23.2 (B)
2008	***3RD QUARTER: AVERAGES/TOTAL***	**8.32**	**10.47**	**48.96**		**737.5**
	MEDIAN	**8.31**	**10.43**	**49.00**		**---**
	OBSERVATIONS	**10**	**11**	**10**		**13**
10/8/08	PacifiCorp (WA)	8.06	---	---	---	20.4 (B)
10/8/08	Puget Sound Energy (WA)	8.25	10.15	46.00	9/07-A	130.2 (B)
11/13/08	NorthWestern Corporation (MT)	8.25 (17)	10.00 (17)	50.00 (17)	---	---
11/17/08	Appalachian Power (VA)	7.69	10.20	---	12/07	167.9 (I,B)
12/1/08	Tucson Electric Power (AZ)	8.03	10.25	42.50	12/06-YE	136.8 (B)
12/17/08	Duke Energy Ohio (OH)	---	---	---	---	98.0 (B,Gn,E,Z)
12/18/08	Madison Gas and Electric (WI)	---	---	---	12/09	-2.7
12/23/08	Detroit Edison (MI)	7.16	11.00	40.68 *	12/09-A	83.6
12/29/08	Portland General Electric (OR)	8.33	10.10 (Bp)	50.00	12/09-A	121.0
12/29/08	Avista Corporation (WA)	8.22	10.20	46.30	12/07-A	32.5 (B)
12/30/08	Wisconsin Power and Light (WI)	---	---	---	12/09	0.0 (B)
12/30/08	Wisconsin Public Service (WI)	---	---	53.41	12/09	48.0 (B,18)
12/31/08	Northern States Power (ND)	8.80	10.75	51.77	12/08	12.8 (I,B)
2008	***4TH QUARTER: AVERAGES/TOTAL***	**8.09**	**10.33**	**47.58**		**848.5**
	MEDIAN	**8.22**	**10.20**	**48.15**		**---**
	OBSERVATIONS	**9**	**8**	**8**		**12**
2008	***YEAR-TO-DATE: AVERAGES/TOTAL***	**8.25**	**10.46**	**48.41**		**2899.4**
	MEDIAN	**8.27**	**10.25**	**48.99**		**---**
	OBSERVATIONS	**35**	**37**	**33**		**42**

GAS UTILITY DECISIONS

Date	Company (State)	ROR %	ROE %	Common Eq. as % Cap. Str.	Test Year & Rate Base	Amt. $ Mil.
1/5/07	Puget Sound Energy (WA)	8.40	10.40	44.00	9/05-A	29.5
1/9/07	SEMCO Energy Gas (MI)	7.75	11.00	42.94 *	---	12.6 (B)
1/11/07	Wisconsin Public Service (WI)	8.62	10.90	57.46	12/07-A/P	18.9
1/12/07	Cascade Natural Gas (WA)	8.85	---	---	---	7.1 (B)
1/19/07	Wisconsin Power and Light (WI)	9.15	10.80	54.13	12/07-A/P	-1.9
1/26/07	Fitchburg Gas & Electric (MA)	---	10.00	---	---	2.2 (B,Z)
2/8/07	PPL Gas Utilities (PA)	8.44	10.40	51.79 (Hy)	12/06-YE	8.1
3/14/07	Connecticut Natural Gas (CT)	8.60	10.10	53.60	3/06-YE	14.4 (B)
3/15/07	Union Electric (MO)	---	---	---	---	6.0 (B)
3/20/07	Delmarva Power & Light (DE)	7.73	10.25	46.90	3/06-A	9.0 (B,I)
3/21/07	Pacific Gas and Electric (CA)	---	---	---	12/07-A	20.5 (B,1)
3/22/07	Southern Union (MO)	8.60	10.50	36.06 (19)	12/05-YE	27.2
3/29/07	Atmos Energy (TX)	7.90	10.00	48.10	12/05-YE	4.8
2007	***1ST QUARTER: AVERAGES/TOTAL***	**8.40**	**10.44**	**48.33**		**158.4**
	MEDIAN	**8.52**	**10.40**	**48.10**		**---**
	OBSERVATIONS	**10**	**10**	**9**		**13**
5/16/07	Aquila (KS)	---	---	---	---	5.1 (B)
6/5/07	Cascade Natural Gas (OR)	---	10.10	45.00	---	-0.7 (B)
6/13/07	Northern States Power (ND)	8.96	10.75	51.59	12/07-A	2.2 (I,B)
6/29/07	Yankee Gas Services (CT)	8.03	10.10	50.30	6/06-A	22.1 (B)
6/29/07	Public Service Co. of New Mexico (NM)	7.96	9.53	51.80	12/05-YE	8.6
2007	***2ND QUARTER: AVERAGES/TOTAL***	**8.32**	**10.12**	**49.67**		**37.3**
	MEDIAN	**8.03**	**10.10**	**50.95**		**---**
	OBSERVATIONS	**3**	**4**	**4**		**5**
7/3/07	Public Service of Colorado (CO)	8.67	10.25	60.17	6/06-A	32.3 (B)
7/13/07	Arkansas Western Gas (AR)	6.06	9.50	34.29 *	10/06-YE	5.8 (B)
7/19/07	Laclede Gas (MO)	---	---	---	---	38.6 (B)
7/24/07	Aquila (NE)	8.80	10.40	50.73	6/06-YE	9.2 (I)
7/31/07	Atmos Energy (KY)	---	---	---	---	5.5 (B)
8/1/07	Southern Indiana Gas & Electric (IN)	7.20	10.15	47.05 *	3/06-YE	5.1 (B)
8/21/07	Consumers Energy (MI)	---	---	---	---	49.8 (Bp)
8/29/07	Columbia Gas of Kentucky (KY)	---	10.50	---	---	7.3 (B)
9/10/07	Northern States Power-Minnesota (MN)	8.37	9.71	51.98	12/07-A	14.4 (I)
9/19/07	Washington Gas Light (VA)	8.41	10.00	---	12/05	3.9 (B,I)
9/20/07	Pacific Gas and Electric (CA)	---	---	---	---	27.6 (B,Z,20)
9/25/07	Consolidated Edison of New York (NY)	7.63	9.70	48.00	9/08-A	202.5 (B,Z)
2007	***3RD QUARTER: AVERAGES/TOTAL***	**7.88**	**10.03**	**48.70**		**402.0**
	MEDIAN	**8.37**	**10.08**	**49.37**		**---**
	OBSERVATIONS	**7**	**8**	**6**		**12**

GAS UTILITY DECISIONS (continued)

Date	Company (State)	ROR %	ROE %	Common Eq. as % Cap. Str.	Test Year & Rate Base	Amt. $ Mil.
10/8/07	Atmos Energy (TN)	8.03	10.48	44.20	10/08-A	4.0 (B)
10/12/07	South Carolina Electric & Gas (SC)	---	---	---	3/07	4.6
10/19/07	Delta Natural Gas (KY)	---	10.50	---	---	3.9 (B)
10/25/07	CenterPoint Energy Resources (AR)	5.73	9.65	33.73 *	12/06-YE	20.0 (B)
11/15/07	Washington Gas Light (MD)	8.20	10.00	53.02	12/06-YE	20.6
11/20/07	Arkansas Oklahoma Gas (AR)	6.45	9.90	41.46 *	2/07-YE	3.3 (B)
11/27/07	UNS Gas (AZ)	8.30	10.00	50.00	12/05-YE	5.3
11/29/07	Cheyenne Light, Fuel & Power (WY)	8.84	10.90	54.00 (Hy)	9/06-YE	4.4 (B)
12/14/07	Madison Gas and Electric (WI)	9.09	10.80	57.36	12/08-A/P	7.8
12/18/07	NorthWestern Energy Div. (NE)	---	10.40	---	12/06	1.5 (B)
12/18/07	NorthWestern Energy Div. (SD)	7.96	---	---	12/06-A	3.1 (B,21)
12/19/07	Avista Corporation (WA)	8.20	10.20	46.00	12/06-A	3.3 (B)
12/21/07	Pacific Gas and Electric (CA)	8.79	11.35	52.00	12/08-A	0.0
12/21/07	San Diego Gas & Electric (CA)	8.40	11.10	49.00	12/08-A	1.4
12/21/07	Brooklyn Union Gas (NY)	---	9.80	---	---	46.9
12/21/07	KeySpan Gas East (NY)	---	9.80	---	---	82.4
12/21/07	National Fuel Gas Distribution (NY)	7.61	9.10	44.35	12/08-A	1.8
12/28/07	Washington Gas Light (DC)	---	---	---	6/06	1.4 (B)
2007	***4TH QUARTER: AVERAGES/TOTAL***	**7.97**	**10.27**	**47.74**		**215.7**
	MEDIAN	**8.20**	**10.20**	**49.00**		**---**
	OBSERVATIONS	**12**	**15**	**11**		**18**
2007	***FULL YEAR: AVERAGES/TOTAL***	**8.12**	**10.24**	**48.37**		**813.4**
	MEDIAN	**8.34**	**10.20**	**49.50**		**---**
	OBSERVATIONS	**32**	**37**	**30**		**48**
1/8/08	Northern States Power-Wisconsin (WI)	9.67	10.75	52.51	12/08-A	5.3
1/17/08	Wisconsin Electric Power (WI)	9.15	10.75	54.36	12/08-A/P	4.0
1/17/08	Wisconsin Gas (WI)	10.91	10.75	46.64	12/08-A/P	20.1
2/5/08	North Shore Gas (IL)	7.96	9.99	56.00	9/06-YE	-0.2
2/5/08	Peoples Gas Light & Coke (IL)	7.76	10.19	56.00	9/06-YE	71.2
2/13/08	Indiana Gas (IN)	7.80	10.20	48.99 *	12/06-YE	26.9 (B)
3/31/08	Avista Corp. (OR)	8.21	10.00	50.00	12/06-A	2.3 (B,Z)
2008	***1ST QUARTER: AVERAGES/TOTAL***	**8.78**	**10.38**	**52.07**		**129.6**
	MEDIAN	**8.21**	**10.20**	**52.51**		**---**
	OBSERVATIONS	**7**	**7**	**7**		**7**
4/23/08	Atmos Energy (KS)	---	---	---	---	2.1 (B)
5/28/08	Duke Energy (OH)	8.45	10.50	55.76	12/07-DC	18.2 (B)
6/24/08	Atmos Energy (TX)	7.98	10.00	48.27	6/07-YE	19.7 (22)
6/27/08	Questar Gas (UT)	8.41	10.00	51.38	12/08-A	12.0 (Bp)

GAS UTILITY DECISIONS (continued)

Date	Company (State)	ROR %	ROE %	Common Eq. as % Cap. Str.	Test Year & Rate Base	Amt. $ Mil.
2008	***2ND QUARTER: AVERAGES/TOTAL***	**8.28**	**10.17**	**51.80**		**52.0**
	MEDIAN	**8.41**	**10.00**	**51.38**		**---**
	OBSERVATIONS	**3**	**3**	**3**		**4**
7/1/08	NorthWestern Corporation (MT)	--- (23)	---	---	---	5.0 (B,I)
7/31/08	San Diego Gas & Electric (CA)	--- (15)	--- (15)	--- (15)	12/08-A	33.0 (B,Z)
7/31/08	Southern California Gas (CA)	--- (24)	--- (24)	--- (24)	12/08-A	214.0 (B,Z)
8/27/08	SourceGas Distribution (CO)	8.26	10.25	53.13	8/07-A	14.9 (B)
9/2/08	Chesapeake Utilities (DE)	8.91	10.25	61.81	3/07	0.3 (I,B)
9/17/08	Atmos Energy (GA)	7.75	10.70	45.00	3/09-A	3.4
9/24/08	Central Illinois Light (IL)	8.03	10.68	46.50	12/06-YE	-9.2
9/24/08	Central Illinois Public Service (IL)	8.22	10.68	47.91	12/06-YE	7.7
9/24/08	Illinois Power (IL)	8.70	10.68	51.76	12/06-YE	39.8
9/30/08	Avista Corp. (ID)	8.45	10.20	47.94	12/07-A	3.9 (B)
2008	***3RD QUARTER: AVERAGES/TOTAL***	**8.33**	**10.49**	**50.58**		**312.8**
	MEDIAN	**8.26**	**10.68**	**47.94**		**---**
	OBSERVATIONS	**7**	**7**	**7**		**10**
10/3/08	New Jersey Natural Gas (NJ)	7.76	10.30	51.20	4/08-YE	32.5 (B)
10/8/08	Puget Sound Energy (WA)	8.25	10.15	46.00	9/07-A	49.2 (B)
10/14/08	South Carolina Electric & Gas (SC)	---	---	---	3/08	3.7 (M)
10/15/08	East Ohio Gas (OH)	8.49 (R)	---	---	12/07-DC	40.5 (B,R)
10/20/08	CenterPoint Energy Resources (TX)	8.80	10.06	55.40	12/07-YE	1.2
10/23/08	Columbia Gas of Pennsylvania (PA)	---	---	---	9/07	41.5 (B)
10/23/08	PECO Energy (PA)	---	---	---	12/07	76.5 (B)
10/24/08	Piedmont Natural Gas (NC)	8.55	10.60	51.00	12/07-YE	15.7 (B)
10/24/08	Public Service of North Carolina (NC)	8.54	10.60	54.00	12/07-YE	9.1 (B,25)
11/24/08	Southwest Gas-So. California Div. (CA)	7.87	10.50	47.00	12/09-A	2.4 (B,26)
11/24/08	Southwest Gas-No. California Div. (CA)	8.99	10.50	47.00	12/09-A	-1.0 (B,26)
11/24/08	Southwest Gas-So. Lk. Tahoe Dist. (CA)	8.99	10.50	47.00	12/09-A	1.8 (B,26)
11/24/08	Narragansett Electric (RI)	---	10.50	47.71 (Hy)	9/07-A	13.7
12/3/08	Columbia Gas of Ohio (OH)	8.12	10.39	---	9/08-DC	47.1 (B)
12/23/08	Consumers Energy (MI)	---	---	---	---	22.4 (B)
12/24/08	Southwest Gas (AZ)	8.86 (E)	10.00	43.44	4/07-YE	33.5
12/26/08	Northwest Natural Gas (WA)	8.40	10.10	50.74	9/07-A	2.7 (B)
12/29/08	Avista Corporation (WA)	8.22	10.20	46.30	12/07-A	4.8 (B)
12/30/08	Wisconsin Power and Light (WI)	---	---	---	12/09	-3.9 (B)
12/30/08	Wisconsin Public Service (WI)	---	---	53.41	12/09	-3.0 (B)
2008	***4TH QUARTER: AVERAGES/TOTAL***	**8.45**	**10.34**	**49.25**		**390.4**
	MEDIAN	**8.49**	**10.39**	**47.71**		**---**
	OBSERVATIONS	**13**	**13**	**13**		**20**
2008	***YEAR-TO-DATE: AVERAGES/TOTAL***	**8.48**	**10.37**	**50.47**		**884.8**
	MEDIAN	**8.41**	**10.35**	**50.37**		**---**
	OBSERVATIONS	**30**	**30**	**30**		**41**

FOOTNOTES

A- Average
B- Order followed stipulation or settlement by the parties. Decision particulars not necessarily precedent-setting or specifically adopted by the regulatory body.
Bp- Order followed partial stipulation or settlement by the parties. Decision particulars not necessarily precedent-setting or specifically adopted by the regulatory body.
D- Applies to electric delivery only
DC- Date certain
E- Estimated
Hy- Hypothetical capital struture utilized.
I- Interim rates implemented prior to the issuance of final order, normally under bond and subject to refund.
M- "Make-whole" increase based on return on equity or overall return of previous case
P- Partial inclusion of CWIP in rate base without AFUDC offset to income
R- Revised
Tr- Applies to electric transmission only
YE- Year-end
Z- Rate change implemented in multiple steps.
* Capital structure includes cost-free items or tax credit balances at the overall rate of return.

(1) Rate increase effective retroactive to 1/1/07.
(2) Rate increase effective retroactive to 6/16/07.
(3) Represents initial revenue requirement for the newly established conpmany.
(4) Rate increase results from a limited issue reopening of a case initially decided on 1/19/07.
(5) Rate increase effective 2/20/08.
(6) ROE applies only to a proposed 200-MW wind generation facility, and is applicable over the 25-year depreciable life of the project.
(7) Rate increase effective 5/1/08.
(8) ROE applies only to a proposed 585-MW coal generation facility, is applicable for AFUDC and CWIP purposes and over the first 12 years of the plant's commercial operation, and includes a 100-basis-point incentive premium.
(9) The 8.1% ROR utilized in the company's case decided on 2/28/08, was incorporated into this proceeding.
(10) ROE applies only to a proposed 108-MW wind generation facility, and is applicable over the 20-year depreciable life of the project.
(11) Commission also authorized a 150-basis-point ROE premium for the new, 514-MW, combined-cycle Tracy generating plant, and a 500-basis-point premium for demand-side management investments.
(12) Case abated by Commission at company request.
(13) Rate reduction ordered in conjunction with the authorization of a new five-year alternative regulation plan.
(14) Order noted that an ROR of 7.04% is implied in the approved settement.
(15) Rate of return was not an issue in this proceeding. The authorized rate change incorporated the 10.7% return on equity (49% of capital) and the 8.23% return on rate base previously authorized the company for 2007.
(16) ROE applies only to a proposed 52.5-MW wind generation facility over the 20-year depreciable life of the project.
(17) Return and capital structure parameters apply only to the company's 30% interest in the 740-MW coal-fired Colstrip Unit 4 generating plant.
(18) Represents base rate increase. The company's overall electric rates were unchanged as the base rate increase represents the transfer to base rates of a $48 million fuel surcharge that was authorized on 7/3/08.
(19) Parent company capital structure utilized.
(20) Rate increases applicable to gas transmission and storage operations. Initial increase to be effective 1/1/08.
(21) Rate increase effective retroactive to 12/1/07.
(22) Parameters shown apply to parties for whom the case was fully litigated. A settlement executed with the majority of the cities served by Atmos specified a total company $10 million rate hike based on a 9.6% ROE (48% of capital) and a 7.79% ROR. The revenue requirement increase applicable to the settlement's signatories is $8.2 million, while that applicable to non-signatories subject to the Commission order is $3.5 million. The aggregate impact of the two rate adjustments is an $11.7 million increase.
(23) Order noted that an ROR of 7.59% is implied in the approved settement.
(24) Rate of return was not an issue in this proceeding. The rate change incorpated the 10.82% return on equity (48% of capital) and 8.68% return on rate base authorized the company in its automatic cost of capital adjustment mechanism.
(25) Indicated rate hike represents distribution or margin rate increase. Because fixed gas costs were reduced by $8.4 million, the net, overall rate increase was $0.7 million.
(26) Additional increases authorized for each year 2010 through 2013.

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BEFORE THE ARIZONA CORPORATION COMMISSION

IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS GAS, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.	DOCKET NO. G-04204A-08-0571 EVIDENTIARY HEARING

At: Phoenix, Arizona

Date: August 18, 2009

Filed: August 25, 2009

REPORTER'S TRANSCRIPT OF PROCEEDINGS

VOLUME VI

(Pages 809 through 929, inclusive)

ARIZONA REPORTING SERVICE, INC.
Court Reporting
Suite 502
2200 North Central Avenue
Phoenix, Arizona 85004-1481

Prepared for:

By: Kate E. Baumgarth, RPR
Certified Reporter
Certificate No. 50582

ACC

Q. Just for the record, it has been marked as Exhibit UNSG-38, which is an excerpt of his direct testimony dated December 19, 2008, in the pending APS rate case 08-0172.

If you would like me to repeat the question, you recommended a ROE of 11 percent in that case?

A. The Staff recommended 11. I recommended a range of 9 to 11. And as I state on the bottom of page 32, lines 27 and 28, my 11.0 recommendation reflects Staff's desire to aid APS in its efforts to attract capital investment, as cited in testimony of Staff witness Johnson.

So the 11.0 was a policy decision by the Commission Staff as a whole as to generate its revenue requirement.

And as I state on line 27, "A lower cost of equity could be justified," but the Staff policy decision was the top of the range.

Q. And if you could read the sentence starting on line 25 on page 32.

A. Yes.

Q. Could you read that?

A. Sure. I would be glad to.

"Within this range, I recommend an 11.0 percent level, or slightly above the return on equity approved by

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BEFORE THE ARIZONA CORPORATION COMMISSION

MIKE GLEASON
Chairman
WILLIAM A. MUNDELL
Commissioner
JEFF HATCH-MILLER
Commissioner
KRISTIN K. MAYES
Commissioner
GARY PIERCE
Commissioner

IN THE MATTER OF THE APPLICATION OF ARIZONA PUBLIC SERVICE COMPANY FOR A HEARING TO DETERMINE THE FAIR VALUE OF THE UTILITY PROPERTY OF THE COMPANY FOR RATEMAKING PURPOSES, TO FIX A JUST AND RESONABLE RATE OF RETURN THEREON, AND TO APPROVE RATE SCHEDULES DESIGNED TO DEVELOP SUCH RETURN)	DOCKET NO. E-01345A-08-0172

DIRECT

TESTIMONY

OF

DAVID C. PARCELL

ON BEHALF OF THE

UTILITIES DIVISION STAFF

ARIZONA CORPORATION COMMISSION

DECEMBER 19, 2008

UNSG-38

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setting, a fair rate of return is based on the utility's assets (*i.e.*, rate base) and the book value of the utility's capital structure. As stated earlier, maintenance of a financially stable utility's market-to-book ratio at 100%, or a bit higher, is fully adequate to maintain the utility's financial stability. On the other hand, a market price of a utility's common stock that is 150 percent or more above the stock's book value is indicative of earnings that exceed the utility's reasonable cost of capital. Thus, actual or projected earnings do not directly translate into a utility's reasonable cost of equity. Rather, they must be viewed in relation to the market-to-book ratios of the utility's common stock.

My 9.5 percent to 10.5 percent CE recommendation is not designed to result in market-to-book ratios as low as 1.0 for APS. Rather, it is based on current market conditions and the proposition that ratepayers should not be required to pay rates based on earnings levels that result in excessive market-to-book ratios.

XI. RETURN ON EQUITY RECOMMENDATION

Q. Please summarize the results of your three Cost of Equity analyses.

A. My three methodologies produce the following:

Discounted Cash Flow	9.5-11.0%
Capital Asset Pricing Model	8.8-9.1%
Comparable Earnings	9.5-10.5%

Q. What is your Cost of Equity recommendation for APS?

A. I recommend a cost of equity of 9.0 percent to 11.0 percent for APS. This reflects each of my three cost of equity model results. Within this range, I recommend an 11.0 percent level, or slightly above the return on equity approved for APS in the Company's last rate proceeding. Even though a lower cost of equity (e.g., the mid-point of my 9.0 percent to 11.0 percent range) could be justified, my 11.0 percent recommendation reflects Staff's

BEFORE THE ARIZONA CORPORATION COMMISSION

<u>COMMISSIONERS</u>
KRISTIN K. MAYES - CHAIRMAN
GARY PIERCE
PAUL NEWMAN
SANDRA D. KENNEDY
BOB STUMP

IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS GAS, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.	DOCKET NO. G-04204A-08-0571

APPENDIX

IN SUPPORT OF

INITIAL POST-HEARING

BRIEF OF UNS GAS, INC

Volume 3 of 3

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BEFORE THE ARIZONA CORPORATION COMMISSION

KRISTIN K. MAYES
Chairman
GARY PIERCE
Commissioner
PAUL NEWMAN
Commissioner
SANDRA D. KENNEDY
Commissioner
BOB STUMP
Commissioner

IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS GAS, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.	)	DOCKET NO. G-04204A-08-0571

DIRECT

TESTIMONY

OF

DAVID C. PARCELL

ON BEHALF OF THE

UTILITIES DIVISION STAFF

ARIZONA CORPORATION COMMISSION

JUNE 08, 2009

The second decision is Federal Power Comm'n v. Hope Natural Gas Co., 320 U.S. 591 (1942). In that decision, the Court stated:

> The rate-making process under the [Natural Gas] Act, i.e., the fixing of 'just and reasonable' rates, involves a balancing of the **investor** and **consumer interests** . . . . From the investor or company point of view it is important that there be enough revenue not only for operating expenses but also for the capital costs of the business. These include service on the debt and dividends on the stock. By that standard the **return** to the equity **owner** should be **commensurate** with **returns** on **investments** in **other enterprises having corresponding risks**. That return, moreover, should be sufficient to assure confidence in the **financial integrity** of the enterprise, so as to **maintain its credit** and to **attract capital. [Emphasis added.]**

The Hope case is also frequently credited with establishing the "end result" doctrine, which maintains that the methods utilized to develop a fair return are not important as long as the end result is reasonable.

The three economic and financial parameters in the Bluefield and Hope decisions - comparable earnings, financial integrity, and capital attraction - reflect the economic criteria encompassed in the "opportunity cost" principle of economics. The opportunity cost principle provides that a utility and its investors should be afforded an opportunity (not a guarantee) to earn a return commensurate with returns they could expect to achieve on investments of similar risk. The opportunity cost principle is consistent with the

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DATA REQUEST PACKET NO. 2

Staff's Responses to UNS Gas' Data Requests:

UNSG 2.28	UNSG 3.88
UNSG 2.36	UNSG 3.92
UNSG 2.43	UNSG 3.95
UNSG 2.44	UNSG 3.98
UNSG 3.78	UNSG 3.102
UNSG 3.83	UNSG 3.103
UNSG 3.84	UNSG 3.104
	UNSG 3.105

UNSG-36

UNSG 3.78 Please provide spreadsheets and workpapers that support Staff's analysis of UNS Gas' ability to earn the cost of equity recommended by Mr. Parcell. If no such supporting materials are available, please explain.

RESPONSE: Mr. Parcell does not address the future earnings of UNS Gas. His analyses address the cost of capital for the Company.

