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SOUTHWEST GAS CORPORATION

September 23, 2005

Arizona Corporation Commission
Docket Control
1200 West Washington Street
Phoenix, AZ 85007-2996

Docket Control Supervisor:

Subject: Rejoinder Testimony
General Rate Case; G-01551A-04-0876

Attached please find an original and thirteen (13) copies of the Rejoinder Testimony for Southwest Gas Corporation (Southwest) in the above proceeding. An additional copy is included for date/time stamp and return to Southwest.

Should you have any questions, please do not hesitate to contact me at (702) 364-3079.

Respectfully submitted,

Randall W. Sable

Randall W. Sable
Manager/State Regulatory Affairs

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lr/Attachments

c Ernest Johnson, ACC
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Robert Gray, ACC
Jason Gellman, ACC
Stephen Ahearn, RUCO
Scott Wakefield, RUCO
Marylee Diaz Cortez, RUCO

ORIGINAL

SOUTHWEST GAS CORPORATION

Docket No. G-01551A-04-0876

2004
ARIZONA
GENERAL RATE CASE

REJOINDER TESTIMONY

September 23, 2005

SOUTHWEST GAS CORPORATION

ARIZONA GENERAL RATE CASE
G-01551A-04-0876

REJOINDER TESTIMONY

LIST OF WITNESSES

Steven M. Fetter

Frank J. Hanley

Theodore K. Wood

Lisa E. Moses

Christina A. Palacios

Randi L. Aldridge

Robert A. Mashas

William N. Moody

Marti Marek

James L. Cattanach

Vivian E. Scott

A. Brooks Congdon

Edward B. Gieseking

FETTER

Southwest Gas Corporation
Docket No. G-01551A-04-0876

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of
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of

STEVEN M. FETTER
PRESIDENT, REGULATION UnFETTERED
ON BEHALF OF SOUTHWEST GAS CORPORATION

Southwest Gas Corporation
Docket No. G-01551A-04-0876

BEFORE THE
ARIZONA CORPORATION COMMISSION

REJOINDER TESTIMONY
OF
STEVEN M. FETTER
PRESIDENT, REGULATION UnFETTERED
ON BEHALF OF SOUTHWEST GAS CORPORATION

INTRODUCTION

Q. 1 PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. 1 My name is Steven M. Fetter, and my business address is P.O. Box 475, Rumson, New Jersey 07760.

Q. 2 BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. 2 I am President of REGULATION UnFETTERED, an energy advisory firm I started in April 2002.

Q. 3 DOES THIS REJOINDER TESTIMONY FOLLOW UPON EARLIER DIRECT AND REBUTTAL TESTIMONY THAT YOU FILED IN THIS PROCEEDING?

A. 3 Yes it does.

Q. 4 WHAT IS THE PURPOSE OF THIS REJOINDER TESTIMONY?

A. 4 In this rejoinder testimony, I respond to arguments made in surrebuttal testimony by SWEEP/NRDC witness Schlegel and Arizona Corporation Commission Utilities Division Staff ("Staff") witness Musgrove that I believe, if adopted by the Arizona Corporation Commission ("Commission"), will maintain Southwest Gas Corporation ("Southwest" or "Company") at its current inadequate level of financial health. I also respond to Staff witness Gray's interesting argument that a resolution concerning "conservation margin tracker-like" mechanisms that was adopted by the Board of Directors of the National Association of Regulatory Utility Commissioners ("NARUC"), an organization comprised of utility commissions from the fifty states and the District of Columbia, was merely a "neutral" statement exhibiting no support for such mechanisms.

<u>SWEEP/NRDC ISSUE RESPONSE</u>

Q. 5 WHAT POSITIONS FROM SWEEP/NRDC CAUSE CONCERN IN YOUR MIND?

A. 5 I find fault with Mr. Schlegel calling for Commission adoption of an increase in the funding of DSM programs for Southwest customers, while opposing all means of improving (and ultimately stabilizing) Southwest's financial health going forward. The positions of Mr. Schlegel that undercut this goal include:

1) Rejection of Southwest's effort to structure a mechanism to provide recovery of revenues the Company has lost and will continue to lose due to customer conservation, called a conservation margin tracker ("CMT"). (I note that SWEEP/NRDC do support further study of the concept, but I believe that the financially-injurious effects that would accompany such increased levels of DSM should be dealt with upfront, and thus should not be implemented until such a mechanism is approved and in place.)

2) Opposition to Southwest's proposal for higher fixed charges to provide the Company an improved opportunity to recover its prudently-incurred costs

of providing reliable service to its customers, regardless of variations in customer usage that are not within the control of the Company.

3) Support for RUCO's proposal for a flat or one-tier rate structure which would serve to reduce Southwest's ability to recover its prudently-incurred fixed costs.

Q. 6 WHAT DO YOU BELIEVE WOULD BE THE RESULT IF THE COMMISSION WERE TO ADOPT THE INTERVENING PARTY'S RATE DESIGN RECOMMENDATIONS?

A. 6 Adoption of the intervening party's rate design proposals would exacerbate the Company's problems by placing an even greater amount of Commission-authorized revenue at risk for recovery, and decreasing the likelihood that Southwest would be able to achieve financial returns consistent with Commission-authorized levels. Under such circumstances, I would expect that the Company would continue to function with a weak financial profile, one or two notches away from the below-investment grade threshold, and this status would negatively affect Southwest's access to the capital markets to the detriment of both customers and investors. What would make it even worse than Southwest's current situation is that the financial community will have seen that the Commission had the opportunity to remedy the situation and chose not to do so.

Q. 7 IS THERE ANYTHING IN MR. SCHLEGEL'S SURREBUTTAL WITH WHICH YOU AGREE?

A. Actually there is. Mr. Schlegel states:

> "SWEEP/NRDC strongly recommend that the financial disincentive to natural gas utility support of energy efficiency be addressed in Arizona in a timely manner. We believe this will be necessary if Arizona wants to fully tap the potential for its lowest cost natural gas resource – cost-effective energy efficiency *improvements.*"

I agree with that statement; I just differ with SWEEP/NRDC in that I believe that "timely manner" should mean that the financial issues should be addressed before the Commission orders additional steps with regard to DSM that would further degrade Southwest's standing within the financial community.

Q. 8 DO YOU ALSO AGREE WITH MR. SCHLEGEL'S ASSERTION THAT THE JOINT STATEMENT IN NO WAY SUPPORTS INCREASES IN FIXED CUSTOMER CHARGES AS A MEANS TO ELIMINATE FINANCIAL DISINCENTIVES FOR PROMOTING CONSERVATION AND ENERGY EFFICIENCY?

A. 8 No, I am afraid I have to break with Mr. Schlegel on this point. Mr. Schlegel focuses on language from the Joint Statement that explicitly supports CMT-like mechanisms, but ignores the more general language that precedes that point:

> When customers use less natural gas, utility profitability almost always suffers, because recovery of fixed costs is reduced in proportion to the reduction in sales. Thus, conservation may prevent the utility from recovering its authorized fixed costs and earning its state-allowed rate of return. In this important respect, traditional utility rate practices fail to align the interests of utility shareholders with those of utility customers and society as a whole. This need not be the case. **Public utility commissions should consider utility rate proposals and other innovative programs that reward utilities for encouraging conservation and managing customer bills to avoid certain negative impacts associated with colder-than-normal weather.** *(Emphasis supplied.)*

The fact that the Joint Statement then goes on to describe one type of innovative program ("mechanisms that use modest automatic rate true-ups to ensure that a utility's opportunity to recover authorized fixed costs is not held hostage to fluctuations in retail gas sales") does not negate the fact that the Joint Statement clearly states as highlighted above that public utility commissions should consider "utility rate proposals **and** other innovative programs." *(Emphasis supplied.)* As such, utility rate proposals, separate from innovative programs, may include proposals that increase the basic service charge. The language in the Joint Statement does not state that public utility commissions should only consider "utility rate proposals **comprised** of innovative programs," language that would have validated Mr. Schlegel's interpretation.

STAFF ISSUE RESPONSE

Q. 9 YOU ALSO INDICATE THAT YOU HAVE DIFFERENCES WITH STAFF WITNESS MUSGROVE?

A. 9 I do. I believe he has taken words from my direct testimony out of context, which creates a false impression of what my testimony means.

Q. 10 HOW SO?

A. 10 Perhaps the best way to indicate what Mr. Musgrove is attempting to do is to cite his quotes from my direct testimony and then show the passage in proper context:

Mr. Musgrove quotes me as follows:

"My testimony focuses on a forward-thinking concept that seeks to decouple core revenues from the Company's sales..."

and then, in his words,

> "Mr. Fetter also said that the implementation of the proposed CMT by the Commission would make the Commission a leader in natural gas utility regulation."

Mr. Musgrove concludes from these quotations that I was sponsoring an "experimental concept."

Q. 11 WERE YOU SPONSORING AN "EXPERIMENTAL" CONCEPT?

A. 11 No, I was not, and I think the quotations Mr. Musgrove points to when read in context lead to a very different conclusion (the words he pulled out of context are italicized; my emphasis is noted in bold):

> "*My testimony focuses on a forward-thinking concept that seeks to decouple core revenues from the Company's sales* volumes, thus allowing conservation gains to be made without compromising the interests of Southwest Gas Corporation's ("Southwest" or "Company") equity and debt investors. This new concept in rate design, which has been endorsed in a landmark agreement among environmental, gas industry, and regulatory leadership – **and is currently being utilized in other jurisdictions** – holds out promise for a break from past regulatory policies in a way that strikes a fair balance between customer and shareholder interests."

> and

> "Moreover, in light of the recent agreement among environmental, gas industry, and regulatory leadership, **this Commission has an opportunity to examine and respond to NARUC's recent suggestion that state commissions consider mechanisms that decouple sales levels from the natural gas utility's core revenues, thus aligning the interests of utility shareholders, customers, and society as a whole.** As such, by authorizing Southwest to implement its proposed conservation margin tracker (CMT), this Commission will become *a leader in natural gas utility regulation.*

Q. 12 SO, IN YOUR EYES, THE CMT IS NOT AN "EXPERIMENTAL" CONCEPT?

A. 12 Not at all. With such wide-ranging interest group support **and** utilization in other jurisdictions for several years (California, Oregon, and Maryland), I do not view a conservation margin tracker mechanism as "experimental" in nature. What is even more puzzling is that in Mr. Musgrove's own testimony he offers evidence that the conservation margin tracker mechanism is not an experimental concept. On page 6, lines 12-14 of Mr. Musgrove's Surrebuttal Testimony, he refers to a telephone conversation with the Office of Ratepayer Advocates regarding Southwest's request for a similar type mechanism in the state of California, wherein he concluded that: "The consensus was that Southwest was simply asking for approval of a tariff provision that was similar in nature to other fixed-cost adjustment mechanism already in place for the major gas distribution companies doing business in California."

Q. 13 FINALLY, CAN YOU SHARE YOUR THOUGHTS ON MR. GRAY'S INTERPRETATION OF THE EVENTS SURROUNDING NARUC'S ADOPTION OF THE RESOLUTION THAT REFERS TO CMT-LIKE MECHANISMS?

A. 13 Yes, I can. Mr. Gray objects to my use of the word "endorsement" with regard to the NARUC resolution, claiming instead that NARUC's action was merely a "neutral" statement exhibiting no support for such mechanisms. I believe that the word "endorsement" comes closer to describing the NARUC action than does Mr. Gray's interpretation.

Like Mr. Gray, I have attended many NARUC national meetings, so I appreciate how difficult it is to get any issue reviewed and considered by the extremely diverse constituencies that make up NARUC. Most issues never succeed at even getting onto a NARUC committee agenda, much less receive the support of a full committee. In this case, the NARUC website indicates that the

NARUC Gas and Electric Energy Efficiency Resolution that Mr. Gray refers to was approved by the Gas Committee, the Electricity Committee, the Energy Resources and the Environment Committee, and the Consumer Affairs Committee, followed by review, consideration and adoption by the NARUC Board of Directors. The relevant language of the resolution states that "the Board of Directors of NARUC **encourages** State Commissions to review and consider the recommendations contained in the enclosed Joint Statement of the American Gas Association, the Natural Resources Defense Council, and the American Council for an Energy-Efficient Economy." *(Emphasis supplied.)* In view of what it took for that "encouragement" language to get where it did, I continue to believe that the NARUC action was more than merely a neutral statement exhibiting no support for such mechanisms.

Q. 14 DOES THIS CONCLUDE YOUR PREPARED REJOINDER TESTIMONY?

A. 14 Yes, it does.

HANLEY

Southwest Gas Corporation
Docket No. G-01551A-04-0876

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of
FRANK J. HANLEY, CRRA

BEFORE THE

ARIZONA CORPORATION COMMISSION

REJOINDER TESTIMONY

OF

FRANK J. HANLEY, CRRA
PRESIDENT
AUS CONSULTANTS - UTILITY SERVICES

CONCERNING

COMMON EQUITY COST RATE

RE: SOUTHWEST GAS CORPORATION

DOCKET NO. G-01551A-04-0876

BEFORE THE ARIZONA CORPORATION COMMISSION

Prepared Rejoinder Testimony
of
FRANK J. HANLEY

I. PURPOSE

Q.1 Please state your name, occupation and business address.

A.1 My name is Frank J. Hanley and I am President of AUS Consultants - Utility Services. My business address is 155 Gaither Drive, P.O. Box 1050, Moorestown, New Jersey 08057.

Q.2 Are you the same Frank J. Hanley who previously submitted direct and rebuttal testimonies in this proceeding?

A.2 Yes, I am.

Q.3 What is the purpose of this testimony?

A.3 The purpose of this testimony is to address certain aspects of the surrebuttal testimonies of Arizona Corporation Commission Staff (Staff) Witness Stephen G. Hill and Residential Utility Consumer Office (RUCO) Witness William A. Rigsby concerning their surrebuttal testimonies as they relate to my recommended common equity cost rate methodologies. This testimony is organized by witness.

Q.4 Have you prepared exhibits in support of this rejoinder testimony?

A.4 Yes. I have prepared seven exhibits which have been marked for identification as Exhibits __ (FJH-29) through (FJH-35).

STAFF WITNESS STEPHEN G. HILL

Q.5 On page 12 of his surrebuttal testimony, Mr. Hill cites a Pennsylvania Commission case from 1999 (City of Lancaster (Water)) that suggests the Commission as "rejecting reliance on other methods and citing its own 'consistent reliance on the DCF' ". Please comment.

A.5 In a much more recent decision, in an Order adopted December 2, 2004 in Docket No. R-00049255 in re PPL Electric Utilities Corporation, the PA PUC stated:

> The ALJ interpreted our previous actions in *PAWC* and *Aqua* as not compelling the use of other methods such as RP and CAPM to form an equity return based upon a composite of the DCF and other methods. We agree with the ALJ insofar as these prior actions do not compel the use of methods in addition to the DCF method. However, we conclude that methods other than the DCF can be used as a check upon the reasonableness of the DCF-derived equity return calculation. We note that all of the parties in this proceeding with the exception of the OTS have done so. We will also use the results of the CAPM and RP methods as a check on the reasonableness of our DCF calculation. (page 67)
>
> Based upon our analysis and review of the record evidence, the Recommended Decision and the Exceptions and Replies thereto, we reject the ALJ's recommendation to adopt of (sic) the unadjusted return of 10.25% calculated by the USDOD. *Although we find the 10.25% figure to be a good starting point, it does not reflect the financial risk resulting from the divergence between the market and book value of PPL's common equity.* (italics added for emphasis) (pages 68-69)
>
> *We find it reasonable that a financial risk adjustment, as proposed by PPL, is necessary to compensate PPL for the mismatched application of a market-based cost of common equity to a book value common equity ratio. The adjustment is necessary because the DCF method produces the investor required return based on the current market price, not the return on the book value capitalization.* (italics added for emphasis) (page 70)

> *Based upon the foregoing discussion, we conclude that a financial risk adjustment to the market-derived DCF return of 10.25% for PPL's Electric Company Proxy Group is appropriate at this time. This places the DCF return on a constant basis with the greater financial risk inherent in PPL's book value-derived capital structure ratios. Accordingly, we adopt a 45 basis point adjustment for increased financial risk offered by PPL as reasonable at this time.* (italics added for emphasis) (page 71)
>
> *Those returns indicated by alternative, standard cost-estimation techniques* provide additional measures so as to test the reasonableness of our DCF-based cost of equity capital rate of 10.70% (10.25 + .45 for financial risk). The PPL CAPM study produces a 10.70% return rate for its Electric Company Proxy Group. A USDOD CAPM study estimates an appropriate equity return of 11.00%. The USDOD risk premium result is 10.44%. The OCA estimates a CAPM range of 9.0 to 10.0%. Additionally, PPL has presented a risk premium analysis that indicates an appropriate return on equity for its Electric Proxy Group of 11.75%.
>
> *Based upon the evidence of record, we find a range of reasonableness from 10.25% to 11.0%. We find further that within that range a cost of common equity of 10.70% is reasonable, appropriate and in accord with the record evidence.* (italics added for emphasis) (page 72)

The foregoing from the Pennsylvania Commission's more recent Order demonstrates that the Pennsylvania Commission does not reject consideration of other methods. Moreover, the Pennsylvania Commission recognizes by the adjustment made "for financial risk" that a DCF return requires "a financial risk adjustment" in order to "compensate for the mismatched application of a market-based cost of common equity to a book value common equity ratio."

Q.6 At the bottom of page 12 and the top of page 13 of his surrebuttal testimony, Mr. Hill provides a quotation from an Order of the Iowa Utilities Board and suggests that that regulatory body "changed its tune" regarding the DCF equity cost estimates. Has the Iowa Utilities Board really changed its tune?

A.6 No. The Iowa Utilities Board has consistently utilized the DCF and, in order to determine whether it relies upon the DCF results, utilizes the Risk Premium method. Whether or not the DCF results are utilized depends upon the range of cost rates derived and where the DCF results lie. For example, immediately following Mr. Hill's quote which ends with "the Board has generally looked first at the results under the various DCF models", Mr. Hill neglected to add the last sentence of that paragraph which states as follows:

> *The DCF results range from 8.2 percent to 13.6 percent, varying due to differences in proxies and data inputs, especially growth.* (italics added for emphasis) (Iowa Utilities Board, Docket Nos. RPU-02-3, RPU-02-8, and ARU-02-1, issued April 15, 2003, page 61)

At the bottom of page 62 of the Order, the Board confirmed that it still uses the same methodology it has used for years when it stated:

> *The Board uses a risk premium model to check or validate the DCF results* (italics added for emphasis) (page 62 of the Order)

Further, at page 63 of the Order:

> "*After reviewing the various results produced by the different methods, the Board will adopt 11.15% as the cost of common equity. This is within both the DCF range and the Board's risk premium range*. (italics added for emphasis) (page 63 of the Order)

It should be very clear from the foregoing that Mr. Hill is incorrect and that the Iowa Utilities Board did not change its tune. Moreover, the awards made by the Iowa Utilities Board of 11.15% and the recent award of 10.70% by the Pennsylvania Commission to PPL Electric Utilities (supra) confirm the gross inadequacy of the recommendations of Mr. Hill as well as Mr. Rigsby in view of Southwest's BBB-, or bottom of investment grade bond rating).