RESPONDENT: DAVID C. PARCELL

WITNESS: DAVID C. PARCELL

ARIZONA CORPORATION COMMISSION
DOCKET NO. G-04204A-08-0571
STAFF'S RESPONSE TO UNS GAS, INC.'S
THIRD SET OF DATA REQUESTS
July 7, 2009

UNSG 3.98 Regarding the statement on page 40, lines 14-15, of Mr. Parcell's Direct Testimony, when does Mr. Parcell expect UNS Gas to earn his cost of capital recommendation? Please provide any supporting analyses.

RESPONSE: **Objection, Staff is not required to provide such calculations. Such calculations are within the control of the Company. Mr. Parcell has not addressed UNS Gas' projected earnings.**

RESPONDENT: **DAVID C. PARCELL**

WITNESS: **DAVID C. PARCELL**

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BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS
KRISTIN K. MAYES - CHAIRMAN
GARY PIERCE
PAUL NEWMAN
SANDRA D. KENNEDY
BOB STUMP

IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS GAS, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.	DOCKET NO. G-04204A-08-0571

Rebuttal Testimony of

Kentton C. Grant

on Behalf of

UNS Gas, Inc.

July 8, 2009

Q. Did Mr. Parcell offer any analysis regarding the Company's ability to earn its cost of capital?

A. No. Despite the fact that Staff is recommending a rate increase that is less than 50% of what UNS Gas has requested, and despite evidence presented in my Direct Testimony that the Company requires all of the rate relief requested in order to earn its cost of capital, Mr. Parcell merely assumes the Company will be able to do so.

Q. Has the Company been able to earn its cost of capital since its last rate increase was implemented in December 2007?

A. No. Despite having higher than expected sales due to an unusually cold first quarter, the Company realized an earned ROE of only 9.2% in calendar year 2008, versus an authorized ROE of 10.0% in UNS Gas' last rate case. For the twelve months ending March 31, 2009, the Company's earned ROE dropped to 7.2% as a result of less favorable weather and the impact of the economic recession on customer demands. As reflected on page 27 of my Direct Testimony, at the time of our rate filing the Company anticipated earning a ROE of 7.3% for calendar year 2009. Based on actual results through the first quarter of 2009, as well as a reduced sales forecast, the Company now anticipates earning a ROE of 7.2% in calendar year 2009.

Q. In light of the weakness in sales, has the Company revised its forecast of earnings in 2010 and beyond?

A. Yes. The table below, which is an updated version of the forecast presented on page 27 of my Direct Testimony, shows the projected earnings and ROE for UNS Gas assuming the Company is granted its full rate request and is allowed to implement new rates in December 2009:

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BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS
KRISTIN K. MAYES - CHAIRMAN
GARY PIERCE
PAUL NEWMAN
SANDRA D. KENNEDY
BOB STUMP

IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS GAS, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.	DOCKET NO. G-04204A-08-0571

Rebuttal Testimony of

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UNS Gas, Inc.

July 8, 2009

($ Thousands)	2008 Actual	2009	2010	2011
Gross Margin	$55,424	$55,532	$64,975	$66,099
Operating Expenses	(34,757)	(37,222)	(40,592)	(42,499)
Operating Income	$20,668	$18,310	$24,383	$23,600
Other Income – Net	150	142	186	418
Interest Expense	(6,640)	(6,391)	(6,332)	(6,556)
Pre-Tax Income	$14,178	$12,061	$18,237	$17,461
Income Tax Exp.	(5,640)	(4,790)	(7,225)	(6,917)
Net Income	$8,538	$7,270	$11,013	$10,544
Ending Common Equity	$96,684	$103,948	$114,961	$120,233
Return on Avg. Equity	9.2%	7.2%	10.1%	9.0%

As my be seen in the table above, UNS Gas now projects that it will earn a ROE of only 10.1% in 2010 even if its rate request is granted in full and is implemented prior to January 2010. Even though the Company has trimmed its forecast of operating expenses and capital expenditures, the reduced sales outlook coupled with the continued use of an historical test year for rate setting purposes will make it very difficult for the Company to earn its cost of capital even if UNS Gas is granted the full rate increase it has requested. Based on this forecast, it should be apparent that the Company requires all of its requested rate increase in order for it to have any opportunity of earnings its cost of capital.

Q. Will UNS Gas have an opportunity to earn its cost of capital if Staff's revenue requirement is adopted?

A. No. The Company estimates that it will be able to earn an ROE of only 6-7% if Staff's revenue requirement is adopted.

Q. How did you arrive at an estimate of UNS Gas' earned ROE under Staff's revenue requirement?

A. This calculation is very straightforward. Since Staff's recommended rate increase is $6.1 million lower than the Company's requested increase, this represents the approximate difference in pre-tax earnings available to UNS Gas in the first full year under new rates. Applying a 39% composite income tax rate to this value produces an after-tax earnings difference of $3.7 million. Subtracting this amount from the forecasted earnings and ending common equity balance in the table above results in forecasted earnings of $7.3 million and an earned ROE of 6.8%, a level comparable to the Company's current level of earnings and the proposed cost of debt in this proceeding.

Q. When estimating the earned ROE resulting from Staff's revenue requirement, should the expenses and capital base of the Company also be adjusted in the forecast?

A. No. In making their reductions to UNS Gas' revenue requirement, Staff assumes that certain expenses and investments are somehow not needed for the provision of retail gas service. However, these expenses and investments do not disappear simply because Staff assumes they are not needed. The other adjustments Staff made to UNS Gas' revenue requirement relating to test year revenues, the cost of equity capital, and the ROR on FVRB also have no bearing on what the Company will be required to spend on operating costs and capital projects in the years to come. In the context of the "end result" test referenced by Mr. Parcell, the adjustments made by Staff to test year expenses and rate base have no relevance except for their impact on future operating revenues. It should be clear that in applying such a results-based test, it is the practical effect of Staff's recommendation on UNS Gas that should be considered, as opposed to a backward-looking analysis that is based on historical data and assumed spending reductions.

Q. Does Mr. Parcell's pre-tax coverage ratio analysis constitute an "end results" test?

A. No. For example, if a utility regulator is too aggressive with expense and rate base adjustments, a utility could be forced into bankruptcy – yet Mr. Parcell's approach would lead one to conclude that the bankrupt utility is financially healthy on an adjusted basis. Indeed, if Mr. Parcell were to apply the same approach he does in his testimony in this case, it appears he would testify that the bankrupt utility was able to attract debt and equity capital at reasonable rates and that it would be able to earn returns consistent with companies of similar risk. A test that shows a bankrupt utility is financially sound is no test at all.

Q. Based on the financial impact of Staff's rate recommendations, do you believe that the adoption of Staff's revenue requirement will result in earnings that are sufficient to support UNS Gas' financial integrity?

A. No, I do not. If Staff's revenue requirement is adopted, it is obvious that UNS Gas will not be provided with a reasonable opportunity to either earn its cost of capital or attract new capital on reasonable terms.

B. Rebuttal of RUCO Witness William A. Rigsby.

Q. What does Mr. Rigsby have to say about UNS Gas' ability to actually earn its cost of capital?

A. Like Mr. Parcell, Mr. Rigsby's Direct Testimony does not say much in this regard, despite making several references to the importance of providing a utility with an opportunity to actually earn its cost of capital. The closest Mr. Rigsby comes to opining on the prospective earnings of UNS Gas is a statement he makes on page 49 of his Direct Testimony, lines 15-22:

> I believe that my recommended cost of equity will provide UNSG with a reasonable rate of return on the Company's invested capital...As I noted earlier, the Hope decision determined that a utility is entitled to earn a rate of return that is commensurate with the returns it would make on other investments with comparable risk. I believe that my DCF analysis has produced such a return.

Mr. Rigsby's statement on page 9 of his Direct Testimony, lines 3-7, also touches on his belief regarding the Company's ability to earn a reasonable ROR:

> The FVROR that RUCO is recommending 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). Simply stated, these two cases affirmed that a public utility that is efficiently and economically managed is entitled to a return on investment that instills confidence in its financial soundness, allows the utility to attract capital, and also allows the utility to perform its duty to provide service to ratepayers.

Q. What financial analysis does Mr. Rigsby offer to support his conclusion that UNS Gas will be provided with a "reasonable rate of return"?

A. None whatsoever. Nowhere does Mr. Rigsby evaluate the Company's ability to actually earn its cost of capital under RUCO's rate recommendation. Instead, all he offers are blanket assurances that the ROR recommended by RUCO will meet the requirements of Hope and Bluefield, and that the Company will be provided with a reasonable ROR.

Q. Will UNS Gas have an opportunity to earn its cost of capital if RUCO's revenue requirement is adopted?

A. No. The Company estimates that it will be able to earn an ROE of only 5-6% if RUCO's revenue requirement is adopted. This ROE is so low that it even falls below the Company's 6.49% cost of debt that Mr. Rigsby recommends as reasonable.

Q. Based on the financial impact of RUCO's rate recommendations, do you believe that the adoption of RUCO's revenue requirement will result in earnings that are sufficient to support UNS Gas' financial integrity?

A. No, I do not. If RUCO's revenue requirement is adopted, it is obvious that UNS Gas will not be provided with an opportunity to either earn its cost of capital or attract new capital on reasonable terms.

IV. <u>RATE OF RETURN ON FAIR VALUE RATE BASE.</u>

A. <u>Rebuttal of Staff Witness David C. Parcell.</u>

Q. What does Mr. Parcell recommend regarding ROR on fair value?

A. Mr. Parcell's primary recommendation is that the Commission apply a 0% return on the portion of FVRB that exceeds the original cost rate base. Mr. Parcell refers to this portion of the FVRB as the "fair value increment." In other words, Mr. Parcell recommends no return at all on the fair value increment. Thus, the revenue requirement is entirely determined by the ROR on original cost. This approach is mathematically equivalent to the now-discredited "backing in" method formerly used by the Commission, where the revenue requirement was determined by applying the weighted average cost of capital to the original cost rate base, with a "fair value rate of return" being determined simply as a fall out number.

Q. Is Mr. Parcell's recommendation consistent with recent Commission decisions?

A. No. Mr. Parcell presented the same recommendation in the "Chaparral City" remand case.[5] The Commission did not adopt Mr. Parcell's recommendation in its remand order, Decision No. 70441. Mr. Parcell also repeated this recommendation in the recent

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[5] Docket No. W-02113A-04-0616.

BEFORE THE ARIZONA CORPORATION COMMISSION

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DOCKET NO. G-04204A-08-0571

At: Phoenix, Arizona

Date: August 10, 2009

Filed: August 14, 2009

REPORTER'S TRANSCRIPT OF PROCEEDINGS

VOLUME I
(Pages 1 through 238)

ARIZONA REPORTING SERVICE, INC.
Court Reporting
Suite 502
2200 North Central Avenue
Phoenix, Arizona 85004-1481

By: MICHELE E. BALMER
Certified Reporter
Certificate No. 50489

Prepared for:

So is the Commission to believe that your original proposal has no credibility? I mean, I'm trying to understand. And I understand the company's frustration, but you're basically -- you came back and you said, well, you know, we got such a bad result from Staff and RUCO, we're just going to go back to the first one that we could have asked for.

So which one is the real request?

A. Madam Chair, when we look at the Staff and RUCO rate recommendations in this case, we're looking at earned returns on equity of roughly 6 to 7 percent under the Staff case, and 4 to 5 percent under the RUCO case. That's not a sustainable situation for UNS Gas. And so under the circumstances, we can't afford to discount, if you will, that rate of return on fair value rate base with that backdrop.

Q. But you thought you could before. I mean, isn't this a litigation posture, or what -- you know, under what circumstances? Because originally you thought you could discount it, you could afford to discount it.

A. Well, we're trying to be very up front. And in my testimony, I describe how the 6.8 percent rate of return was derived, and basically using that rate of return produces a revenue increase of 9.5 million. And when we take that $9.5 million into account in my direct

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At: Phoenix, Arizona

Date: August 11, 2009

Filed: August 21, 2009

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VOLUME II
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Court Reporting
Suite 502
2200 North Central Avenue
Phoenix, Arizona 85004-1481

By: MICHELE E. BALMER
Certified Reporter
Certificate No. 50489

Prepared for:

Q. Yes.
A. Okay.
Q. And if you go down under the section corporate bonds, you'll see utilities. And could you read the number under the A-rated bond, please, for recent.
A. A-rated bonds for recent appears to be 5.7.
Q. Okay. And the Baa and BBB under recent?
A. That would be 6.7 percent.
Q. So would you agree from the time that you looked at those bond yields that you have in your exhibit until present time, it appears that those bond ratings -- those bond yields have gone down?
A. Yes, that's consistent with what I just discussed with Chairman Mayes.
MR. POZEFSKY: Your Honor, at this time I would move for the admission of RUCO Exhibit 10.
ACALJ NODES: Just out of curiosity, how is it that you have in hand a document that's dated in the future?
MR. POZEFSKY: They release it on a Monday, Your Honor.
ACALJ NODES: Okay. That's interesting.
MR. POZEFSKY: Well, now we have a forecasted yield.
ACALJ NODES: Yeah, yeah. Okay. All right. Any

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BEFORE THE ARIZONA CORPORATION COMMISSION

IN THE MATTER OF THE APPLICATION OF)
UNS GAS, INC. FOR THE ESTABLISHMENT)
OF JUST AND REASONABLE RATES AND) DOCKET NO.
CHARGES DESIGNED TO REALIZE A) G-04204A-08-0571
REASONABLE RATE OF RETURN ON THE)
FAIR VALUE OF THE PROPERTIES OF UNS)
GAS, INC. DEVOTED TO ITS OPERATIONS)
THROUGHOUT THE STATE OF ARIZONA.)

At: Phoenix, Arizona

Date: August 10, 2009

Filed: August 14, 2009

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Prepared for:

By: MICHELE E. BALMER
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A. Well, we're trying to be very up front. And in my testimony, I describe how the 6.8 percent rate of return was derived, and basically using that rate of return produces a revenue increase of 9.5 million. And when we take that $9.5 million into account in my direct

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November 7, 2008

Assessing U.S. Utility Regulatory Environments

Primary Credit Analyst:
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Ratemaking Practices And Procedures

The main, and often the most contentious, task of a regulator is to set the rates a utility may charge its customers. We analyze specific rate decisions as part of the surveillance of each utility. Our regulatory assessments focus on the jurisdiction's overall approach to setting rates and the process it uses to conduct and manage base rate filings. Practices pertaining to separate tariff clauses for large expense items are examined in the third category of the analysis (see below). In this part of the assessment, we concentrate on whether established base rates fairly reflect the cost structure of a utility and allow management an opportunity to earn a compensatory return that provides bondholders with a financial cushion that promotes credit quality.

Notably, the analysis does not revolve around "authorized" returns, but rather on actual earned returns. We note the many examples of utilities with healthy authorized returns that, we believe, have no meaningful expectation of actually earning that return because of rate case lag, expense disallowances, etc. Although, in general, the absolute level of financial returns is less important to our analysis than how that return is earned, we recognize that, all else being equal, higher earned returns translate into better credit metrics and a more comfortable equity cushion for bondholders. A regulatory approach that allows utilities the opportunity to consistently earn a reasonable return is a positive factor in our view of credit quality.

The rates of return and capital structures used to generate the revenue requirement in rate proceedings may not be the primary focus of the assessment, but those and other decisions made in the ratemaking process are still noted. We consider those decisions to be potential signals from regulators on their attitude toward credit quality. We believe that the capital structure in particular is a handy and direct indication from the regulator as to whether or not creditworthiness is an important consideration in its deliberations when setting rates. Obviously, any pronouncements from a regulator that explicitly address credit ratings or ratemaking practices that incorporate credit-minded adjustments (e.g., the use of double-leveraged capital structures or off-balance-sheet debt-like obligations) are considered in the Standard & Poor's assessment.

We analyze the issue of "regulatory lag" in a comprehensive manner and not just as a matter of the efficiency of the regulator in completing rate cases. As part of this analysis, we evaluate the timeliness of rate decisions, coupled with an evaluation of the test year. In addition, we take into account the timing of interim rates, and other practices that affect the appropriateness of rates periodically established by the regulator. We do not view the issue of regulatory lag as an intermittent concern, consequential only during times of acute inflation or rising capital spending, but as a consistent part of our credit analysis. Accordingly, in our regulatory assessments we focus on whether the regulator efficiently prosecutes rate requests and bases its decisions with respect to rate setting on the most current information.

In our view, the prevalence of rate case settlements is not necessarily an important credit consideration. Although the common assumption among market participants seems to be that a settlement must be in the best interest of a utility, we believe this assumption disregards the possibility that management will sometimes make decisions based on its effect on earnings at the expense of cash flow considerations. This does not mean we dismiss the ability of stipulations to reach a fair resolution of difficult matters that help regulators issue timely and constructive rate decisions. It just means that frequent settlements do not, in our view, directly lead to a conclusion that the regulatory environment in a state enhances credit quality.

An important policy-related issue outside of individual rate cases that falls under this part of the assessment is the

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Certified Reporter
Certificate No. 50489

Prepared for:

equity or authorized rate of return that you had.
    A.   Well, actually, in my testimony I cite a Value Line publication that indicates gas utilities on average are earning 11 to 12 percent, not 10 percent. Mr. Parcell's own comparable earnings analysis also indicate that gas utilities are earning returns on equity in the 11 to 12 percent range.
    Q.   My question would be, given that your equity position to debt ratio is roughly comparable to the rest of the industry, why is it that UNS is unable to provide a return or dividend to its investors when these other companies are able to do that?
    A.   Weak earnings and weak cash flow.
    Q.   And why the weak earnings?
    A.   Well, for one reason, we were granted, I believe, $5 million or thereabouts in our last rate case compared to -- I believe it was about $9.5 million requested increase in our last case. Another reason being that we have a heavily volumetric rate design, so it's feast or famine as far as the weather is concerned.
    Q.   And yet you acknowledge that at the beginning part of 2008, the company benefited from the feast, so to speak, on the weather, and yet you still projected that for 2008 the company is going to struggle financially, correct?

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Moody's Investors Service

Global Credit Research
Credit Opinion
23 JUL 2009

Credit Opinion: UNS Gas, Inc.

UNS Gas, Inc.

Tucson, Arizona, United States

Ratings

Category	Moody's Rating
Outlook	Stable
Bkd Senior Unsecured	Baa3
Ult Parent: UniSource Energy Corporation	
Outlook	Stable
Sr Sec Bank Credit Facility	Ba1

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Opinion

Rating Drivers

Stable regulated operations with in historically challenging regulatory environment

Limited non-regulated exposure and ring-fencing

Strong credit metrics

Cross-support within UES family

Corporate Profile

UNS Gas, Inc. (UNSE: Baa3 senior unsecured (guaranteed), stable) is local distribution utility serving approximately 146,000 retail customers in Arizona. UNSG and UNS Electric, Inc. (UNSE: Baa3 senior unsecured (guaranteed), stable), a regulated electric utility in Arizona, are both subsidiaries of UniSource Energy Services (UES) which is the guarantor. UES is a wholly owned subsidiary of UniSource Energy Corporation (UNS: Ba1 senior secured bank credit facility (security limited to stock of certain subsidiaries), stable), whose largest subsidiary is Tucson Electric Power (TEP: Baa3 senior unsecured, stable), a regulated electric utility in Arizona.

SUMMARY RATING RATIONALE

The Baa3 rating assigned to UNSG's senior unsecured notes reflects the interdependence that currently exists between the company and its affiliate UNSE as a result of their shared credit facility and parental guarantee from UES. The rating reflects our view of the consolidated credit quality of UES, which guarantees the debt of both UNSG and UNSE. On a stand-alone basis, UNSG has a credit profile moderately better than its rating as evidenced by metrics that map to rating levels within the LDC gas utility methodology that are somewhat stronger than its rating category.

-AILED RATING CONSIDERATIONS

Regulated operations in historically challenging environment

Virtually all of UNSG's operations are regulated. Moody's generally views a significant percentage of regulated

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operations as positive for credit quality as regulated cash flows tend to be more stable and predictable than those of unregulated companies. This key factor is tempered somewhat by the regulatory environment of Arizona, which Moody's generally ranks below average for U.S. regulatory jurisdictions in terms of expectation of timely recovery of costs and predictability of rate decisions. Moody's also notes that three new commissioners began their term in ·nuary 2009 and it is not clear how or whether this might impact Moody's perception of the regulatory ironment in Arizona over time.

Regulatory lag continues although moderating capital expenditures are a mitigant

UNSG's last fully litigated rate case was resolved in approximately 16 months with new rates in place reflecting a historic test year that ended two years before the decision. This level of regulatory lag makes adequate and timely recovery difficult to achieve. UNS Gas filed a general rate case in November 2008 requesting a $10 million rate increase (6%) premised on an 11% ROE and 50% equity ratio using a June 2008 test year end. A decision is expected by late 2009 or early 2010. Moody's expects further need for rate cases over the medium-term due to regulatory lag and on-going capital expenditures. The utility is not expected to earn its 10% allowed ROE during this time unless it receives adequate rate relief.

Capital expenditures were above $22 million annually from 2005-2007 but are expected to generally remain below $20 million over the near-term. Moderating capital expenditures reduces the need for regulatory relief though lag is expected to continue.

Effective recovery of purchased gas costs

UNSG has a gas cost recovery mechanism that appears to be functioning adequately. The Purchased Gas Adjustor mechanism may be changed monthly based on a comparison of rolling twelve-month average actual gas cost and gas costs in base rates, though there are limits to the levels of adjustments over a twelve month period. UNSG may also request a surcharge to recover deferred balances. As of March 31, 2009, UNSG had a $6 million over recovered purchased gas costs balance included as a current liability.

Due to the traditionally challenging regulatory environment in Arizona, as well as the uncertainty surrounding the impact of new commissioners, the regulatory supportiveness factor has been scored in the Ba range in the LDC methodology framework.

..n-regulated exposure and ring-fencing within UES is limited

Although UNSG's risk of exposure to non-regulated activities is considered quite modest as both UNSG and UNSE are fully regulated, there is significant interdependence between the UES subsidiaries in the form of a shared credit agreement and parental guarantee. Services are also shared with UniSource's primary regulated utility TEP. UNSG contributed approximately 63% of consolidated UES' EBIT and 14% of consolidated UNS' EBIT.

The Arizona Corporation Commission (ACC) has not restricted UNSG's ability to pay dividends to its parent; however, the utility has not paid a dividend over the last several years. There are dividend restrictions under the company's notes and credit agreement, but UNSG is well within the limits imposed by these documents. Overall, ring-fencing at UNSG maps within the Baa criteria outlined in the LDC Methodology.

Cross support of debt within UES constrains rating

The rating also recognizes the position of UNSE and UNSG as indirect subsidiaries of UNS through UES. UES is an intermediate holding company with no operations or debt. Debt at UNSE and UNSG is guaranteed by UES, which creates cross-support. UES has not historically received any dividend payments from its utility subsidiaries, and none are anticipated for the foreseeable future. UNS has periodically contributed equity to UNSG in support of its capital program and to strengthen its balance sheet.

Improved metrics provide credit support for weaker regulatory environment

Credit metrics overall reflect on-going regulatory lag issues as well as the benefits of cost controls, and a modest debt profile.

ROE, EBIT/Customer and EBIT/Interest

.G's average ROE, EBIT/Customer and EBIT/Interest have historically mapped to the lower Baa/high Ba level. In 2008, metrics improved moderately due to the impact of the base rate increase in late 2007 and slowing customer growth; however, they continue to map to the high Ba/low Baa level. UNSG's metrics could improve moderately within the Baa rating range if regulatory lag is reduced or the company receives better than anticipated rate relief.

RCF/Debt, Debt to Capitalization and FCF/FFO

UNSG's cash flow and debt-related credit metrics have historically mapped to the upper Baa/low A level. Retained and free cash flow have improved as UNSG has not paid dividends to its parent recently and capital expenditures have begun to decline. This has allowed retained earnings to increase equity capitalization and also reduce the need for new debt financing. Continued moderating levels of capital expenditures are expected to increase free cash flow and debt financing is expected to be minimal over the near-term. Beyond 2010, free cash flow is expected to once again become negative unless rate relief is better than anticipated. Over time, these metrics could improve to the low A range.

Liquidity Profile

UNSG's cash flow profile has generally been stable with operating cash flow approximately covering capital expenditures; however, in 2008, cash from operations of $2.8 million were significantly below capital expenditures of approximately $16 million. Cash on hand was used to meet the shortfall as cash flow was significantly impacted by collateral postings and refunds from over-recovered purchased gas costs. Over the near-term, capital expenditures of $19-21 million annually are expected to continue to be funded roughly by cash flow from operations.

UNSG has two $50 million issues of senior unsecured notes outstanding, one maturing in August 2011 and one maturing in 2015. UNSG's short term liquidity needs are supported by a joint UNSG/UNSE $60 million credit facility which matures August 2011. Either borrower may borrow up to a maximum of $45 million, so long as the combined amount does not exceed $60 million. As of March 31, 2009, there were no amounts drawn on the facility but UNSE had $17 million of letters of credit outstanding and UNSG had $5 million of letters of credit outstanding which reduced availability under the facility.

The UNSG/UNSE credit facility contains two financial covenants applicable to each borrower: for UNSE a maximum debt to capital ratio of 65% and a minimum interest coverage ratio of 2.25 times, for UNSG a maximum debt to capital ratio of 67%, and a minimum interest coverage of 2.25 times. As of March 31, 2009, the ratios were 54% and 4.01 times at UNSE and 50% and 4.02 times at UNSG. The credit facility requires a material adverse change (MAC) representation at each new borrowing. In Moody's opinion, the requirement of a MAC representation significantly increases the risk that the credit facility may not be available when liquidity needs are greatest.

Moody's assumes that UNSG will manage the amount of its near term obligations within the limits of its available sources of cash, including its committed bank credit facilities.

Rating Outlook

The stable outlook for UNSG reflects our expectations of continued stable or modestly improved cash flows resulting from expected rate case decisions, an assumption that any increases in the cost of gas will continue to be recovered on a relatively timely basis, and our understanding that future capital expenditures will be financed in a manner intended to maintain UNSG's current level of financial strength and flexibility.

What Could Change the Rating - Up

UNSG's rating is currently constrained by its interdependence with UNSE and our view of the consolidated credit quality of UES. In the event this interdependence was reduced while UNSG retained its similar credit profile, the rating or outlook could be revised upward. Alternatively, if there were to be an improvement in the consolidated credit quality of UES, this could result in positive rating action for UNSG.