Q.7 At page 13, line 12 through page 16, line 25 of his surrebuttal testimony, Mr. Hill states that you believe that market-to-book ratios are not meaningful in utility cost of capital analysis. Please comment.

A.7 I have not suggested that market-to-book ratios are not meaningful in utility cost of capital analysis. What I have stated is that when market values are well in excess of their book values and are impacted by many factors other than the allowed rate of earnings on book equity, a DCF-determined common equity cost rate invariably understates the rate of return required by investors. This is because investors expect the return on the price that they pay for a common stock, not on its book value.

Roger A. Morin, in his book, <u>Regulatory Finance – Utilities' Cost of Capital</u>, at pages 265-266 discusses reservations regarding the use of market-to-book ratios in the regulatory process. Those pages are presented here as Exhibit __ (FJH-29) and consist of 3 Sheets. Sheets 2 and 3 contain Dr. Morin's discussion as to why it is incorrect to assume that if market-to-book ratios are greater than 1, that a utility is over-earning when he states:

> *It should be pointed out that M/B ratios are determined by the marketplace, and utilities cannot be expected to attract capital in an environment where industrials are commanding M/B ratios well in excess of 1.0.* Moreover, if regulators were to currently set rates so as to produce a M/B ratio of 1.0, not only would the long-run target M/B ratio of 1.0 be violated, but more importantly, the inevitable consequence would be to inflict severe capital losses on shareholders. Investors have not committed capital to utilities with the expectation of incurring capital losses from a misguided regulatory process.
>
> *The fundamental goal of regulation should be to set the expected economic profit for a public utility equal to the level of profits expected to be earned by firms of comparable risk, in short, to emulate the competitive result.* ...This suggests that a fair and reasonable price for a public utility's common stock is one that

> produces equality between the market price of its common equity and the replacement cost of its physical assets. (italics added for emphasis) (page 266 of original text and Sheet 3 of Exhibit __ (FJH-29)

In addition to the foregoing, it is clear that the Pennsylvania Commission adheres to this principle because it recognizes that market prices above book value do not indicate that the utility is over-earning and makes an adjustment in order to compensate for this fact as confirmed by the PPL Electric Utilities Corporation Order cited supra.

Q.8 Please comment on Mr. Hill's discussion at page 15 of his surrebuttal testimony, lines 20 through page 16, line 2, wherein he suggests that investors establish their market prices based only on the rates of earnings on book equity of utilities.

A.8 That is just not the case. Although earnings expectations are meaningful to investors in LDCs in the current deregulated market environment, many other factors affect market prices and hence market-to-book ratios. For example, as shown at page 26 of my direct testimony, Phillips and Bonbright confirm that there are many factors that affect the market prices of utilities. As Bonbright states:

> [I]n short market prices are beyond the control, though not beyond the influence of rate regulation.

Moreover, because the growth portion of investors' total returns are derived from changes in market values (growth in market value is the "growth" that analysts attempt to estimate for use in the DCF model through the use of accounting proxies for such growth (e.g., growth in EPS)), it is the rates of return on investors' market values that are relevant to investors. Indeed, because regulation is a substitute for the presumed absence of competition similar to that experienced by non-price regulated firms operating in the competitive market, it is important that utilities have the ability to:

> attract capital in an environment where industrials are commanding market-to-book ratios well in excess of 1.0. ...The fundamental goal of regulation should be to set the expected economic profit for a public utility equal to the level of profits expected to be earned by firms of comparable risk, in short, to emulate the competitive result. (Morin, supra)

The Pennsylvania Commission also recognizes that market prices reflect more than returns on book equity (e.g., PPL Electric Utilities Corporation Order cited supra).

Q.9 Please address Mr. Hill's testimony at page 19, line 7 through page 20, line 15 of his surrebuttal testimony relative to your discussion of DCF cost rates and whether they over- or understate common equity cost rate.

A.9 I have stated many times in my testimonies over the years that when market values are below book values, DCF cost rates likely overstate common equity cost rates. Mr. Hill apparently does not like my response to Staff Data Request Staff-SH-12-24, accompanying my rebuttal testimony as Exhibit __ (FJH--25), Sheet 1 of 1, which explains why multiple cost of equity models should be used. Clearly, the Pennsylvania Commission, which Mr. Hill cites as authority, concurs that a market-determined DCF cost rate understates the cost rate applicable to book equity when market price exceeds book value (PPL Electric Utilities Corporation Order cited supra).

Q.10 Beginning at page 20, line 17 through page 23, line 33 of his surrebuttal testimony, Mr. Hill discusses the CAPM and all that he believes is incorrect about its use. Please comment.

A.10 I am pleased that, despite all of his reservations about it, Mr. Hill continues to apply it (albeit incorrectly) to estimate the cost of common equity capital (page 23 of his surrebuttal testimony). He cites a recent article about the CAPM by Fama and French (pages 22-23 of his surrebuttal testimony). Fama and French state:

> …attraction of the CAPM is that it offers powerful and intuitively pleasing predictions about how to measure risk and the relation between expected return and risk.

A similar statement can also be applied to the DCF model, which is that it offers powerful and intuitively pleasing predictions. Please note, however, as to just how imprecise the DCF results can be because so much depends upon, as the Iowa Utilities Board stated:

> …differences in proxies *and data inputs, especially growth* (italics added for emphasis) (supra)

The Iowa Utilities Board was forced to consider from various applications of the DCF model in the Interstate Power & Light Company case (supra) cited by Mr. Hill, albeit for an incorrect proposition. The DCF results in that case ranged from 8.2% to 13.6%, a staggering difference which certainly confirms the imprecision of the DCF model.

Moreover, Fischer Black, who previously responded to Fama and French's findings relative to a similar article published in 1992 concluded that individuals or firms should continue to use the CAPM and beta to value investments and to choose portfolio strategy. The fact is that investors do continue to utilize beta and CAPM.

That is obvious based upon its widespread continued use by organizations such as Value Line and Merrill Lynch.

Exhibit __ (FJH-30), which consists of 4 Sheets, is a copy of a letter from Merrill Lynch's Chief Quantitative Strategist to a staff member of the Federal Energy Regulatory Commission regarding FERC's unauthorized use of Merrill Lynch's DDM model. This letter is a matter of public record and was obtained from FERC's internet site as it was an exhibit in a Trailblazer Pipeline Company case in Docket No. RP-03-162 and was designated as Exhibit No. TPC-153 in that proceeding. The important point to be made herein is that Mr. Bernstein, Merrill Lynch's Chief Quantitative Strategist stated that:

> *...it is incorrect to use the DDM's implied or expected returns without simultaneously using a simple Capital Asset Pricing Model ('CAPM') to determine the risk-adjusted hurdle rate or 'required' return for a company.* (italics added for emphasis) (Paragraph 3, Sheet 2 of Exhibit ___ (FJH-30))

It is very clear that recommendations made to investors utilize, at least in part, the CAPM which continues to be in widespread use by investors and those who influence investors.

Q.11 How do you respond to Mr. Hill's rationalization for the use of both the arithmetic and geometric mean market risk premiums in the CAPM because it represents "a reasonable and well-balanced course of action" as discussed at the middle of page 24 of his surrebuttal testimony?

A.11 His response is a good sound bite. However, because the context of his statement is in regard to estimating the cost of capital, it is incorrect. I have previously explained at pages 37-38 of my direct testimony, and pages 18-21 of my rebuttal testimony, which need not be repeated here, why <u>only</u> the use of the arithmetic mean is appropriate when estimating the cost of common equity capital. Mr. Hill states that both arithmetic and geometric averages are published and are equally available to investors. While that is true, investors' knowledge that an actually experienced constant rate of change (geometric mean) provides no insight into the potential for volatility when making their decisions about potential investments. Investors know full well that greater volatility equals greater risk and that only by gaining insight into past volatility can they evaluate potential levels of risk. Thus, investors are aware of the need to utilize the arithmetic mean to estimate the cost of capital as discussed in the financial literature. All of the foregoing is shown in my rebuttal Exhibit __ (FJH-19), Sheets 4 through 6, and my rebuttal Exhibit __ (FJH-20), Sheets 1 and 2 accompanying my rebuttal testimony and is discussed therein at pages 18-21.

Q.12 Beginning at page 26, line 14 through page 27, line 4 of his surrebuttal testimony, Mr. Hill discusses pretax interest coverage and indicates that his recommendation will provide an opportunity to at least maintain, if not improve, Southwest's credit rating. Please comment.

A.12 Even if Mr. Hill is right and the opportunity for pretax interest coverage is still as important as it was, his recommendation will not afford the opportunity for Southwest to maintain its current bottom of investment grade BBB- bond rating. I have prepared Exhibit __ (FJH-31) which consists of 2 sheets. On Mr. Hill's Exhibit __ (SGH-1), Schedule 11, he utilized a 40% effective income tax rate and calculated a before-income tax overall cost of capital of 10.93%. Of course, that related to his recommended capital structure which included only a 40% hypothetical common equity ratio. Whatever capital structure ratios this Commission adopts in establishing an overall fair rate of return, Southwest will still have to provide a level of pretax interest coverage relative to its actual capitalization and related capital structure ratios. Mr. Wood has testified that Southwest's actual average capital structure ratios for the test year ended August 31, 2004 included 60.2% debt, 5.3% preferred equity, and 34.5% common equity. Utilizing Mr. Hill's recommended pretax overall cost of capital of 10.93%, I calculated that Southwest would be afforded an opportunity for pretax interest coverage of only 2.18 times as shown at the top of Sheet 1 of Exhibit __ (FJH-31), or less than the required minimum to maintain a BBB bond rating.

Although S&P no longer publishes a financial benchmark based upon pretax interest coverage, the best insight that can be obtained was the last time that it published such benchmarks. Those benchmarks, along with the then corresponding benchmarks relative to Southwest's then business position of "4"[1] are summarized on Sheet 1. As can be seen, the absolute minimum level of pretax interest coverage necessary to maintain a BBB bond rating is 2.2 times. Consequently, the opportunity presented by Mr. Hill's recommendation is inadequate to even sustain the BBB bond rating (much less improve it), keeping in mind that if Southwest's bonds should be downgraded again by S&P, there is no place to go except out of investment grade quality into junk bond status, i.e., the BB category. If that were to happen, it would be extraordinarily costly, if not impossible, to raise all the capital necessary when it is

[1] Current business position is "3", but cannot be compared to the prior "4". S&P stated in its June 7, 2004 Utilities & Perspectives at page 3 re its new assignments, "Each business profile score should be considered as the assignment of a new score; these scores do not represent improvement or deterioration in our assessment of an individual company's business risk relative to the previously assigned score. (See Exhibit __ (FJH-2), Sheets 11-13.

needed. This is because most institutional investors who purchase the bonds of public utility companies for their portfolio of assets require that they be of investment grade.

Q.13 Please comment on Mr. Hill's discussion about your reference to "y-axis" and "x-axis" adjustments as discussed by him at page 29, line 23 through page 32, line 11 of his surrebuttal testimony.

A.13 Mr. Hill's entire discussion ignores the fact that the "x-axis" adjustment is the adjustment to beta for regression bias. The adjusted beta is used in the standard CAPM. Results of studies have shown that the standard CAPM consistently understates the cost of common equity capital for utility stocks with betas less than one. As Dr. Morin states (see my rebuttal Exhibit __ (FJH-26), in particular Sheets 3 and 4 of 4 and Exhibit __ (FJH-27), Sheets 1 through 4), the ECAPM is not an attempt to increase the beta estimate, which would be a horizontal "x-axis" adjustment. The ECAPM is a return adjustment rather than a risk adjustment.

Mr. Hill's logic in rejecting the ECAPM is faulty. He states on page 32, lines 6-8 of his surrebuttal testimony, "Therefore because both adjustments seek the same remedy and produce the same effect (increasing the CAPM result for low-beta stocks), they are redundant." It is folly to reject logical, empirical analyses substantiated in the financial literature because both adjustments "produce the same effect", i.e., upward adjustments albeit for two different reasons. A hypothetical example would be when making a comparison between two companies where one company has far greater business and financial risk than the other (e.g., Southwest's greater business and financial risks vis-à-vis the proxy groups of LDCs). Mr. Hill's logic would be to reject one of the adjustments because together they "produce the same effect", i.e., an increase in common equity cost rate even though both adjustments are essential in order to arrive at a proper common equity cost rate for the more risky company.

Q.14 At page 32, lines 13-28, Mr. Hill criticizes your comparable earnings analysis. How do you respond to his criticisms?

A.14 It is obvious that Mr. Hill does not get it. Since he relies primarily upon the DCF methodology, he must believe that the market prices paid by investors reflect investors' full assessment of the risk of an enterprise. That total risk consists of systematic risk, that which is not diversifiable; as well as unsystematic risk, that which is diversifiable. To illustrate my point, I have prepared Exhibit __ (FJH-32), which consists of 2 sheets. On Sheet 1, I have shown recent Value Line adjusted betas as well as unadjusted betas, i.e., those which result purely from the regression analyses. The R^2 statistics, or coefficient of determination, indicate that systematic risk comprises only approximately 22% to 24% of the total risk of Southwest and my two proxy groups of gas distribution companies. I prepared and submitted rebuttal Exhibit __ (FJH-28), which consists of 5 sheets. They are excerpts from a book entitled, <u>Investments, Analysis, and Management, Fifth Edition</u>, by Jack Clark Francis of the City University of New York. On Sheet 4 of Exhibit __ (FJH-28), Dr. Francis demonstrates that total risk is comprised of systematic and unsystematic risk. He also shows (on Sheet 3 of my rebuttal Exhibit __ (FJH-28), original text page 273) that the non-diversifiable portion (systematic risk) is measured by the coefficient of determination, i.e., the R^2. On Sheet 4, he shows that unsystematic risk (the diversifiable portion) is equal to 1.0 – the R^2. Thus, Southwest and my proxy groups of gas distribution companies are comprised of, on average, about 23% non-diversifiable systematic risk, and approximately 77% of non-diversifiable, unsystematic risk. The sum of the two equal total risk. Thus, it is clear that beta is a small portion of total risk. Companies which are comparable in both systematic risk (measured by the R^2 of the regression analyses of *market prices*) and which are also comparable in the unsystematic risk (that portion of the total reflected in *market prices*) are thus comparable in total risk. Consequently, the non-price regulated companies which I selected based upon those statistics derived from regression analyses of market prices are therefore comparable in total risk to Southwest and my two proxy groups of gas distribution companies.

On the surface, it may not seem that a company such as Tootsie Roll could be comparable to a gas distribution company. Either Mr. Hill has to believe and endorse that market prices reflect investors' assessment of total risk, or he cannot enthusiastically embrace the DCF method as his primary tool. Given the assumption that the market prices reflect total risk, as evidenced by the financial literature, then apportioning total risk into that which is diversifiable and that which is not diversifiable is logical and empirically substantiated. If the non-price regulated proxy companies are chosen based upon comparable statistics reflecting systematic and unsystematic risk, they are then comparable in total risk. Mr. Hill's comments are incorrect and should be disregarded.

RUCO WITNESS WILLIAM A. RIGSBY

Q.15 Please respond to Mr. Rigsby's surrebuttal testimony beginning at page 8, line 10 through page 9, line 7 relative to a utility's market-to-book ratio and its cost of capital.

A.15 Most of the comments offered supra in response to Mr. Hill's testimony with regard to market-to-book ratios and risk as relates to non-price regulated entities apply equally to Mr. Rigsby. There is much evidence in the financial literature that market prices reflect the impact of many factors which are beyond the influence, if not control, of regulators. For example, refer to page 26 of my direct testimony and pages 13 and 14 of my rebuttal testimony. In addition, because Mr. Rigsby seems to agree with Mr. Hill, who was his predecessor witness on behalf of RUCO in Southwest rate case proceedings, then he must believe that the market prices relied upon in making a DCF calculation reflect investors' assessment of total risk. Such a notion is consistent with the Efficient Market Hypothesis (EMH) upon which the DCF model is premised. I have shown supra, and also in my rebuttal Exhibit __ (FJH-28), that total risk is reflected in market prices and that total risk can be segmented into systematic and unsystematic risks. To utilize Mr. Rigsby's words, "these are facts that the investment community has been aware of for many years and still accepts today." The information shown in my rebuttal Exhibit __ (FJH-28) and Exhibit __ (FJH-32) accompanying this rejoinder testimony demonstrate that if companies are similar in both non-diversifiable systematic risk and diversifiable unsystematic risk (the latter comprising the largest portion of total risk), then despite Mr. Rigsby's contention to the contrary, companies that operate in a competitive environment can be similar. Indeed, the non-price regulated companies that I selected for use in my comparable earnings analysis were selected based upon the same type of criteria shown in Exhibit __ (FJH-32). As the information shown in Dr. Francis' textbook (my rebuttal Exhibit __ (FJH-28)) indicates, unsystematic risk is represented by the standard error of the regression squared divided by total risk (or total risk equals 1.0 – the R^2 or coefficient of determination). The information derived by comparing Southwest's and my two proxy groups of LDCs in Exhibit __ (FJH-14) accompanying my direct testimony, Sheets 1 through 5 confirm that the non-price regulated companies selected are comparable in total risk to Southwest and each proxy group of gas distribution companies.

Of course, the bottom line is whether one's recommendation makes sense in the context of information provided to investors through investor-influencing publications such as Value Line Investment Survey. At page 41 of his direct testimony and again at the top of page 9 of his surrebuttal testimony, Mr. Rigsby makes reference to the Value Line Investment Survey of June 17, 2005 relative to the natural gas distribution industry. I have provided a copy of this Value Line page and it is designated Exhibit __ (FJH-33), Sheet 1 of 1. Please note that Value Line's forecasted common equity ratio for the natural gas distribution industry is 45.5% and its forecasted rate of return on common equity is 12.5%. Both of these ratios are greater than Southwest's requested hypothetical common equity ratio of 42.0% as well as its requested ROE of 11.70% (if its requested conservation margin tracker is approved), or 11.95% (if the requested conservation margin tracker is not approved).

Given Southwest's bottom of investment grade bond rating, its extremely poor record of achieved rates of earnings on book common equity and its susceptibility to weather and declining per customer usage, the Value Line data confirm that Mr. Rigsby's (and Mr. Hill's) recommendations are grossly inadequate and that they fail to grasp the true relationship between market-to-book ratios and rates of earnings on book common equity.

Further, confirming the gross inadequacy of Mr. Rigsby's (and Mr. Hill's) recommended rate(s) of return on common equity are the recent allowed rates of return on regulated gas distribution companies as shown in my rebuttal Exhibit __ (FJH-24), Sheet 1 of 1. The information shown therein indicates an average award in litigated rate cases during the period ending June 30, 2005 of 10.91% relative to a common equity ratio of 47.50%. Those companies, on average, are significantly less risky than Southwest whose long-term debt is rated at the bottom of investment grade (BBB-) <u>and</u> whose actual and hypothetical levels of financial risk are also greater.

Q.16 At pages 10-11 of his surrebuttal testimony, Mr. Rigsby discusses market-to-book ratios, regulatory allowed rates of return and suggests that a utility's stock is similar to a corporate bond. Please comment.

A.16 The problem with Mr. Rigsby's thinking on this issue is that, as stated by Morin:

> …M/B ratios are determined by the marketplace and utilities cannot be expected to attract capital in an environment where industrials are commanding M/B ratios well in excess of 1.0. (Exhibit __ (FJH-29), Sheet 3 of 3)

The foregoing from the financial literature, combined with the information shown in my rebuttal Exhibit __ (FJH-16), Sheet 1 of 1, shows that non-price regulated industrial companies consistently have sold above their book values in every year but one since 1947. Also, since many factors affect the market/book ratios of public utilities, when regulators set the allowed rate of return on common equity based upon the higher market prices (M/B ratios in excess of 1.0) and apply it to a much lower book value of common equity, there is no reasonable opportunity for the utility to earn the rate required by investors.

Q.17 At page 12, beginning at line 18 through page 13, line 4 of his surrebuttal testimony, Mr. Rigsby disagrees with your statement that his DCF results understate the cost rate to Southwest. He justifies his position by comparing his sample LDCs, which had an average beta coefficient of 0.79 with Southwest's beta of 0.75. Please comment.

A.17 As discussed <u>supra</u> and shown on Exhibit __ (FJH-32), Sheet 1 of 2, the risk associated with beta for Southwest is only approximately 22% (represented by an R^2 of 0.22) of total risk, while diversifiable unsystematic risk is 78% of the total. Mr. Rigsby's proxy group of ten gas distribution companies' average systematic risk is greater, or 24% of total risk (represented by an R^2 of 0.24), while diversifiable unsystematic risk is 76% of total risk. These statistics mean that Southwest's non-diversifiable risk is slightly greater than that of Mr. Rigsby's proxy group of ten LDCs. However, in order to properly compare the diversifiable unsystematic risk between Southwest and the proxy groups, one must then look to a number of other factors to assess the relative risk. The information shown on Sheet 2 of Exhibit __ (FJH-32) shows that whether measured by bond rating or S&P's business profile, Southwest is more risky than Mr. Rigsby's proxy group and indeed also more risky relative to my proxy groups of 5 and 11 gas distribution companies, respectively. For example, Moody's bond rating for Southwest is Baa2, while for Mr. Rigsby's proxy group, it is an average of A2. Similarly, Southwest's S&P bond rating is BBB-, while the average S&P bond rating for Mr. Rigsby's proxy group is A. Also, S&P's current business profile for Southwest is 3.0, while it is just 2.1 on average for Mr. Rigsby's proxy group. These data clearly indicate that Southwest is more risky and should be entitled to a higher opportunity rate of return than indicated by analysis of those proxy companies.

Even if one were to assume (albeit improperly) that Southwest should be afforded a similar opportunity to achieve the kinds of returns earned by Mr. Rigsby's proxy group of 10 LDCs, Southwest should have earned in the seven years ended 2003, an ROE of not less than 11.43% (keeping in mind that these companies had on average a significantly higher actual common equity ratio than did Southwest for reasons well discussed in my testimony and the testimony of other Southwest witnesses in this proceeding). As shown on Exhibit __ (FJH-34), the average company in Mr. Rigsby's proxy group of 10 LDCs achieved an 11.43% rate of return on common equity during the seven years ending 2003 in contrast to only 6.74% earned on Southwest's Arizona jurisdiction during the same period of time, the latter shown on Exhibit __ (FJH-1) accompanying my direct testimony, Sheet 4 of 4. In other words, those companies on average earned 469 basis points more on their higher average common equity ratio than did Southwest during the same period of time relative to its lower actual common equity ratio. Moreover, Southwest earned less than the average yield on Baa rated public utility bonds during the same period of time, as can be gleaned from the information shown on Exhibit __ (FJH-1) accompanying my direct testimony, Sheet 4 of 4.

Q.18 At page 13, line 18 through page 16, line 5, Mr. Rigsby discusses why he believes that the use of a 91-day Treasury Bill is appropriate to use as the risk-free rate in the CAPM. How do you respond?

A.18 The DCF model utilized by Mr. Rigsby (as well as Mr. Hill) has a presumed infinite investment horizon. I have previously addressed the incorrect usage of 91-day (or 3-month) U.S. Treasury Bills as the risk-free rate in a CAPM analysis as discussed at pages 21-22 of my rebuttal testimony. In addition, Morin, as shown on Sheets 2 and 3 of Exhibit __ (FJH-35), recommends the use of long-term Treasury Bonds for the risk-free rate because short-term Treasury Bills do not match the equity investor's planning horizon. He also provides citations from Brigham and Gapenski, as well as Harrington providing reasoning why their use in a CAPM is entirely inappropriate (Sheet 3 of Exhibit __ (FJH-35).

The use of such volatile rates (3-month Treasury Bills) is incompatible with the long-run investment horizon implicit in the common stocks of public utility companies (and indeed within the standard form of the DCF model) and also is inconsistent with sound regulatory practice, which is to normalize in order to avoid volatility when establishing a revenue requirement.

Q.19 Please address Mr. Rigsby's discussion beginning at page 16, line 7 through page 18, line 6 wherein he attempts to justify using the average of both arithmetic and geometric mean equity risk premia in his CAPM analyses.

A.19 I have previously addressed this issue supra, with regard to Mr. Hill and it need not be repeated here. However, reference to my rebuttal Exhibits __ (FJH-19) and (FJH-20) as well as the related discussion within my rebuttal testimony explain why, in establishing the cost of capital, the use of the geometric mean is inappropriate and only results in an averaging down of the resultant indicated cost rate of common equity capital.

Q.20 Does this conclude your rejoinder testimony?

A.20 Yes, it does.

BEFORE THE

ARIZONA CORPORATION COMMISSION

EXHIBITS
(FJH-29) THROUGH (FJH-35)

TO ACCOMPANY THE

REJOINDER TESTIMONY

OF

FRANK J. HANLEY, CRRA
PRESIDENT
AUS CONSULTANTS - UTILITY SERVICES

CONCERNING

COMMON EQUITY COST RATE

RE: SOUTHWEST GAS CORPORATION

DOCKET NO. G-01551A-04-0876

REGULATORY FINANCE:

UTILITIES' COST OF CAPITAL

Roger A. Morin, PhD

in collaboration with
Lisa Todd Hillman

1994
PUBLIC UTILITIES REPORTS, INC.
Arlington, Virginia

10.5 Reservations Regarding the Use of M/B Ratios in the Regulatory Process

It is sometimes argued that because current market-to-book (M/B) ratios are in excess of 1.0, this indicates that companies are expected by investors to be able to earn more than their cost of capital, and that the regulating authority should lower the authorized return on equity, so that the stock price will decline to book value. It is therefore plausible, under this argument, that stock prices drop from the current M/B value to the desired M/B ratio range of 1.0 times book.

There are several reasons why this view of the role of M/B ratios in regulation should be avoided.

(1) The inference that M/B ratios are relevant and that regulators should set an ROE so as to produce a M/B of 1.0 is erroneous. The stock price is set by the market, not by regulators. The M/B ratio is the end result of regulation, and not its starting point. The view that regulation should set an allowed rate of return so as to produce a M/B of 1.0, presumes that investors are masochistic. They commit capital to a utility with a M/B in excess of 1.0, knowing full well that they will be inflicted a capital loss by regulators. This is not a realistic or accurate view of regulation.

(2) The condition that the M/B will gravitate toward 1.0 if regulators set the allowed return equal to capital costs will be met only if the actual return expected to be earned by investors is at least equal to the cost of capital on a consistent long-term basis. The cost of capital of a company refers to the expected long-run earnings level of other firms with similar risk. If investors expect a utility to earn an ROE equal to its cost of equity in each period, then its M/B ratio would be approximately 1.0 or higher with the proper allowance for flotation cost.

(3) A company's achieved earnings in any given year are likely to exceed or be less than their long-run average. Depressed or inflated M/B ratios are to a considerable degree a function of forces outside the control of regulators, such as the general state of the economy, or general economic or financial circumstances that may affect the yields on securities of unregulated as well as regulated enterprises. The achievement of a 1.0 M/B ratio is appropriate, but only in a long-run sense. For utilities to exhibit a long-run M/B ratio of 1.0, it is clear that during economic upturns and more favorable capital market conditions, the M/B ratio must exceed its long-run average of 1.0 to compensate for the periods during which the

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[1] See Kahn (1970), p. 52.

M/B ratio is less than its long-run average under less favorable economic and capital market conditions.

Historically, the M/B ratio for utilities has fluctuated above and below 1.0. It has been consistently above 1.0 during the 1980s and early 1990s. This indicates that earnings below capital costs and M/B ratios below 1.0 during less favorable economic and capital market conditions must necessarily be accompanied with earnings in excess of capital costs and M/B ratios above 1.00 during more favorable economic and capital market conditions.

It should also be pointed out that M/B ratios are determined by the marketplace, and utilities cannot be expected to attract capital in an environment where industrials are commanding M/B ratios well in excess of 1.0. Moreover, if regulators were to currently set rates so as to produce a M/B ratio of 1.0, not only would the long-run target M/B ratio of 1.0 be violated, but more importantly, the inevitable consequence would be to inflict severe capital losses on shareholders. Investors have not committed capital to utilities with the expectation of incurring capital losses from a misguided regulatory process.

(4) The fundamental goal of regulation should be to set the expected economic profit for a public utility equal to the level of profits expected to be earned by firms of comparable risk, in short, to emulate the competitive result. For unregulated firms, the natural forces of competition will ensure that in the long-run the ratio of the market value of these firms' securities equals the replacement cost of their assets. This suggests that a fair and reasonable price for a public utility's common stock is one that produces equality between the market price of its common equity and the replacement cost of its physical assets. The latter circumstance will not necessarily occur when the M/B ratio is 1.0. As the previous section demonstrated, only when the book value of the firm's common equity equals the value of the firm's equity at replacement assets will equality hold.

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Merrill Lynch

June 29, 1998

Mr. Douglas Green
Federal Energy Regulatory Commission
888 First Street N.E.
Washington, D.C. 20426

Re: FERC's Unauthorized Use of Merrill Lynch DDM Model

Dear Mr. Green:

As you have recently confirmed in a voice mail to me, and as other FERC staff have testified in several administrative proceedings brought to challenge the level of rates of return on equity set by FERC for certain pipeline companies ("ROEs"), FERC has used and continues to use, without Merrill Lynch's authorization, a valuation model developed by Merrill Lynch known as the Dividend Discount Model ("DDM") to derive these ROEs. Merrill Lynch believes that FERC's use of Merrill Lynch's DDM is misleading and inappropriate and respectfully requests FERC to consider the following:

1. You mentioned in your voicemail that FERC has been combining Merrill Lynch's long-term growth estimates with the ValueLine five-year growth projections. Although on the surface this sounds reasonable, it is not correct. Three-phase dividend discount models, such as Merrill Lynch's DDM, are constructed in such a way that the growth estimates for each phase within the model are dependent on the growth projections in the other phases. Thus, to use only the growth forecast for one portion of Merrill Lynch's DDM could potentially bias a company's valuation. The use of only one set of Merrill Lynch growth projections without using them all is therefore erroneous.

2. It would appear from certain testimony of FERC's staff and your voicemail comments to me that FERC does not fully appreciate that the DDM is designed and intended to rank stocks on a <u>relative</u> basis. That is, the valuation results for individual companies from the model must be interpreted relative to those for the entire

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model's universe. Merrill Lynch does not use the DDM's "expected" or "implied" returns to pick stocks because they do not approximate reality well. For example, the December 1996 issue of *Quantitative Profiles* (p. 7 attached) shows that the Consumer Staples sector had the highest implied return of any of Merrill Lynch's twelve economic sectors (11.7%). However, the overall market advanced more than 30% during the following year. Thus, the absolute implied or expected returns generated by the DDM are basically meaningless and FERC should not use them to set ROEs.

3. As I publicly stated in a speech to the National Society of Rate of Return Analysts in Philadelphia several years ago, it is incorrect to use the DDM's implied or expected returns without simultaneously using a simple Capital Asset Pricing Model ("CAPM") to determine the risk-adjusted hurdle rate or "required" return for a company. The implied return from the DDM should be compared to the required return from the CAPM to determine under- or over-valuation of stocks in the DDM's universe. The resulting data (called an "alpha") is the only truly important information in the DDM. Returning to the example described above from the December 1996 *Quantitative Profiles*, Consumer Staples had an implied return of 11.7%, which was roughly the same as the implied return for Credit Cyclicals. However, the alpha for Consumer Staples was 0.2, which suggests that the sector was undervalued, while the alpha for Credit Cyclicals was -0.5, suggesting that this sector was overvalued. In setting ROEs, FERC is inappropriately using the DDM's implied returns without also using a CAPM.

4. Without Merrill Lynch's approval, FERC has continued to use sixteen-year old documents summarizing the DDM, despite the fact that more recent updates exist.

5. In setting ROEs, FERC often ignores other models and tools developed and used by Merrill Lynch to develop stock purchase recommendations which, as Merrill Lynch has already informed FERC, produce far superior returns to the DDM model.

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6. I would also hope to clarify a point concerning the mature or long-term growth rate within the DDM. You asked whether the long-term growth rate within the DDM is always equal to long-term nominal GDP growth. In fact, the DDM's long-term growth rate rarely, if ever, equals nominal GDP growth. It is true that Merrill Lynch's description of the DDM states that the average long-term growth rate among all stocks should roughly equal the long-term growth in nominal GDP. However, it is unlikely that any Merrill Lynch analysts anticipate growth for their companies below that rate. For example, the current market-weighted long-term growth rate is 8.6%, which is well above the recent history of nominal GDP growth.

Merrill Lynch is concerned that public statements by FERC staff concerning FERC's use of Merrill Lynch's DDM create the false impression that Merrill Lynch endorses FERC's use of the DDM to set ROEs, when in fact such use of this data alone is incomplete. We respectfully request that FERC consider the foregoing and act accordingly.

Very truly yours,

Richard Bernstein
Chief Quantitative Strategist

cc: Kevin Madden

Encl.

Merrill Lynch Universe Sector/Industry Factor Evaluation

	# of Comp	% Mkt. Univ	Impl. Return	Reqd Return	DDM Alpha	Eqty. Duration	ML Adj Beta	P/E Ratio	Price/ Book	Yield	Surprise	Risk	Torpedo	Dispar	Est. Rev.	PR 5yr Growth	EPS Growth 1996	EPS Growth 1997
			Valuation Analysis								Expectational Analysis: Earnings (Decile)							
Economic Sectors																		
Credit Cyclicals	37	0.64	11.6	12.1	-0.5	30.8	1.15	18.8	2.95	1.2	5	7	7	5	5	13.4	21	16
Consumer Services	102	5.24	11.0	11.8	-0.8	37.4	1.10	24.0	3.77	0.7	5	4	4	8	8	17.8	4	25
Consumer Cyclical	103	6.38	11.5	11.0	0.5	35.1	0.94	20.4	3.83	1.0	6	4	6	4	8	18.2	26	22
Consumer Staples	103	20.27	11.7	11.6	0.2	30.5	1.04	24.8	3.02	2.0	5	4	5	2	5	13.8	16	16
Capital Goods	36	6.06	10.7	12.1	-1.4	31.4	1.15	20.8	4.77	1.8	6	4	4	3	6	12.4	12	12
Capital Gds-Techn	178	19.20	12.4	11.6	0.8	37.8	1.05	26.1	7.33	0.6	5	5	6	6	5	20.2	22	30
Energy	101	6.24	10.5	10.5	0.0	25.7	0.85	20.1	3.13	2.6	6	6	6	7	5	12.0	39	12
Basic Industries	118	6.97	10.8	11.0	-0.5	28.7	0.95	20.3	3.84	2.1	8	8	4	7	3	12.3	-8	21
Financial	223	17.20	11.2	11.6	-0.3	30.7	1.04	15.1	2.59	2.3	6	5	5	3	5	10.8	21	15
Transportation	26	1.27	9.1	12.4	-3.3	35.7	1.21	14.5	2.22	1.1	5	7	7	3	3	14.0	38	27
Utilities	68	8.28	10.4	10.3	0.1	22.4	0.83	14.1	3.03	4.4	5	5	8	3	8	7.5	8	5
Conglomerates	3	0.21	9.9	10.5	-0.6	26.4	0.56	23.8	2.79	3.0	9	8	5	7	5	14.0	27	40
Capitalization Sectors ($ Million)																		
35 To 483	221	1.06	9.8	10.5	-0.6	37.0	0.88	16.5	2.67	1.8	8	8	6	7	6	15.5	31	31
483 To 1072	222	2.83	11.3	10.8	0.4	29.4	0.93	18.3	3.65	2.0	6	8	6	8	6	13.8	16	29
1082 To 2388	222	6.24	11.1	11.0	0.1	30.4	0.93	22.7	3.42	1.6	5	6	5	6	5	13.8	22	26
2388 To 5652	222	14.08	11.1	11.3	-0.2	32.4	1.01	19.9	3.85	1.4	5	6	5	5	6	13.8	19	21
5874 To 171730	221	75.78	11.3	11.4	-0.1	31.2	1.02	21.0	4.73	1.9	5	5	5	4	4	14.0	17	17
Risk Sectors																		
-0.81 to 0.56	203	5.11	10.6	8.7	1.9	29.8	0.53	20.8	3.05	3.1	5	6	5	5	4	10.8	16	16
0.57 to 0.84	206	21.87	11.0	10.1	0.9	29.2	0.78	19.1	5.54	2.5	5	5	5	8	4	11.3	16	15
0.85 to 1.01	206	26.25	11.4	10.9	0.5	29.4	0.93	20.5	5.14	2.0	5	6	5	4	5	13.8	15	15
1.02 to 1.20	200	27.70	11.1	11.9	-0.8	34.8	1.11	21.9	6.26	1.6	6	5	6	4	6	14.8	18	20
1.21 to 4.64	205	16.01	12.1	13.5	-1.4	30.1	1.47	21.6	9.50	1.3	5	4	5	5	5	17.5	21	27
Uncoded	85	3.05	8.3			25.9		24.0	6.05	1.2	6	6	7	8	6	18.0	28	28
DDM Alpha																		
Most Undervalued	80	7.54	13.9	10.4	3.5	26.2	0.84	17.7	4.41	1.8	4	5	6	4	6	12.6	16	15
Undervalued	69	16.09	12.3	11.2	1.1	28.6	0.96	20.7	5.09	2.1	5	5	6	4	5	13.7	11	16
Fair Value	68	16.98	11.2	11.1	0.1	29.4	0.88	19.5	4.52	2.2	5	5	5	4	5	12.7	18	12
Overvalued	68	14.77	10.4	11.5	-1.1	35.7	1.04	23.3	7.41	1.7	5	5	5	4	4	15.1	23	16
Most Overvalued	66	11.15	9.4	12.2	-2.5	34.2	1.17	22.3	4.83	1.3	5	4	4	3	6	13.2	17	22
Uncoded	767	34.50	8.3	11.3	-2.0	25.8	1.01	20.8	4.59	1.5	6	6	5	5	5	14.7	19	22
Duration																		
13.80 to 24.25	69	10.09	11.8	11.0	0.8	21.5	0.95	16.4	4.21	3.5	5	6	5	6	5	11.8	10	10
24.57 to 28.16	69	15.47	11.6	10.9	0.7	26.3	0.94	17.1	4.95	2.4	5	6	5	4	4	11.6	12	11
28.20 to 31.38	69	11.10	11.4	11.7	-0.3	29.9	1.05	20.8	4.81	1.9	6	6	5	3	5	12.7	21	16
31.49 to 35.52	69	14.94	11.4	11.7	-0.3	33.5	1.05	21.9	5.38	1.6	4	4	4	3	6	13.7	15	17
35.64 to 75.21	69	13.45	10.4	11.2	-0.8	43.5	0.96	28.0	8.17	0.8	5	4	5	4	4	17.8	30	27
Uncoded	763	34.35		11.3			1.01	20.8	4.60	1.6	5	5	5	5	5	14.7	19	22