What Could Change the Rating - Down

A downward revision could occur if there is deterioration in the credit quality or ratings of UES or UNSE or UNSG credit metrics decline to the low Baa/high Ba range, for example, RCF/Debt below 10% or EBIT / Interest coverage of less than 2x, or if regulatory support significantly worsens, then there could be a downward revision in the rating or outlook.

Rating Factors

S Gas, Inc.

Local Gas Distribution	Aaa	Aa	A	Baa	Ba	B	Caa
Factor 1: Sustainable Profitability (20%)							

a) Return on Equity (15%)				X			
b) EBIT to Customer Base (5%)				X			
Factor 2: Regulatory Support (10%)							
Regulatory Support and Relationship					X		
Factor 3: Ring Fencing (10%)							
a) Ring Fencing				X			
Factor 4: Financial Strength and Flexibility (60%)							
a) EBIT/Interest (15%)				X			
b) Retained Cash Flow/Debt (15%)			X				
c) Debt to Book Capitalization (excluding goodwill) (15%)				X			
d) Free Cash Flow/Funds from Operations (15%)			X				
Rating:							
a) Methodology Model Implied Senior Unsecured Rating				**Baa2**			
b) Actual Senior Unsecured Equivalent Rating				**Baa3**			

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Moody's Investors Service

Global Credit Research
Credit Opinion
23 JUL 2009

Credit Opinion: UNS Gas, Inc.

UNS Gas, Inc.

Tucson, Arizona, United States

Ratings

Category	Moody's Rating
Outlook	Stable
Bkd Senior Unsecured	Baa3
Ult Parent: UniSource Energy Corporation	
Outlook	Stable
Sr Sec Bank Credit Facility	Ba1

Contacts

Analyst	Phone
Laura Schumacher/New York	212.553.3853
William L. Hess/New York	212.553.3837

Opinion

Rating Drivers

Stable regulated operations with in historically challenging regulatory environment

Limited non-regulated exposure and ring-fencing

Strong credit metrics

Cross-support within UES family

Corporate Profile

UNS Gas, Inc. (UNSE: Baa3 senior unsecured (guaranteed), stable) is local distribution utility serving approximately 146,000 retail customers in Arizona. UNSG and UNS Electric, Inc. (UNSE: Baa3 senior unsecured (guaranteed), stable), a regulated electric utility in Arizona, are both subsidiaries of UniSource Energy Services (UES) which is the guarantor. UES is a wholly owned subsidiary of UniSource Energy Corporation (UNS: Ba1 senior secured bank credit facility (security limited to stock of certain subsidiaries), stable), whose largest subsidiary is Tucson Electric Power (TEP: Baa3 senior unsecured, stable), a regulated electric utility in Arizona.

SUMMARY RATING RATIONALE

The Baa3 rating assigned to UNSG's senior unsecured notes reflects the interdependence that currently exists between the company and its affiliate UNSE as a result of their shared credit facility and parental guarantee from UES. The rating reflects our view of the consolidated credit quality of UES, which guarantees the debt of both UNSG and UNSE. On a stand-alone basis, UNSG has a credit profile moderately better than its rating as evidenced by metrics that map to rating levels within the LDC gas utility methodology that are somewhat stronger than its rating category.

˜AILED RATING CONSIDERATIONS

Regulated operations in historically challenging environment

Virtually all of UNSG's operations are regulated. Moody's generally views a significant percentage of regulated

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operations as positive for credit quality as regulated cash flows tend to be more stable and predictable than those of unregulated companies. This key factor is tempered somewhat by the regulatory environment of Arizona, which Moody's generally ranks below average for U.S. regulatory jurisdictions in terms of expectation of timely recovery of costs and predictability of rate decisions. Moody's also notes that three new commissioners began their term in ' ɿuary 2009 and it is not clear how or whether this might impact Moody's perception of the regulatory ironment in Arizona over time.

Regulatory lag continues although moderating capital expenditures are a mitigant

UNSG's last fully litigated rate case was resolved in approximately 16 months with new rates in place reflecting a historic test year that ended two years before the decision. This level of regulatory lag makes adequate and timely recovery difficult to achieve. UNS Gas filed a general rate case in November 2008 requesting a $10 million rate increase (6%) premised on an 11% ROE and 50% equity ratio using a June 2008 test year end. A decision is expected by late 2009 or early 2010. Moody's expects further need for rate cases over the medium-term due to regulatory lag and on-going capital expenditures. The utility is not expected to earn its 10% allowed ROE during this time unless it receives adequate rate relief.

Capital expenditures were above $22 million annually from 2005-2007 but are expected to generally remain below $20 million over the near-term. Moderating capital expenditures reduces the need for regulatory relief though lag is expected to continue.

Effective recovery of purchased gas costs

UNSG has a gas cost recovery mechanism that appears to be functioning adequately. The Purchased Gas Adjustor mechanism may be changed monthly based on a comparison of rolling twelve-month average actual gas cost and gas costs in base rates, though there are limits to the levels of adjustments over a twelve month period. UNSG may also request a surcharge to recover deferred balances. As of March 31, 2009, UNSG had a $6 million over recovered purchased gas costs balance included as a current liability.

Due to the traditionally challenging regulatory environment in Arizona, as well as the uncertainty surrounding the impact of new commissioners, the regulatory supportiveness factor has been scored in the Ba range in the LDC methodology framework.

...n-regulated exposure and ring-fencing within UES is limited

Although UNSG's risk of exposure to non-regulated activities is considered quite modest as both UNSG and UNSE are fully regulated, there is significant interdependence between the UES subsidiaries in the form of a shared credit agreement and parental guarantee. Services are also shared with UniSource's primary regulated utility TEP. UNSG contributed approximately 63% of consolidated UES' EBIT and 14% of consolidated UNS' EBIT.

The Arizona Corporation Commission (ACC) has not restricted UNSG's ability to pay dividends to its parent; however, the utility has not paid a dividend over the last several years. There are dividend restrictions under the company's notes and credit agreement, but UNSG is well within the limits imposed by these documents. Overall, ring-fencing at UNSG maps within the Baa criteria outlined in the LDC Methodology.

Cross support of debt within UES constrains rating

The rating also recognizes the position of UNSE and UNSG as indirect subsidiaries of UNS through UES. UES is an intermediate holding company with no operations or debt. Debt at UNSE and UNSG is guaranteed by UES, which creates cross-support. UES has not historically received any dividend payments from its utility subsidiaries, and none are anticipated for the foreseeable future. UNS has periodically contributed equity to UNSG in support of its capital program and to strengthen its balance sheet.

Improved metrics provide credit support for weaker regulatory environment

Credit metrics overall reflect on-going regulatory lag issues as well as the benefits of cost controls, and a modest debt profile.

ROE, EBIT/Customer and EBIT/Interest

...SG's average ROE, EBIT/Customer and EBIT/Interest have historically mapped to the lower Baa/high Ba level. In 2008, metrics improved moderately due to the impact of the base rate increase in late 2007 and slowing customer growth; however, they continue to map to the high Ba/low Baa level. UNSG's metrics could improve moderately within the Baa rating range if regulatory lag is reduced or the company receives better than anticipated rate relief.

RCF/Debt, Debt to Capitalization and FCF/FFO

UNSG's cash flow and debt-related credit metrics have historically mapped to the upper Baa/low A level. Retained and free cash flow have improved as UNSG has not paid dividends to its parent recently and capital expenditures have begun to decline. This has allowed retained earnings to increase equity capitalization and also reduce the need for new debt financing. Continued moderating levels of capital expenditures are expected to increase free cash flow and debt financing is expected to be minimal over the near-term. Beyond 2010, free cash flow is expected to once again become negative unless rate relief is better than anticipated. Over time, these metrics could improve to the low A range.

Liquidity Profile

UNSG's cash flow profile has generally been stable with operating cash flow approximately covering capital expenditures; however, in 2008, cash from operations of $2.8 million were significantly below capital expenditures of approximately $16 million. Cash on hand was used to meet the shortfall as cash flow was significantly impacted by collateral postings and refunds from over-recovered purchased gas costs. Over the near-term, capital expenditures of $19-21 million annually are expected to continue to be funded roughly by cash flow from operations.

UNSG has two $50 million issues of senior unsecured notes outstanding, one maturing in August 2011 and one maturing in 2015. UNSG's short term liquidity needs are supported by a joint UNSG/UNSE $60 million credit facility which matures August 2011. Either borrower may borrow up to a maximum of $45 million, so long as the combined amount does not exceed $60 million. As of March 31, 2009, there were no amounts drawn on the facility but UNSE had $17 million of letters of credit outstanding and UNSG had $5 million of letters of credit outstanding which reduced availability under the facility.

The UNSG/UNSE credit facility contains two financial covenants applicable to each borrower: for UNSE a maximum debt to capital ratio of 65% and a minimum interest coverage ratio of 2.25 times, for UNSG a maximum debt to capital ratio of 67%, and a minimum interest coverage of 2.25 times. As of March 31, 2009, the ratios were 54% and 4.01 times at UNSE and 50% and 4.02 times at UNSG. The credit facility requires a material adverse change (MAC) representation at each new borrowing. In Moody's opinion, the requirement of a MAC representation significantly increases the risk that the credit facility may not be available when liquidity needs are greatest.

Moody's assumes that UNSG will manage the amount of its near term obligations within the limits of its available sources of cash, including its committed bank credit facilities.

Rating Outlook

The stable outlook for UNSG reflects our expectations of continued stable or modestly improved cash flows resulting from expected rate case decisions, an assumption that any increases in the cost of gas will continue to be recovered on a relatively timely basis, and our understanding that future capital expenditures will be financed in a manner intended to maintain UNSG's current level of financial strength and flexibility.

What Could Change the Rating - Up

UNSG's rating is currently constrained by its interdependence with UNSE and our view of the consolidated credit quality of UES. In the event this interdependence was reduced while UNSG retained its similar credit profile, the rating or outlook could be revised upward. Alternatively, if there were to be an improvement in the consolidated credit quality of UES, this could result in positive rating action for UNSG.

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Rating Factors

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Factor 1: Sustainable Profitability (20%)							

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d) Free Cash Flow/Funds from Operations (15%)			X				
Rating:							
a) Methodology Model Implied Senior Unsecured Rating				**Baa2**			
b) Actual Senior Unsecured Equivalent Rating				**Baa3**			

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BEFORE THE ARIZONA CORPORATION COMMISSION

IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS GAS, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.	DOCKET NO. G-04204A-08-0571

At: Phoenix, Arizona

Date: August 10, 2009

Filed: August 14, 2009

REPORTER'S TRANSCRIPT OF PROCEEDINGS

VOLUME I
(Pages 1 through 238)

ARIZONA REPORTING SERVICE, INC.
Court Reporting
Suite 502
2200 North Central Avenue
Phoenix, Arizona 85004-1481

Prepared for:

By: MICHELE E. BALMER
Certified Reporter
Certificate No. 50489

itself to capital attraction on reasonable terms.

I mean, sustained low returns on equity does not incentivize any equity investor to put money into a company like UNS Gas when they can earn 11 to 12 percent in other gas utilities. It puts us at a competitive disadvantage.

So while I agree with you that relatively speaking we have made some progress, there are still many challenges that remain. And we do have the lowest investment grade credit rating, and we're concerned that, you know, if it went the other way, it went down, that would really complicate our effort to refinance the credit facility which matures in 2011. We have $50 million in notes that mature also in 2011. And we also have ongoing relationships with gas suppliers who can curtail the amount of credit they give us.

Q. Well, and that's -- if I may continue, Mr. Torrey -- that's sort of another question on that front. I mean, would it be easier to refinance that credit facility if you had no bond rating to begin with? I mean, you did start out with having no bond rating to begin with. So I'm wondering, why did you go after the bond rating? Was it a rate case strategy?

A. Just one second. Could I get some water?

Q. Okay. No, seriously. I'm wondering why you

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BEFORE THE ARIZONA CORPORATION COMMISSION

IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS GAS, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.

DOCKET NO. G-04204A-08-0571

At: Phoenix, Arizona

Date: August 10, 2009

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BEFORE THE ARIZONA CORPORATION COMMISSION

IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS GAS, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.

DOCKET NO. G-04204A-08-0571

At: Phoenix, Arizona

Date: August 10, 2009

Filed: August 14, 2009

REPORTER'S TRANSCRIPT OF PROCEEDINGS

VOLUME I
(Pages 1 through 238)

ARIZONA REPORTING SERVICE, INC.
Court Reporting
Suite 502
2200 North Central Avenue
Phoenix, Arizona 85004-1481

By: MICHELE E. BALMER
Certified Reporter
Certificate No. 50489

Prepared for:

A. Relative to not having a rating or relative to having a junk bond rating status, an investment grade rating helps you tremendously when you're talking to a prospective lender.

FURTHER EXAMINATION

Q. (BY CHMN. MAYES) Mr. Torrey, if I could interject. I mean, to this point, I had written down a very similar question, you know, which is that, you know, setting aside the fact that we are -- all companies are operating in this more tumultuous credit environment.

Given the fact that UniSource -- UNS Gas has achieved a bond rating, given the fact that you achieved a rate increase, at least one rate increase since acquisition, maybe more, given the fact that you have achieved an actual capital structure of 50/50, isn't UNS Gas less risky than it used to be?

I mean, there are a lot of data points there that suggest tremendous improvement in the company's financial situation. And your cash flow situation ought to be better now that your growth rate is down and you're not having to lay out as many capital expenditures associated with that growth. It's a little more manageable.

And, and, on top of that, you're still growing,

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BEFORE THE ARIZONA CORPORATION COMMISSION

IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS GAS, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.	)	DOCKET NO. G-04204A-08-0571 EVIDENTIARY HEARING

At: Phoenix, Arizona

Date: August 17, 2009

Filed: August 25, 2009

REPORTER'S TRANSCRIPT OF PROCEEDINGS

VOLUME V

(Pages 733 through 808, inclusive)

ARIZONA REPORTING SERVICE, INC.
Court Reporting
Suite 502
2200 North Central Avenue
Phoenix, Arizona 85004-1481

Prepared for:

By: Kate E. Baumgarth, RPR
Certified Reporter
Certificate No. 50582

that it's only reasonable that you would come up with a number that is somewhat different from case to case.

Q. You think Mr. Parcell just always picks 10 percent because it seem like a nice round number?

A. I -- as I say, I have a lot of respect for Mr. Parcell. I think he is the person you would have to ask that question of. I wouldn't want to speculate on that.

Q. Okay.

A. The only -- my biggest concern is that it just seems like if you consistently come up with the same cost of capital figure from case to case to case, then I think you come into -- you run into a situation where a utility who is contemplating coming in for a rate increase might just say, hey, we will walk away with 10 percent no matter what, so at least we know we will get that.

I think if a utility thought or knew that there is a good possibility that it may come in and get something lower than that or something that is not, you know, consistent from case to case to case, they might think twice about filing because they would be taking their chances.

Q. Aren't there some states that have set rates of return across industries?

A. There are. The one that comes to my mind is

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BEFORE THE ARIZONA CORPORATION COMMISSION

KRISTIN K. MAYES
Chairman
GARY PIERCE
Commissioner
PAUL NEWMAN
Commissioner
SANDRA D. KENNEDY
Commissioner
BOB STUMP
Commissioner

IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS GAS, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.)))))))))

DOCKET NO. G-04204A-08-0571

DIRECT

TESTIMONY

OF

DAVID C. PARCELL

ON BEHALF OF THE

UTILITIES DIVISION STAFF

ARIZONA CORPORATION COMMISSION

JUNE 08, 2009

environment, it would be counter-productive to make any claim that UNS Gas should have a higher return at this time due to the above-cited market turmoil.

XII. TOTAL COST OF CAPITAL

Q. What is the total cost of capital for UNS Gas?

A. Schedule 1 reflects the total cost of capital for the Company using UNS Gas' proposed capital structure and cost of debt along with the range of common equity costs my analyses support. The resulting total cost of capital is a range of 7.99 percent to 8.49 percent. I recommend that a 8.24 percent total cost of capital be established for UNS Gas.

Q. Does your cost of capital recommendation provide the company with a sufficient level of earnings to maintain its financial integrity?

A. Yes, it does. Schedule 14 shows the pre-tax coverage that would result if UNS Gas earned my cost of capital recommendation. As the results indicate, my recommended range would produce a coverage level above the benchmark range for a BBB rated utility. In addition, the debt ratio (which reflects the Company's proposed capital structure) is within the benchmark for a BBB rated utility.

XIII. COMMENTS ON COMPANY TESTIMONY

Q. Have you reviewed the testimony and cost of capital recommendation of UNS Gas witness Kentton C. Grant?

A. Yes, I have. Mr. Grant is recommending the following cost of capital for UNS Gas.

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DATA REQUEST PACKET NO. 2

Staff's Responses to UNS Gas' Data Requests:

UNSG 2.28
UNSG 2.36
UNSG 2.43
UNSG 2.44
UNSG 3.78
UNSG 3.83
UNSG 3.84

UNSG 3.88
UNSG 3.92
UNSG 3.95
UNSG 3.98
UNSG 3.102
UNSG 3.103
UNSG 3.104
UNSG 3.105

UNSG-36

UNSG 3.78 Please provide spreadsheets and workpapers that support Staff's analysis of UNS Gas' ability to earn the cost of equity recommended by Mr. Parcell. If no such supporting materials are available, please explain.

RESPONSE: **Mr. Parcell does not address the future earnings of UNS Gas. His analyses address the cost of capital for the Company.**

RESPONDENT: **DAVID C. PARCELL**

WITNESS: **DAVID C. PARCELL**

ARIZONA CORPORATION COMMISSION
DOCKET NO. G-04204A-08-0571
STAFF'S RESPONSE TO UNS GAS, INC.'S
THIRD SET OF DATA REQUESTS
July 7, 2009

UNSG 3.98 Regarding the statement on page 40, lines 14-15, of Mr. Parcell's Direct Testimony, when does Mr. Parcell expect UNS Gas to earn his cost of capital recommendation? Please provide any supporting analyses.

RESPONSE: **Objection, Staff is not required to provide such calculations. Such calculations are within the control of the Company. Mr. Parcell has not addressed UNS Gas' projected earnings.**

RESPONDENT: **DAVID C. PARCELL**

WITNESS: **DAVID C. PARCELL**

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DATA REQUEST PACKET

Staff's Responses to UNS Gas' Data Requests:

UNSG 2.1	UNSG 3.10	UNSG 3.22
UNSG 2.2	UNSG 3.11	UNSG 3.39
UNSG 2.4	UNSG 3.12	UNSG 3.40
UNSG 3.4	UNSG 3.13	UNSG 3.41
UNSG 3.5	UNSG 3.14	UNSG 3.57
UNSG 3.6	UNSG 3.15	UNSG 3.58
UNSG 3.7	UNSG 3.20	UNSG 3.60
UNSG 3.9	UNSG 3.21	UNSG 3.65

UNSG-24

UNSG 3.6 Refer to the Direct Testimony of Thomas H. Fish, Ph.D., page 5, line 14, where Dr. Fish refers to an "opportunity to recover these prudent costs". Please provide Dr. Fish's estimate (with supporting calculations and workpapers) of the likelihood of UNS Gas actually recovering its prudent costs if all of Staff's recommendations are adopted given observed levels of attrition and regulatory lag for UNS Gas.

RESPONSE: Objection, unduly burdensome. This information is readily available to the Company. The Commission sets rates that are just and reasonable to enable a utility the opportunity to earn its authorized rate of return.

Supplemental Response: Without waiving the objection, the following response is provided: There are no workpapers. Whether the Company recovers its costs is within the Company's control.

RESPONDENT: **ROBIN MITCHELL**

WITNESS: **DR. THOMAS FISH**

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NO

REFERENCE

TO

RECORD

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BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS
MIKE GLEASON - CHAIRMAN
WILLIAM A. MUNDELL
JEFF HATCH-MILLER
KRISTIN K. MAYES
GARY PIERCE

IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS GAS, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.	DOCKET NO. G-04204A-08-0571

Direct Testimony of

Kentton C. Grant

on Behalf of

UNS Gas, Inc.

November 7, 2008

VIII. <u>RATE OF RETURN ON FAIR VALUE RATE BASE.</u>

Q. What ROR do you recommend be applied to the Company's FVRB?

A. I recommend that a ROR of 6.80% be applied to the FVRB, even though I believe, as discussed below, that UNS Gas could justify a ROR of 7.30%. The primary reason to forego the full 7.30% is to mitigate the rate impact on our customers in these challenging economic times.

Q. How did you arrive at this value?

A. This ROR, when applied to the Company's FVRB of approximately $256 million, produces an overall rate increase that would provide UNS Gas with a reasonable opportunity to actually earn its cost of capital, to support its creditworthiness and to attract capital on reasonable terms.

Q. How does this ROR compare with the value that would be obtained from the methodology adopted by the Commission in Decision No. 70441 involving Chaparral City Water Company ("Chaparral") and the revised methodology subsequently recommended by the Commission Staff?

A. The ROR requested by UNS Gas is lower. If the approach adopted by the Commission in Decision No. 70441 is applied to the Company's 8.75% WACC (see Section VI of my Direct Testimony) with an estimated inflation rate of 2.9% (see Section IV.B. of my Direct Testimony), the resulting ROR on FVRB would be 7.30%. Likewise, this same value of 7.30% would be obtained from the revised methodology being recommended by the Commission Staff in the current Chaparral rate proceeding (Docket No. W-02113A-07-0551).

Q. Please explain how a ROR value of 7.30% would be obtained using either approach.

A. Certainly. With respect to the approach adopted in Decision No. 70441, where the ROR on FVRB was derived by adjusting the cost of equity downward by the expected rate of inflation, the following result would be obtained for UNS Gas using a 2.9% rate of inflation:

	% of Capital Structure	Modified Cost *	Weighted Average Cost
Long-Term Debt	50.01%	6.49%	3.25%
Common Equity	49.99%	8.10%	4.05%
Total	100.00%		7.30%

* Note: Modified cost of equity = 11.0% - 2.9% = 8.1%.

Staff's revised methodology, which is explained in the Direct Testimony of Gordon L. Fox, dated October 3, 2008, in Docket No. W-02113A-07-0551, employs a slightly different inflation rate adjustment. Instead of adjusting only the cost of equity by the full rate of inflation, the modified approach adopted by Mr. Fox adjusts both the cost of debt and cost of equity by one-half of the expected rate of inflation. Using the 2.9% expected rate of inflation discussed earlier in my testimony, the following result would be obtained for UNS Gas:

	% of Capital Structure	Modified Cost *	Weighted Average Cost
Long-Term Debt	50.01%	5.04%	2.53%
Common Equity	49.99%	9.55%	4.77%
Total	100.00%		7.30%

* Note: Modified cost of debt = 6.49% - 1.45% = 5.04%.
Modified cost of equity = 11.0% - 1.45% = 9.55%.

Q. In the Arizona Court of Appeals ruling that led to Commission Decision No. 70441, did the Court specify any particular method for the determination of an appropriate ROR on FVRB?

A. No. My non-legal understanding of that decision, dated February 13, 2007, is that the Court of Appeals found that the Commission has wide latitude in setting the ROR on FVRB. Although the Court found the method used in the original Chaparral Decision to be unconstitutional, no particular method of determining the ROR on FVRB was specified by the Court.

Q. Why is UNS Gas requesting a ROR on FVRB that is lower than would be obtained through other methods that have been approved by the Commission and recommended by the Commission Staff?

A. There are several reasons. First, it appears that the Commission has wide discretion in setting the ROR on FVRB, provided that fair value is adequately considered in the rate setting process. Second, the Company believes that the requested ROR, when applied to the proposed FVRB, will be sufficient to provide UNS Gas with an opportunity to earn its cost of capital and to attract new capital on reasonable terms. Third, in light of the current economic environment, the Company would like to limit the impact of its rate request on customers. Under these circumstances, it appears that the public interest would be best served if the Commission were to use its discretion in setting a ROR on FVRB that gives UNS Gas an opportunity to earn its cost of capital while at the same time limiting the impact on customers.

IX. <u>CARRYING COST ON PURCHASED GAS ADJUSTOR BALANCE.</u>

Q. What is the current carrying cost applicable to PGA balances carried by UNS Gas?

A. The current rate applicable to PGA balances, whether they are in an over- or under-

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS
KRISTIN K. MAYES - CHAIRMAN
GARY PIERCE
PAUL NEWMAN
SANDRA D. KENNEDY
BOB STUMP

IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS GAS, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.	DOCKET NO. G-04204A-08-0571

Rebuttal Testimony of

Kentton C. Grant

on Behalf of

UNS Gas, Inc.

July 8, 2009

Q. Mr. Grant, in your Direct Testimony you proposed a 6.80% ROR on FVRB even though you demonstrated that UNS Gas could have supported a higher value of 7.30%. Is it your position that the ROR on FVRB in this proceeding should be limited to a maximum value of 6.80%?

A. No. This reduction was a voluntary measure. As described on page 30 of my Direct Testimony, the ROR of 6.80% was selected on the basis that this was the minimum value required to produce an overall revenue requirement that would allow UNS Gas an opportunity to earn its cost of capital and maintain its financial integrity. Due to the substantial cuts to the revenue requirement proposed by Staff and RUCO, and the possibility that those adjustments could be adopted by the Commission, the basis for limiting the proposed ROR on FVRB has dissipated. Therefore, the ROR on FVRB should be determined using the method approved in Decision No. 70441, or in the alternative, the method subsequently recommended by the Commission Staff in Docket No. W-02113A-07-0551.

Q. In light of the substantial revenue requirement adjustments recommended by Staff, what ROR would you recommend be applied to UNS Gas' FVRB?

A. I would recommend using a ROR that is consistent with the methodology used by the Commission in Docket No. 70441. As described in my Direct Testimony, this ROR would be equal to 7.30% if the Commission were to approve the Company's proposed cost of capital. Alternatively, as described above, this ROR would be equal to 7.25% if the Commission were to approve Staff's proposed cost of capital.