Southwest Gas Corporation
Derivation of Actual Pre-Tax Interest Coverage Based upon
ACC Staff Witness Hill's Recommended Overall Rate of Return and Southwest Gas Corporation's
Average Capital Structure Ratios for the Test Year Ending August 31, 2004

	Average Ratios (1)	Cost Rate	Weighted Cost Rate	Before Income Tax Weighted Cost Rate (2)
Debt	60.2 %	7.61 % (3)	4.58 %	4.58 %
Preferred Equity	5.3	8.20 (3)	0.43	0.43
Common Equity	34.5	10.29 (4)	3.55 (5)	5.92 (6)
Total	100.0		8.56 %	10.93 % (3)

Before Income tax coverage of all interest charges: (7) 2.18 x

Standard & Poor's Financial Target Ratios for a Utility with a Bond Rating of BBB and a Business Position of 4 (from Sheet 2 of this Exhibit):

Pre-tax Interest Coverage:	2.2 x - 3.3 x
Midpoint	2.75 x
Total Debt / Total Capital	49.5% - 57.0%
Midpoint	53.25%
Equity / Total Capital (implied)	43.0% - 50.5%
Midpoint	46.75%

Notes:

(1) From page 9 of Company Witness Theodore K. Wood's Direct Testimony.

(2) Based upon an assumed combined federal and state income tax rate of 40.0% See Exhibit __(SHG-1), Schedule 11.

(3) From Exhibit __(SGH-1), Schedule 11.

(4) Derived as the weighted cost rate of common equity (3.55%) derived in Note 5, below, divided by the common equity ratio (34.5%). 10.29% = 3.55% / 34.5%.

(5) Derived as the before income tax weighted cost rate of common equity (5.92%) derived in Note 6, below, multiplied by the complement of the combined federal and state income tax rate of 40.0%, i.e., 60.0% (1 - 40.0%). 3.55% = 5.92% * 60.0%.

(6) Derived as the sum of the before income tax weighted cost rates of total debt (4.58%) and preferred equity (0.43%) subtracted from ACC Staff Witness Hill's recommended before income tax overall rate of return of 10.93% (see Exhibit __(SGH), Schedule 11. 5.92% = 10.93% - (4.58% + 0.43%) = 10.93% - 5.01%.

(7) 2.18x = 10.93% / (4.58% + 0.43%)

Cover Story (continued from page 1)

Revised Utility Group Financial Targets*

FFO to total debt

Business position	'AA'		'A'		'BBB'		'BB'		'B'	
1	20.0	16.5	16.5	12.5	12.5	7.0	<7.0		-	-
2	25.0	21.0	21.0	16.0	16.0	10.5	<10.5		-	-
3	31.5	26.0	26.0	20.0	20.0	14.0	14.0	9.5	9.5	4.0
4	36.5	30.5	30.5	24.5	24.5	17.5	17.5	12.0	12.0	6.0
5	40.0	33.0	33.0	27.0	27.0	20.5	20.5	15.0	15.0	7.5
6	47.0	39.0	39.0	31.0	31.0	22.0	22.0	16.0	16.0	8.5
7	56.0	47.0	47.0	36.5	36.5	24.5	24.5	17.0	17.0	9.5
8	66.0	55.0	55.0	42.5	42.5	27.5	27.5	18.5	18.5	11.0
9	-	-	64.5	49.5	49.5	32.0	32.0	22.0	22.0	12.5
10	-	-	78.0	60.5	60.5	39.0	39.0	28.0	28.0	17.5

FFO interest coverage

Business position	'AA'		'A'		'BBB'		'BB'		'B'	
1	3.1	2.6	2.6	1.9	1.9	0.9	<0.9		-	-
2	3.9	3.3	3.3	2.5	2.5	1.5	<1.5		-	-
3	4.5	3.9	3.9	3.1	3.1	2.1	2.1	1.3	1.3	0.5
4	5.1	4.5	4.5	3.8	3.8	2.7	2.7	1.8	1.8	0.9
5	5.4	4.8	4.8	4.0	4.0	3.0	3.0	2.1	2.1	1.1
6	6.6	5.7	5.7	4.5	4.5	3.1	3.1	2.2	2.2	1.2
7	8.4	7.0	7.0	5.1	5.1	3.3	3.3	2.3	2.3	1.3
8	10.2	8.3	8.3	5.9	5.9	3.5	3.5	2.4	2.4	1.5
9	-	-	9.5	7.1	7.1	4.3	4.3	2.9	2.9	1.8
10	-	-	11.3	8.6	8.6	5.3	5.3	3.6	3.6	2.3

Pretax interest coverage

Business position	'AA'		'A'		'BBB'		'BB'		'B'	
1	2.8	2.4	2.4	1.8	1.8	0.8	<0.8		-	-
2	3.4	2.9	2.9	2.3	2.3	1.3	<1.3		-	-
3	4.0	3.4	3.4	2.8	2.8	1.8	1.8	1.1	1.1	0.3
4	4.6	4.0	4.0	3.3	3.3	2.2	2.2	1.3	1.3	0.5
5	5.0	4.3	4.3	3.5	3.5	2.4	2.4	1.5	1.5	0.6
6	6.2	5.2	5.2	4.0	4.0	2.6	2.6	1.6	1.6	0.7
7	8.0	6.5	6.5	4.7	4.7	2.8	2.8	1.8	1.8	0.9
8	8.9	8.0	8.0	5.5	5.5	3.0	3.0	2.0	2.0	1.1
9	-	-	9.1	6.6	6.6	3.7	3.7	2.5	2.5	1.4
10	-	-	11.1	8.4	8.4	5.0	5.0	3.3	3.3	1.8

Total debt to total capital

Business position	'AA'		'A'		'BBB'		'BB'		'B'	
1	50.5	55.0	55.0	60.5	60.5	67.5	>67.5		-	-
2	46.5	51.0	51.0	56.5	56.5	63.5	>63.5		-	-
3	42.0	47.5	47.5	53.0	53.0	61.0	61.0	67.0	67.0	74.0
4	37.5	43.0	43.0	49.5	49.5	57.0	57.0	64.0	64.0	72.5
5	36.0	41.5	41.5	47.0	47.0	55.0	55.0	62.5	62.5	71.0
6	32.5	39.5	39.5	46.0	46.0	53.5	53.5	60.5	60.5	69.0
7	30.5	37.5	37.5	45.0	45.0	52.5	52.5	59.5	59.5	68.0
8	28.0	35.0	35.0	43.0	43.0	51.5	51.5	58.0	58.0	66.0
9	-	-	30.0	39.0	39.0	47.5	47.5	54.0	54.0	61.5
10	-	-	24.0	33.0	33.0	40.5	40.5	46.0	46.0	53.0

*As of June 1999 FFO—Funds from operations

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Southwest Gas Corporation

Systematic and unsystematic Risk for Southwest Gas Corporation, Southwest Gas Co.'s Witness Hanley's Proxy Group of Five Gas Distribution Companies and Proxy Group of Eleven Value Line Gas Distribution Companies and RUCO's Witness Rigsby's Proxy Group of Ten Value Line Gas Distribution Companies

Company	1 Adjusted Beta	2 Unadjusted Beta	3 Total Risk	4 R-squared (1)	5 Percent of Unsystematic Risk (2)
Southwest Gas Corporation	0.75	0.60	1.00	0.22	0.78
Southwest Gas Co.'s Witness Hanley's Proxy Group of Five Gas Distribution Companies					
AGL Resources, Inc.	0.85	0.72	1.00	0.32	0.68
Cascade Natural Gas Corp.	0.75	0.61	1.00	0.14	0.86
NICOR Inc.	1.10	1.09	1.00	0.29	0.71
Northwest Natural Gas Co.	0.70	0.48	1.00	0.19	0.81
Piedmont Natural Gas Co., Inc.	0.75	0.59	1.00	0.25	0.75
Average	0.83	0.70	1.00	0.24	0.76
Southwest Gas Co.'s Witness Hanley's Proxy Group of Eleven Value Line Gas Distribution Companies					
AGL Resources, Inc.	0.85	0.72	1.00	0.32	0.68
Cascade Natural Gas Corp	0.75	0.61	1.00	0.14	0.86
Energen Corp.	0.70	0.53	1.00	0.09	0.91
KeySpan Corp.	0.80	0.65	1.00	0.25	0.75
Laclede Group	0.75	0.59	1.00	0.22	0.78
NICOR Inc.	1.10	1.09	1.00	0.29	0.71
Northwest Natural Gas Co.	0.70	0.48	1.00	0.19	0.81
Peoples Energy Corp.	0.80	0.69	1.00	0.28	0.72
Piedmont Natural Gas Co., Inc.	0.75	0.59	1.00	0.25	0.75
South Jersey Industries, Inc.	0.60	0.37	1.00	0.13	0.87
WGL Holdings Inc.	0.80	0.62	1.00	0.33	0.67
Average	0.78	0.63	1.00	0.23	0.77
Average for RUCO Witness Rigsby's Proxy Group of Ten Value Line Gas Distribution Companies (3)	0.79	0.64	1.00	0.24	0.76

Notes:
(1) Percent of systematic risk
(2) Column 3 - Column 4. Equivalent to Var(e) (*residual variance* or the *standard error squared*) / Var(r_i) (total risk of the ith asset) from Sheets 3 and 4 of Exhibit ___(FJH-28).
(3) Identical to the Proxy Group of Eleven Value Line Gas Distribution Companies with the exclusion of Energen Corp.

Source of Information: Value Line, Inc., September 15, 2005 (proprietary data base)

Exhibit ___(FJH-32)
Sheet 2 of 2

Southwest Gas Corporation
Bond Ratings and Business Profiles of
Southwest Gas Corporation, Southwest Gas Co s Witness Hanley's Proxy Group of Five Gas Distribution Companies and Proxy Group of Eleven Value Line Gas Distribution Companies and RUCO's Witness Rigsby's Proxy Group of Ten Value Line Gas Distribution Companies

	August 2005 Moody's Bond Rating		August 2005 Standard & Poor's Bond Rating		Standard & Poor's Business Profile (2)
	Bond Rating	Numerical Weighting (1)	Bond Rating	Numerical Weighting (1)	
Southwest Gas Corporation	Baa2	9.0	BBB-	10.0	3.0
Southwest Gas Co.'s Witness Hanley's Proxy Group of Five Gas Distribution Companies					
AGL Resources, Inc. (3)	A3	7 0	A-	7 0	3.0
Cascade Natural Gas Corp	Baa1	8.0	BBB+	8 0	2 0
NICOR, Inc (4)	Aa3	4.0	AA	3.0	2 0
Northwest Natural Gas Co	A2	6.0	A+	5.0	1 0
Piedmont Natural Gas Co.. Inc	A3	7.0	A	6.0	2.0
Average	A2	6.4	A	5.8	2.0
Southwest Gas Co.'s Witness Hanley's Proxy Group of Eleven Value Line Gas Distribution Companies					
AGL Resources, Inc (3)	A3	7 0	A-	7 0	3.0
Cascade Natural Gas Corp	Baa1	8.0	BBB+	8.0	2 0
Energen Corp. (5)	A1	5.0	BBB+	8.0	2 0
KeySpan Corp. (6)	A2	6.0	A+	5.0	2 0
Laclede Group (7)	A3	7 0	A	6.0	3 0
NICOR, Inc (4)	Aa3	4.0	AA	3.0	2.0
Northwest Natural Gas Co.	A2	6.0	A+	5.0	1 0
Peoples Energy Corp. (8)	Aa3	4 0	A-	7 0	2.0
Piedmont Natural Gas Co., Inc.	A3	7 0	A	6.0	2.0
South Jersey Industries, Inc (9)	Baa1	8.0	A	6 0	2.0
WGL Holdings (10)	A2	6.0	AA-	4.0	2.0
Average	A2	6.2	A	5.9	2.1
Average for RUCO Witness Rigsby's Proxy Group of Ten Value Line Gas Distribution Companies					
AGL Resources. Inc. (3)	A3	7 0	A-	7 0	3.0
Cascade Natural Gas Corp.	Baa1	8 0	BBB+	8 0	2.0
KeySpan Corp. (6)	A2	6.0	A+	5 0	2.0
Laclede Group (7)	A3	7 0	A	6.0	3.0
NICOR, Inc (4)	Aa3	4.0	AA	3.0	2 0
Northwest Natural Gas Co	A2	6 0	A+	5.0	1 0
Peoples Energy Corp. (8)	Aa3	4 0	A-	7 0	2 0
Piedmont Natural Gas Co., Inc.	A3	7 0	A	6 0	2.0
South Jersey Industries, Inc (9)	Baa1	8.0	A	6.0	2 0
WGL Holdings (10)	A2	6.0	AA-	4.0	2.0
Average	A2	6.3	A	5.7	2.1

Notes:
(1) From Sheet 3 of Exhibit __(FJH-11)
(2) From Standard & Poor's U.S. Utilities and Power Ranking List, September 14, 2005.
(3) Ratings and business profile are those of Atlanta Gas Light Company and Pivotal Utility Holdings (formerly NUI Utilities)
(4) Ratings and business profile are those of NICOR Gas Co.
(5) Ratings and business profile are those of Alabama Gas Corporation
(6) Ratings and business profile are a composite of those of Boston Gas Co . Colonial Gs Co. and KeySpan Energy Delivery Long Island
(7) Ratings and business profile are those of Laclede Gas Co.
(8) Ratings and business profile are a composite of those of North Shore Gas Company and Peoples Gas Light & Coke Company
(9) Ratings and business profile are those of South Jersey Gas Company
(10) Ratings and business profile are those of Washington Gas Light Company

Source of Information: Moody's Investors Service
Standard & Poor's Global Utility Rating Service

NATURAL GAS (DISTRIBUTION)

INDUSTRY TIMELINESS: 96 (of 98)

The Natural Gas Distribution Industry's Timeliness rank has fallen one notch since our last report in March: 96 (of 98). March-period earnings for most of the gas utilities we cover were down year over year as a result of milder temperatures across most of the United States. This will likely affect full-year earnings since most of these distribution companies' profits are derived during the winter quarters (March and December).

Regulated Utilities

The key features of gas-utility stocks are their safety and better-than-average dividend yields, *not* price performance or appreciation potential. Local distribution companies (LDCs) are natural gas utilities that are regulated by both individual state and/or federal regulatory agencies. They are considered *natural monopolies* since it is more cost-efficient to build one pipeline system to serve a region, versus multiple distributors competing over the same location. As a result of the government allowing each company to operate essentially as a monopoly, regulators set allowable rates of return that each company is able to earn. Should earnings be less than the permitted rate, the company is able to petition regulators for higher rates. This has been the case at *SEMCO*, which has received a $7 million-per-year increase in Michigan. *Southern Union* received a $22.5 million rate increase at its Missouri Gas Light Energy unit, and is petitioning for an additional increase. These increases will likely lead to higher profit levels at these companies. However, should distributors earn profits in excess of their allowable rates over an extended period, they may be subject to a regulatory review. If it is determined that they are in fact exceeding their permitted rates, they may be subject to a rate reduction.

Nonregulated Activities

The gas distribution industry has experienced some changes over the past decade. In 1992, The Federal Energy Regulatory Commission, instituted Order 636, which required pipeline operators to unbundle transportation and storage services, along with guaranteeing gas marketers access to their distribution networks. As a result, many distribution companies have entered into activities outside of their core distribution operations. These activities include retail-energy marketing, energy trading, and oil and gas exploration and production. *Piedmont Natural Gas*, for example, intends to grow its nonregulated segment to at least 15% of total earnings. In fact, most companies in this industry have some portion of their earnings coming from nonregulated operations, and are looking to boost their percentage of earnings from this segment in the coming years. Furthermore, as profits in nonregulated operations rise, regulatory agencies seem less likely to give out rate increases. This is the tradeoff they face, as nonregulated activities have no restrictions on their return on equity.

Natural gas prices

The higher natural gas prices of late have primarily benefited those companies that are involved in nonregulated activities. In fact, gas distributors are actually hurt by rising gas prices. They continue to earn their allowable return on equity, but the added costs of gas are passed onto customers. This can sometimes result in the loss of customers, additional conservation among customers, along with an increase in bad debt expense.

Conservative Investment

The stocks in this industry offer income-oriented investors good stock-price stability. With the volatility of the stock market in recent years, many investors have grown concerned over the value of their nest eggs. For conservative, income-oriented investors, many stocks in this industry have a lot to offer, not the least of which is a steady stream of income. Indeed, most of these shares offer above-average dividend yields compared to the rest of the stocks covered in *The Value Line Investment Survey*. Should interest rates continue to go up, however, other income-oriented investments may become more attractive and cause some downward pressure on the industry.

Still, there is great deal of diversity in constituents of this industry. The biggest differences are usually seen with nonregulated business segments. As companies shift toward these businesses, they increase the potential for capital appreciation and risk of capital loss. Moreover, companies making a concerted push to nonregulated businesses may be less generous with dividend increases, preferring to use money to build new ventures rather than pay it out to shareholders. Investors should pay close attention to this factor when making commitments here.

Evan I. Blatter

Composite Statistics: Natural Gas (Distribution)

2001	2002	2003	2004	2005	2006		08-10
27611	22947	29981	33220	35000	37950	Revenues ($mill)	42000
1070.4	1231.5	1395.3	1735.9	1750	1850	Net Profit ($mill)	2100
39.7%	35.3%	37.4%	35.6%	36.0%	36.0%	Income Tax Rate	36.0%
3.9%	5.4%	4.7%	5.2%	5.0%	4.9%	Net Profit Margin	5.0%
57.4%	57.6%	55.9%	53.2%	53.0%	53.0%	Long-Term Debt Ratio	52.5%
41.5%	41.4%	43.7%	45.7%	45.0%	45.0%	Common Equity Ratio	45.5%
24342	24907	28436	31268	33500	35400	Total Capital ($mill)	39450
24444	25590	31732	32053	33500	35000	Net Plant ($mill)	40000
6.1%	6.6%	6.4%	7.1%	7.0%	7.0%	Return on Total Cap'l	7.0%
10.3%	11.7%	11.1%	11.9%	12.0%	12.0%	Return on Shr. Equity	12.5%
10.5%	11.8%	11.2%	12.0%	12.0%	12.0%	Return on Com Equity	12.5%
2.5%	3.9%	4.1%	5.5%	5.5%	5.5%	Retained to Com Eq	5.5%
76%	68%	64%	55%	60%	60%	All Div'ds to Net Prof	60%
16.8	14.8	14.1	13.6	Bold figures are Value Line estimates		Avg Ann'l P/E Ratio	13.0
.86	.81	.80	.72			Relative P/E Ratio	.87
4.5%	4.5%	4.5%	4.0%			Avg Ann'l Div'd Yield	4.6%
244%	280%	314%	308%	315%	330%	Fixed Charge Coverage	375%

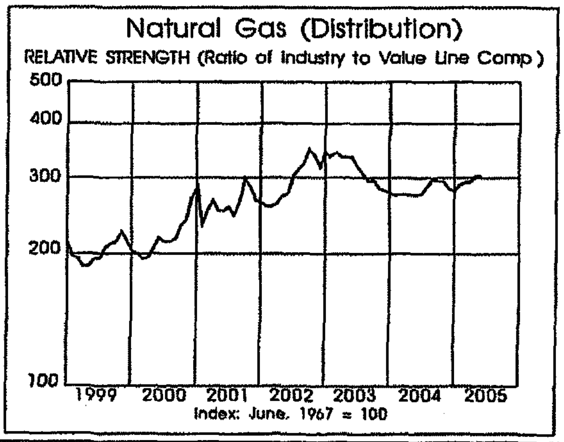

Exhibit___ (FJH-34)
Sheet 1 of 1

Southwest Gas Corporation
Return on Average Book Common Equity for the Years 1997 through 2003 for
RUCO Witness Rigsby's Proxy Group of Ten Value Line Gas Distribution Companies

RUCO Witness Rigsby's Proxy Group of Ten Value Line Gas Distribution Companies	2003	2002	2001	2000	1999	1998	1997	7 YEAR AVERAGE
AGL Resources, Inc.	16.30 %	14.91 %	13.76 %	11.09 %	11.31 %	12.63 %	12.66 %	
Cascade Natural Gas Corp.	8.03	9.13	14.32	13.16	12.02	8.11	9.16	
KeySpan Corp.	12.04	13.42	8.33	10.22	7.80	(6.88)	11.97	
Laclede Group, Inc.	11.83	7.78	10.64	9.15	9.63	10.96	13.18	
NICOR, Inc.	15.55	17.84	17.25	6.21	16.05	15.45	17.30	
Northwest Natural Gas Company	8.61	8.73	10.38	10.29	10.08	6.35	11.34	
Peoples Energy Corp.	12.57	11.05	12.27	11.18	12.27	10.90	14.08	
Piedmont Natural Gas Co., Inc.	10.93	10.82	12.04	12.57	12.25	13.74	13.42	
South Jersey Industries, Inc.	14.34	12.84	12.73	12.75	12.40	8.06	10.65	
WGL Holdings Inc.	14.18	5.03	10.99	11.93	10.44	11.25	14.06	
Average	12.44 %	11.16 %	12.27 %	10.86 %	11.43 %	9.06 %	12.78 %	11.43 %

Source of Information: Exhibit ___(FJH-1), Sheet 4 of 4.

Exhibit___ (FJH-35)
Sheet 1 of 3

REGULATORY FINANCE:

UTILITIES' COST OF CAPITAL

Roger A. Morin, PhD

in collaboration with
Lisa Todd Hillman

1994
PUBLIC UTILITIES REPORTS, INC.
Arlington, Virginia

where $E(K)$ = expected return, or cost of capital

$E(R_F)$ = expected risk-free rate

$E(\beta)$ = expected beta

$E(R_M)$ = expected market return

The difficulty is that the CAPM model is a prospective model while most of the available capital market data required to match the three theoretical input variables (expected risk-free return, expected beta, and expected market return) are historical. None of the input variables exists as a separate identifiable entity. It is thus necessary in practice to employ different proxies, with different results obtained with each set of proxy variables. Each of the three required inputs to the CAPM is examined below.

Risk-free Rate

Theoretically, the yield on 90-day Treasury bills is virtually devoid of default risk and subject to a negligible amount of interest rate risk. But, as seen in the previous chapter, the T-bill rate fluctuates widely, leading to volatile and unreliable equity return estimates, and it does not match the equity investor's planning horizon. Equity investors generally have an investment horizon far in excess of 90 days. More importantly, short-term Treasury bill yields reflect the impact of factors different from those influencing long-term securities, such as common stock. For example, the premium for expected inflation absorbed into 90-day Treasury bills is likely to be far different than the inflationary premium absorbed into long-term securities yields. The yields on long-term Treasury bonds match more closely with common stock returns. For investors with a long time horizon, a long-term government bond is almost risk-free.

In their well-known corporate finance textbook, Brigham and Gapenski (1991) stated the following:[3]

> Treasury bill rates are subject to more random disturbances than are Treasury bond rates. For example, bills are used by the Federal Reserve System to control the money supply, and bills are also used by foreign governments, firms, and individuals as a temporary safe-house for money. Thus, if the Fed decides to stimulate the economy, it drives down the bill rate, and the same thing happens if trouble erupts somewhere in the world and money flows into the United States seeking a temporary haven.

[3] See Brigham and Gapenski (1991).

Harrington (1987) took an even more practical approach in estimating the risk-free rate. Unlike most theoretical textbooks, Harrington suggests looking at this from the point of view of a practitioner who has a real problem:

> Because of the empirical evidence, the intercept is consistently higher than a Treasury security and the fact that a Treasury bill rate is heavily influenced by Federal Reserve activity and is thus not a free-market rate, many practitioners suggest the use of a long-term government rate or an AA industrial bond rate as a proxy for the risk-free rate . . . . Because U.S. Treasury bills are usually considered the closest available approximation to a risk-free investment, the discount rate on Treasury bills is often used as a risk-free rate. This creates some very serious problems, however, because the rate of Treasury bills like that on most short-term marketable instruments is quite volatile. One way to approach the problem of dealing with the risk premium factor is to use the long-term interest rate instead of the risk-free rate....The most widely used proxies, 30 or 90-day Treasury bill rates, are empirically inadequate and theoretically suspect.[4]

While the spot yield on long-term Treasury bonds provides a reasonable proxy for the risk-free rate, the CAPM specifically requires the expected spot yield. Market forecasts of rates on Treasury bonds are available in the form of interest rate futures contract yields, and can be employed as proxies for the expected yields on Treasury securities.

Over the last 50 years, the Treasury bill rate has approximately equaled the annual inflation rate, as demonstrated in Fama (1975) and Ibbotson Associates (1993). Refined techniques to forecast inflation based on the current shape of the yield curve could thus be employed to obtain the expected risk-free rate.[5] Alternately, the consensus inflation forecast by economists over the requisite horizon could be employed to derive the risk-free rate estimate. However, none of these techniques is likely to provide superior estimates to that supplied by current yield data. The complexity and computational costs are likely to outweigh their marginal usefulness.

In practice, sensitivity analyses employing various input values for the risk-free rate can produce a reasonably good range of estimates of equity costs. For example, for a risk-free rate range of 7% to 8% and a market

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[4] See Harrington (1987).

[5] See Ibbotson and Sinquefield (1982) for a description of the methodology of forecasting future security yields based on yield curve analysis.

WOOD

Southwest Gas Corporation
Docket No. G-01551A-04-0876

Table of Contents
of
Prepared Rejoinder Testimony
of
THEODORE K. WOOD

BEFORE THE ARIZONA CORPORATION COMMISSION

Prepared Rejoinder Testimony
of
THEODORE K. WOOD

INTRODUCTION

Q. 1 Please state your name and business address.

A. 1 My name is Theodore K. Wood. My business address is 5241 Spring Mountain Road, Las Vegas, Nevada 89150-0002.

Q. 2 Did you sponsor direct and rebuttal testimony on behalf of Southwest in this proceeding?

A. 2 Yes.

Q. 3 What is the purpose of your rejoinder testimony?

A. 3 The purpose of my rejoinder testimony is to respond to specific aspects of the surrebuttal testimony presented by Stephen G. Hill, witness for the Arizona Corporation Commission Utilities Division Staff (Staff) regarding his recommendations and comments concerning capital structure. My rebuttal and rejoinder testimonies may not specifically respond to each issue or argument brought forth by the respective intervening parties in their direct and surrebuttal testimony. My silence should not be taken as acceptance of any intervening party's position, but rather that my previously filed direct and rebuttal testimonies adequately support the Company's position.

Q. 4 Did you prepare any exhibits to support your rejoinder testimony?

A. 4 Yes. I prepared the exhibits identified as Rejoinder Exhibit No.__(TKW-1) and Rejoinder Exhibit No.__(TKW-4).

Q. 5 Please summarize the specific issues your rejoinder testimony will address.

A. 5 My rejoinder testimony will address certain comments made by Mr. Hill in his surrebuttal testimony concerning the appropriate ratemaking capital structure that should be used in this proceeding.

STAFF'S RECOMMENDED CAPITAL STRUCTURE

Q. 6 Before responding to specific comments and details of Mr. Hill's testimony, do you have any general comments regarding his testimony?

A. 6 Yes. A common theme contained in Mr. Hill's direct and continuing in his surrebuttal testimony, is his mischaracterization of the use of a hypothetical capital structure by: (1) classifying it as a subsidy to the Company; (2) claiming it provides the Company a means to earn in excess of the allowed return set by the Commission; and (3) claiming it provides for returns on equity that the Company does not have. The simple fact of the matter is that the Company's cost of common equity is higher than the average of the proxy groups used in this proceeding, which is required to compensate for the Company's relatively higher investment risk. The use of the hypothetical capital structure adjusts for the difference in leverage and, in doing so, protects the Company's ability to provide necessary service, attract capital on a reasonable basis, and maintain its financial integrity, all of which have benefits to the Company's customers. Mr. Hill's characterization of the hypothetical capital structure as providing anything more than the Company's required risk-adjusted rate of return is misleading.

Q. 7 What is your response to Mr. Hill's criticism on page 3 of his surrebuttal testimony, wherein he states that you have failed to mention the regulatory precedent by the Commission for establishing the hypothetical capital structure?

A. 7 In both my direct and rebuttal testimony, I have cited the regulatory precedent for employing a hypothetical capital structure, including the Company's currently authorized capital structure by this Commission (Theodore Wood Direct Testimony, page 23). It is further important to point out that the Commission has previously authorized a hypothetical capital structure which contains a higher equity component for the Company than the 42 percent the Company and RUCO are recommending or the 40 percent that Staff has recommended. In Decision No. 57075, the Commission allowed for a hypothetical capital structure with 45 percent common equity component.

Q. 8 What is your response to Mr. Hill's comments on pages 3 and 4 of his surrebuttal testimony concerning the Company's efforts to improve its capital structure?

A. 8 Mr. Hill testifies that the facts regarding the issuance of additional common stock, in isolation, do not support the Company's requested 42 percent common equity ratio. I believe as does Mr. Hill (Stephen Hill Surrebuttal Testimony, page 3) that the Company's common stock issuances should not be viewed in isolation, because to understand the Company's current capital structure you need to analyze the circumstances of the Company, including, without limitation, the Company's operating and regulatory environment, the resulting achieved financial performance, and the Company's efforts to manage its capital structure.

In my rebuttal testimony, I provided some key financial statistics for the time period 1994-2004. During this time period, the Company experienced an annual customer growth rate of 5.6 percent (adding 680,739 customers) and had capital expenditure requirements of approximately $2.3 billion. The Company's ability to finance growth and improve its capital structure has been negatively impacted by the Company's substandard returns, in which the Company has realized an average return on common equity of 6 percent.

Concerning the Company's financial performance, Mr. Hill states he believes:

> "a regulated utility should have an opportunity, under efficient and effective management, to earn the return it is allowed. If there are technical impediments to that end that can be addressed in regulatory format, then they should be addressed" (Stephen Hill Surrebuttal Testimony, page 8).

The Company has been proactive in the regulatory arena to address issues that have impacted the Company's financial performance. During the time period 1994-2005, the Company has filed 15 general rate cases in its natural gas jurisdictions. In this current proceeding, the Company has presented rate design proposals to address the issue of declining average customer usage which has negatively impacted the Company's ability to earn its authorized rate of return. While the Company has filed general rate cases to address the issues affecting its financial performance, the Company has also been detrimentally impacted in the process by regulatory lag. Nowhere in Mr. Hill's testimony does he address the key factors that have impaired the Company's ability to improve its capital structure beyond a 37 percent equity ratio, despite its good faith efforts. The Company's circumstances are germane to setting the hypothetical capital structure in this proceeding, and should be strongly considered by the Commission.

Q. 9 What is your response to Mr. Hill's comments on pages 3 and 4 of his surrebuttal testimony, wherein Mr. Hill states that the Company's efforts to add additional common equity would only be important if and only if the amount of common equity ratio had increased?

A. 9 First, regardless of whether the common equity ratio has increased, Southwest's efforts are still important because it demonstrates the Company's commitment and efforts to improve its capital structure.

Second, Mr. Hill is incorrect when he suggests the Company's common equity ratio has not increased since 1995. Mr. Hill states that the Company had a common equity ratio of 36.9 percent in 1995 and has about the same common equity ratio currently of 36.7 percent. This comparison is misleading, as the common equity ratios he compares are not a proper comparison. For the 1995 common equity ratio, Mr. Hill references his Exhibit__(SGH-1), Schedule 2, Page 3 of 6, which he constructed from data obtained from the MSN MoneyCentral website. The website provides the Company's debt-to-equity ratio, but does not provide the common equity ratio, so I assume that Mr. Hill solved for the corresponding equity ratio based on the reported debt-to-equity ratio[1]. Mr. Hill compares this

[1] Percent Equity = 1 / (Debt-to-Equity Ratio+1)

to Southwest's reported Company consolidated common equity ratio as of June 30, 2005.

In order to make an accurate assessment of the Company's equity ratio improvement, one can not use two different bases for computing equity ratios and then make a comparison. In order to accurately assess the Company's improvement, I have provided the Company's common equity ratios for the time period 1995 through June 2005 in Rejoinder Exhibit No.__(TKW-1). The Company had a common equity ratio in 1995 of 31.1 percent, which has improved to 37.0 percent as of June 30, 2005. Based on this data, clearly the Company has improved its common equity ratio since 1995, despite the financial challenges from the combination of rapid customer growth and the Company's inability to earn its authorized rate of return.

Q. 10 What is your response to Mr. Hill's comments on pages 4 and 5 of his surrebuttal testimony, wherein he responds to your criticism about his representation of the average common equity ratio in the natural gas industry as reported by AUS Utility Reports?

A. 10 Mr. Hill testifies that in establishing the appropriate common equity ratio for the hypothetical capital structure it is proper to review the average common equity ratio derived from 30 companies reported by AUS Utility Reports[2], which includes gas

[2] Hill Direct Testimony, Schedule_(SGH-1), Schedule 2, Page 4 of 6.

distribution and integrated natural gas companies. Mr. Hill's justification of this position is found on pages 3 and 4 of his surrebuttal testimony where he states:

> "Those diversified operations are riskier operations than that of a gas distribution utility like Southwest Gas. Firms that carry higher operating risk are optimally capitalized with more equity and less debt than less risky firms. Therefore, relying on the average common equity ratio for both distributors and diversified gas companies (41.7 percent, see Hill Direct, page 23) provides a conservative estimate of an appropriate equity ratio for the less-risky distribution operation."

The fundamental problem with Mr. Hill's justification is that it is not supported by his own data. The average of the 30 companies, which includes the higher risk diversified companies, has a common equity ratio of 41.7 percent which is lower than the 42.7 percent average common equity ratio for the 11 natural gas distribution companies of Mr. Hill's proxy group, which are also included in the 30 company sample. According to Mr. Hill, the natural gas distribution companies are less risky than the diversified companies and, therefore, they should have lower common equity ratios; yet they do not.