NO

REFERENCE

TO

RECORD

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BEFORE THE ARIZONA CORPORATIO

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COMMISSIONERS

Arizona Corporation Commission
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MIKE GLEASON, Chairman
WILLIAM A. MUNDELL
JEFF HATCH-MILLER
KRISTIN K. MAYES
GARY PIERCE

IN THE MATTER OF THE APPLICATION OF SOUTHWEST GAS CORPORATION FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF ITS PROPERTIES THROUGHOUT ARIZONA.	DOCKET NO. G-01551A-07-0504 DECISION NO. **70665** **OPINION AND ORDER**

DATES OF HEARING:	June 13, 2008 (Procedural Conference); June 16, 17, 18, 20, 24, 25 and 26, 2008.
PLACE OF HEARING:	Phoenix, Arizona
ADMINISTRATIVE LAW JUDGE:	Dwight D. Nodes
IN ATTENDANCE:	Mike Gleason, Chairman Jeff Hatch-Miller, Commissioner Kristin K. Mayes, Commissioner
APPEARANCES:	Ms. Karen S. Haller, Mr. Justin Lee Brown, and Ms. Meridith J. Strand, on behalf of Southwest Gas Corporation; Mr. Daniel Pozefsky, on behalf of the Residential Utility Consumer Office; Mr. Michael Grant, GALLAGHER & KENNEDY, P.A., on behalf of the Arizona Investment Council; Mr. Timothy Hogan, Arizona Center For Law In The Public Interest, on behalf of Southwest Energy Efficiency Project; and Ms. Maureen Scott, Senior Staff Counsel, and Mr. Charles Hains and Mr. Kevin Torrey, Staff Attorneys, Legal Division, on behalf of the Arizona Corporation Commission.

Commission is persuaded "that investors should receive some benefit when fair value is greater than original cost and should suffer some detriment when fair value is less than original cost." (*Id.*) Staff's alternative proposal was calculated by taking the "risk-free return" (the return on an investment that carries little or no risk) of 4.5 percent,[8] less an inflation rate of 2.0 percent, to achieve a real risk-free rate of 2.50 percent. Mr. Parcell then advocated that if the Commission chooses to adopt this alternative, it should award no more than half of the real risk-free rate (1.25 percent) to recognize that any amount above zero effectively represents a bonus on the return already earned by investors. Applying the 1.25 percent cost to the fair value increment would result in an overall FVRB cost of capital for Southwest Gas of 7.08 percent. (*Id.* at 47-48; Staff Final Sched. D.)

Southwest Gas disagrees with Staff's recommendation to apply a zero value to the fair value increment. Company witness Hanley conceded that "it has long been established in regulatory ratemaking that application of [WACC to OCRB] provides for a fair and reasonable opportunity to earn a return." (Ex. A-34 at 38.) However, Mr. Hanley testified that using Staff's primary recommendation to apply a zero value in this case would result in a dollar return that is $80,215 <u>less</u> than under a strict OCRB calculation, which he claims is illogical. (Ex. A-35 at 17.) Southwest Gas agrees in concept with Staff's alternative proposal, that applying a net of inflation risk-free rate to the fair value increment is appropriate, but Mr. Hanley believes that Staff's reduction of the calculated risk-free rate to 1.25 percent is arbitrary and should be rejected. (Ex. A-34 at 39-40.) According to Mr. Hanley, the 4.50 percent risk-free rate determined by Mr. Parcell should instead be reduced by 2.45 percent, to account for expected inflation, with the remainder of 2.05 percent applied to the fair value increment. (*Id.* at 40.) Applying the 2.05 percent risk-free rate advocated by the Company to the fair value increment under the alternative suggested by Staff would produce a total FVRB cost of capital of 7.28 percent. (*See* Ex. S-17 at 48.)

<u>Conclusion on Fair Value Rate Base Issue</u>

Based on the record before us, we believe that Staff's alternative FVRB recommendation is appropriate, with a slight modification. Although we agree with Staff that it should not be necessary

[8] Mr. Parcell explained that "risk-free investments" are defined as U.S. Treasury Securities, with short-term maturities considered to be the risk-free rate. He used 4.5 percent as the risk-free rate for his calculation based on yields on such securities ranging from 2.0 percent for short-term to 4.5 percent for long-term Treasury Bonds. (*Id.* at 46.)

to provide the Company with any additional return on the increment between OCRB and FVRB, because that increment is not financed with investor-supplied funds, we find that applying a 1.00 percent return on the fair value increment is appropriate under the facts of this case and properly accounts for the effect of inflation. Applying the adjusted WACC to the FVRB results in a fair value rate of return of 7.02 percent.

As Staff witness Parcell points out, the nominal risk-free rate represented by long-term U.S. Treasury Securities is approximately 4.5 percent. When the inflation factor is removed from the risk-free rate, which inflation rate was determined by the Company's witness to be 2.45 percent, the resulting inflation-adjusted risk-free rate is 2.05 percent. According to Mr. Parcell's alternative recommendation, if the Commission chooses to modify the Company's fair value rate of return, the adjustment should be within the range of zero to the inflation-adjusted risk-free rate (2.05 percent according to the Company). Mr. Parcell recommended that such an adjustment should be at the low end of the range and under no circumstances greater than the mid-point of the range because returns on the fair value increment represent a bonus or windfall to investors beyond the return that is already provided for under a traditional weighted cost-of-capital calculation. Even the Company's witness concedes that application of the WACC to OCRB provides a fair and reasonable opportunity to earn a return. The Company's witness, Mr. Hanley, disagrees only with Staff's quantification of the risk-free rate, on the basis that once inflation is removed, no additional adjustment should be made. We agree with Staff, however, that an adjustment in the range identified by Mr. Parcell is within our discretion. Setting the rate at the approximate mid-point of the inflation-adjusted risk-free rate is a reasonable determination in this case.

We recognize that the methodology employed in this case differs from that used by the Commission in the *Chaparral City* Remand Order (Decision No. 70441). This is because the facts and arguments before us differ. In this case, Southwest Gas and Staff do not dispute that the weighted cost of capital is applicable only to the OCRB and that it is appropriate to recognize an inflation factor when calculating the FVROR. As set forth above, we adopted in *Chaparral City* a modified version of RUCO's proposal and deducted directly from the established cost of equity a 2.0 percent inflation factor to arrive at the overall fair value rate of return. In the instant proceeding, no similar proposal was set forth by RUCO or any other party, and we do not have a record before us to make an adjustment on the same basis as that made in *Chaparral City*. Instead, we have a record that reflects agreement between the Company and Staff (as an alternative recommendation) that it may be appropriate to determine the FVROR based on the application of a WACC adjusted to a FVRB capital structure and application of an inflation-adjusted risk-free rate to the increment between the Company's OCRB and FVRB.

We find that a FVROR based upon the WACC derived by using a 1.00 percent adjusted risk-free rate applied to the fair value increment complies with the constitutional fair value requirement and satisfies the concerns expressed by the Court of Appeals in the remanded *Chaparral City* case, is an appropriate methodology identified in Decision No. 70441 to determine the fair value rate of return without overstating the effects of inflation, and will result in just and reasonable rates. For these reasons, we believe that adoption of Staff's alternative recommendation for a 10.0 percent cost of equity capital, and an overall 7.02 percent FVRB cost of capital comply with these obligations.

	Percentage	Cost	FVRB Weighted Cost
Common Equity	33.33%	10.0%	3.33%
Preferred Equity	3.44%	8.20%	0.28%
Long-Term Debt	39.96%	7.96%	3.18%
FVRB Increment	23.27%	1.00%	0.23%
			7.02%

AUTHORIZED INCREASE

Based on our findings herein, we determine that Southwest Gas is entitled to a gross revenue increase of $33,533,844.

Fair Value Rate Base	$1,389,259,911
Adjusted Operating Income	77,307,884
Required Rate of Return	7.02%
Required Operating Income	97,526,046
Operating Income Deficiency	20,218,162
Gross Revenue Conversion Factor	1.6586
Gross Revenue Increase	33,533,844

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DATA REQUEST PACKET NO. 2

Staff's Responses to UNS Gas' Data Requests:

UNSG 2.28
UNSG 2.36
UNSG 2.43
UNSG 2.44
UNSG 3.78
UNSG 3.83
UNSG 3.84

UNSG 3.88
UNSG 3.92
UNSG 3.95
UNSG 3.98
UNSG 3.102
UNSG 3.103
UNSG 3.104
UNSG 3.105

UNSG-36

UNSG 3.105 Please confirm that the calculation shown in the table on page 48 of Mr. Parcell's Direct Testimony is mathematically equivalent to assigning a zero weighting to fair value rate base for purposes of setting rates. If the answer is no, please explain.

RESPONSE: Yes.

RESPONDENT: DAVID C. PARCELL

WITNESS: DAVID C. PARCELL

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BEFORE THE ARIZONA CORPORATIOI

COMMISSIONERS

MIKE GLEASON, Chairman
WILLIAM A. MUNDELL
JEFF HATCH-MILLER
KRISTIN K. MAYES
GARY PIERCE

Arizona Corporation Commission
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IN THE MATTER OF THE APPLICATION OF SOUTHWEST GAS CORPORATION FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF ITS PROPERTIES THROUGHOUT ARIZONA.

DOCKET NO. G-01551A-07-0504

DECISION NO. 70665

OPINION AND ORDER

DATES OF HEARING:	June 13, 2008 (Procedural Conference); June 16, 17, 18, 20, 24, 25 and 26, 2008.
PLACE OF HEARING:	Phoenix, Arizona
ADMINISTRATIVE LAW JUDGE:	Dwight D. Nodes
IN ATTENDANCE:	Mike Gleason, Chairman Jeff Hatch-Miller, Commissioner Kristin K. Mayes, Commissioner
APPEARANCES:	Ms. Karen S. Haller, Mr. Justin Lee Brown, and Ms. Meridith J. Strand, on behalf of Southwest Gas Corporation; Mr. Daniel Pozefsky, on behalf of the Residential Utility Consumer Office; Mr. Michael Grant, GALLAGHER & KENNEDY, P.A., on behalf of the Arizona Investment Council; Mr. Timothy Hogan, Arizona Center For Law In The Public Interest, on behalf of Southwest Energy Efficiency Project; and Ms. Maureen Scott, Senior Staff Counsel, and Mr. Charles Hains and Mr. Kevin Torrey, Staff Attorneys, Legal Division, on behalf of the Arizona Corporation Commission.

Commission is persuaded "that investors should receive some benefit when fair value is greater than original cost and should suffer some detriment when fair value is less than original cost." (*Id.*) Staff's alternative proposal was calculated by taking the "risk-free return" (the return on an investment that carries little or no risk) of 4.5 percent,[8] less an inflation rate of 2.0 percent, to achieve a real risk-free rate of 2.50 percent. Mr. Parcell then advocated that if the Commission chooses to adopt this alternative, it should award no more than half of the real risk-free rate (1.25 percent) to recognize that any amount above zero effectively represents a bonus on the return already earned by investors. Applying the 1.25 percent cost to the fair value increment would result in an overall FVRB cost of capital for Southwest Gas of 7.08 percent. (*Id.* at 47-48; Staff Final Sched. D.)

Southwest Gas disagrees with Staff's recommendation to apply a zero value to the fair value increment. Company witness Hanley conceded that "it has long been established in regulatory ratemaking that application of [WACC to OCRB] provides for a fair and reasonable opportunity to earn a return." (Ex. A-34 at 38.) However, Mr. Hanley testified that using Staff's primary recommendation to apply a zero value in this case would result in a dollar return that is $80,215 <u>less</u> than under a strict OCRB calculation, which he claims is illogical. (Ex. A-35 at 17.) Southwest Gas agrees in concept with Staff's alternative proposal, that applying a net of inflation risk-free rate to the fair value increment is appropriate, but Mr. Hanley believes that Staff's reduction of the calculated risk-free rate to 1.25 percent is arbitrary and should be rejected. (Ex. A-34 at 39-40.) According to Mr. Hanley, the 4.50 percent risk-free rate determined by Mr. Parcell should instead be reduced by 2.45 percent, to account for expected inflation, with the remainder of 2.05 percent applied to the fair value increment. (*Id.* at 40.) Applying the 2.05 percent risk-free rate advocated by the Company to the fair value increment under the alternative suggested by Staff would produce a total FVRB cost of capital of 7.28 percent. (*See* Ex. S-17 at 48.)

<u>Conclusion on Fair Value Rate Base Issue</u>

Based on the record before us, we believe that Staff's alternative FVRB recommendation is appropriate, with a slight modification. Although we agree with Staff that it should not be necessary

[8] Mr. Parcell explained that "risk-free investments" are defined as U.S. Treasury Securities, with short-term maturities considered to be the risk-free rate. He used 4.5 percent as the risk-free rate for his calculation based on yields on such securities ranging from 2.0 percent for short-term to 4.5 percent for long-term Treasury Bonds. (*Id.* at 46.)

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As Staff witness Parcell points out, the nominal risk-free rate represented by long-term U.S. Treasury Securities is approximately 4.5 percent. When the inflation factor is removed from the risk-free rate, which inflation rate was determined by the Company's witness to be 2.45 percent, the resulting inflation-adjusted risk-free rate is 2.05 percent. According to Mr. Parcell's alternative recommendation, if the Commission chooses to modify the Company's fair value rate of return, the adjustment should be within the range of zero to the inflation-adjusted risk-free rate (2.05 percent according to the Company). Mr. Parcell recommended that such an adjustment should be at the low end of the range and under no circumstances greater than the mid-point of the range because returns on the fair value increment represent a bonus or windfall to investors beyond the return that is already provided for under a traditional weighted cost-of-capital calculation. Even the Company's witness concedes that application of the WACC to OCRB provides a fair and reasonable opportunity to earn a return. The Company's witness, Mr. Hanley, disagrees only with Staff's quantification of the risk-free rate, on the basis that once inflation is removed, no additional adjustment should be made. We agree with Staff, however, that an adjustment in the range identified by Mr. Parcell is within our discretion. Setting the rate at the approximate mid-point of the inflation-adjusted risk-free rate is a reasonable determination in this case.

We recognize that the methodology employed in this case differs from that used by the Commission in the *Chaparral City* Remand Order (Decision No. 70441). This is because the facts and arguments before us differ. In this case, Southwest Gas and Staff do not dispute that the weighted cost of capital is applicable only to the OCRB and that it is appropriate to recognize an inflation factor when calculating the FVROR. As set forth above, we adopted in *Chaparral City* a modified version of RUCO's proposal and deducted directly from the established cost of equity a 2.0 percent inflation factor to arrive at the overall fair value rate of return. In the instant proceeding, no similar proposal was set forth by RUCO or any other party, and we do not have a record before us to make an adjustment on the same basis as that made in *Chaparral City*. Instead, we have a record that reflects agreement between the Company and Staff (as an alternative recommendation) that it may be appropriate to determine the FVROR based on the application of a WACC adjusted to a FVRB capital structure and application of an inflation-adjusted risk-free rate to the increment between the Company's OCRB and FVRB.

We find that a FVROR based upon the WACC derived by using a 1.00 percent adjusted risk-free rate applied to the fair value increment complies with the constitutional fair value requirement and satisfies the concerns expressed by the Court of Appeals in the remanded *Chaparral City* case, is an appropriate methodology identified in Decision No. 70441 to determine the fair value rate of return without overstating the effects of inflation, and will result in just and reasonable rates. For these reasons, we believe that adoption of Staff's alternative recommendation for a 10.0 percent cost of equity capital, and an overall 7.02 percent FVRB cost of capital comply with these obligations.

	Percentage	Cost	FVRB Weighted Cost
Common Equity	33.33%	10.0%	3.33%
Preferred Equity	3.44%	8.20%	0.28%
Long-Term Debt	39.96%	7.96%	3.18%
FVRB Increment	23.27%	1.00%	0.23%
			7.02%

AUTHORIZED INCREASE

Based on our findings herein, we determine that Southwest Gas is entitled to a gross revenue increase of $33,533,844.

Fair Value Rate Base	$1,389,259,911
Adjusted Operating Income	77,307,884
Required Rate of Return	7.02%
Required Operating Income	97,526,046
Operating Income Deficiency	20,218,162
Gross Revenue Conversion Factor	1.6586
Gross Revenue Increase	33,533,844

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DATA REQUEST PACKET NO. 2

Staff's Responses to UNS Gas' Data Requests:

UNSG 2.28
UNSG 2.36
UNSG 2.43
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UNSG 3.95
UNSG 3.98
UNSG 3.102
UNSG 3.103
UNSG 3.104
UNSG 3.105

UNSG-36

ARIZONA CORPORATION COMMISSION
DOCKET NO. G-04204A-08-0571
STAFF'S RESPONSE TO UNS GAS, INC.'S
THIRD SET OF DATA REQUESTS
July 7, 2009

UNSG 3.102 On page 45, lines 7-9, of his Direct Testimony, Mr. Parcell describes the calculation used to derive the FVROR for Chaparral City Water Company in Decision No. 70441.

a. Why did Mr. Parcell not recommend a similar calculation in this proceeding?

b. Does Mr. Parcell believe that the approach adopted by the Commission in Decision No. 70441 somehow result in unjust and unreasonable rates? If the answer is yes, please explain.

c. Is Mr. Parcell aware of the position taken by Staff on the calculation of FVROR in their Direct Testimony in Docket No. W-02113A-07-0551 involving Chaparral City Water Company? If yes, please explain why both of the approaches presented by Staff were rejected by Mr. Parcell in this UNS Gas rate proceeding.

RESPONSE:

a. **Mr. Parcell believes that the FVROR calculation that he is recommending in the current proceeding, which is the same FVROR procedure he recommended in the Chaparral proceeding, is a viable procedure and has not been ruled out by the Commission as a viable procedure.**

b. **Mr. Parcell has not examined the reasonableness of the procedure cited, as it pertains to UNS Gas.**

c. **Yes. Mr. Parcell has not rejected any procedure. Rather, he is recommending the procedure he has previously advocated and that he continues to support.**

RESPONDENT: **DAVID C. PARCELL**

WITNESS: **DAVID C. PARCELL**

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DATA REQUEST PACKET NO. 2

Staff's Responses to UNS Gas' Data Requests:

UNSG 2.28	UNSG 3.88
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	UNSG 3.105

UNSG-36

ARIZONA CORPORATION COMMISSION
DOCKET NO. G-04204A-08-0571
STAFF'S RESPONSE TO UNS GAS, INC.'S
THIRD SET OF DATA REQUESTS
July 7, 2009

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b. Does Mr. Parcell believe that the approach adopted by the Commission in Decision No. 70441 somehow result in unjust and unreasonable rates? If the answer is yes, please explain.

c. Is Mr. Parcell aware of the position taken by Staff on the calculation of FVROR in their Direct Testimony in Docket No. W-02113A-07-0551 involving Chaparral City Water Company? If yes, please explain why both of the approaches presented by Staff were rejected by Mr. Parcell in this UNS Gas rate proceeding.

RESPONSE:

a. Mr. Parcell believes that the FVROR calculation that he is recommending in the current proceeding, which is the same FVROR procedure he recommended in the Chaparral proceeding, is a viable procedure and has not been ruled out by the Commission as a viable procedure.

b. Mr. Parcell has not examined the reasonableness of the procedure cited, as it pertains to UNS Gas.

c. Yes. Mr. Parcell has not rejected any procedure. Rather, he is recommending the procedure he has previously advocated and that he continues to support.

RESPONDENT: DAVID C. PARCELL

WITNESS: DAVID C. PARCELL

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BEFORE THE ARIZONA CORPORATION COMMISSION

__**COMMISSIONERS**__
MIKE GLEASON - CHAIRMAN
WILLIAM A. MUNDELL
JEFF HATCH-MILLER
KRISTIN K. MAYES
GARY PIERCE

IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS GAS, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.	DOCKET NO. G-04204A-08-0571

Direct Testimony of

Kentton C. Grant

on Behalf of

UNS Gas, Inc.

November 7, 2008

VIII. RATE OF RETURN ON FAIR VALUE RATE BASE.

Q. What ROR do you recommend be applied to the Company's FVRB?

A. I recommend that a ROR of 6.80% be applied to the FVRB, even though I believe, as discussed below, that UNS Gas could justify a ROR of 7.30%. The primary reason to forego the full 7.30% is to mitigate the rate impact on our customers in these challenging economic times.

Q. How did you arrive at this value?

A. This ROR, when applied to the Company's FVRB of approximately $256 million, produces an overall rate increase that would provide UNS Gas with a reasonable opportunity to actually earn its cost of capital, to support its creditworthiness and to attract capital on reasonable terms.

Q. How does this ROR compare with the value that would be obtained from the methodology adopted by the Commission in Decision No. 70441 involving Chaparral City Water Company ("Chaparral") and the revised methodology subsequently recommended by the Commission Staff?

A. The ROR requested by UNS Gas is lower. If the approach adopted by the Commission in Decision No. 70441 is applied to the Company's 8.75% WACC (see Section VI of my Direct Testimony) with an estimated inflation rate of 2.9% (see Section IV.B. of my Direct Testimony), the resulting ROR on FVRB would be 7.30%. Likewise, this same value of 7.30% would be obtained from the revised methodology being recommended by the Commission Staff in the current Chaparral rate proceeding (Docket No. W-02113A-07-0551).

Q. Please explain how a ROR value of 7.30% would be obtained using either approach.

A. Certainly. With respect to the approach adopted in Decision No. 70441, where the ROR on FVRB was derived by adjusting the cost of equity downward by the expected rate of inflation, the following result would be obtained for UNS Gas using a 2.9% rate of inflation:

	% of Capital Structure	Modified Cost *	Weighted Average Cost
Long-Term Debt	50.01%	6.49%	3.25%
Common Equity	49.99%	8.10%	4.05%
Total	100.00%		7.30%

* Note: Modified cost of equity = 11.0% - 2.9% = 8.1%.

Staff's revised methodology, which is explained in the Direct Testimony of Gordon L. Fox, dated October 3, 2008, in Docket No. W-02113A-07-0551, employs a slightly different inflation rate adjustment. Instead of adjusting only the cost of equity by the full rate of inflation, the modified approach adopted by Mr. Fox adjusts both the cost of debt and cost of equity by one-half of the expected rate of inflation. Using the 2.9% expected rate of inflation discussed earlier in my testimony, the following result would be obtained for UNS Gas:

	% of Capital Structure	Modified Cost *	Weighted Average Cost
Long-Term Debt	50.01%	5.04%	2.53%
Common Equity	49.99%	9.55%	4.77%
Total	100.00%		7.30%

* Note: Modified cost of debt = 6.49% - 1.45% = 5.04%.
Modified cost of equity = 11.0% - 1.45% = 9.55%.

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BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS
KRISTIN K. MAYES - CHAIRMAN
GARY PIERCE
PAUL NEWMAN
SANDRA D. KENNEDY
BOB STUMP

IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS GAS, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.	DOCKET NO. G-04204A-08-0571

Rebuttal Testimony of

Kentton C. Grant

on Behalf of

UNS Gas, Inc.

July 8, 2009

Q. Mr. Grant, in your Direct Testimony you proposed a 6.80% ROR on FVRB even though you demonstrated that UNS Gas could have supported a higher value of 7.30%. Is it your position that the ROR on FVRB in this proceeding should be limited to a maximum value of 6.80%?

A. No. This reduction was a voluntary measure. As described on page 30 of my Direct Testimony, the ROR of 6.80% was selected on the basis that this was the minimum value required to produce an overall revenue requirement that would allow UNS Gas an opportunity to earn its cost of capital and maintain its financial integrity. Due to the substantial cuts to the revenue requirement proposed by Staff and RUCO, and the possibility that those adjustments could be adopted by the Commission, the basis for limiting the proposed ROR on FVRB has dissipated. Therefore, the ROR on FVRB should be determined using the method approved in Decision No. 70441, or in the alternative, the method subsequently recommended by the Commission Staff in Docket No. W-02113A-07-0551.

Q. In light of the substantial revenue requirement adjustments recommended by Staff, what ROR would you recommend be applied to UNS Gas' FVRB?

A. I would recommend using a ROR that is consistent with the methodology used by the Commission in Docket No. 70441. As described in my Direct Testimony, this ROR would be equal to 7.30% if the Commission were to approve the Company's proposed cost of capital. Alternatively, as described above, this ROR would be equal to 7.25% if the Commission were to approve Staff's proposed cost of capital.

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BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS
KRISTIN K. MAYES - CHAIRMAN
GARY PIERCE
PAUL NEWMAN
SANDRA D. KENNEDY
BOB STUMP

IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS GAS, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.)	DOCKET NO. G-04204A-08-0571

Rebuttal Testimony of

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on Behalf of

UNS Gas, Inc.

July 8, 2009

recommended in the Chaparral City remand order, Decision No. 70441, or in the alternative, the method that was refined by the Commission Staff in Docket No. W-02113A-07-0551.

Q. What is your view of Mr. Parcell's alternative recommendation for calculating the ROR on FVRB?

A. First, as described above in Section III of my Rebuttal Testimony, it results in a revenue requirement that is simply too low to support UNS Gas' financial integrity. Second, it represents an unwarranted departure from the calculation methodology approved by the Commission in Decision No. 70441, as well as the modest refinement to that methodology recommended by Staff in Docket No. W-02113A-07-0551. Third, it is based on Mr. Parcell's belief that the fair value of utility property should be given little, if any, weight in setting retail rates. And finally, his choice of a 1.25% cost rate to apply to what he refers to as the "fair value increment" is arbitrary since it represents the midpoint of a fairly wide range of values (zero to 2.50%) and is unsupported by any analysis of the financial impact his recommendation would have on UNS Gas.

Q. What is the impact of Mr. Parcell's recommendation on UNS Gas' revenue requirement?

A. His decision to apply a 6.37% ROR to the Company's FVRB resulted in a substantial reduction to the overall revenue requirement. For example, had Mr. Parcell instead chosen the high end of his range, 2.50%, as the cost rate to apply to the "fair value increment" described in his testimony, he would have derived a ROR on FVRB of 6.70%:

	% of Capital Structure	Cost	Weighted Average Cost
Long-Term Debt	36.56%	6.49%	2.37%
Common Equity	36.55%	10.00%	3.66%
Fair Value Increment	26.89%	2.50%	0.67%
Total	100.00%		6.70%

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BEFORE THE ARIZONA CORPORATION COMMISSION

KRISTIN K. MAYES
Chairman
GARY PIERCE
Commissioner
PAUL NEWMAN
Commissioner
SANDRA D. KENNEDY
Commissioner
BOB STUMP
Commissioner

IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.	)))))))	DOCKET NO. G-04204A-08-0571

REDACTED DIRECT

TESTIMONY

OF

RALPH C. SMITH

ON BEHALF OF THE

RESIDENTIAL UTILITY CONSUMER OFFICE

JUNE 8, 2009

UNS Gas Inc.
Computation of Increase in Gross Revenue Requirement

Test Year Ended June 30, 2008

Docket No. G-04204A-08-0571
Schedule A

			UNS Proposed		RUCO Proposed	
Line No.	Description	Reference	Original Cost (A)	Fair Value (B)	Original Cost (C)	Fair Value (D)
1	Adjusted Rate Base	Sch. B	$ 182,293,106	$ 255,779,939	$ 179,884,439	$ 252,877,851
2	Rate of Return	Sch D	9.54%	6.80%	7.55%	5.38%
3	Operating Income Required		$ 17,390,762	$ 17,390,762	$ 13,581,275	$ 13,604,828
4	Net Operating Income Available	Sch. C	$ 11,600,004	$ 11,600,004	$ 13,090,781	$ 13,090,781
5	Operating Income Excess/Deficiency		$ 5,790,758	$ 5,790,758	$ 490,494	$ 514,047
6	Gross Revenue Conversion Factor	Sch. A-1	1.6366	1.6366	1.636582	1.636582
7	Overall Revenue Requirement		$ 9,477,048	$ 9,477,048	$ 803,000	$ 841,000
8	Difference between OCRB and FVRB calculations			$ -		$ 38,000

Notes and Source
Cols. A & B taken from UNS Gas, Inc. filing, Schedule A-1

8	Gas Retail Revenue	Sch. C	$ 51,157,763	$ 51,157,763	$ 51,673,766	$ 51,673,766
9	Percentage Increase		18.53%	18.53%	1.55%	1.63%

See page 2 for additional Fair Value calculations RUCO is presenting for the Commission's consideration.
RUCO's amounts on line 7 are rounded to the nearest thousand.

UNS Gas Inc.
Computation of Increase in Gross Revenue Requirement

Test Year Ended June 30, 2008

Docket No. G-04204A-08-0571
Schedule A
Page 2 of 2

Line No.	Description	Reference	Fair Value Calculation 1	Fair Value Calculation 2	Fair Value Calculation 3	Fair Value Calculation 4	RUCO Recommended
			(A)	(B)	(C)	(D)	(E)
1	Adjusted Rate Base	Sch. B	$ 252,877,851	$ 252,877,851	$ 252,877,851	$ 252,877,851	$ 252,877,851
2	Rate of Return	Sch D	6.30%	5.05%	5.37%	5.73%	5.38% [a]
3	Operating Income Required		$ 15,931,305	$ 12,770,331	$ 13,579,541	$ 14,489,901	$ 13,604,828
4	Net Operating Income Available	Sch. C	$ 13,090,781	$ 13,090,781	$ 13,090,781	$ 13,090,781	$ 13,090,781
5	Operating Income Excess/Deficiency		$ 2,840,524	$ (320,450)	$ 488,760	$ 1,399,120	$ 514,047
6	Gross Revenue Conversion Factor	Sch. A-1	1.636582	1.636582	1.636582	1.636582	1.636582
7	Overall Revenue Requiremen		$ 4,649,000	$ (524,000)	$ 800,000	$ 2,290,000	$ 841,000 [b]
		Evaluation:	way too high	too low	too low	too high	recommendation

Notes and Source

8	Gas Retail Revenue	Sch. C	$ 51,673,766	$ 51,673,766	$ 51,673,766	$ 51,673,766	$ 51,673,766
9	Percentage Increase		9.00%	-1.01%	1.55%	4.43%	1.63%

RUCO's amounts on line 7 are rounded to the nearest thousand.
Explanation of Fair Value Calcualtions (See Schedule D, page 2, for details):
- Calculation 1 - Reduce Recommended OCRB-Based Return on Equity for Estimated Inflation
- Calculation 2 - Reduce Recommended OCRB-Based Overall Rate of Return for Estimated Inflation
- Calculation 3 - With Fair Value Rate Base Increment at Zero Cost
- Calculation 4 - With Fair Value Rate Base Increment at 1.25 Percent

[a] Recommended FVROR selected based on informed judgment after reviewing OCRB and FVRB calculations
[b] See page 1 of this schedule for how this recommendation compares with an OCRB-based calculation

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BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS
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BOB STUMP

IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS GAS, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.	DOCKET NO. G-04204A-08-0571

Rebuttal Testimony of

Kentton C. Grant

on Behalf of

UNS Gas, Inc.

July 8, 2009

B. Rebuttal of RUCO Witness Ralph C. Smith.

Q. What is your general impression of Mr. Smith's testimony regarding the ROR on FVRB?

A. I found Mr. Smith's description of the various calculation methodologies and related impacts on UNS Gas' revenue requirement to be helpful. However, I was troubled by his lack of explanation regarding his choice of a 5.38% ROR on FVRB, a value that is only 0.01% higher than the methodology that gives zero weight to the Company's FVRB. As shown on page 1 of Schedule A attached to his testimony, this small increment of return would provides UNS Gas with only $38,000 of additional revenues, despite having a FVRB that is over $70 million higher than its original cost rate base ("OCRB").

Q. What explanation has Mr. Smith offered for his choice of a 5.38% ROR on FVRB?

A. The only explanation I could find is the "Evaluation" listed directly below the overall revenue requirement for each of the calculation methods listed on page 2 of Schedule A attached to his Direct Testimony. These evaluations range from "way too high" for the revenue requirement associated with Mr. Smith's "Calculation 1" methodology, to "too low" for the revenue requirement derived from Mr. Smiths "Calculation 3" and "Calculation 4" methodologies. As described in footnote [a] at the bottom of this same page, Mr. Smith also indicates that the recommended 5.38% ROR on FVRB was selected "based on informed judgment after reviewing OCRB and FVRB calculations." This opinion, rather than a detailed explanation of his analysis, is the only explanation Mr. Smith offered.

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BEFORE THE ARIZONA CORPORATION COMMISSION

<u>**COMMISSIONERS**</u>
MIKE GLEASON - CHAIRMAN
WILLIAM A. MUNDELL
JEFF HATCH-MILLER
KRISTIN K. MAYES
GARY PIERCE

IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS GAS, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.	DOCKET NO. G-04204A-08-0571

Direct Testimony of

D. Bentley Erdwurm

on Behalf of

UNS Gas, Inc.

November 7, 2008

V. RATE DESIGN.

Q. What are the Company's objectives in rate design?

A. The Company has two primary objectives in rate design: i) to more equitably collect the Company's fixed costs; and ii) to expand programs for our low-income customers in collaboration with interested stakeholders.

Q. Please summarize your rate design recommendations.

A. First, UNS Gas proposes an increase in monthly customer charges to levels that better match the true customer-related costs, as indicated by the class cost-of-service study. Under the class cost-of-service study, the "bare bones" monthly customer charges are calculated to be $18.15 for residential service, approximately $19.00 for small commercial/industrial customers and approximately $220.00 for large commercial/industrial customers. "Bare-bones" customer charges restrict the customer classification to metering, meter-reading, service (service drop) to the specific customer, customer service and billing. No demand-related distribution mains or distribution regulators are included, as they may be under a minimum system or zero intercept approach. The "bare-bones" approach leads to relatively low customer charges. However, we do not propose increasing monthly customer charges all the way to the charges suggested by the class cost-of-service study.

For residential service, the increases will be phased-in over two years. Phase 1 will go into effect upon approval of the rate increase. The Phase 2 and Phase 3 rate designs (implemented one year and two years, respectively, after rates go into effect in Phase 1) are based on approved test-year billing determinants, and are revenue neutral with respect to Phase 1 rates, in that test-year proposed revenue remains unchanged. UNS Gas proposes to increase residential customer charges from the current $8.50 per month to

$10.00 per month when new rates are implemented. The proposed rates per therm (exclusive of gas commodity costs) are proposed initially (in Phase 1) to be $0.3920. One year after the rate implementation, UNS Gas proposes a $2.00 per month residential customer charge increase, bringing the customer charge to $12.00 per month in Phase 2. With the increase in the customer charge to $12.00, the volumetric charges will be lowered to achieve the approved revenue requirement. Revenue neutrality is maintained at the one-year mark by lowering rates per therm (exclusive of gas commodity costs) to $0.3479. In Phase 3, commencing two years after rates go into effect, the customer charge is increased to $14.00 and revenue neutrality is maintained at this two-year mark by lowering rates per therm (exclusive of gas commodity costs) to $0.3039. Even in Phase 3, the customer charge will still be less than the $18.15 "bare-bones" customer charge supported by the class cost-of-service study.

Customer charges for non-residential classes generally also are raised closer to levels indicated by the class cost-of-service study. UNS Gas is proposing customer charges of $15.50 for small commercial/industrial customers (from the current $13.50) and $105.00 for large commercial/industrial customers (from the current $100.00). The proposed commercial/industrial charges are aligned more closely to the true costs of providing service. Increased customer charges will aid in the recovery of fixed costs.

Q. **Why are customer charges preferred to volumetric (per therm) charges in recovering fixed costs?**

A. UNS Gas currently collects the bulk of its fixed costs through a volumetric charge. Within the residential class, however, the periodic variation in throughput has limited impact on the true, non-commodity cost of serving customers Because most non-commodity costs are fixed, there is a potential for a mismatch between costs and revenue if a substantial portion of revenue is recovered through weather-sensitive sales. To help

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BEFORE THE ARIZONA CORPORATION COMMISSION

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IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS GAS, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.	DOCKET NO. G-04204A-08-0571

Direct Testimony of

D. Bentley Erdwurm

on Behalf of

UNS Gas, Inc.

November 7, 2008

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For residential service, the increases will be phased-in over two years. Phase 1 will go into effect upon approval of the rate increase. The Phase 2 and Phase 3 rate designs (implemented one year and two years, respectively, after rates go into effect in Phase 1) are based on approved test-year billing determinants, and are revenue neutral with respect to Phase 1 rates, in that test-year proposed revenue remains unchanged. UNS Gas proposes to increase residential customer charges from the current $8.50 per month to

BEFORE THE ARIZONA CORPORATION COMMISSION

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Rejoinder Testimony of

D. Bentley Erdwurm

on Behalf of

UNS Gas, Inc.

August 5, 2009

Finally, Dr. Fish defends his use of the growth rate applied to December customer counts by arguing that the growth rate was supplied by UNS Gas. However, UNS Gas never advised Dr. Fish that it should be used in calculating the customer annualization adjustment. Dr. Fish picked a growth rate more consistent with speculative forecasting and not the calculation of customer annualization adjustments. Mr. Hutchens in his Rejoinder Testimony explains in more detail why the prior growth estimate is no longer valid.

III. PHASED-IN RESIDENTIAL CUSTOMER CHARGE.

Q. Please address the issue of the phased-in residential customer charge.

A. UNS Gas' proposed phase-in of residential customer charge increases is an attempt to better align rates with cost-of-service without causing undue confusion or rate shock. UNS Gas' class cost-of-service study supports the increase. Having prices track cost is necessary for customers to make good economic decisions about resource use. Finally, from the standpoint of UNS Gas, having higher cost-based residential charges brings revenue recovery more in line with cost incurrence. Currently, UNS Gas' residential non-commodity (i.e., excluding the recovery of gas costs) revenue is recovered predominantly through volumetric energy charges ($/therm) as opposed to customer charges, whereas the lion's share of costs are fixed. Recovering fixed costs volumetrically through energy charges invariably leads to over-recovery or under-recovery of cost. A more appropriate recovery of fixed costs through customer charges promotes a matching of revenue collection with cost incursion.

Moreover, UNS Gas' proposal to gradually phase-in its higher fixed monthly charge in a revenue neutral manner serves an important emerging public policy. This rate design will help ensure that UNS Gas' financial incentives are aligned with helping its customers use energy more efficiently. It is an initial and gradual move towards de-coupling.

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BEFORE THE ARIZONA CORPORATION COMMISSION

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Direct Testimony of

D. Bentley Erdwurm

on Behalf of

UNS Gas, Inc.

November 7, 2008

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BEFORE THE ARIZONA CORPORATION COMMISSION

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IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS GAS, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.	DOCKET NO. G-04204A-08-0571

Direct Testimony of

D. Bentley Erdwurm

on Behalf of

UNS Gas, Inc.

November 7, 2008

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BEFORE THE ARIZONA CORPORATION C

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COMMISSIONERS

MIKE GLEASON, Chairman
WILLIAM A. MUNDELL
JEFF HATCH-MILLER
KRISTIN K. MAYES
GARY PIERCE

IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS GAS, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.	DOCKET NO. G-04204A-06-0463
IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. TO REVIEW AND REVISE ITS PURCHASED GAS ADJUSTOR.	DOCKET NO. G-04204A-06-0013
IN THE MATTER OF THE INQUIRY INTO THE PRUDENCE OF THE GAS PROCUREMENT PRACTICES OF UNS GAS, INC.	DOCKET NO. G-04204A-05-0831 DECISION NO. **70011** **OPINION AND ORDER**

DATES OF HEARING:	April 16, 17, 18, 19, 20, 24, and 25, 2007.
PLACE OF HEARING:	Phoenix, Arizona
ADMINISTRATIVE LAW JUDGE:	Dwight D. Nodes
IN ATTENDANCE:	Mike Gleason, Chairman Kristin K. Mayes, Commissioner
APPEARANCES:	Mr. Michael W. Patten and Mr. Timothy Sabo, ROSHKA, DEWULF & PATTEN, P.L.C. and Ms. Michelle Livengood, UNISOURCE ENERGY SERVICES, on behalf of Applicant; Mr. Scott S. Wakefield, Chief Counsel, on behalf of the Residential Utility Consumer Office; Ms. Cynthia Zwick, Executive Director, Arizona Community Action Association; Mr. Marshall Magruder, in propria persona; and Mr. Keith Layton and Ms. Maureen Scott, Staff Attorneys, Legal Division, on behalf of the Utilities Division of the Arizona Corporation Commission.

<u>Conclusion</u>

Although we understand that UNS would like to recover as much of its margin as possible through monthly customer charges, we do not believe it is reasonable to adopt a rate design that would impose a significant increase on customers based on where they live within the Company's service area. Under the Company's recommendation, residential customers with lower usage (*i.e.*, customers typically located in warmer climates) would bear the brunt of the revenue increase due primarily to the dramatic front-loading increase to the fixed monthly customer charge. As set forth in the UNS Final Schedules (based on UNS's proposed revenue requirement), in the "summer" months (April through November), a residential customer (R10) would experience an increase of 146 percent with 5 therms of usage, 118 percent with 10 therms of usage, and 82 percent with 20 therms of usage. During the "winter" months (December through March), the same customer would incur increases of 40 percent with 5 therms of usage, 28 percent with 10 therms of usage, and 13 percent with 20 therms of usage (UNS Final Schedules, Sched. H-4). While higher usage customers may realize lower increases, or even decreases (depending on usage), we do not believe that a dramatic increase imposed on lower usage customers is appropriate in this case. As we stated in the Southwest Gas Decision in rejecting a similar type of rate design proposal, "[such a] rate design would have the effect of encouraging greater usage of natural gas at a time when, by all accounts, an increase in demand for natural gas is coupled with shortages in supply. We do not believe that it is appropriate to send a signal to customers of 'the more you use, the more you save,'" (Decision No. 68487, at 37).

As discussed by Staff's witnesses, movement towards cost-based rates is just one of the many factors that must be considered in designing rates. The goal of moving closer to cost-based rates must be balanced with competing principles such as gradualism, fairness, and encouragement of conservation. Based on the testimony and evidence presented in the record, and considering the arguments raised regarding competing principles of the rate design equation, we believe that Staff's rate design recommendation appropriately makes significant movement towards cost-based rates and provides a reasonable level of protection for the customers who are affected by this base rate increase. Accordingly, we adopt Staff's recommended monthly charges, as set forth in the

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BEFORE THE ARIZONA CORPORATION COMMISSION

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Direct Testimony of

D. Bentley Erdwurm

on Behalf of

UNS Gas, Inc.

November 7, 2008

in UNS Gas' service territory, which includes areas that are either among the coldest (e.g. Flagstaff) or the hottest (e.g. Lake Havasu City) parts of Arizona. Customers in the coldest corners of our service territory – those affected most by rising costs on the volumetric, gas commodity portion of their bills during home heating season – have borne the additional burden of subsidizing the fixed cost of serving customers who spend their winters in far more moderate climates.

Q. Have you performed an analysis to illustrate the subsidy of warmer districts by cooler districts?

A. Yes. Attached to my Direct Testimony as Exhibit DBE-1, is a table that shows average annual residential consumption and margin revenue for ten locations in the UNS Gas service territory. Margin does not include the commodity cost of gas. By "margin", I mean the sum of the: (i) customer charge; and (ii) portion of the volumetric charge not related to the commodity cost of gas. Margin covers the costs of customer service, billing, metering, meter reading, service drop, mains, and other non-gas resources and infrastructure serving UNS Gas' customers. The data illustrates the disparity between what average customers in certain locations contribute to margin. For example, the typical residential customer in Flagstaff currently pays an annual margin (i.e., charges excluding actual gas commodity costs) of $328, $145 more than the $183 paid by the typical residential customer in Lake Havasu (see column 2 of Exhibit DBE-1). Cost-of-service analysis indicates that a $145 margin differential between these two customers is too high. Assuming proposed revenue levels, and a cost-based customer charge of $18.15 per month (which is higher than any of the Company's proposed residential customer charges), the Flagstaff customer pays a $364 margin, which is only $93 more than the $271 paid by the Lake Havasu customer (see column 6 of Exhibit DBE-1).

EXHIBIT

DBE-1

Exhibit DBE-1

UNS Gas - Test Year Ended June 30, 2008
Residential Use and Margin by Location

Location	Typical Annual Usage (Therms) (1)	Average Annual Margin Present (2)	Average Annual Margin Proposed "Phase 1" (3)	Average Annual Margin Proposed "Phase 2" (4)	Average Annual Margin Proposed "Phase 3" (5)	Average Annual Margin COS Rate (6)
Flagstaff	691	$328	$391	$384	$378	$364
Sedona	677	$323	$385	$380	$374	$362
Winslow	642	$312	$372	$367	$363	$354
Holbrook	620	$305	$363	$360	$356	$349
Show Low	607	$300	$358	$355	$352	$347
Prescott	567	$287	$342	$341	$340	$338
Kingman	400	$233	$277	$283	$290	$303
Cottonwood	436	$245	$291	$296	$301	$310
Santa Cruz	408	$235	$280	$286	$292	$304
Lake Havasu	249	$183	$218	$231	$244	$271
Average	545	$280	$334	$334	$334	$334

(Column 1) Does not include unbilled usage.

(Column 2) The present residential customer charge is $8.50 per month and the volumetric margin rate is $0.3270 per therm.

(Column 3) Phase 1 - The 1st year proposed residential customer charge is $10.00 per month; the volumetric margin rate is $0.3920 per therm.

(Column 4) The Phase 2 (after 1 year) proposed residential customer charge is $12.00 per month; the volumetric margin rate is $0.3479 per therm.

(Column 5) The Phase 3 (after 2 years) proposed residential customer charge is $14.00 per month; the volumetric margin rate is $0.3039 per therm.

(Column 6) The COS residential customer charge is $18.15 per month; the hypothetical volumetric margin rate is $0.2123 per therm.

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BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS
MIKE GLEASON - CHAIRMAN
WILLIAM A. MUNDELL
JEFF HATCH-MILLER
KRISTIN K. MAYES
GARY PIERCE

IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS GAS, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.	DOCKET NO. G-04204A-08-0571

Direct Testimony of

D. Bentley Erdwurm

on Behalf of

UNS Gas, Inc.

November 7, 2008

Because of the different overall revenue levels (i.e., current rates v. proposed rates), a comparison of the average Flagstaff bill as a percentage of the Lake Havasu bill is enlightening. Using the data from Exhibit DBE-1, I have compiled the following table that illustrates how the Company's phased-in increase in customer charges is a movement toward more cost-based rates.

Table 1 – Flagstaff / Lake Havasu Average Annual Bills EXCLUDING Gas Commodity costs

	Current ($8.50)	*Phase 1 ($10)*	*Phase 2 ($12)*	*Phase 3 ($14)*	*Cost-Based ($18.15)*
Flagstaff Bill	$328	$391	$384	$378	$364
Havasu Bill	$183	$218	$231	$244	$271
Difference	$145	$173	$154	$134	$93
Diff as %	79%	79%	67%	55%	34%

The "Diff as %" shows the difference in Flagstaff and Lake Havasu bills as a percent of Lake Havasu bills. This line shows that under cost-based rates an average Flagstaff bill should be only 34% higher than the average Lake Havasu bill. Currently, the average Flagstaff bill is 79% higher than the average Lake Havasu bill. Between Phases 1 and 3 of the proposed customer charge implementation, the excess of Flagstaff over Lake Havasu bills falls from 79% to 55%, which is a marked improvement and a movement to cost-based rates.

212

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BEFORE THE ARIZONA CORPORATION COMMISSION

IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS GAS, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.	DOCKET NO. G-04204A-08-0571 EVIDENTIARY HEARING

At: Phoenix, Arizona

Date: August 17, 2009

Filed: August 25, 2009

REPORTER'S TRANSCRIPT OF PROCEEDINGS

VOLUME V

(Pages 733 through 808, inclusive)

ARIZONA REPORTING SERVICE, INC.
Court Reporting
Suite 502
2200 North Central Avenue
Phoenix, Arizona 85004-1481

Prepared for:

By: Kate E. Baumgarth, RPR
Certified Reporter
Certificate No. 50582

Q. Right.

A. Okay. So 0.80 at $45 would add roughly $3 to the bill that I show on schedule H-4 of my testimony. There is no $45 per usage per therm, so I was extrapolating. The current bill for 35 therms per customer is $19 -- or $20. You would have to add to that the commodity cost of $3, so that is $23.

A customer using 50 therms is currently paying about $25. So you would have to add another $3 to that. So it's somewhere between $25 and $28 currently, and that includes the customer charge.

Q. I'm confused a little bit. If I multiply 45 therms times 80 cents, I get approximately $36, not $3.

A. Oh, I'm sorry. I --

Yes, you are right. I'm sorry. That's correct. So then the average bill would be $54 to $59.

Q. So the $5.50 is approximately 10 percent of the average bill; is that right?

A. That's correct.

Q. Okay. Do you also understand that the company is proposing a reduction in the non-gas volumetric charge with respect to the second and third phased in increases?

A. Yes, that would follow.

Q. And those were intended to create a revenue neutral situation for the average customer; correct?

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D. Bentley Erdwurm

on Behalf of

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November 7, 2008

cooler areas. I believe this is consistent with the Commission's resolution of the customer charge issue in Decision No. 70011.

Q. Will the increased customer charge reduce the incentive to conserve?

A. Not materially. The proposed customer charges and volumetric charges will provide the appropriate incentive to conserve – neither too little incentive nor too much incentive - given cost considerations and the relative prices of energy substitutes like electricity, propane and firewood. Despite the fact that higher customer charges result in lower volumetric charges, customers will still have plenty of incentive to conserve natural gas because they avoid some very significant gas commodity costs. The commodity cost of natural gas has been increasing at around 2.5 times the rate of inflation over the last four years. Customers pay for the amount of natural gas they actually consume through UNS Gas' PGA. The gas commodity portion of the average residential bill is even greater (approximately 60%) than the margin portion (approximately 40%). The substantial commodity portion will continue to provide customers a strong incentive to conserve natural gas.

Q. Have you considered other mechanisms for addressing the current mismatch between revenues and costs and the resulting cross-subsidization between customers?

A. Yes. UNS Gas considered a recurring "reservation" (demand) charge based on a customer's maximum usage over the past twelve months. To the extent that potential peak requirements affect sizing of facilities to the end-use customer, this reservation charge could help match billing to cost-causation, which is desirable for an equitable rate design. As mentioned, around 17.5% of residential revenue could be recovered through the reservation charge, based on the cost-of-service study. However, this would be a major change in rate structure and may be better suited for a future proceeding.

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UNS Gas, Inc.
Summary of Revenues by Customer Classifications
Adjusted Present Rates And Proposed Rates
Test Year Ended June 30, 2008
(Thousands of Dollars)

Line No.	Class of Service	Present Rates Unadjusted (1.)	Present Rates Adjusted	Proposed Rates	Proposed Net Increase Relative to Present Rates Unadjusted	Proposed Net Increase Relative to Present Rates Unadjusted As a Percentage	Proposed Net Increase Relative to Present Rates Adjusted	Proposed Net Increase Relative to Present Rates Adjusted As a Percentage	Line No.
1	Residential Service	$37,279,231	$36,381,453	$43,056,622	$5,777,391	15.50%	$6,675,169	18.35%	1
2	Commercial Gas Service	10,062,088	9,818,220	11,689,364	$1,627,276	16.17%	1,871,145	19.06%	2
3	Industrial Gas Service	246,712	255,152	303,253	$56,541	22.92%	48,101	18.85%	3
4	Public Authority Gas Service	1,830,646	1,779,079	2,117,900	$287,253	15.69%	338,821	19.04%	4
5	Special Gas Light Service	66,940	66,940	79,706	$12,766	19.07%	12,766	19.07%	5
6	Irrigation Service	34,092	33,865	40,322	$6,231	18.28%	6,458	19.07%	6
7	Transportation Customers	3,036,509	2,823,056	3,351,473	$314,964	10.37%	528,417	18.72%	7
8	Subtotal	52,556,220 (2.)	51,157,764	60,638,641	8,082,421	15.38%	9,480,876	18.53%	8
9	Other Operating Revenue	1,636,425	1,744,743	1,744,743	108,318 (3.)	6.62%	0	0.00%	9
10	Total	$54,192,645	$52,902,507	$62,383,384	$8,190,739	15.11%	$9,480,876	17.92%	10

Supporting Schedules
H-2 (P2)

Recap Schedules
A-1

Note 1. - Excludes PGA Revenues

Note 2. - Ties to H-2, page 2 of 2.