The reason why the data does not conform to Mr. Hill's justification is because, as I pointed out in my rebuttal testimony on pages 4 and 5, the sample includes companies that are in financial distress, such as the El Paso Corporation with a 16 percent common equity ratio. The inclusion of companies in financial distress has biased the average common equity ratio to be lower. This fact is supported as the average common equity ratio reported by Mr. Hill of the investment grade companies in the 30-company sample is 43.9 percent[3]. As a result, it is inappropriate to use the average common equity ratio of this 30-company sample to determine the appropriate common equity ratio in this proceeding.

Q. 11 What is your response to Mr. Hill's comments on pages 4 and 5 of his surrebuttal testimony, wherein he responds to your criticism about his representation of the average common equity ratio using total rather than permanent capital structures?

A. 11 The difference between permanent and total capital structures is that a total capital structure includes short-term debt. My concerns with using common equity ratios based on total capital structures are due to the following: (1) the Commission practice to use permanent capital structure for ratemaking; and (2) that it is inappropriate to include short-term debt for rate making capital structures. Utilities generally use short-term debt to finance working capital requirements, including deferred energy

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[3] Hill Direct Testimony, Schedule_(SGH-1), Schedule 2, Page 4 of 6.

balances, and to finance construction work in process. Short-term debt that is used to finance a utility's working capital requirements and deferred energy receivable balances should not be included in setting an allowed rate of return, as this would lead to underestimating the true cost of financing a utility's long-term rate base assets. For example, if a utility was required to finance deferred energy receivable balances, a utility should not be detrimentally impacted by setting a lower allowed rate of return on its long-term rate base assets by including lower cost short-term debt that is used to finance short-term deferred energy balances.

Mr. Hill's criticism is that the assessment of financial risk should be based on total debt, which also includes short-term debt. To accurately make comparisons of capital structures based on total capital structure, which includes short-term debt, then annual average capital structures should be utilized rather than a single point in time during the year. This is due to the seasonal nature of the natural gas distribution business, where operating cash flows and income are higher during the heating season and lower the remainder of the year. Correspondingly, short-term debt balances generally are reduced during the heating season and then build-up outside of the heating season to accommodate the working capital requirements. I have calculated the annual average common equity ratios for Mr. Hill's proxy group for the period 2000-2004, which are displayed in Rejoinder Exhibit No.__(TKW-2) and are based on the reported quarterly capital structures. Utilizing the average total capital structure, the average common equity ratio for Mr. Hill's proxy group is 46.8 percent for 2004 and 44.5 percent for 2003. In comparison to the common equity ratios of Mr. Hill's proxy group based on year end numbers (see Rebuttal Exhibit No.__(TKW-2)), the average common equity ratios reflect higher ratios, after normalizing for the seasonality of the natural gas distribution business.

The Company's requested 42 percent common equity ratio is reasonable when compared to both the average common equity ratios of Mr. Hill's own proxy group and Mr. Hill's standard of reasonableness (Stephen Hill Direct, pages 23 and 24). In addition, the 42 percent equity ratio is consistent with the past Commission practice to set the equity ratio for the hypothetical capital structure above the Company's actual ratio, but below the average of similar-risk natural gas distribution utilities. Provided in Rejoinder Exhibit No.__(TKW-3) is a summary of the average common equity ratios of the proxy groups used by Staff, RUCO, and the Company to estimate the cost of common equity in this proceeding.

Q. 12 Is Mr. Hill correct on pages 4 and 5 of his surrebuttal testimony, wherein he claims that the Company's ratemaking capital structure in this proceeding effectively contains short-term debt?

A. 12 No. Mr. Hill fails to recognize the difference between variable rate long-term debt and short-term debt. As part of the Company's long-term debt, the Company has consistently used revolving bank credit facilities to borrow long-term in the form of London Inter-Bank Offered Rate (LIBOR) based loans or commercial paper, which is used to finance long-term assets of the Company. Even though the interest rate paid on this debt is tied to a short-term rate does not classify it as short-term debt. Under Generally Accepted Accounting Principals, borrowings under a revolving credit agreement may be classified as long-term debt if the credit agreement extends for at least one year beyond the date of the financial statements. The distinction between long-term and short-term debt under a multi-year credit agreement is based on the life of the asset it is used to finance.

The Company currently has a $300 million bank credit facility that expires in April 2010 (5-year maturity). The Company's designation of $150 million of the facility as long-term debt and $150 million as short-term debt is based on the use of the funds. The long-term portion is expected to be outstanding at all times as part of the Company's permanent capital, as it used to finance long-term utility assets, while the short-term portion of the facility is used to finance the Company's working capital requirements, with the outstanding balance fluctuating during the year based on the Company's seasonal working capital needs, including the need to finance purchased gas adjustment balances.

Q. 13 What is your response to Mr. Hill's surrebuttal testimony on pages 6 and 7, where he responds to your criticism of his calculation of the annual impact of the Company's requested capital structure?

A. 13 Mr. Hill correctly states that the required return for the Company's common equity as determined by investors in the market, is based on the Company's actual capital structure. Given that the Company's actual capital structure has more leverage, lower credit ratings, and higher financial risk relative to the proxy group used to estimate the cost of common equity, the Company's investors will require a higher rate of return. Mr. Hill testifies that since Company witness Frank Hanley adjusted his cost of equity recommendation upward for the Company's greater financial risk, it was appropriate to use the same cost of equity in the Company's actual and requested capital structures to compute the annual impact of using the hypothetical capital structure. Mr. Hill is incorrect in his presumption, as the adjustment made by Mr. Hanley was for the difference between the Company's Baa2 bond rating and the proxy group's average bond rating of A2 (Frank Hanley's Direct Testimony, page 53, lines 7 through 14). Given the Company's Standard and Poor's (S&P) business profile of "3" and S&P's Utility Group financial target debt-to-capital ratio, the use of a hypothetical capital structure with a 42 percent common equity ratio is still consistent with a "BBB" credit rating. The adjustment is still appropriate for the difference in the bond ratings of the Company's hypothetical capital structure and the bond ratings of the proxy groups used by Mr. Hanley. Further, as I pointed out in my rebuttal testimony on page 10, Mr. Hanley specifically stated if the Company's actual capital structure were used, his recommended cost of common equity would be higher due to the additional financial risk.

In my rebuttal testimony, pages 9 through 11, I pointed out the critical flaw in Mr. Hill's original calculation was his omission of adjusting the return on equity upward when going from a capital structure with a 42 percent common equity ratio to a capital structure with a 35 percent common equity ratio. In response, Mr. Hill in his surrebuttal testimony, re-estimates the annual impact by adjusting the return on common equity upward by 25 basis points to account for the differences of 700 basis points in the common equity ratio between the Company's actual and hypothetical capital structures. His justification for the adjustment of 25 basis points is based on the 50 basis point range of cost of equity estimates for the highest and lowest risk companies in his proxy group. The key assumption made by Mr. Hill is that his ad hoc 25 basis point adjustment to the return on equity is the correct adjustment to compensate for the differences in capital structures. Mr. Hill provides no other supporting evidence for his adjustment.

Mr. Hanley pointed out in his rebuttal testimony, that Mr. Hill has placed primary reliance on the DCF model for his cost of equity analysis. One of the problems with using the DCF method is that it does not explicitly consider the risk of the investment. As a result, you cannot base adjustments for leverage based on ranges of estimates that were derived from a DCF model. In fact, there is no DCF methodology to adjust for differences in financial risk. This issue was addressed by Bradford Cornell, who stated:

> "From the standpoint of the cost of equity, comparability depends not only on the line of business, but also on financial leverage. Two otherwise identical companies will not have the same cost of equity if they have markedly different capital structures. Whereas

adjustments for leverage can be made using asset-pricing models, in the context of the DCF approach there is no procedure for taking account of differences in financial leverage."[4]

As a result, Mr. Hill's second attempt to estimate the annual impact of the hypothetical capital structure is still suspect and should not be relied on by the Commission.

Q. 14 Please comment on Mr. Hill's assertion on pages 9 and 10 of his surrebuttal testimony that the Company does not have "every incentive" to improve its capital structure.

A. 14 Mr. Hill's assertion that this Company has a ratemaking "scheme" in which the Company has purposely capitalized itself to retain a bottom of the investment grade credit rating in order to take advantage of employing a ratemaking hypothetical capital structure is simply ludicrous. The Company has every incentive to improve its capital structure and improve its bond ratings, and has recently demonstrated this by the additional common stock issued through its $60 million Equity Shelf Program. The majority of the common stock issued through the Equity Shelf Program occurred after the end of the test period and the Company has improved its common equity ratio to 37 percent as of June 30, 2005. Given the fact the Company will continue to experience rapid

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[4] Bradford Cornell, John I. Hirshleifer, and Elizabeth P. James, "Estimating the Cost of Equity Capital", Contemporary Finance Digest, Autumn 1997, 5-26.

customer growth, be required to fund significant levels of capital expenditures, and is now facing significantly higher natural gas prices going into the 2005-2006 heating season, in addition to rising interest rates, the Company needs regulatory support to augment its efforts to improve its capital structure and its bottom of the investment grade bond rating. The ability for the Company to improve its bond rating was addressed by Standard & Poor's (S&P) in their most recent summary report for the Company (see Rejoinder Exhibit No.__(TKW-4)), where S&P stated:

> "Ratings improvement hinges on achieving better rates of return and rate design improvements in Arizona, as well as maintaining improved regulatory treatment in Nevada."

Over the past decade, the Company has been one of the fastest growing gas distribution utilities in the nation requiring significant infrastructure investment, while at the same time realizing one of the lowest average rates of return on common equity in the natural gas distribution industry. The combination of rapid growth and low realized rates of return has severely impeded the Company's ability to improve its capital structure. As pointed out in my rebuttal testimony, pages 18 and 19, if the Company had earned an industry average return over the time period 1994-

2004, then the Company's common equity ratio would be approximately 47 percent, which is close to the industry average common equity ratio. The Company's target capital structure is management's choice. However, the Company's inability to achieve its target capital structure, despite the tangible efforts made by the Company as demonstrated by the large amounts of common stock issuances, is much more a function of the Company's rapid growth rate environment and below-authorized rates of return. In order to achieve and sustain the goal of an improved capital structure, the Company needs an improved opportunity to achieve its authorized rate of return.

Q. 15 Does this conclude your prepared rejoinder testimony?

A. 15 Yes, it does.

SOUTHWEST GAS CORPORATION
COMMON EQUITY RATIO
FOR THE YEAR ENDED DECEMBER 31

Year	Percent Common Equity
1995	31.10%
1996	34.80%
1997	31.70%
1998	35.60%
1999	35.80%
2000	36.20%
2001	33.00%
2002	34.30%
2003	34.10%
2004	35.31%
June 30, 2005	37.00%

Data from the Company's Monthly Operating Report.

SOUTHWEST GAS CORPORATION
ACC STAFF WITNESS MR. STEPHEN G. HILL'S
PROXY GROUP OF 11 NATURAL GAS DISTRIBUTION COMPANIES

COMMON EQUITY RATIOS BASED ON AVERAGE PERMANENT CAPITAL STRUCTURE[1]

Company	2004	2003	2002	2001	2000	5-Year Average
AGL Resources Inc.	47.80%	47.66%	41.81%	42.30%	48.55%	45.62%
Atmos Energy Corp	52.76%	47.19%	47.29%	53.67%	51.91%	50.56%
Cascade Natural Gas Corp.	47.50%	42.59%	43.00%	50.41%	49.43%	46.59%
Laclede Group, Inc.	50.84%	49.82%	51.84%	53.41%	57.60%	52.70%
New Jersey Resources Corp.	61.50%	59.32%	47.54%	51.63%	52.63%	54.52%
Northwest Natural Gas Co.	52.91%	51.25%	51.15%	51.79%	51.31%	51.68%
Peoples Energy Corp.	50.67%	56.43%	56.85%	56.16%	67.12%	57.45%
Piedmont Natural Gas Co.	57.07%	58.33%	55.56%	55.45%	56.16%	56.51%
South Jersey Industries Inc.	51.54%	47.50%	44.94%	45.45%	46.86%	47.26%
Southwest Gas Corporation	35.22%	34.33%	35.71%	37.62%	35.90%	35.76%
WGL Holdings Inc.	57.80%	56.03%	54.61%	55.97%	56.55%	56.19%
Average	51.42%	50.04%	48.21%	50.35%	52.18%	50.44%
Standard Deviation	6.86%	7.45%	6.54%	6.05%	7.76%	6.37%
Company 's Hypothetical	42.00%	42.00%	42.00%	42.00%	42.00%	42.00%
Difference from Average	9.42%	8.04%	6.21%	8.35%	10.18%	8.44%
Difference in Standard Deviations	1.37	1.08	0.95	1.38	1.31	1.32

COMMON EQUITY RATIOS BASED ON AVERAGE TOTAL CAPITAL STRUCTURE[1]

Company	2004	2003	2002	2001	2000	5-Year Average
AGL Resources Inc.	44.37%	42.31%	34.32%	32.34%	44.16%	39.50%
Atmos Energy Corp	51.32%	44.56%	43.02%	47.47%	40.75%	45.42%
Cascade Natural Gas Corp.	41.81%	41.58%	42.66%	44.69%	48.86%	43.92%
Laclede Group, Inc.	41.80%	38.95%	41.34%	42.05%	46.81%	42.19%
New Jersey Resources Corp.	49.40%	50.23%	44.26%	48.06%	48.37%	48.06%
Northwest Natural Gas Co.	50.06%	48.18%	48.35%	47.36%	48.26%	48.44%
Peoples Energy Corp.	48.01%	47.48%	45.98%	39.93%	47.15%	45.71%
Piedmont Natural Gas Co.	54.78%	51.15%	53.38%	52.08%	50.64%	52.41%
South Jersey Industries Inc.	46.86%	39.52%	35.72%	34.91%	37.17%	38.84%
Southwest Gas Corporation	33.96%	33.95%	33.89%	31.84%	34.16%	33.56%
WGL Holdings Inc.	52.42%	51.07%	50.11%	49.48%	51.56%	50.93%
Average	46.80%	44.45%	43.00%	42.75%	45.26%	44.45%
Standard Deviation	5.96%	5.68%	6.42%	7.11%	5.63%	5.63%
Company 's Hypothetical	42.00%	42.00%	42.00%	42.00%	42.00%	42.00%
Difference from Average	4.80%	2.45%	1.00%	0.75%	3.26%	2.45%
Difference in Standard Deviations	0.81	0.43	0.16	0.11	0.58	0.44

[1] Source - Bloomberg

SOUTHWEST GAS CORPORATION
SUMMARY OF COMMON EQUITY RATIOS

COMMON EQUITY RATIOS BASED ON AVERAGE CAPITAL STRUCTURES[1]

	2004	2003	2002	2001	2000	5-Year Average
ACC Staff (Hill) Proxy Group						
Permanent Capital Structure	51.42%	50.04%	48.21%	50.35%	52.18%	50.44%
Total Capital Structure	46.80%	44.45%	43.00%	42.75%	45.26%	44.45%
RUCO (Rigsby) Proxy Group						
Permanent Capital Structure	51.94%	51.31%	49.90%	51.03%	54.97%	51.83%
Total Capital Structure	46.98%	44.34%	43.57%	42.54%	47.39%	44.97%
Southwest (Hanley) Proxy Groups						
Proxy Group 1 - 5 Companies						
Permanent Capital Structure	53.06%	52.78%	51.06%	52.38%	54.12%	52.68%
Total Capital Structure	47.97%	45.89%	46.02%	45.14%	48.55%	46.71%
Proxy Group 2 - 11 Companies						
Permanent Capital Structure	52.49%	51.52%	49.70%	50.35%	53.90%	51.59%
Total Capital Structure	47.64%	45.19%	43.94%	42.63%	47.82%	45.44%

Recommended Common Equity Ratio	
ACC Staff	40.00%
RUCO	42.00%
Southwest	42.00%
Average Authorized[2]	47.50%

[1] Source: Bloomberg
[2] Average authorized common equity ratio for natural gas distribution companies litigated rate cases for the Year 2003 through June 2005.
Source - Company witness Frank J. Hanley's Rebuttal Testimony, Exhibit___(FJH-24), Sheet 1 of 1.

Rejoinder Testimony
Exhibit No.______(TKW-4)
Sheet 1 of 2

STANDARD &POOR'S | RATINGSDIRECT

Return to Regular Format

Research:

Summary: Southwest Gas Corp.

Publication date: 29-Aug-2005
Primary Credit Analyst(s): Andrew Watt, CFA, New York (1) 212-438-7868; andrew_watt@standardandpoors.com

Credit Rating: BBB-/Stable/--

Rationale

Ratings on Southwest Gas Corp. are based on its business position as a regulated local gas distribution company serving the high-growth service territories of Arizona, Nevada, and, to a lesser extent, California. Ratings also reflect improving operating efficiency and a moderate financial profile. These factors are offset by low customer usage due to its geographic location and challenges associated with improving regulatory treatment in certain jurisdictions.

Las Vegas, Nev.-based Southwest Gas, which has about $1.3 billion of debt, has two business segments, natural gas operations and construction services.

The company provides natural gas to more than 1.66 million customers in Arizona (54%), Nevada (36%), and California (10%). The healthy growth rates in service areas in Nevada (around 6% annual customer additions), Arizona (about 4%), and California (less than 2%) continue to require significant capital outlays. However, only about 60% of capital outlays associated with the growth of its service territory are funded by internal cash flow after dividends.

To internally fund a greater portion of its growth, the company is seeking to improve regulatory treatment, particularly in its largest service territory, Arizona. In Arizona, where the rate of return is below normal, the company has a rate case on file seeking $70.8 million to cover increased costs and improve returns. The discovery phase of the rate case is in process and hearings are scheduled for October 2005. An order is expected by first-quarter 2006. The regulatory environment has improved in Nevada, as evidenced by a rate order approved in August 2004 that contains certain rate-design features that mitigate the effect of weather variation.

Although the business profile benefits from a growing service territory, the cost of creating and maintaining the infrastructure and the regulatory lag associated with recovering these costs in rates has a drag on financial performance. For the 12 months ended June 30, 2005, capital expenditures for natural gas operations were about $240 million. However, internal cash flow after common dividends is projected to fund about 60% of total capital expenditures.

Management's cost-reduction efforts have aided operating performance and somewhat mitigated costs associated with its expanding service territory. Nevertheless, certain credit measures still remain weak for the rating. Adjusted debt leverage is expected to remain high at about 65%. However, cash flow interest coverage of 3.5x is satisfactory for the rating.