Note 3. - Net of DSM Revenue and Expense Adjustment (-$130,917) and Service Fees and Late Fees Adjustment ($239,235).

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BEFORE THE ARIZONA CORPORATION COMMISSION

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Direct Testimony of

Gary A. Smith

on Behalf of

UNS Gas, Inc.

November 7, 2008

Q. Is a copy of the proposed modifications to the Rules and Regulations attached?

A. Yes, both clean and redlined copies of the revised Rules and Regulations are attached as Exhibits GAS-1(a) and GAS-1(b), respectively, to my Direct Testimony.

Q. Is UNS Gas proposing to make any changes to Pricing Plan T-1 Transportation of Customer-Secured Natural Gas ("Pricing Plan T-1") and Pricing Plan T-2 Transportation Service Using Dedicated Transmission Facilities ("Pricing Plan T-2")?

A. Yes. The T-1 and T-2 Pricing Plans apply to certain large commercial customers. Currently "Balancing", found under the section heading "Operating Procedures" in both Pricing Plan T-1 and Pricing Plan T-2, states:

> Customers are provided a monthly operating window, under which the Customer's cumulative imbalances must be within plus or minus 5 percent (+/- 5%) of the month's total of daily scheduled transportation quantities, plus any Company-approved imbalance adjustment quantity, or 10,000 therms, whichever is greater.

UNS Gas is proposing to change the 10,000 therm threshold to 1,500 therms. The 5 percent (5%) allowance is not being changed. The redlined versions of Pricing Plan T-1 and T-2 are attached as Exhibit GAS-3 and Exhibit GAS-4, respectively to my Direct Testimony.

Q. Why are you making this change?

A. Currently UNS Gas' monthly imbalance cash out threshold under the El Paso Natural Gas ("EPNG") tariff is only 2,000 decatherms (Dth) or 20,000 therms. Allowing each transportation customer a monthly threshold that is one-half of the monthly threshold that UNS Gas must adhere to for its entire system under EPNG can place additional operational constraints and/or penalties on UNS Gas. UNS Gas currently has eight (8) transportation customers that are managed by third party suppliers who are responsible for managing

EXHIBIT

GAS-3

AVAILABILITY

This pricing plan is available to any qualifying Customer for transportation of natural gas by the Company from existing interconnects between the Company and upstream pipelines (herein called Receipt Point) to the Delivery Point(s) on the Company's system throughout its certificated Arizona Gas Service Area under the following conditions:

~~(a)~~1. The Company has available capacity to render the requested service without construction of any additional facilities, except as provided by ~~Section 8 of~~ this pricing plan under Facility Additions..

~~(b)~~2. The Customer has demonstrated to the Company's satisfaction the assurance of natural gas supplies and third-party transportation agreements with quantities, and for a term compatible with the service being requested from the Company.

~~(c)~~3. The Customer and the Company have executed a Transportation Agreement, and the Customer is to be the End-User.

~~(d)~~4. The Customer's gas to be transported is greater than 120,000 therms per year. A Customer receiving service from the Company at multiple locations may aggregate meters with annual consumption of no less than 50,000 therms per meter to qualify for this service provided that all meter locations are served under a single entity. In addition, the annual consumption of customers that are aggregated must be greater than 120,000 therms per year.

APPLICABILITY

This pricing plan shall apply to gas transported by the Company for Customer pursuant to the executed service agreement.

1. The basic transportation service rendered under this pricing plan shall consist of:

   (a) The receipt by the Company for the account of the Customer of the Customer's gas at the Receipt Point;

   (b) The transportation of gas through the Company's gas system for the account of the Customer; and

   (c) The delivery of gas after transportation by the Company for the account of the Customer at the Delivery Point(s).

2. Transportation: Service is firm and uninterrupted except for the following:

   (a) Curtailment in accordance with the Company's curtailment priority procedures;

   (b) When the Company determines it has insufficient capacity on its system or from its upstream pipeline; or

   (c) Customer's gas supply to the Company is insufficient to meet its requirement.

3. Any Customer served under this pricing plan that requests service under a sales pricing plan is ineligible to return to transportation service for a period of not less than twelve (12) months.

RATES

A discount from the following rates may be offered at the sole discretion of the Company if such discount is in the best interest of the Company and its ratepayers. The maximum amount that the Customer shall pay the Company monthly will be the sum of the following charges:

Customer Charge per Month: $105~~0~~.00 per meter

Volume Charge: An amount equal to the applicable unit transportation rate for each therm of Customer-secured gas metered and delivered to the Customer. The unit rates shall be as set forth in the currently effective Pricing Plan Summary. The volume charge will consist of the following:

(a) An amount equal to the applicable unit sales margin for each therm as set forth in the Customer's otherwise applicable sales pricing plan for each meter. This volume charge will cover the Company's Delivery Charge as specified in the currently effective gas sales pricing plan but not including the base cost of gas specified therein.

~~In no event will the minimum charge be less than that set forth in Section 4.1 below.~~

(b) An amount to reflect lost and unaccounted for gas as determined by the differential between the gas costs on a sales basis and gas costs on a purchase basis determined in the development of the currently effective, Purchased Gas Adjustment ("PGA"), Rate Rider No. RR-1. The Company, at its sole option, may allow lost and unaccounted for gas to be paid in kind.

(c) Any applicable imbalance charges as specified in Payment For Excess Quantities ~~Section 7~~ of this pricing plan.

(d) Any charges from upstream pipeline transporters or suppliers which have been incurred by the Company in excess of those specified in section (c) above and are deemed by the Company to be applicable to the transportation service rendered for the Customer under these pricing plans.

Minimun Charge: The minimum charge will be the Basic Customer Charge per Month plus $0.005 per therm.

ADMINISTRATIVE PROCEDURES

1. Processing Requests for Transportation Service: Requests for transportation hereunder shall be made by, and shall be deemed to be complete upon, the Customer providing the following information to the Company:

    (a) Gas Quantities: The Maximum Daily Quantity applicable to the receipt point and the Maximum Daily Quantity applicable to each delivery point and estimated total quantities to be received and transported monthly over the delivery period should be stated individually in therms for each receipt point.

    (b) Delivery Point(s): Point(s) of delivery by the Company to the Customer.

    (c) Term of Service:
    ~~(i)~~i. Date of service requested to commence;
    ~~(ii)~~ii. Date service requested to terminate, if known; and
    ~~(iii)~~iii. Minimum term for transportation service shall be twelve (12) months.

    (d) Performance: A statement from the Customer certifying that the Customer has or will have title to the gas to be delivered to the Company for transportation and has entered into or will enter into those arrangements necessary to assure all upstream transportation will be in place prior to the commencement of service under a Transportation Agreement. The Customer's Agent, if any, must be named.

Upon receipt of all of the information specified above, the Company shall prepare and tender to the Customer for execution a Transportation Agreement. If the Customer fails to execute the Transportation Agreement within thirty (30) days of the date tendered, the Customer's request shall be deemed null and void.

OPERATING PROCEDURES

~~I.~~1. Nominating and Scheduling of Gas Receipts and Deliveries: The Customer shall be responsible for contacting the upstream pipelines to arrange for the nominating and scheduling of receipts and deliveries hereunder, provided, that the Customer may designate one (1) other party to serve as his agent for such purpose.

The Customer or Customer's Agent shall be responsible for submitting nominations to the upstream pipeline and notifying the Company's designated representative in writing no later than one (1) hour prior to the upstream pipeline's nomination deadlines set forth in their FERC approved tariff. Such communication shall occur prior to the first of the month and within the month if there are changes to the nominations. The Customer is responsible for confirming the timely receipt of this information by the Company. The Company will confirm whether it has sufficient operational capacity to deliver all or a portion of the Customer's gas.

~~ii.~~2. Operating Information and Estimates: Upon request of the Company, the Customer shall from time to time submit its best estimates of the daily, monthly and annual volumes of gas to be transported; including peak day requirements, together with such other operating data as the Company may require in order to schedule its operations.

The Company may require large Customers whose contractually allowed maximum daily quantity exceeds 10,000 therms per day, whose usage is not predictable based on weather, and whose ratio of high to low daily usage exceeds ten (10) to inform the Company within 2 hours of any initiation or termination of gas usage exceeding an hourly rate of 1,000 therms per hour.

~~iii.~~3. Quantities: All quantities referred to under ~~in~~ Operating Procedures of this pricing plan ~~Section 6~~ shall be provided as dekatherms ("DTH") (one million British Thermal Units).

4. Deliverability: The Company shall not be liable for its failure to deliver gas when such failure is due to unavailability of gas supply or interruption of third party transportation services.

5. Other Operating Procedures: The Company may require additional information or enforce other operating procedures as deemed necessary in the Company's sole judgment, in order to coordinate gas volumes and the movement of gas through the upstream pipeline system to the Company's Arizona Gas Service Area. These additional operating procedures may be enforced upon verbal notice to each Customer or the Customer's Agent with twenty-four (24) hour notice of implementation.

6. Balancing: Balancing of thermally equivalent volumes of gas received and delivered shall be achieved as nearly as feasible on a daily basis, taking into account the Customer's right, subject to prior Company approval, to vary receipts and deliveries across the Company Distribution System. Customer monthly imbalances are defined as the difference between the Customer's total monthly metered quantities and the Customer's total scheduled transportation quantity. Customers are provided a monthly operating window, under which the Customer's cumulative imbalances must be within plus or minus 5 percent (+/- 5%) of the month's total of daily scheduled transportation quantities, plus any Company-approved imbalance adjustment quantity, or 1,5000~~,000~~ therms, whichever is greater. Imbalances established in excess of the applicable monthly operating window will be subject to imbalance charges as specified in Payment for Excess Quantities ~~Section 7~~ of this pricing plan. However, if the Customer has an imbalance outside this limit and contacts the Company before the end of the last business day of the month, the Customer will have a "cure period" of an additional 30 days to bring its imbalance within the limits before any imbalance charges specified in Payment for Excess Quantities ~~Section 7~~ are applied. Customer is then ineligible for a "cure period" for the following month._ If in the Company's sole good faith judgment and operating conditions permit, the Company will increase the monthly operating window. Any imbalance (plus or minus) carried forward shall be considered first through the meter during the next daily or monthly period, as applicable.

Upon Customer request, the Company will permit electronic read-only access to the telemetering facilities described in Facility Additions of this pricing plan ~~Section 8~~ or provide daily meter reads each calendar day.

7. Adjustments: Periodically, volume adjustments may be made by the upstream pipelines or the Customer's agent. Therefore, actual daily volumes invoiced will be compared with daily nominated volumes. Should adjustments to the nominated volumes become necessary, such adjustments will be applied to the nomination for the month in which the volumes were delivered to the Customer for the purposes of determining the applicability of the provisions of this pricing plan.

8. Customer Default: The Company shall not be required to perform or continue service on behalf of any Customer that fails to comply with the terms contained in this pricing plan and the terms of the Customer's Transportation Service Agreement with the Company. The Company shall have the right to waive any one or more specific defaults by any Customer under any provision of this pricing plan or the service agreement, provided, however, that no such waiver shall operate or be construed as a waiver of any other existing or future default or defaults, whether of a like or different character.

9. Operational Curtailment: The Company reserves the right to impose, at any time, any reasonable operating conditions upon the transportation of the Customer's gas which the Company, in its sole good faith judgment, deems necessary to maintain safe and efficient operation of its distribution system, or to make the operating terms and conditions of service hereunder compatible with those of its upstream pipelines. Under such circumstances, the following conditions shall apply:

   (a) Any Customer that does not comply with a notice of operational curtailment shall be subject to, in addition to any otherwise applicable charges, a penalty of $10.00 per DTH for all unauthorized quantities during the curtailment period.

   (b) The Company shall endeavor to provide notice of such operational curtailment forty-eight (48) hours prior to the commencement of the delivery of gas.

   (c) Notwithstanding condition (b), the Company may impose an operational curtailment on the current gas day. In the event an operational curtailment is imposed on the current gas day, a minimum one-hour grace period will be allowed before penalties begin to apply.

PAYMENT FOR EXCESS QUANTITIES

1. Customers will be assessed imbalance charges if an imbalance exists in excess of the applicable monthly operating window under the conditions set forth in Balacing described as part of Operating Procedures ~~Section 6.6~~ herein. The portion of any imbalance quantity established by a Customer in excess of the applicable monthly operating window is defined as an excess imbalance quantity. The imbalance charge will be based on the Company's short term purchases, where short term purchases are defined as gas for which the price is determined in the calendar month of use. In addition to the charges payable under this pricing plan, any monthly excess quantity shall be billed as follows:

(a) Positive Excess Imbalance

A positive excess imbalance exists when the Customer's scheduled transportation quantity exceeds the Customer's metered quantity by more than the applicable monthly operating window. The excess imbalance shall be retained by the Company and eliminated after the Customer's bill is credited as follows:

(i) The price of the positive imbalance gas for the applicable month shall be calculated as the weighted average cost per therm of the Company's least expensive short term purchases (including all upstream pipeline fuel and variable costs) for the aggregate positive imbalance volume associated with all T-1 customers. This weighted average cost per therm will be multiplied by the Customer's positive imbalance volume and the percentage associated with the Customer's "Percentage Excess Imbalance" in the "Positive" column in Table 1 below.

(b) Negative Excess Imbalance

A negative excess imbalance exists when the sum of the Customer's scheduled transportation quantity is less than the metered quantity by more than the applicable monthly operating window. The excess imbalance shall be eliminated after the Customer is billed as follows:

(i) The price of the negative imbalance gas for the applicable month shall be calculated as the weighted average cost per therm of the Company's most expensive short term purchases (including all upstream pipeline fuel, variable and capacity costs, at a 100% load factor) for the aggregate negative imbalance volume associated with all T-1 customers. This weighted average cost per therm will be multiplied by the Customer's negative imbalance volume and the percentage associated with the Customer's "Percentage Excess Imbalance" in the "Negative" column in Table 1 below.

Table 1

Percentage Excess Imbalance	Positive	Negative
Equal to or less than 5%	100%	100%
Over 5% and less than or equal to 15%	90%	110%
Over 15% and less than or equal to 20%	80%	120%
Over 20% and less than or equal to 30%	70%	130%
Over 30%	60%	140%

2. Should the Customer cease to utilize transportation service under this pricing plan, the entire remaining imbalance shall be settled pursuant to section Payment For Excess Quantities herein.~~Section 7.1.~~ For purposes of this settlement, no operating window applies.

3. Under no circumstances shall the ~~S~~section Payment For Excess Quantities ~~7.1~~ above be considered as giving the Customer any right to take excess quantity gas, other than as provided in Operating Procedures ~~by Section 6.6~~ hereof, nor shall the s~~S~~ection Payment For Excess Quantities ~~7.1~~ or payment thereunder be considered as a substitute for any other remedy available to the Company against the offending Customer for failure to respect its obligation to stay within its authorized quantities.

FACILITY ADDITIONS

Any facilities which must be installed by the Company to serve the Customer will be constructed in accordance with the Rules and Regulations as approved from time to time by the Arizona Corporation Commission. Telemetering facilities on each meter will be installed at the Customer's expense. Customers requiring telemetering facilities shall provide, at the Customer's expense, a dedicated telephone line for the Company's use in communicating with the telemetering facilities and will pay any and all costs associated with that phone line. Further, any existing special surcharges or minimum bill provisions designed to recover the cost of facilities for any Customer shall remain in effect and may serve to increase maximum allowable transportation rate levels pursuant to this pricing plan.

THIRD PARTY CHARGES

The Customer shall reimburse the Company for any charges rendered or billed to the Company by its upstream pipelines and by any other upstream transporter and gas gatherers, either before or after termination of the Transportation Agreement, which the Company, in its sole good faith judgment, determines have been incurred because of the transportation of Customer's gas hereunder and should, therefore, appropriately be borne by the Customer. Such charges, whether levied in dollars or gas, may include, but shall not be limited to, standby charges or reservation fees, prepayments, applicable taxes, applicable fuel reimbursement, shrinkage, lost and unaccounted for volumes, Gas Research Institute surcharges, penalty charges and filing fees.

The Customer will reimburse the Company for all such charges incurred by the Company as rendered, irrespective of the actual quantities of natural gas delivered to the Customer.

CONDITIONS FOR CONVERTING TO T-1 SERVICE

Any qualified Customer converting from gas sales service to service under this pricing plan is subject to the following conditions and requirements:

1. T-1 service will commence at the beginning of the first calendar month following the end of five (5) days after receipt of the customer service change request.

2. Customer will be billed or credited the Customer's pro rata share of the balance in the Company's PGA bank, calculated as follows:

(a) Starting from the later of the month of initiation of gas sales service by the Customer, or the date of initiation of the current PGA bank, through the last month of sales service, the Customer's actual therm usage will be multiplied, on a month-by-month basis, by the difference between the Company's actual commodity cost per therm and the Gas Cost component of the Basic Cost of Service Rate adjusted for any PGA and PGA Surcharge that may be in effect from time to time;

(b) The sum of these monthly calculated values equals the Customer's charge or credit due for conversion to service under this pricing plan;

(c) Customer charge or credit will be paid in twelve (12) equal monthly payments, including interest equal to the carrying charge rate applicable to the PGA bank at the time of conversion to service under this pricing plan.

3. If a Customer converts back to a pricing plan for gas sales service while the PGA Surcharge existing at the time of the switch to T-1 service is still in effect, such Surcharge will not be applicable to the Customer's billed usage for the period it remains in effect. However, any future PGA Surcharge that may be put into effect will be applicable to the Customer's billed usage.

TAX CLAUSE

To the charges computed under the above rate, including any adjustments, shall be added the applicable proportionate part of any taxes or governmental impositions which are or may in the future be assessed on the basis of gross revenues of the Company.

RULES AND REGULATIONS

The standard Rules and Regulations of the Company as on file from time to time with the Arizona Corporation Commission shall apply where not inconsistent with this pricing plan.

CONDITIONS

1. Transportation of Customer-owned natural gas hereunder shall be limited to natural gas of equal or higher quality than natural gas currently available from the Company's supplier(s). All gas delivered by the Company to the Customer shall be deemed to be the same quality as that gas received by the Company for transportation.

2. With respect to the Company's capacity to deliver gas at any particular time, the curtailment priority of any Customer served under this pricing plan shall be the same as the curtailment priority established for other Customers served pursuant to the Company's pricing plan which would otherwise be available to such Customer.

EXHIBIT

GAS-4

AVAILABILITY

This pricing plan is only available to any qualifying Customer for transportation of natural gas by the Company from dedicated interconnects between the Company and upstream pipelines (herein called Receipt Point) to the Delivery Point(s) on the Company's transmission system throughout its certificated Arizona Gas Service Area under the following conditions:

1. The Company has or will have available capacity to render the requested service utilizing facilities dedicated to the requirements of the Customer, except as provided under Facility Additions ~~by Section 8~~ hereof;

2. The Customer has demonstrated to the Company's satisfaction the assurance of natural gas supplies and third-party transportation agreements with quantities and for a term compatible with the service being requested from the Company;

3. The Customer and the Company have executed a Transportation Agreement, and the Customer is to be the End-User;

4. The Customer's requirement for gas to be transported is greater than 1,000 therms per day or 120,000 therms per year; and

5. The Customer is not taking service through dedicated facilities under the provisions of a special contract approved by the Arizona Corporation Commission ("ACC").

6. The Customer is classified as a utility that produces electricity.

APPLICABILITY

This pricing plan shall apply to gas transported by the Company for Customer pursuant to the executed service agreement.

1. The basic transportation service rendered under this pricing plan shall consist of:

   (a) The receipt by the Company for the account of the Customer of the Customer's gas at the Receipt Point;

   (b) The transportation of gas through the Company's gas system for the account of the Customer; and

   (c) The delivery of gas after transportation by the Company for the account of the Customer at the Delivery Point(s).

2. Transportation: Service is firm and uninterrupted except for the following:

   (a) Curtailment in accordance with the Company's curtailment priority procedures;

   (b) When the Company determines it has insufficient capacity on its system or from its upstream pipeline; or

(c) Customer's gas supply to the Company is insufficient to meet its requirement.

3. Any Customer served under this pricing plan is ineligible to obtain sales service without executing a special contract approved by the ACC.

RATES

A monthly net bill at the following rates plus any adjustments incorporated in this pricing plan:

Customer Charge per month: $105~~0~~.00 per meter

Volume Charge: An amount equal to the applicable unit transportation rate for each therm of Customer-secured gas metered and delivered to the Customer. The unit rates shall be as set forth in the currently effective Pricing Plan Summary. The volume charge will consist of the following:

(a) An amount to fund the Company's low income rate program equal to the portion of the applicable unit sales margin for each therm included in rates as set forth in the Customer's otherwise applicable sales pricing plan for each meter.

(b) An amount to reflect lost and unaccounted for gas as determined by the differential between the gas cost on a sales basis and gas cost on a purchase basis determined in the development of the currently effective Purchased Gas Adjustment ("PGA"), Rate Rider No. RR-1. The Company at its sole option may allow lost and unaccounted for gas to be paid in kind.

(c) Any applicable imbalance charges as specified in Payment For Excess Quantities ~~Section 7~~ of this pricing plan.

(d) Any charges from upstream pipeline transporters or suppliers which have been incurred by the Company in excess of those specified in section (c) above and are deemed by the Company to be applicable to the transportation service rendered for the Customer under this pricing plan.

Reservation Charge: An annual charge to be billed in twelve (12) equal monthly installments equal to the fully allocated costs to provide the dedicated facilities necessary to serve the Customer as described more fully in Rates of this pricing plan~~Section 3.2 below~~.

Determined on the basis of a fully allocated cost study filed with and approved by the ACC in the context of a general rate case except when the request for service is non-coincident with a rate filing. In the latter case, the Reservation Charge will be computed by the Company including the following elements:

(a) Return and income taxes at the rate of return approved by the ACC in the Company's last general rate case computed on the basis of the installed costs of the dedicated facilities plus an allocation of other rate base items including, as appropriate: intangible, general and common plant investment, less any applicable accumulated depreciation and deferred taxes, an allowance for working capital and materials and supplies;

(b) Operations expense including all operating and maintenance expenses, depreciation and amortization expense, taxes other than income related to the dedicated facilities and allocated rate base;

(c) Allocated indirect expense including an appropriate portion of customer accounting, sales and information, and administrative and general expenses; and

(d) Any other allocated costs incurred either directly or indirectly to provide the requested service.

Special Surcharge: An annual charge to be computed on the basis of the twelve (12) months ending September of the prior year and billed beginning in January in equal monthly installments, computed as the sum of the following charges:

(a) The revenue requirements for any additional investments required to provide the service requested by Customer subsequent to the establishment of the currently effective Reservation Charge,

(b) Any non-recurring operating and maintenance expenses associated with the facilities dedicated to the Customer in the previous year, and

(c) Any extraordinary expenses incurred by the Company on behalf of the Customer not included in (a) or (b) above.

Minimum Charge: The minimum charge will be the sum of the Basic Customer Charge per Month, the monthly Reservation Charge and any monthly Special Surcharge.

ADMINISTRATIVE PROCEDURES

1. Processing Requests for Transportation Service: Requests for transportation hereunder shall be made by, and shall be deemed to be complete upon, the Customer providing the following information to the Company:

(a) Gas Quantities: The Maximum Daily Quantity applicable to the receipt point and the Maximum Daily Quantity applicable to each delivery point, and estimated total quantities to be received and transported monthly over the delivery period should be stated individually in therms for each receipt point.

(b) Delivery Point(s): Point(s) of delivery by the Company to the Customer.

(c) Term of Service:
  i. Date service requested to commence;
  ii. Date service requested to terminate, if known; and
  iii. Minimum term for transportation service shall be twelve (12) months.

(d) Performance: A statement from the Customer certifying that the Customer has or will have title to the gas to be delivered to the Company for transportation and has entered into or will enter into those arrangements necessary to assure all upstream transportation will be in place prior to the commencement of service under a Transportation Agreement. The Customer's Agent, if any, must be named.

Upon receipt of all of the information specified above, the Company shall prepare and tender to the Customer for execution a Transportation Agreement. If the Customer fails to execute the Transportation Agreement within thirty (30) days of the date tendered, the Customer's request shall be deemed null and void.

2. Construction Requirements: In the event that the Customer's request for service requires the construction of additional transmission facilities not otherwise addressed in section Payment For Excess Quantities herof, ~~Section 7,~~ Extension of Lines, in the Company's current Rules and Regulations, the following additional provisions may apply:

(a) The Company may request an advance for engineering and design services based on the Company's estimate of the anticipated costs related to the requested dedicated facilities;

(b) Any advance for engineering and design will be refunded to the Customer on commencement of service;

(c) Actual engineering and design costs will be included in the dedicated facilities' costs and recovered as a part of the Reservation Charge;

(d) If the dedicated facilities are not placed in service for any reason, the Company may retain the advance;

(e) Prior to the initiation of construction of the dedicated facilities, the Company will provide an estimate of the total costs and resulting annual costs to Customer;

(f) The Company shall not be liable for any differences between actual construction costs and estimated costs;

(g) Customer may withdraw the request for service prior to initiation of construction; and

(h) The Customer may request that construction cease prior to completion. However, if the dedicated facilities are not completed or placed in service, the Customer is liable for service under the terms of this pricing plan as if the facilities had been completed, based on the total construction costs expended on behalf of the Customer.

OPERATING PROCEDURES

1. Nominating and Scheduling of Gas Receipts and Deliveries: The Customer shall be responsible for contacting the upstream pipelines to arrange for the nominating and scheduling of receipts and deliveries hereunder, provided, that the Customer may designate one (1) other party to serve as his agent for such purpose.