Liquidity

The company's liquidity is sufficient, with full access to a $300 million credit facility that expires in April 2010. There is $150 million is available for working capital purposes and $150 million for longer-term funding needs and about $8 million of cash on hand (as of June 30, 2005). With continued healthy customer growth, capital outlays will remain substantial and will require external financing. Capital expenditures are likely to exceed $270 million in 2005. Operating cash flows for the past 12 months were negatively affected by rising natural gas prices as undercollected purchase gas adjustment balances were about $58 million as of June 30, 2005. The company uses short-term borrowings to temporarily finance undercollected balances. Natural gas purchases and capital outlays to service growth in the service territory are the primary draws on liquidity.

Outlook

The stable outlook anticipates steady, gradual improvement in credit measures. Timely rate relief and periodic equity infusions should enhance credit measures. As regulation becomes somewhat more accommodating through favorable rate design changes, credit measures should improve. Ratings are unlikely to be lowered in the foreseeable future. Ratings improvement hinges on achieving better rates of return and rate design improvements in Arizona, as well as maintaining improved regulatory treatment in Nevada.

MOSES

Southwest Gas Corporation
Docket No. G-01551A-04-0876

Table of Contents
of
Prepared Rejoinder Testimony
of
LISA E. MOSES

BEFORE THE ARIZONA CORPORATION COMMISSION

Prepared Rejoinder Testimony
of
LISA E. MOSES

INTRODUCTION

Q. 1 Please state your name and business address.

A. 1 My name is Lisa E. Moses. My business address is 5241 Spring Mountain Road, Las Vegas, Nevada 89150-0002.

Q. 2 Are you the same Lisa E. Moses who previously sponsored rebuttal testimony for Southwest Gas Corporation (Southwest or Company) with respect to this docket?

A. 2 Yes, I am.

Q. 3 What is the purpose of your rejoinder testimony?

A. 3 The purpose of my rejoinder testimony is to provide additional edification regarding Southwest's position with respect to adjustments proposed by the Residential Utility Consumer Office (RUCO) and Arizona Corporation Commission Utilities Division Staff (Staff) with respect to legislative changes occurring after the test period, but effective before new rates are in place. Specifically, my rejoinder testimony further supports a rate base adjustment necessitated by federal legislative changes that became effective for Southwest in 2005. My rebuttal and rejoinder testimony may not specifically respond to each issue or argument brought forth by the respective intervening parties in their direct and surrebuttal testimony. My silence should not be taken as acceptance of any intervening party's position, but rather that my previously filed rebuttal testimony adequately supports the Company's position.

<u>RUCO AND STAFF'S RECOMMENDED ADJUSTMENTS WITH RESPECT TO LEGISLATIVE CHANGES</u>

Q. 4 Please respond to the RUCO and the Staff direct and surrebuttal testimony pertaining to the elimination of the recovery of property taxes with respect to Contributions in Aid of Construction (CIAC) and a property tax assessment ratio of 24.5 percent?

A. 4 RUCO in its direct testimony with respect to both issues, and Staff in its direct testimony for CIAC and its surrebuttal testimony with respect to the assessment ratio, recommend no recovery for property taxes on CIAC and a 24.5 percent assessment ratio for property taxes. Purportedly, the RUCO and the Staff rationale for the non-recovery of property taxes with respect to CIAC and utilizing an assessment ratio of 24.5 percent is to comply with two post-test period legislative changes (one of which would be effective for 2005 and the other for 2006). Southwest is not opposed to recognizing the effect of these two legislative changes, as long as other legislative changes affecting test period items are treated consistently. Specifically, as fully discussed in my rebuttal testimony and in Rebuttal Exhibit No.__(LEM-2), Southwest does not oppose excluding CIAC in the property tax base and the utilization of an assessment ratio of 24.5 percent, as long as there is an increase in rate base of $21,120,694. Southwest asserts that it is only appropriate to make all three changes precipitated by legislative changes. All three changes are effective post-test year, but before new rates go into effect. Furthermore, all three changes are known and measurable before new rates go into effect.

Q. 5 Are Staff and RUCO treating all legislative changes consistently?

A. 5 No. At the time of their direct testimonies, Staff and RUCO could not have been aware of the federal legislative changes with respect to the Simplified Service Cost Method (SSCM) for self-constructed assets. However, in Southwest's rebuttal testimony both Staff and RUCO were provided with copies of the SSCM federal legislation, a discussion of the legislation and its effect on Account No. 282 plant-related deferred taxes and rate base, and an exhibit computing the change in the plant-related deferred taxes as a result of the legislative change. RUCO continues to ignore the effects of the federal legislative change and only considers the legislative changes with respect to property taxes. Staff takes no position regarding the proposed rate base adjustment. Rather, Staff indicates in its surrebuttal testimony that it requires more detailed information regarding the Company's rate base adjustment, and that it will be requesting more information in the future.

Q. 6 Have you received any data requests or other inquiries regarding the proposed rate base adjustment?

A. 6 No, not at this time.

Q. 7 Do you believe that Southwest has provided adequate support describing the federal legislative change, the effect on plant-related deferred taxes which are utilized in calculating rate base, and the appropriateness of making this adjustment?

A. 7 Yes. Southwest provided copies of the regulations and Revenue Ruling as part of its rebuttal testimony on the applicability of post-test period legislative changes. Southwest also described the rationale why it is appropriate to include all known and measurable adjustments that occur post-test period, but prior to new rates being in effect. Also, Southwest provided the actual calculation supporting the $21,120,694 rate base adjustment. Given the federal legislative change regarding the SSCM for self-constructed assets, it is clear to Southwest that the plant-related deferred taxes with respect to the SSCM provided in the original filing are overstated. This overstatement causes the rate base provided in the original rate case filing to be understated (as related to this item) if no adjustment is made for the federal legislative change.

SUPPORT FOR PLANT-RELATED DEFERRED TAX ADJUSTMENT

Q. 8 Can you supply additional schedules that provide additional support for the $21,120,694 rate base adjustment including evidence of amounts reported in tax returns and the general ledger?

A. 8 Yes. I have attached Rejoinder Exhibit No.__LEM-1), Schedules 1 through 10, as additional documentation supporting the $21,120,694 rate base adjustment.

Rejoinder Exhibit No.__(LEM-1), Schedule 1 of 10, summarizes the calculation of the $21,120,694 adjustment (Line 16, col (e)). As of August 31, 2004, the balance of the Company's Account No. 282 plant-related deferred income tax liability included deferred taxes associated with temporary differences created by the Company's election to utilize the SSCM for self-constructed property.

Line 1 of Rejoinder Exhibit No.__(LEM-1), Schedule 1 of 10, provides the allocation to various jurisdictions of the $87,360,477 IRC Section 481 adjustment reported as a deduction on the Company's 2002 federal income tax return. Line 2 of Rejoinder Exhibit No.__(LEM-1), Schedule 1 of 10, provides the allocation to various jurisdictions of the $20,930,748 IRC Section 263A adjustment reported on the Company's 2002 federal income tax return.

A copy of page one of the 2002 federal income tax return is also included as Rejoinder Exhibit No.__(LEM-1), Schedule 2 of 10. A statement of other deductions attached to the tax return is also included as Rejoinder Exhibit No.__(LEM-1), Schedule 3 of 10. This Schedule documents that the $87,360,477 and

$20,930,748 were deducted on the 2002 tax return for the IRC Section 481 adjustment and the IRC Section 263A adjustment, respectively. Both these deductions are reflected in the Account No. 282 plant-related deferred tax balance at August 31, 2004.

Line 3 of Rejoinder Exhibit No.__(LEM-1), Schedule 1 of 10, provides the allocation to various jurisdictions of the $21,500,000 accrued IRC Section 263A adjustment recorded for the calendar year ended December 31, 2003. Rejoinder Exhibit No.__(LEM-1), Schedules 4 through 6 of 10, are copies of the Company's internal tax accrual workpapers documenting the entry of the $21,500,000 into the Account No. 282 deferred income tax liability. Schedule 4 of 10 calculates the 2003 total temporary difference associated with the Account No. 282 deferred income tax liability ($106,591,948), which includes the $21,500,000. Schedule 5 of 10 adds the 2003 total to the prior balance to provide the Account No. 282 deferred income tax liability account cumulative temporary differences of $792,387,498 at December 31, 2003. Schedule 6 of 10 illustrates the conversion of the cumulative temporary differences to the deferred tax income tax liability balances reflected on the general ledger at December 31, 2003. These schedules demonstrate that the $21,500,000 deduction was included in the deferred tax liability at August 31, 2004.

Line 4 of Rejoinder Exhibit No.__(LEM-1), Schedule 1 of 10, provides the allocation to the various jurisdictions of the $14,333,334 accrued IRC Section 263A adjustment recorded for the period from January 1, 2004 through August 31, 2004. Rejoinder Exhibit No.__(LEM-1), Schedules 7 through 9 of 10, are copies of the Company's internal tax accrual workpapers recording the entry of the $14,333,334 into the Account No. 282 deferred tax. Schedule 7 of 10 calculates the 2004 total temporary differences associated with the Account No. 282 ($14,177,848), which includes the $14,333,334. Schedule 8 of 10 adds the 2004 total to the prior balance to sum to the Account No. 282 cumulative temporary differences of $709,066,789 at August 31, 2004. Schedule 9 of 10 provides the conversion of the cumulative temporary differences to the deferred tax income tax liability balances reflected in the general ledger at August 31, 2004. These schedules demonstrate that the $14,333,334 deduction was included in the plant-related deferred tax liability at August 31, 2004.

Line 5 of Rejoinder Exhibit No.__(LEM-1), Schedule 1 of 10, provides the total temporary differences associated with the SSCM that are included in the balance of the Arizona Account No. 282 at August 31, 2004.

Lines 7 through 9 of Rejoinder Exhibit No.__(LEM-1), Schedule 1 of 10, provide the estimated temporary differences that are associated with IRC Section 263A after the application of the new income tax regulations. None of the IRC Section 481 adjustment would be allowed and the Company estimates that approximately $1,000,000 per year would be allowed as an IRC Section 263A adjustment. This estimate is based on the 2001 calculation of IRC Section 263A, which was the last year before the SSCM was adopted. Rejoinder Exhibit No.__(LEM-1), Schedule 10 of 10, is a copy of the Company's tax workpapers providing the calculation and allocation of the $945,754 IRC Section 263A adjustment deducted on the 2001 federal income tax return.

Line 10 of Rejoinder Exhibit No.__(LEM-1), Schedule 1 of 10, provides the total temporary differences associated with the SSCM that should be included in the balance of the Arizona Account No. 282 plant-related deferred taxes at August 31, 2004 after applying the new income tax regulations.

Line 11 of Rejoinder Exhibit No.__(LEM-1), Schedule 1 of 10, illustrates the change in the Arizona temporary differences caused by the new tax regulations. A total of $53,430,613 of temporary differences included in the Account No. 282 deferred tax balance at August 31, 2004 should be eliminated. This represents $18,700,715 of federal deferred income tax liability, utilizing a 35 percent federal income tax rate. Applying a 4.53 percent state income tax rate produces a state deferred income tax liability of $2,419,979, which should also be eliminated from the Account No. 282 plant-related deferred taxes. The sum of $18,700,715 and $2,419,979 equals the proposed adjustment to rate base of $21,120,694.

Q. 9 Does this conclude your prepared rejoinder testimony?

A. 9 Yes, it does.

Southwest Gas Corporation
Calculation of Change in Plant-Related Deferred Tax Balance
As a Result of Federal Legislation Effective January 1, 2005

Line No.	Description (a)	Ref (b)	California (c)	Nevada (d)	Arizona (e)	Total Southwest Gas (f)	Other (g)	Total (h)	Line No.
	Temporary Differences Before Tax Law Change								
1	481(a) Adjustment Per 2002 Tax Return	Company Rec.	$ 14,444,096	$ 39,649,259	$ 34,045,504	$ 88,138,859	$ (778,382)	$ 87,360,477	1
2	263A Adjustment Per 2002 Tax Return	Company Rec.	3,779,551	9,817,246	7,118,442	20,715,239	215,509	20,930,748	2
3	Currrent Year 263A Adjustment - 2003 Accrual	Company Rec.	3,500,000	10,000,000	8,000,000	21,500,000			3
4	Currrent Year 263A Adjustment - 1/1/04-8/31/04 Accrual	Company Rec.	2,333,333	6,666,667	5,333,334	14,333,334			4
5	Total Before Tax Law Change	Sum Ln 1 thru Ln 4			$ 54,497,280				5
	Estimated Temporary Differences After Tax Law Change								
6	481(a) Adjustment		$ 0	$ 0	$ 0	$ 0			6
7	Currrent Year 263A Adjustment - 2002		150,000	450,000	400,000	1,000,000			7
8	Currrent Year 263A Adjustment - 2003		150,000	450,000	400,000	1,000,000			8
9	Currrent Year 263A Adjustment - 1/1/04-8/31/04		100,000	300,000	266,667	666,667			9
10	Total After Tax Law Change	Sum Ln 6 thru Ln 9			$ 1,066,667				10
11	Difference Due to Tax Law Change	Ln 5 minus Ln 10			$ 53,430,613				11
12	Federal Income Tax Rate				35%				12
13	Federal Deferred Income Tax Liability - Arizona	Ln 11 x Ln 12			$ 18,700,715				13
14	Federal Deferred Income Tax Liability - Common				0				14
15	State Deferred Income Tax Liability	Ln 19			2,419,979				15
16	Total Deferred Tax Liability Adjustment	Ln 13 + Ln 14 + Ln 15			$ 21,120,694				16
17	481 Adjustment - Total AZ				$ 53,430,613				17
18	Arizona Income Tax Rate net of Federal Benefit				4.53%				18
19	State Deferred Income Tax Liability	Ln 17 x Ln 18			$ 2,419,979				19

Rejoinder Testimony
Exhibit No. __(LEM-1)
Schedule 1 of 10

Form 1120 U.S. Corporation Income Tax Return

Department of the Treasury Internal Revenue Service

For calendar year 2002 or tax year beginning __________, 2002, ending __________

▶ Instructions are separate. See page 20 for Paperwork Reduction Act Notice.

OMB No. 1545-0123

2002

A Check if a:
1 Consolidated return (attach Form 851) X
2 Personal holding co. (attach Sch. PH)
3 Personal service corp. (as defined in Regulations sec. 1.441-3(c) - see instructions)

Name: SOUTHWEST GAS CORPORATION AND SUBSIDIARIES

Number, street, and room or suite no. (If a P.O. box, see page 7 of instructions.): P.O. BOX 98510 (5241 SPRING MOUNTAIN ROAD)

City or town, state, and ZIP code: LAS VEGAS, NV 89193-8510

B Employer identification number: 88-0085720

C Date incorporated: 3/10/1931

D Total assets (see page 8 of instructions): $ 2,370,308,644.

E Check applicable boxes: (1) Initial return (2) Final return (3) Name change (4) Address change

Line	Description		Amount
1a	Gross receipts or sales 1,332,783,638. b Less returns and allowances	c Bal ▶ 1c	1,332,783,638.
2	Cost of goods sold (Schedule A, line 8)	2	804,958,468.
3	Gross profit. Subtract line 2 from line 1c	3	527,825,170.
4	Dividends (Schedule C, line 19)	4	1,700,000.
5	Interest SEE STATEMENT 6	5	4,129,529.
6	Gross rents	6	
7	Gross royalties	7	
8	Capital gain net income (attach Schedule D (Form 1120))	8	6,538,433.
9	Net gain or (loss) from Form 4797, Part II, line 18 (attach Form 4797)	9	4,739,236.
10	Other income (see page 9 of instructions - attach schedule) SEE STATEMENT 6	10	1,423,017.
11	**Total income.** Add lines 3 through 10 ▶	11	546,355,385.
12	Compensation of officers (Schedule E, line 4)	12	9,043,545.
13	Salaries and wages (less employment credits)	13	37,365,651.
14	Repairs and maintenance	14	10,501,411.
15	Bad debts	15	3,888,915.
16	Rents	16	26,826,806.
17	Taxes and licenses SEE STATEMENT 8	17	35,516,200.
18	Interest	18	86,058,553.
19	Charitable contributions (see page 11 of instructions for 10% limitation) SEE STATEMENT 11	19	NONE
20	Depreciation (attach Form 4562) 20: 207,606,637.		
21	Less depreciation claimed on Schedule A and elsewhere on return 21a	21b	207,606,637.
22	Depletion	22	
23	Advertising	23	2,608.
24	Pension, profit-sharing, etc., plans	24	11,744,592.
25	Employee benefit programs	25	19,168,243.
26	Other deductions (attach schedule) SEE STATEMENT 12	26	163,532,198.
27	**Total deductions.** Add lines 12 through 26 ▶	27	611,255,359.
28	Taxable income before net operating loss deduction and special deductions. Subtract line 27 from line 11	28	-64,899,974.
29	**Less:** a Net operating loss (NOL) deduction (see page 13 of instructions) STMT 15 29a		
	b Special deductions (Schedule C, line 20) 29b: 1,700,000.	29c	1,700,000.
30	**Taxable income.** Subtract line 29c from line 28	30	-66,599,974.
31	**Total tax** (Schedule J, line 11)	31	NONE
32	Payments: a 2001 overpayment credited to 2002 32a: 13,568,468.		
	b 2002 estimated tax payments 32b		
	c Less 2002 refund applied for on Form 4466 32c ( ) d Bal ▶ 32d: 13,568,468.		
	e Tax deposited with Form 7004 32e		
	f Credit for tax paid on undistributed capital gains (attach Form 2439) 32f		
	g Credit for Federal tax on fuels (attach Form 4136). See instructions 32g: 90,291.	32h	13,658,759.
33	Estimated tax penalty (see page 14 of instructions). Check if Form 2220 is attached ▶	33	
34	**Tax due.** If line 32h is smaller than the total of lines 31 and 33, enter amount owed	34	
35	**Overpayment.** If line 32h is larger than the total of lines 31 and 33, enter amount overpaid	35	13,658,759.
36	Enter amount of line 35 you want: Credited to 2003 estimated tax ▶ Refunded ▶	36	13,658,759.

Sign Here

Under penalties of perjury, I declare that I have examined this return, including accompanying schedules and statements, and to the best of my knowledge and belief, it is true, correct, and complete. Declaration of preparer (other than taxpayer) is based on all information of which preparer has any knowledge.