   The Customer or Customer's Agent shall be responsible for submitting nominations to the upstream pipeline and notifying the Company's designated representative in writing no later than one (1) hour prior to the upstream pipeline's nomination deadlines set forth in their FERC approved tariff. Such communication shall occur prior to the first of the month and within the month if there are changes to the nominations. The Customer is responsible for confirming the timely receipt of this information by the Company. The Company will confirm whether it has sufficient operational capacity to deliver all or a portion of the Customer's gas.

2. Operating Information and Estimates: Upon request of the Company, the Customer shall from time to time submit its best estimates of the daily, monthly and annual volumes of gas to be transported; including peak day requirements, together with such other operating data as the Company may require in order to schedule its operations.

3. The Company may require large Customers whose contractually allowed maximum daily quantity exceeds 10,000 therms per day, whose usage is not predictable based on weather, and whose ratio of high to low daily usage exceeds ten (10) to inform the Company within 2 hours of any initiation or termination of gas usage exceeding an hourly rate of 1,000 therms per hour.

4. Quantities: All quantities referred to under Operating Procedures ~~in Section 6~~ shall be provided as dekatherms ("DTH") (one million British Thermal Units).

5. Deliverability: The Company shall not be liable for its failure to deliver gas when such failure is due to unavailability of gas supply or interruption of third party transportation services.

6. Other Operating Procedures: The Company may require additional information or enforce other operating procedures as deemed necessary in the Company's sole judgment, in order to coordinate gas volumes and the movement of gas through the upstream pipeline system to the Company's Arizona Gas Service Area. These additional operating procedures may be enforced upon verbal notice to each Customer or the Customer's Agent with twenty-four (24) hour notice of implementation.

7. ~~(f)~~ Balancing: Balancing of thermally equivalent volumes of gas received and delivered shall be achieved as nearly as feasible on a daily basis, taking into account the Customer's right, subject to prior Company approval, to

vary receipts and deliveries across the Company Distribution System. Customer monthly imbalances are defined as the difference between the Customer's total monthly metered quantities and the Customer's total scheduled transportation quantity. Customers are provided a monthly operating window, under which the Customer's cumulative imbalances must be within plus or minus 5 percent (+/- 5%) of the month's total of daily scheduled transportation quantities, plus any Company-approved imbalance adjustment quantity, or 1,5000~~,000~~ *therms*, whichever is greater. Imbalances established in excess of the applicable monthly operating window will be subject to imbalance charges as specified under Payment For Excess Quantities~~in Section 7~~ of this pricing plan. However, if the Customer has an imbalance outside this limit and contacts the Company before the end of the last business day of the month, the Customer will have a "cure period" of an additional 30 days to bring its imbalance within the limits before any imbalance charges specified under Payment For Excess Quantities ~~in Section 7~~ are applied. Customer is then ineligible for a "cure period" for the following month. If in the Company's sole good faith judgment and operating conditions permit, the Company will increase the monthly operating window. Any imbalance (plus or minus) carried forward shall be considered first through the meter during the next daily or monthly period, as applicable.

8. Upon Customer request, the Company will permit electronic read-only access to the telemetering facilities described under Facility Additions ~~in Section 8~~ or provide daily meter reads each calendar day.

9. ~~(g)~~ Adjustments: Periodically, volume adjustments may be made by the upstream pipelines or the Customer's agent. Therefore, actual daily volumes invoiced will be compared with daily nominated volumes. Should adjustments to the nominated volumes become necessary, such adjustments will be applied to the nomination for the month in which the volumes were delivered to the Customer for the purposes of determining the applicability of the provisions of this pricing plan.

10. ~~(h)~~ Customer Default: The Company shall not be required to perform or continue service on behalf of any Customer that fails to comply with the terms contained in this pricing plan and the terms of the Customer's Transportation Service Agreement with the Company. The Company shall have the right to waive any one or more specific defaults by any Customer under any provision of this pricing plan or the service agreement, provided, however, that no such waiver shall operate or be construed as a waiver of any other existing or future default or defaults, whether of a like or different character.

11. ~~(i)~~ Operational Curtailment: The Company reserves the right to impose, at any time, any reasonable operating conditions upon the transportation of the Customer's gas which the Company, in its sole good faith judgment, deems necessary to maintain safe and efficient operation of its distribution system, or to make the operating terms and conditions of service hereunder compatible with those of its upstream pipelines. Under such circumstances, the following conditions shall apply:

~~(a)~~12. Any Customer that does not comply with a notice of operational curtailment shall be subject to, in addition to any otherwise applicable charges, a penalty of $10.00 per DTH for all unauthorized quantities during the curtailment period.

~~(b)~~13. The Company shall endeavor to provide notice of such operational curtailment forty-eight (48) hours prior to the commencement of the delivery of gas.

~~(c)~~14. Notwithstanding condition (b), the Company may impose an operational curtailment on the current gas day. In the event an operational curtailment is imposed on the current gas day, a minimum one-hour grace period will be allowed before penalties begin to apply.

PAYMENT FOR EXCESS QUANTITIES

1. Customers will be assessed imbalance charges if an imbalance exists in excess of the applicable monthly operating window under the conditions set forth under Balacing described as part of Operating Procedures ~~in Section 6.6~~ herein. The portion of any imbalance quantity established by a Customer in excess of the applicable monthly operating window is defined as an excess imbalance quantity. The imbalance charge will be based on the Company's short term purchases, where short term purchases are defined as gas for which the price is determined in the calendar month of use. In addition to the charges payable under this pricing plan, any monthly excess quantity shall be billed as follows:

(a) Positive Excess Imbalance

A positive excess imbalance exists when the Customer's scheduled transportation quantity exceeds the Customer's metered quantity by more than the applicable monthly operating window. The excess imbalance shall be retained by the Company and eliminated after the Customer's bill is credited as follows:

(i) The price of the positive imbalance gas for the applicable month shall be calculated as the weighted average cost per therm of the Company's least expensive short term purchases (including all upstream pipeline fuel and variable costs) for the aggregate positive imbalance volume associated with all T-2 customers. This weighted average cost per therm will be multiplied by the Customer's positive imbalance volume and the percentage associated with the Customer's "Percentage Excess Imbalance" in the "Positive" column in Table 1 below.

(b) Negative Excess Imbalance

A negative excess imbalance exists when the sum of the Customer's scheduled transportation quantity is less than the metered quantity by more than the applicable monthly operating window. The excess imbalance shall be eliminated after the Customer is billed as follows:

(i) The price of the negative imbalance gas for the applicable month shall be calculated as the weighted average cost per therm of the Company's most expensive short term purchases (including all upstream pipeline fuel, variable and capacity costs, at a 100% load factor) for the aggregate negative imbalance volume associated with all T-2 customers. This weighted average cost per therm will be multiplied by the Customer's negative imbalance volume and the percentage associated with the Customer's "Percentage Excess Imbalance" in the "Negative" column in Table 1 below.

Table 1

Percentage Excess Imbalance	Positive	Negative
Equal to or less than 5%	100%	100%
Over 5% and less than or equal to 15%	90%	110%
Over 15% and less than or equal to 20%	80%	120%
Over 20% and less than or equal to 30%	70%	130%
Over 30%	60%	140%

2. Should the Customer cease to utilize transportation service under this pricing plan, the entire remaining imbalance shall be settled pursuant to section Payment For Excess Quantities herein. For purposes of this settlement, no operating window applies.

3. Under no circumstances shall the section Payment For Excess Quantities above be considered as giving the Customer any right to take excess quantity gas, other than as provided in Operating Procedures hereof, nor shall the section Payment For Excess Quantities or payment thereunder be considered as a substitute for any other remedy available to the Company against the offending Customer for failure to respect its obligation to stay within its authorized quantities.

FACILITY ADDITIONS

Any facilities which must be installed by the Company to serve the Customer will be constructed in accordance with the Rules of Service as approved from time to time by the ACC. Telemetering facilities on each meter will be installed at the Customer's expense. Customers requiring telemetering facilities shall provide, at the Customer's expense, a dedicated telephone line for the Company's use in communicating with the telemetering facilities and will pay any and all costs associated with that phone line. Further, any existing special surcharges or minimum bill provisions designed to recover the cost of facilities for any Customer shall remain in effect and may serve to increase maximum allowable transportation rate levels pursuant to this pricing plan.

THIRD PARTY CHARGES

The Customer shall reimburse the Company for any charges rendered or billed to the Company by its upstream pipelines and by any other upstream transporter and gas gatherers, either before or after termination of the Transportation Agreement, which the Company, in its sole good faith judgment, determines have been incurred because of the transportation of Customer's gas hereunder and should, therefore, appropriately be borne by the Customer. Such charges, whether levied in dollars or gas, may include, but shall not be limited to, standby charges or reservation fees, prepayments, applicable taxes, applicable fuel reimbursement, shrinkage, lost and unaccounted for volumes, Gas Research Institute surcharges, penalty charges, and filing fees.

The Customer will reimburse the Company for all such charges incurred by the Company as rendered, irrespective of the actual quantities of natural gas delivered to the Customer.

CONDITIONS FOR CONVERTING TO T-2 SERVICE

Any qualified Customer converting from gas sales service to service under this pricing plan is subject to the following conditions and requirements:

1. T-2 service will commence at the beginning of the first calendar month following the end of five (5) days after receipt of the customer service change request or completion of any required facilities, whichever is later.

2. Customer will be billed or credited the Customer's pro rata share of the balance in the PGA bank accumulated while served under the Company's sales pricing plan, calculated as follows:

   (a) Starting from the later of the month of initiation of gas sales service by the Customer, or the date of initiation of the current PGA bank, through the Customer's last month of sales service, the Customer's actual therm usage will be multiplied, on a month-by-month basis, by the difference between the Company's actual commodity cost per therm and the Gas Cost component of the Base Cost of Service Rate adjusted for any PGA and PGA Surcharge that may be in effect from time-to-time;

   (b) The sum of these monthly calculated values equals the Customer's charge or credit due for conversion to service under this pricing plan;

   (c) Customer charge or credit will be paid in twelve (12) equal monthly payments, including interest equal to the carrying charge rate applicable to the PGA bank at the time of conversion to service under this pricing plan.

TAX CLAUSE

To the charges computed under the above rate, including any adjustments, shall be added the applicable proportionate part of any taxes or governmental impositions which are or may in the future be assessed on the basis of gross revenues of the Company.

RULES AND REGULATIONS

The standard Rules and Regulations of the Company as on file from time to time with the Arizona Corporation Commission shall apply where not inconsistent with this pricing plan.

CONDITIONS

1. Transportation of Customer owned natural gas hereunder shall be limited to natural gas of equal or higher quality than natural gas currently available from the Company's supplier(s). All gas delivered by the Company to the Customer shall be deemed to be the same quality as that gas received by the Company for transportation.

2. With respect to the Company's capacity to deliver gas at any particular time, the curtailment priority of any Customer served under this pricing plan shall be the same as the curtailment priority established for other Customers served pursuant to the Company's pricing plan, which would otherwise be applicable to such Customer.

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BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS
MIKE GLEASON - CHAIRMAN
WILLIAM A. MUNDELL
JEFF HATCH-MILLER
KRISTIN K. MAYES
GARY PIERCE

IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS GAS, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.	DOCKET NO. G-04204A-08-0571

Direct Testimony of

David G. Hutchens

on Behalf of

UNS Gas, Inc.

November 7, 2008

hook-up fees in this rate case filing. Mr. Smith discusses the Company's proposals for increased contributions in greater detail in his Direct Testimony.

IX. DEMAND-SIDE MANAGEMENT AND LOW-INCOME PROGRAMS.

Q. Mr. Hutchens, has UNS Gas reevaluated its Demand-Side Management programs?

A. Yes. Ms. Denise Smith's Direct Testimony provides an overview of each UNS Gas Demand-Side Management ("DSM") program, including a status update on each program, and potential new DSM program additions that UNS Gas is reviewing for possible future implementation.

Q. Mr. Hutchens, is UNS Gas proposing to maintain its Customer Assistance Residential Energy Support ("CARES") program?

A. Yes, the Company is proposing to maintain the same basic monthly charge for CARES customers at $7, and the same non-commodity volumetric charge at $0.1770 per therm for the first 100 therms per month in the billing months of November to April. For all therms sold in excess of the initial 100 therms per month, the price is $0.3270 per therm. These charges cover non-commodity costs. The CARES customer charge has not increased since our acquisition of the Citizens system.

Q. Is UNS Gas proposing to expand its low-income assistance programs?

A. Yes. The Company is proposing to hold meetings of interested stakeholders to discuss modifications to the CARES program that could limit increases in gas commodity costs borne by these customers. If consensus can be reached, the Company will file testimony in support of the changes. The Company proposes that the CARES stakeholder group discuss expanding assistance beyond the 150% of poverty threshold applicable to CARES. Mr. Erdwurm provides greater detail on these topics in his testimony.

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BEFORE THE ARIZONA CORPORATION COMMISSION

IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS GAS, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.	DOCKET NO. G-04204A-08-0571 EVIDENTIARY HEARING

At: Phoenix, Arizona

Date: August 14, 2009

Filed: August 21, 2009

REPORTER'S TRANSCRIPT OF PROCEEDINGS

VOLUME IV

(Pages 534 through 732, inclusive)

ARIZONA REPORTING SERVICE, INC.
Court Reporting
Suite 502
2200 North Central Avenue
Phoenix, Arizona 85004-1481

Prepared for:

By: Kate E. Baumgarth, RPR
Certified Reporter
Certificate No. 50582

enrolled?

A. No, I don't have that with me. I know that I can push that question off to Mr. Erdwurm.

Q. Okay. Another question I have is that it's my understanding the company is not supportive, nor is Staff supportive of modifying or holding low income harmless from the PGA in order to avoid the 19 percent increase.

Is there another option that the company has considered for how to protect that rate class?

A. Well, let me just discuss the PGA again. The PGA can go up and it can go down. If you locked in low income customers today, I think they would miss out on the benefit of dropping commodity costs going forward.

So I think the mechanism is there to operate, hopefully in small, smooth changes to the bill, given the other changes that we've made in the CARES program, or I should say changes we didn't make. We have kept the customer charge the same, we've kept the discount, and we've kept the base delivery charge the same.

First off, I don't think it would necessarily always be in the interest of our customers, depending on the point in time, of the CARES customers, to not be subject to that PGA charge, credit, whatever. And secondly, I think given the other changes that we've made or didn't make to CARES, that it wouldn't be warranted at this time.

Q. So you believe that there's -- the net effect, then, for a low income customer would be a beneficial effect over time?

A. It would be -- I don't know if it would be a net beneficial. It depends on what gas prices do. If we look at today and it's what the PGA cost is today, if it continues to drop over time, it's beneficial to the CARES customers. But, of course, none of us can guarantee that or even come close to predicting it. But my estimate today is that I think it would probably not be the time for CARES customers to jump over to a fixed rate.

Q. So are there other ways that the company has considered holding the low income harmless from any of those possible rate increases through the PGA?

A. I don't know to what details Mr. Erdwurm and others have looked at related to that, relating to those plans. I know that typically, though, we do not pass through PGA surcharges to the low income customers. We've typically held those customers harmless in that regard.

Q. You have added a program in the Warm Spirits, or a component in the Warm Spirits program that's going to allow customers to round up their bill in order to contribute to that program, the Warm Spirits program.

Do you have an idea of what kind of revenue will

Q. The first request is -- and I'm referring on page 2 to Ms. Zwick's direct testimony -- first request is that Commission hold low-income customer harmless in the rate case, both in the CARES program and within the purchased gas adjustor.

A. We have -- in response to that we have held the low-income customers harmless in this rate case for the CARES program, but the PGA, as we discussed on Monday, that -- they are still subject to that PGA, which also in prior discussions we talked about how that was dropping over this next foreseeable time here. And so we didn't think that that was an impact or an appropriate thing to bring the CARES customer out from that PGA mechanism.

Q. Okay. No. 2, a request to modify the CARES Warm Spirits and weatherization program language to track the federal LIHEAP and weatherization eligibility language.

A. We have changed that to some extent. We did offer to -- as we talked about again on Monday, we talked about how the company is already doing some auto enrollment from customers that come to us from those agencies already. So we have sort of a de facto, at least partial -- we partially satisfy that request.

Q. No. 3, to increase the company's outreach and enrollment efforts in the low-income discount program, which would include the requirement that the company

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Direct Testimony of

Gary A. Smith

on Behalf of

UNS Gas, Inc.

November 7, 2008

the contribution amount when paying their monthly bill.[1] UNS GAS proposes to add a 'round-up' option for customers. Customers signing up for the 'round-up' option would see their monthly bill rounded up to the next even dollar. The difference between their billed amount for actual usage and the next even dollar would be their contribution to the Warm Spirits Program. In addition, the Company will continue to match aggregate customer contributions up to $25,000 annually.

There have also been changes to the way UNS Gas is administering the program. UNS Gas is working with the Arizona Community Action Association ("ACAA") to assist in distributing the contributions. The total amount of Warm Spirit Contributions is dispersed to the ACAA on a quarterly basis. As an independent agency, the ACAA identifies the eligible assistance agencies, determines which agencies should receive funding, and ultimately disperses the specific amounts to be given to individual agencies. The ACAA then distributes those funds to the respective assistance agencies within the same community from which the contributions were received. This process ensures that UNS Gas customers' contributions remain in the community to help their less fortunate neighbors.

Q. How does the Warm Spirits program assist low-income customers?

A. As previously mentioned, the assistance agencies receiving the Warm Spirits funds determine how the funds are distributed to our customers. These agencies provide the necessary funds to avoid non-pay disconnection of service and will also assist customers by providing the required funds for connection or re-connection of service.

[1] UNS Gas had already complied with the requirement from Decision No. 70011 before the Decision was approved.

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BEFORE THE ARIZONA CORPORATION COMMISSION

<u>**COMMISSIONERS**</u>
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IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS GAS, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.	DOCKET NO. G-04204A-08-0571

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IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS GAS, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.

DOCKET NO. G-04204A-08-0571

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REPORTER'S TRANSCRIPT OF PROCEEDINGS

VOLUME I
(Pages 1 through 238)

ARIZONA REPORTING SERVICE, INC.
Court Reporting
Suite 502
2200 North Central Avenue
Phoenix, Arizona 85004-1481

By: MICHELE E. BALMER
Certified Reporter
Certificate No. 50489

Prepared for:

And finally, I'm asking that the company cease the use of payday lenders as points of customer payment. And again, I have been told this morning that perhaps there's been a change in that process anyway, so that may be moot at this point. But nevertheless, it is part of my testimony and I do request that it cease.

And so that ultimately is what I'm asking. That right now there are more and more families that are seeking assistance, there are more and more families who are unable to pay their bills, and I would ask that you consider their predicament as this case goes forward. Thank you.

ACALJ NODES: Thank you.

Ms. Mitchell.

MS. MITCHELL: Thank you, Judge Nodes. Good morning, Madame Chair, Commissioners.

First, I would like to echo the comments that RUCO made during the prehearing conference and thank the company for putting together the joint matrix of issues. It was very helpful to Staff.

UNS filed an application -- UNS Gas filed an application for new rates on November 7, 2008, almost one year after receiving new rates as ordered in Decision No. 70011. UNS Gas is seeking an increase in its base rates of approximately $9.5 million, a 6 percent increase

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VOLUME IV

(Pages 534 through 732, inclusive)

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Prepared for:

By: Kate E. Baumgarth, RPR
Certified Reporter
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automatically enroll LIHEAP and weatherization-eligible customers in the CARES discount program.

A. That is what we are doing. That is what I just previously discussed.

Q. No. 4, exempt CARES customers from rules, regulations, Section No. 3, Establishment of Service B, deposits.

A. That was the conversation we just had, and that we have not met her request there.

Q. And I think you will say no to this next one, but I will ask it anyway.

No. 5, to increase the company's support of the Warm Spirits and low-income weatherization programs.

A. That is one that we are looking at right now, and I think we will have a -- we will be increasing that. That's a level that we have not yet determined.

Q. And No. 6: To request the Commission to require the company to cease the referral to payday lending institutions.

A. That we have done hopefully to the satisfaction of Ms. Zwick, and we discussed that also on Monday.

We did -- I think one -- one of her issues was the referral on the web site, and to the best of my knowledge we have taken that off.

Q. Okay. That is all I have. Thank you.

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A. No, they did not.
Q. Was there a reason those meetings didn't take place?
A. That I don't know. The way that it was filed, I thought that that was an offer to basically do that as part of this process, not necessarily during it.
Q. Okay. So as a result of that, the issues that have been raised really haven't been resolved from a company perspective, even though there appears to be some interest in some of the low income program modifications?
A. Which specific issues are you referring to?
Q. Well, I'm talking about the increase to 200 percent of poverty and some of those other issues.
A. That one has not been addressed other than the -- well, I think it was discussed in the opening comments, but we have already started auto enrolling people who qualify for LIHEAP dollars into our CARES program. And that is at the 200 percent level, and so we are making those steps towards doing that.
Q. Thank you. And when did that start?
A. I believe it was July. July 1, if I'm not mistaken.
CHMN. MAYES: Ms. Zwick, could I just interject?
So what are you doing with your current customers that are at 150 percent?

THE WITNESS: The 150 percent are still on the self-certified basis. So they are enrolled if they come in and do the self-certification.

CHMN. MAYES: And then anybody new will come -- you are enrolling up to 200 percent for anybody new?

THE WITNESS: We are enrolling people who come in with LIHEAP dollars who have basically been receiving those LIHEAP funds, which goes up to the 200 percent of poverty level. But those people are qualified through the government for LIHEAP versus the 150 percent who are qualified through self-certification.

Q. (BY MS. ZWICK) To follow up on that question, what about the folks that come in through Warm Spirits, who are receiving Warm Spirits assistance at 150? Are they automatically enrolled as well?

A. I'm not sure if they are automatically enrolled, but I'll get you an answer to that.

MS. ZWICK: Sorry, Commissioner Mayes. I didn't mean to interrupt.

CHMN. MAYES: No.

Q. (BY MS. ZWICK) Mr. Hutchens, do you know how many UNS customers are currently enrolled in your CARES program?

A. I don't think I have that number.

Q. Or what percentage of your customer base is

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Q. The first request is -- and I'm referring on page 2 to Ms. Zwick's direct testimony -- first request is that Commission hold low-income customer harmless in the rate case, both in the CARES program and within the purchased gas adjustor.

A. We have -- in response to that we have held the low-income customers harmless in this rate case for the CARES program, but the PGA, as we discussed on Monday, that -- they are still subject to that PGA, which also in prior discussions we talked about how that was dropping over this next foreseeable time here. And so we didn't think that that was an impact or an appropriate thing to bring the CARES customer out from that PGA mechanism.

Q. Okay. No. 2, a request to modify the CARES Warm Spirits and weatherization program language to track the federal LIHEAP and weatherization eligibility language.

A. We have changed that to some extent. We did offer to -- as we talked about again on Monday, we talked about how the company is already doing some auto enrollment from customers that come to us from those agencies already. So we have sort of a de facto, at least partial -- we partially satisfy that request.

Q. No. 3, to increase the company's outreach and enrollment efforts in the low-income discount program, which would include the requirement that the company automatically enroll LIHEAP and weatherization-eligible customers in the CARES discount program.

A. That is what we are doing. That is what I just previously discussed.

Q. No. 4, exempt CARES customers from rules, regulations, Section No. 3, Establishment of Service B, deposits.

A. That was the conversation we just had, and that we have not met her request there.

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exact historical funding levels are. You know, it's something that we can consider, but at this point we weren't offering that up.

CHMN. MAYES: Well, Mr. Hutchens, given the exponential increase in the number of people who have applied for aid and who are, you know, newly homeless, newly unemployed, newly foreclosed on, wouldn't it make sense as a good corporate citizen in these communities for the company to increase its commitment to Warm Spirits? I mean, my goodness, we're only talking about $6,000.

THE WITNESS: Yeah, on the face of that -- once I get the numbers, I'll have a better answer for you.

CHMN. MAYES: Why don't we compare that $6,000 to UniSource's last dividend. We can do that a little later on.

THE WITNESS: I don't think, actually, UNS Gas has made any dividends.

CHMN. MAYES: UniSource, I said.

THE WITNESS: Oh, yeah.

Q. (BY MS. ZWICK) Mr. Hutchens, one other question, and that is that the current regulation that I referred to in my opening statement about when customers are disconnected, particularly CARES customers or low income customers, or they're delinquent in their account for a couple of months, there's a deposit that gets assessed on top of delinquent fees and on top of a customer's responsibility who's already unable to pay their bill.

Has there been any consideration or is there a reason why the company continues to assess additional costs? It seems counterintuitive on some level.

A. It does on its face, but remember that we're the stewards of our entire customer base. And that if we -- let me back up and just cover one thing.

A deposit is not necessarily required from all customers, no matter what their rate levels or programs are that they qualify for. That's based on a customer's credit history and payment history. So as long as those customers meet those requirements, you know, there may not be any deposit.

But I think as stewards of our entire customer base's dollars, it would be imprudent for us to not require deposits from people who have credit issues. And I think if you waived that requirement, I don't think that sounds fair to the other customers. I think we would get questions from the ones who are then picking up the tabs of, well, how are you determining what kind of credit or deposits are being considered? So that's just the overview of the credit issue and deposit issue.

Q. Even sort of the mid-term assessments of deposits, though? I'm not talking about new accounts necessarily. I'm talking about established accounts.

A. I believe that an established account, and especially in the case of disconnects, I think that they still get that same look. But obviously, if they were disconnected, I would guess that that has some bearing on their payment history.

Q. So one final question related to that. Do you know what the cost is to disconnect and then reconnect a customer?

A. Off the top of my head, I think we charge $35, I believe, for a reconnection. It's in our rules and regulations, the specific number. I think that falls into the service connection fee.

Q. But the policy, then, also says that you can charge two times the average bill amount to reconnect; is that correct?

A. That I'm not quite sure of. I would have to read through that.

MS. ZWICK: It's in Section 3, No. 5, if you want to take a look.

Those are all of the questions that I have.

ACALJ NODES: All right. Commissioner Pierce, and then Chairman Mayes.

COM. PIERCE: Sure. There's a concern I have. And what I would like to know -- and I'm not sure if you

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sign up if they knew about the program?

A. I think that there is -- yeah, I think there is a balance. I think there is more -- maybe there are folks that don't know about it and don't understand it that would sign up for it. I'm not saying that percentage can't go up, but I don't think it's reasonable to tug at 100 percent of eligible customers should be enrolled in the CARES program.

Q. Ms. Zwick also talked about the fairly fruitless practice of assessing the -- I don't know what it is -- two and a half times deposit against people who are in arrears who are low income who are never going to be able to give you two and a half times the deposit or two and a half times their overdue bill. I'm not sure which one it is.

I think you testified that you thought that that was still a good practice.

A. I think it is a burden that we have to look at because we are representing all customers in collecting our bills. Because ones that are not collected and are defaulted on end up going into bad debt and other customers end up paying for it. And I think as --

Q. So you looked at the costs? You have made a cost-benefit analysis between what it costs you to disconnect a customer physically and what it costs you to lose that revenue permanently and you compared that to not collecting -- the idea of not collecting that double deposit and you decided that it's better for the company and your other customers to totally disconnect people?

A. Well, we don't --

Q. And drive them away by assessing that deposit?

A. We go through everything we can possible to keep from disconnecting a customer. I mean, a disconnection is by far --

Q. Talk to me about that.

What specifically do you do?

A. We try to -- well, we will call the customers. We try to make billing arrangements, paying arrangements. We work with the customers as much as we can.

First off, we don't want to send people out. We don't want to cut customers off. Every time you cut a customer off, that is two trips -- well, obviously from the customer's perspective it's time without their gas service. From our perspective it's two trips out: one to turn them off; one to turn them back on. Then there's the bill payment.

It's a hassle, believe me, that nobody wants to do. If we can, we try to make payment arrangements with those customers so we can keep them connected. And part of that is that we are ensuring that we can have payment.

Because having those customers hooked up and then trying to work with them on payments, if it ends up building up a big payment due from them, we don't want to see that and then end up that turning into bad debt that the other customers end up paying for.

Q. All right. Well, I mean, can you be more specific about what will you do to prevent -- before you assess that double deposit?

A. More specific in the actions we take, yeah, I don't know that -- I know that I have seen it before. It's not coming to my memory, but there's a series of steps and time frames that our customer service reps work through before they get to that point of disconnection.

Q. Okay. And have you or have you not figured out what it costs the company to physically disconnect people and what the costs of the company is of those revenue streams going away forever?

A. Well --

Q. Have you ever done an analysis of that?

A. I don't know if we have done a detailed -- we know how much it costs obviously to disconnect them because the rate that is in our rules and regulations -- the one that was even just updated in this case is based on the actual cost of service associated with those types of calls. So we know what that is.

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Direct Testimony of

Gary A. Smith

on Behalf of

UNS Gas, Inc.

November 7, 2008

III. RULES AND REGULATIONS.

Q. Is UNS Gas proposing changes to its Rules and Regulations?

A. Commission Decision No. 70011 (November 27, 2007) approved substantial changes to UNS Gas' Rules and Regulations. In this Application, UNS Gas is proposing a few substantive updates to some of these Rules and Regulations, as well as other tariffs, and is seeking Commission approval of these changes.

Q. Please describe the proposed changes in this rate case.

A. UNS Gas is proposing only a few substantive changes to its Rules and Regulations at this time. I will discuss the following changes in greater detail later in my testimony:

- Section 2 – Add definitions for "Elderly", "Excess Flow Valve", "Service Transfer", "Special Call Out" and "Trip Charge". Delete the definitions of "Senior Citizen" and "Working Hours". Clarify the definition of "Service Reconnection Charge";
- Section 3 - Clarify the applicability of service establishment, reestablishment and reconnection charges, as well as the charges for service transfers and multiple attempts to connect;
- Section 6 - Increase the charge for service line establishments from $16.00 per foot to $22.50 per foot. For those customers who perform the trenching work, the charge for service line establishments will increase from $12.00 per foot to $16.50 per foot;
- Section 8 - Delete the "Table of Atmospheric Pressure Bases" by geographical zone descriptions in favor of a more simplified version that shows the atmospheric pressure bases within specific elevation ranges; and
- Section 17 - Add the Statement of Additional Charges to the end of the Rules and Regulations.

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These charges were in Pricing Plan MISC-1 before, which only listed them but gave no explanation for the charges. By adding the Statement of Additional Charges to the Rules and Regulations, the Company and the Customer have the explanation for the charges as well as the charges themselves listed in one place.

Q. Please describe the proposed charges listed in Section 17 of the Statement of Additional Charges.

A. UNS Gas is proposing the following fees, which have increased due to the rising costs for these particular services:

• Service Transfer	\$20.00
• Collection Fee	\$20.00
• Customer-Requested Meter Reread	\$20.00
• Multiple Attempts to Connect	\$20.00
• Service Establishment, Re-establishment or Reconnection	
During Regular Business Hours	\$35.00
After Normal Business Hours (same day request scheduled)	\$50.00
• Special Call Out (Minimum one (1) hour)	
After Normal Business Hours - per hour	\$70.00
• Customer Requested Meter Test	\$90.00
• Late Payment Finance Charge	1.5%
• Interest on Customer Deposits	One-year Treasury Constant Maturities rate

Additionally, UNS Gas is proposing to reduce the NSF check charge from \$15.00 to \$10.00.

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Direct Testimony of

Kentton C. Grant

on Behalf of

UNS Gas, Inc.

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recovered position, is the 3-month Financial Commercial Paper rate as published in the Federal Reserve Statistical Release H.15.

Q. Does this rate reflect the actual cost to UNS Gas of financing PGA cost deferrals?

A. No. Under the joint revolving credit facility shared with UNS Electric, UNS Gas may borrow at a rate of LIBOR plus 1.0%. This rate is typically much higher than the interest rate on commercial paper issued by large creditworthy financial institutions. As may be seen in Exhibit KCG-13, financial commercial paper rates and LIBOR tracked very closely to one another through mid-2007. However, since that time, rates on 3-month LIBOR borrowings have been significantly more expensive than rates on 3-month financial commercial paper. When the additional 1.0% credit margin is added to LIBOR to reflect the cost of short-term borrowing to UNS Gas, it is readily apparent that the financial commercial paper rate is not adequate in terms of providing full cost recovery to UNS Gas.

Q. What carrying cost do you recommend be applied to the Company's PGA balances?

A. I recommend use of the 3-month LIBOR rate as published by the Federal Reserve, plus 1.0% to cover the additional margin that UNS Gas must pay for short-term borrowings.

Q. Is the Company recommending any other modification to the PGA mechanism adopted by the Commission in Decision No. 70011?

A. No.

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Rebuttal Testimony of

Kentton C. Grant

on Behalf of

UNS Gas, Inc.

July 8, 2009

Q. Will the Company have an opportunity to actually earn the 12.58% ROE that Mr. Smith has recommended?

A. No. As described earlier in my testimony, at best the Company can expect to earn a ROE of only 10.1%. This assumes that the Company's requested rate increase is granted in its entirety.

Q. Do you have any other comments regarding the ROR on FVRB that Mr. Smith is recommending?

A. My only remaining comment is that the ROR values obtained from each of his calculation methodologies are based, at least in part, on the unreasonably low cost of equity estimate recommended by RUCO witness William Rigsby. As such, all of the ROR values and associated revenue requirements "evaluated" by Mr. Smith are much too low, irrespective of which methodology is ultimately approved by the Commission.

V. CARRYING COST ON PURCHASED GAS ADJUSTOR BALANCE.

A. Rebuttal of Staff Witness Robert G. Gray.

Q. Mr. Grant, what comments do you have in response to the Direct Testimony filed by Staff witness Robert Gray?

A. My comments are focused only on the interest rate to be applied to balances of under- and over-recovered gas costs under the Company's PGA. Due in part to the lack of readily available published data showing the monthly average for 3-month LIBOR, Mr. Gray has expressed a preference for continued use of the rate on 3-month financial commercial paper published by the Federal Reserve. Although the Company's preference would be to use the 3-month LIBOR rate plus 1.0% to reflect the cost of short-term borrowing for UNS Gas, the Company would also be willing to use the financial commercial paper rate favored by Mr. Gray plus a 1.0% credit spread. Although 3-month LIBOR has typically been somewhat higher than the rate on 3-month financial commercial paper, this rate differential is typically not very large. Exhibit KCG-16 shows the recent rates for each of these interest rate series, along with the above-referenced cost of short-term borrowing to UNS Gas.

Q. In his Direct Testimony Mr. Gray commented that, contrary to a statement in your Direct Testimony, the Federal Reserve does not publish rates for 3-month LIBOR. Is Mr. Gray's comment correct?

A. Yes. Unfortunately, the statement on page 33 of my Direct Testimony, lines 17-18, should have referred to LIBOR rates published by the British Bankers Association ("BBA") and by the Wall Street Journal, and not the Federal Reserve. And since the BBA data is only published free of charge on a lagged historical basis, the Wall Street Journal would probably be the best source of timely data for 3-month LIBOR rates. If this benchmark rate is ultimately used in the calculation of the PGA interest rate, UNS Gas would be willing to compile the daily rates for 3-month LIBOR and submit them for review by Staff, along with a simple calculation of the monthly average rate and documentation showing that UNS Gas is still subject to a 1.0% credit spread on its revolving credit facility. As mentioned above, however, UNS Gas would also be willing to use the 3-month financial commercial paper rate currently being used, plus the 1.0% credit margin applicable to borrowings under the UNS Gas credit facility.

Q. Do you have any more comments on Mr. Gray's Direct Testimony?

A. My only remaining comment is that by requesting a change to the PGA interest rate, the Company is only trying to recover its reasonable costs. Such a minor change to the PGA interest rate should have no impact whatsoever on the gas procurement practices of UNS Gas.

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Rebuttal Testimony of

David G. Hutchens

on Behalf of

UNS Gas, Inc.

July 8, 2009

III. <u>GAS PROCUREMENT ISSUES.</u>

Q. Please provide an overview of the Direct Testimony of Commission Staff Witness Ms. Beale.

A. Ms. Beale conducted a prudency review of the Company's gas procurement operations. Her review encompassed gas procurement activities for the period of January 2006 through June 2008. Ms. Beale also reviewed the UNS Gas decision to terminate its full requirements service arrangement with BP Energy, the Company's purchased gas adjustor ("PGA") bank balances, pipeline capacity planning, and purchasing strategies and policies.

Q. Please summarize Ms. Beale's findings.

A. Ms. Beale found the purchase prices for natural gas to be reasonable and the quantity of pipeline capacity purchased to be prudent. She deemed the decision to terminate the agreement with BP Energy to be rational and identified several benefits to UNS Gas customers. Ms. Beale was able to reconcile over $240 million of PGA costs over the review period to within $10,000. Finally, Ms. Beale found the Company's strategies and policies to be generally reasonable.

Q. Did Ms. Beale offer recommendations in her Direct Testimony?

A. Yes. Ms. Beale made ten recommendations with respect to UNS Gas' procurement practices in her Direct Testimony; I will respond to each of those recommendations.

Q. Please comment on Ms. Beale's first and second recommendations that UNS Gas seek potential counterparties to optimize excess pipeline capacity and its use of Asset Management Agreements.

A. UNS Gas agrees to continue to seek opportunities to extract value from excess pipeline capacity. UNS Gas began using Asset Management Agreements in March of 2009 for

Transwestern pipeline capacity. Instead of executing a long-term Asset Management Agreement, UNS Gas limited the terms of its Agreements to single months so that other counterparties could be approached regarding the optimization of capacity. The result of this limited term was that UNS Gas received another offer in May of 2009 through a new Asset Management Agreement that increased the profit sharing percentage for UNS Gas. To date, Asset Management Agreements have been executed with two different counterparties. In order to increase the potential number of bidders to provide Asset Management Agreements, UNS Gas is developing its own preferred Asset Management Agreement for use in a more expansive request-for-proposal ("RFP") format.

Q. Please comment on Ms. Beale's third recommendation for UNS Gas to include supplemental pipeline commodity imbalance information its monthly PGA report to the Commission.

A. We concur that including the *UNS Gas Core Market/System Supply Imbalance Report* (the "Imbalance Report") may be useful information in reconciling PGA costs reported in the monthly report which UNS Gas files with the Commission. UNS Gas agrees to provide the Imbalance Report as a supporting document to its monthly PGA filing.

Q. What is your response to Ms. Beale's fourth recommendation to conduct gas procurement training to Energy Settlements and Billing personnel?

A. The Energy Settlements personnel have been a part of the BP Energy full requirements process since UniSource Energy Corporation acquired Citizens Utilities Company's ("Citizens") Arizona gas and electric assets. The amount and scope of transactions employed by UNS Gas became more transparent as the responsibility for optimization of UNS Gas' load shifted from BP Energy to internal personnel. Additionally, the particular Energy Settlements employees assigned to UNS Gas have shifted during the past few years. We agree with the recommendation to conduct training for the Energy Settlements department employees on long-term hedging, day-ahead procurement, and pipeline capacity optimization.

Q. What is your response to Ms. Beale's fifth recommendation regarding the consideration of purchasing during traditional hurricane months?

A. We agree that UNS Gas should continue to evaluate gas purchasing opportunities during the traditional hurricane months. The Gas Price Stabilization Policy, while placing a hold on non-discretionary hedging during the months of August through October, does not prohibit discretionary hedging during those times. If it is determined that a hedge should be executed during those months, UNS Gas personnel may execute the hedge after receiving approval from the Risk Management Committee. This approval process is outlined in the Gas Price Stabilization Policy.

Q. What is your response to Ms. Beale's sixth recommendation that UNS Gas document instances when it deviates from its monthly forward hedge transaction plan?

A. We agree with the recommendation for UNS Gas to continue its policy of documenting occurrences of hedge plan deviations. The example given by Ms. Beale citing an instance of deviation from UNS Gas' forward monthly hedge plan was from an execution date of November of 2005. At that time, UNS Gas had already executed the non-discretionary hedges (under the legacy hedging policy from Citizens of three hedge events in January, March, and July) for 2005. The hedge instance in November of 2005 was a discretionary hedge meant only to hedge the balance of the winter season. The request for this discretionary hedge, and the Risk Management Committee approval, were documented as required.

Q. Please comment on Ms. Beale's seventh recommendation for the Gas Price Stabilization Policy to be updated with changes that occurred with the termination of the BP Energy agreement.

A. We concur that the Gas Price Stabilization Policy should be updated as changes resulting from the termination of the BP Energy agreement become evident. While UNS Gas made incremental changes to the Policy at the end of 2008, several operational changes have occurred with the distribution of duties that were still in flux at year-end. The policies are reviewed annually, however, and significant changes, such as the migration away from BP Energy, will produce effects that may require more frequent updates. Moving through the first full 12-month period post BP Energy termination, additional changes may be identified which require policy modifications.

Q. Please comment on Ms. Beale's eighth recommendation for the Gas Price Stabilization Policy to be updated at least annually.

A. We concur with this recommendation. Since adoption of the Gas Price Stabilization Policy, UNS Gas protocol has been to conduct a review of the policy at the end of each calendar year.

Q. Please comment on Ms. Beale's ninth recommendation that all individuals involved in gas procurement sign the Policy acknowledgement form.

A. We agree with the recommendation that all personnel involved in gas procurement sign an Acknowledgement Form. Personnel who will sign the Acknowledgement Form include those employees who perform tasks related to gas scheduling, transportation contracting, risk management and risk control.

Q. Please comment on Ms. Beale's tenth recommendation that there should be a single "owner" of the Gas Price Stabilization Policy.

A. We agree that a single person should be designated to modify the Gas Price Stabilization Policy. This ensures that proper control of updates and modifications is maintained.

IV. <u>EXPLORING ALTERNATIVE PAYMENT METHODS.</u>

Q. Has UNS Gas provided its customers with alternative ways in which to pay their bills, pursuant to Decision No. 70011?

A. Yes. In UNS Gas' last general rate case, concerns were raised about customers paying their gas bills at payday loan centers. As a result, UNS Gas reviewed other options by which its customers would be able to make cash payments. UNS Gas filed information related to "PayScan" with the Commission on February 22, 2008, and indicated that Circle K had been selected as the initial retailer to accept customer payments in Arizona. During the testing phase of the project, however, it was discovered that Circle K lacked the requisite software infrastructure to process payments. As a result, other retailer options were explored, and UNS Gas ultimately came to an agreement with Walmart.

Q. What is the current status of the UNS Gas' / Walmart payment arrangement?

A. This payment option became available to all UNS Gas, as well as Tucson Electric Power Company ("TEP") and UNS Electric, Inc. ("UNS Electric") customers in April of 2009; all Walmart sites in the state of Arizona will accept cash payments. The Company's web site has been updated to reflect this change and bill inserts were used to communicate the new payment option to customers.

UNS Gas has requested that check cashing and/or other outside payment center locations utilize signage, provided by UNS Gas, indicating that these locations will be independently

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS
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BOB STUMP

IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS GAS, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.	DOCKET NO. G-04204A-08-0571

Rejoinder Testimony of

David G. Hutchens

on Behalf of

UNS Gas, Inc.

August 5, 2009

depending on a variety of factors. Such variability is one reason why growth estimates simply are inappropriate for customer annualization calculations.

III. <u>RESPONSE TO SURREBUTTAL TESTIMONY OF RITA BEALE.</u>

Q. Do you agree with the clarifications Ms. Rita Beale provided in her Surrebuttal Testimony regarding her Direct Testimony Recommendations?

A. Yes. Her clarifications fill in the gaps in my understanding of her recommendations and will be implemented by the Company.

Q. *Does this conclude* your Rejoinder Testimony?

A. Yes, it does.

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BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS
MIKE GLEASON – CHAIRMAN
WILLIAM A. MUNDELL
JEFF HATCH-MILLER
KRISTIN K. MAYES
GARY PIERCE

IN THE MATTER OF THE REQUEST BY UNS GAS, INC. FOR A WAIVER OF CERTAIN REQUIREMENTS IN DECISION 66028.	DOCKET NO. G-04204A- **REQUEST FOR WAIVER**

UNS Gas, Inc. ("UNS Gas" or the "Company"), through undersigned counsel, respectfully requests that the Arizona Corporation Commission ("Commission") issue an order waiving certain requirements in Commission Decision No. 66028 (July 3, 2003). These requirements are no longer necessary, as detailed below, however, they remain in the Commission's database until they are formally waived or otherwise removed by Commission action. UNS Gas has worked with the Commission's Staff to update compliance matters and UNS Gas believes that this request for a waiver is the proper means by which these requirements can be closed.

I. INTRODUCTION.

Decision No. 66028 approved the acquisition by UniSource Energy Corporation ("UniSource Energy") of Citizens Communications Company's ("Citizens") Arizona gas and electric assets. Pursuant to that Decision, UniSource Energy, and subsequently UNS Gas, was to (i) refrain from the use of contract personnel for the performance of operation and maintenance functions, such as leak surveys and valve maintenance;[1] and (ii) independently inspect all new construction work performed by contractor personnel regarding the installation of new service lines and main extensions.[2]

[1] Decision No. 66028, page 22, lines 18-20.
[2] Decision No. 66028, page 22, lines 25-26.

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UNS Gas requests that these requirements[3] be waived, as they are no longer necessary for the reasons set forth below:

II. THE REQUIREMENTS SHOULD BE WAIVED.

A. Use of contract personnel.

Currently, most local distribution companies ("LDC") in Arizona have the flexibility to utilize outside contractor personnel to perform O&M work including, but not limited to, leak survey, valve maintenance and leak repair. Citizens also utilized contractor personnel for this type of work prior to the acquisition by UniSource Energy of Citizens' Arizona gas and electric assets. UNS Gas requests that the Commission allow it the same flexibility to utilize outside contractor personnel for the performance of operation and maintenance functions, a practice from which other LDCs in the state continue to benefit.

B. Inspection of work performed by contractor personnel.

UNS Gas also requests that it no longer be required to independently inspect all new construction work performed by contractor personnel regarding the installation of new service lines and main extensions. At the time of the acquisition, Citizens utilized four (4) different pipeline contractors for installation of new lines and main extensions, including Northern Pipeline ("NPL"), PIPEco, Henkels and McCoy, and Bogie Construction. On January 1, 2006, UNS Gas entered into a sole contractor partnership, or alliance, with NPL whereby NPL agreed to perform all contractor installation work for new service lines and main extensions.[4]

UNS Gas field inspections for new construction have consistently indicated that UNS Gas has performed in accordance with required State, Federal and Company regulatory standards and Commission Pipeline Safety Inspection Audits for the past four (4) years have been excellent. UNS Gas' history and track record for a commitment to standardization, detail, and safety have been documented and acknowledged by Commission Pipeline Safety Staff on multiple occasions.

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[3] Decision No. 66028, page 22, section L, nos. 3 and 6.

[4] NPL performs contractor installation work for all of the major LDCs within Arizona.

In the event the Commission approves UNS Gas' request for a waiver of the inspection requirement, the Company will still continue its on-going practice of self-inspection.

III. CONCLUSION.

Pipeline safety will not diminish with a waiver from the requirements discussed above and Commission Pipeline Safety Staff has indicated its support of this request for a waiver. UNS Gas believes that the requirements discussed above are no longer necessary for the reasons set forth herein, and a waiver by the Commission of those requirements is in the public interest.

WHEREFORE, UNS Gas respectfully requests that the Commission issue its order waiving certain requirements in Decision No. 66028.

RESPECTFULLY SUBMITTED this 25th day of January 2008.

UNS GAS, INC.

By Michelle Livengood

Michelle Livengood
One South Church Avenue, Suite 200
Tucson, Arizona 85701

and

Michael W. Patten
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Attorneys for UNS Gas, Inc.

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Ernest G. Johnson, Esq.
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Phoenix, Arizona 85007

By______________________

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BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS
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IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS GAS, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.	)	DOCKET NO. G-04204A-08-0571

Rebuttal Testimony of

David G. Hutchens

on Behalf of

UNS Gas, Inc.

July 8, 2009

VII. REQUEST FOR PROPOSED ORDER REGARDING THIRD PARTY CONTRACTORS.

Q. Do have any further testimony or requests you would like considered by the Commission?

A. Yes. On January 25, 2008, UNS Gas filed a request in Docket No. G-04204A-08-0050 for the Commission to waive the following requirements placed on the Company by Decision No. 66028: (i) refrain from the use of contract personnel for the performance of operation and maintenance functions, such as leak surveys and valve maintenance; and (ii) independently inspect all new construction work performed by contractor personnel regarding the installation of new service lines and main extensions. In its Application, UNS Gas noted that other local distribution companies use contract personnel in Arizona and that the Company's predecessor, Citizens, benefited from that practice as well.

Regarding the independent inspection of work performed by contractor personnel, UNS Gas states that since the acquisition it has entered into a sole contractor partnership with Northern Pipeline ("NPL") to comply more efficiently with the requirement; prior to the acquisition, Citizens was utilizing four (4) different pipeline contractors. Moreover, from its inception after Decision No. 66028, UNS Gas' Pipeline Safety Inspection Audits for the past five (5) years have been excellent. We anticipate that the elimination of the independent inspection requirement will help reduce operating expenses in the future.

Commission Staff responded to UNS Gas' Application on February 14, 2008. In its report, Commission Staff recommended that the Application for the waiver be approved. Citing UNS Gas' safety record, the progress of the Company beyond the transitional period of operations following the acquisition, and its operating history, Commission Staff stated that it believes these requirements are no longer necessary. Commission

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BEFORE THE ARIZONA CORPORATION COMMISSION

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IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR A WAIVER OF CERTAIN REQUIREMENTS IN DECISION 66028.	DOCKET NO. G-04204A-08-0050 **STAFF'S RESPONSE TO UNS GAS' APPLICATION FOR WAIVER OF CONDITIONS IN DECISION NO. 66028**

On January 25, 2008, UNS Gas Inc. ("UNS Gas" or "Company") filed a request that the Arizona Corporation Commission ("Commission") waive certain conditions placed on the Company by Decision No. 66028 (July 3, 2003). Among other conditions, Decision No. 66028 requires UNS Gas to (1) not use contracted personnel to perform operating and maintenance functions and additionally (2) to independently inspect all contracted work performed in the installation of new service lines and main extensions. Pipeline Safety Section Staff ("Staff") has reviewed the Company's application and supports the request for a waiver of the two conditions.

Decision No. 66028 approved UNS Gas' predecessor, UniSource Energy Corporation's ("UniSource") acquisition of the gas and electric assets of Citizens Communications Company ("Citizens"). In order to ameliorate potential customer service impacts related to the transfer in ownership, Decision No. 66028 ordered UniSource, and now UNS Gas, to not use contracted personnel to perform operating and maintenance functions. As the Company notes in its application, it is normal within the industry to permit contractors to perform this work and indeed, it was the practice of Citizens to use contractors for just this work prior to the transfer.

Staff notes that the safety record of UNS Gas has been excellent to date. To the extent that the condition prohibiting the use of contracted employees was a measure to ensure a consistent level of customer service, Staff believes that the condition is no longer necessary. UNS Gas has progressed beyond the transitional phase of operations immediately following its acquisition of

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Citizens' assets. Customer service does not appear to be in jeopardized by the change. Further, allowing UNS Gas to utilize contracted personnel to perform these services may permit cost savings that in turn can be passed on to the ratepayers' benefit.

Likewise, Decision No. 66028 obliges UNS Gas to independently inspect all work performed by contracted personnel regarding the installation of new service lines and main extensions. This condition was also intended to be an interim condition to ensure consistent quality of customer service during the transition of ownership. Staff believes that UNS Gas' operating history has sufficiently demonstrated that neither safety nor service will be jeopardized if the condition is waived. Additionally, as explained by UNS Gas' application, it has entered a cost saving contractual relationship with one of the available contractors engaged to perform such work.

Staff believes that under the present circumstances, UNS Gas' application for waiver of the two described conditions should be approved.

RESPECTFULLY SUBMITTED this 14th day of February, 2008.

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(602) 542-3402

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