Signature of officer: [signature] Date: 9/15/03 Title: VP/CONTROLLER/CAO

May the IRS discuss this return with the preparer shown below (see instructions)? Yes X No

Paid Preparer's Use Only

Preparer's signature: [signature] Date: 9/8/03 Check if self-employed ☐ Preparer's SSN or PTIN: P00106629

Firm's name (or yours if self-employed), address, and ZIP code: PriceWaterhouseCoopers LLP, 400 South Hope Street, Los Angeles, CA 90071-2889

EIN: 13-4008324

Phone no.: 213-236-3000

1120 PAGE 1 DETAIL

LINE 19 - CURRENT YEAR CONTRIBUTIONS

SOUTHWEST GAS CORPORATION

CONTRIBUTIONS & DONATIONS	484,768.
SUBTOTAL	484,768.

NORTHERN PIPELINE CONSTRUCTION

CONTRIBUTIONS	2,900.
SUBTOTAL	2,900.
TOTAL LINE 19 - CURRENT YEAR CONTRIBUTIONS	487,668.

LINE 26 - OTHER DEDUCTIONS

SOUTHWEST GAS CORPORATION

AMORTIZATION	2,607,755.
COMPANY OWNED LIFE INSURANCE	2,691,675.
OTHER DEDUCTIONS	2,957,873.
INSURANCE	3,809,222.
REMOVAL COSTS	3,396,663.
SECTION 481 ADJUSTMENT 263A CHANGE IN ACCT METHOD	87,360,477.
263A ADJUSTMENT	20,930,748.
TRAINING	80,743.
CLEAN FUEL DEDUCTION	262,000.
SECTION 174 RESEARCH EXPENSES	3,690,101.
PROMOTIONAL-MARKETING/SALES EX	235,079.
SECTION 481 ADJ IDRB CHANGE IN ACCT. METHOD	2,426,800.
CORPORATE DEVELOPMENT	4,196,323.
OFFICE SUPPLIES	9,409,717.
SAFETY EDUCATION	594,635.
OUTSIDE SERVICES	8,178,341.
SUBTOTAL	152,828,152.

NORTHERN PIPELINE CONSTRUCTION

UTILITIES EXPENSE	144,869.
AUDIT EXPENSE	121,020.

CONTINUED ON NEXT PAGE

SOUTHWEST GAS CORPORATION
CUMULATIVE DIFFERENCES

WP	M-1 TYPE	ACCOUNT	CALIFORNIA	NEVADA	ARIZONA	COMMON	TOTAL UTILITY
			CURRENT YEAR 2003	CURRENT YEAR 2003	CURRENT YEAR 2003	CURRENT YEAR 2003	CURRENT YEAR 2003
ACCOUNT 282 - NONCURRENT PLANT							
	TOTAL 282.0 ITEMS NOT BROKEN OUT						
	RELOCATIONS	1010-0001	350,000	4,250,000	5,500,000	0	10,100,000
	UNIFORM CAP ADJ - 263A - PRC	1010-0001	3,500,000	10,000,000	8,000,000	0	21,500,000
	CIAC	1010-0001	(435,500)	(1,440,000)	(1,775,000)	0	(3,650,500)
	DEPRECIATION	1080-0001	4,774,344	28,265,253	33,793,316	11,809,535	78,642,448
	TOTAL 282.0 - NONCURRENT - PLANT		**8,188,844**	**41,075,253**	**45,518,316**	**11,809,535**	**106,591,948**

SOUTHWEST GAS CORPORATION
SUMMARY OF TEMPORARY DIFFERENCES

	CALIFORNIA	NEVADA	ARIZONA	COMMON	TOTAL UTILITY
SUMMARY OF 282.0 (NONCURRENT) TEMP DIFF					
CUMULATIVE 282.0 BALANCE AT 12/31/2001	17,506,616	159,196,381	287,518,617	31,225,308	495,446,922
TOTAL Plant FOR 2002	25,845,866	85,176,529	80,243,323	(917,090)	190,348,628
CUMULATIVE Plant BALANCE AT 12/31/2002	43,352,482	244,372,910	367,761,940	30,308,218	685,795,550
TOTAL Plant FOR 2003	8,188,844	41,075,253	45,518,316	11,809,535	106,591,948
CUMULATIVE BAL AT 12/31/2003	51,541,326	285,448,163	413,280,256	42,117,753	792,387,498

SOUTHWEST GAS CORPORATION
SUMMARY OF DEFERRED TAXES
AT 12/31/03

	CUMULATIVE TEMPORARY DIFFERENCES AT 12/31/03 ASSET (LIAB)	FEDERAL DEFERRED TAX ASSET (LIABILITY)
UTILITY		
ACCOUNT 282 - UTILITY - PLANT		
CALIFORNIA	(51,541,326)	(17,934,394)
NEVADA	(285,448,163)	(97,079,087)
ARIZONA	(413,280,256)	(141,377,537)
COMMON	(42,117,753)	(14,739,297)
TOTAL ACCOUNT 282 - UTILITY	(792,387,498)	(271,130,315)

SOUTHWEST GAS CORPORATION
CUMULATIVE DIFFERENCES

WP	M-1 TYPE	ACCOUNT	CALIFORNIA	NEVADA	ARIZONA	COMMON	TOTAL UTILITY
			CURRENT YEAR 2004	CURRENT YEAR 2004	CURRENT YEAR 2004	CURRENT YEAR 2004	CURRENT YEAR 2004
ACCOUNT 282 - NONCURRENT PLANT							
	TOTAL 282.0 ITEMS NOT BROKEN OUT						
	RELOCATIONS	1010-0001	233,334	2,833,333	3,666,667	0	6,733,334
	UNIFORM CAP ADJ - 263A - PRC	1010-0001	2,333,333	6,666,667	5,333,334	0	14,333,334
	CIAC	1010-0001	(290,333)	(960,000)	(1,183,334)	0	(2,433,667)
	DEPRECIATION	1080-0001	3,439,007	2,262,517	33,758,833	(1,054,451)	38,405,906
	NOL adjustment		(7,135,972)	(13,487,640)	(51,909,695)	1,316,552	(71,216,755)
	TOTAL 282.0 - NONCURRENT - PLANT		**(1,420,631)**	**(2,685,123)**	**(10,334,195)**	**262,101**	**(14,177,848)**

SOUTHWEST GAS CORPORATION
SUMMARY OF TEMPORARY DIFFERENCES

	CALIFORNIA	NEVADA	ARIZONA	COMMON	TOTAL UTILITY
SUMMARY OF 282.0 (NONCURRENT) TEMP DIFF					
CUMULATIVE 282.0 BALANCE AT 12/31/2002	43,352,482	244,372,910	367,761,940	30,308,218	685,795,550
TOTAL Plant FOR 2003	2,876,997	14,431,023	15,992,009	4,149,059	37,449,088
CUMULATIVE Plant BALANCE AT 12/31/2003	46,229,479	258,803,933	383,753,949	34,457,277	723,244,638
TOTAL Plant FOR 2004	(1,420,631)	(2,685,123)	(10,334,195)	262,101	(14,177,848)
CUMULATIVE BAL AT 8/31/2004	**44,808,848**	**256,118,810**	**373,419,754**	**34,719,377**	**709,066,789**

SOUTHWEST GAS CORPORATION
SUMMARY OF CUMULATIVE TEMPORARY DIFFERENCES AND DEFERRED TAX BALANCES

DESCRIPTION	ACCOUNT NUMBER	JURISDICTION	DEFRD TAX ACCT 282/283	CUMULATIVE TRUED-UP BALANCE AT 12/31/03	2004 ACCRUAL	WP REF ->	CUMULATIVE BALANCE AT 8/31/04 PER G/L
PLANT							
PLANT BALANCES PER ACUFILE		CALIFORNIA	282.0	46,229,479	(1,420,631)		44,808,848
PLANT BALANCES PER ACUFILE		NEVADA	282.0	258,803,934	(2,685,123)		256,118,811
PLANT BALANCES PER ACUFILE		ARIZONA	282.0	383,753,950	(10,334,195)		373,419,755
PLANT BALANCES PER ACUFILE		COMMON	282.0	34,457,275	262,101		34,719,376
PLANT BALANCES PER ACUFILE		NON-RATE BASE	283.0	10,422,303	302,334		10,724,637
PLANT BALANCES PER ACUFILE		NON-UTILITY	283.0	(12,262,158)	730,199		(11,531,959)
PLANT BALANCES PER ACUFILE - TOTAL				721,404,783	(13,145,315)		708,259,468
TOTAL TEMPORARY DIFFERENCES		UTILITY-PER ACUFILE		723,244,639	(14,177,848)		709,066,790
FEDERAL TAX RATE				34%	32%		34%
TOTAL DEFERRED TAX ASSET (LIAB)		UTILITY-PER ACUFILE	282.0	(246,930,313)	4,571,611		(242,358,703)
TOTAL DEFERRED TAX ASSET (LIAB)		UTILITY-PER ACUFILE - CA	282.0	(16,075,248)	470,759		(15,604,489)
TOTAL DEFERRED TAX ASSET (LIAB)		UTILITY-PER ACUFILE - NV	282.0	(87,753,606)	769,029		(86,984,577)
TOTAL DEFERRED TAX ASSET (LIAB)		UTILITY-PER ACUFILE - SO AZ	282.0	(131,043,330)	3,423,559		(127,619,771)
TOTAL DEFERRED TAX ASSET (LIAB)		UTILITY-PER ACUFILE - COMMON	282.0	(12,058,130)	(91,735)		(12,149,865)

SOUTHWEST GAS/PAIUTE PIPELINE
SECTION 263A CAPITALIZATION SUMMARY - CONSTRUCTED PROPERTY
FOR THE YEAR ENDED DECEMBER 31, 2001

SCHEDULE M ADJUSTMENTS:

	Southwest Gas	Paiute	Total
General and Administrative Expenses	1,209,102	8,261	1,217,363
Depreciation	(263,349)	(20,615)	(283,963)
Total Current Year Sec. 263A Adjustment Favorable/(Unfavorable)	**945,754**	**(12,354)**	**933,400**

ALLOCATION BY JURISDICTION

JURISDICTION	ALLOCATED M-1
So. California	22,622
No. California	44,027
So. Nevada	423,056
No. Nevada	86,934
So. Arizona	105,243
CE. Arizona	225,869
Common	38,003
TOTAL SWG	945,754

PALACIOS

Southwest Gas Corporation
Docket No. G-01551A-04-0876

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of
Prepared Rejoinder Testimony
of
CHRISTINA A. PALACIOS

BEFORE THE ARIZONA CORPORATION COMMISSION

Prepared Rejoinder Testimony
of
CHRISTINA A. PALACIOS

INTRODUCTION

Q. 1 Please state your name and business address.

A. 1 My name is Christina A. Palacios. My business address is 10851 North Black Canyon Highway, Phoenix, Arizona 85072-4755.

Q. 2 Are you the same Christina A. Palacios who sponsored direct, rebuttal, and supplemental rebuttal testimony on behalf of Southwest Gas Corporation (Southwest or Company) in this proceeding?

A. 2 Yes, I am.

Q. 3 What is the purpose of your prepared rejoinder testimony?

A. 3 The purpose of my prepared rejoinder testimony is to briefly address two issues: (1) RUCO's continued insistence that the Commission disallow the total compensation of 37 Southwest employees from the cost of service because some portion of their duties/ responsibilities may be related to marketing or sales; and (2) Staff's recommendation, through the rebuttal testimony of Mr. Robert Gray, that the Commission require Southwest to adopt a four-hour service window as a standard practice. My rebuttal and rejoinder testimony may not specifically respond to each issue or argument brought forth by the respective intervening parties in their direct and surrebuttal testimony. My silence should not be taken as acceptance of any intervening party's position, but rather that my previously filed direct and rebuttal testimony adequately supports the Company's position.

RUCO'S PROPOSED DISALLOWANCE OF 37 EMPLOYEES

Q. 4 Does RUCO continue to recommend, in its surrebuttal testimony, that the Commission disallow the salaries and other compensation of 37 Southwest employees because some of their duties and responsibilities may be related to marketing and sales?

A. 4 Yes. Please refer to Company witness Randi L. Aldridge's rejoinder testimony wherein she discusses RUCO's reliance on information that is five to 15 years old, and that is outside the record of this proceeding.

Q. 5 Would Southwest be able to continue to provide the current level of service to new customers if the 37 employment positions were eliminated?

A. 5 No. As I explained in my rebuttal testimony, and as was explicitly stated by the Commission in Southwest's last rate case decision in Arizona, these employees are critical to extending gas service to new customers. If Southwest were to lose these 37 employees, it is predictable with reasonable certainty that Southwest would experience significant difficulties in extending service to new customers in Arizona and, at the same time, continue to maintain the current high level of customer satisfaction.

STAFF'S FOUR-HOUR SERVICE WINDOW

Q. 6 How did the issue of the four-hour service window arise?

A. 6 In the direct testimony of Staff witness Bob Gray, he stated that the Consumer Services section of the Commission had received a number of "contacts" expressing concern that Southwest asked these customers to be available at the service location for most or all of a day to receive service from a Southwest service technician. He goes on to recommend that Southwest consider adoption of a four-hour service window as a standard practice.

Q. 7 Did Southwest address Mr. Gray's concern in its rebuttal testimony?

A. 7 Yes. In my supplemental rebuttal testimony, dated September 8, 2005, I explained that Southwest's practice was to provide a customer appointment window of four hours upon customer request. I also noted that the concerns of the Commission's Consumer Services section regarding customer contacts expressing dissatisfaction with this practice had not been communicated to Southwest. When I became aware of this issue through Mr. Gray's testimony, I ensured that Southwest's customer service representatives were reminded of Southwest's current practice and it was reiterated to them that each and every customer that requested or needed an appointment window of four hours or less would be provided one.

Q. 8 How did Staff respond to Southwest's supplemental rebuttal testimony on this issue?

A. 8 Instead of recognizing that Southwest already provides an equivalent service to what Mr. Gray is requesting, Mr. Gray now recommends the Commission order Southwest to provide a four-hour service window to each and every customer as a standard practice. Southwest respectfully disagrees with Staff's position on this issue, and Southwest does not believe this service is necessary at the present time. In fact, my direct testimony demonstrates Southwest's superior customer service.

Q. 9 Would adopting a standard practice of offering each and every customer a four-hour service window have an impact on Southwest?

A. 9 Yes, it could have a significant impact. Southwest's Arizona service territories are located in one of the fastest growing areas in the United States. Southwest strives to provide superior service to both new and existing customers in an efficient and effective fashion. Southwest's workforce levels are based on its existing practice of providing appointment windows of four hours or less to only those customers requesting and needing them. Currently, approximately 10 to 15 percent of Southwest's customers requesting service establishment, which requires entry into their premises, request service appointments of four hours or less. This equates to Southwest providing several hundred service appointments of four-hours or less in any given month. Considering Southwest has nearly 900,000 customers in Arizona, and adds more than 3,000 customers a month, on average, Southwest would likely have to increase its workforce to provide each and every customer, regardless of need, a four-hour service window.

Q. 10 Does Southwest offer its customers various service options?

A. 10 Yes. Southwest currently offers several service options to its customers, including, a two-hour, four-hour, and eight-hour window for service based on the customer's requests. In addition, Southwest offers a "one hour ahead" service call option, in which Southwest phones the customer and lets them know that they will be at their premises in the next hour. Southwest also allows customers to make other arrangements that accommodate each customer's specific needs. For instance, if Southwest requires access inside the customer's premise, Southwest will suggest that if the owner/tenant would prefer not to wait for the technician, the owner can leave a key with a neighbor, under a doormat, or in some other location so Southwest can access the premise when the customer is not present. To my knowledge, Southwest's customers have found these service options acceptable.

Q. 11 Is there a fundamental difference between an electric utility service appointment and a gas utility service appointment?

A. 11 Yes. Unlike a gas utility, an electric utility can establish or provide other services without anyone being home, as access to the inside of the residence/business is not usually necessary. However, to ensure the safety of the customer, Southwest requires access to the inside of the customer's premise to test appliances and to check and light pilots.

Q. 12 If the Commission were to mandate that Southwest institute a standard practice of a four-hour window for each service appointment, would Southwest be able to do so without changes to its existing workforce and other procedures?

A. 12 No, I don't believe so. Southwest has established a workforce based on its existing needs and practices in Arizona. To move to a four-hour window for every service appointment would likely require additional staff, significant restructuring of existing work practices, and the replacement of or major modification to Southwest's existing Customer Appointment System (CAS) software. This would not be cost-free to Southwest and would increase the cost of service to Arizona customers, which is not reflected in the application in this proceeding. In addition, due to safety reasons, Southwest cannot guarantee customers a four-hour service window, as service technicians must give their highest priority to emergency situations, such as, line breaks and gas leaks.

CONCLUSION

Q. 13 Do you have any other comments on Staff's recommendation to provide a four-hour service window and RUCO's recommendation to disallow 37 Southwest employees?

A. 13 Yes, I do. On the one hand, RUCO is recommending that the Commission disallow 37 employees whose primary job function is to ensure service to new customers. On the other hand, Staff is recommending that Southwest provide an additional mandatory service to new and existing customers. In essence, RUCO proposes that Southwest's cost of service be reduced by taking out the compensation pertaining to 37 employees, and Staff recommends that Southwest be required to offer new services that would require an increase in Southwest's workforce, the costs of which are not reflected in the cost of service presented in this proceeding. Both recommendations should be rejected by the Commission.

Q. 14 Does this conclude your prepared rejoinder testimony?

A. 14 Yes, it does.

ALDRIDGE

Southwest Gas Corporation
Docket No. G-01551A-04-0876

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of
Prepared Rejoinder Testimony
of
RANDI L. ALDRIDGE

Southwest Gas Corporation
Docket No. G-01551A-04-0876

BEFORE THE ARIZONA CORPORATION COMMISSION

Prepared Rejoinder Testimony
of
RANDI L. ALDRIDGE

INTRODUCTION

Q. 1 Please state your name and business address.

A. 1 My name is Randi L. Aldridge. My business address is 5241 Spring Mountain Road, Las Vegas, Nevada 89150-0002.

Q. 2 Are you the same Randi L. Aldridge who sponsored direct and rebuttal testimony in this proceeding?

A. 2 Yes.

Q. 3 What is the purpose of your prepared rejoinder testimony?

A. 3 The purpose of my prepared rejoinder testimony is to respond to specific aspects of the surrebuttal testimonies of James D. Dorf and Dennis R. Rogers, witnesses for Arizona Corporation Commission Utilities Division Staff (Staff), and Marylee Diaz Cortez and Rodney L. Moore, witnesses for the Residential Utility Consumer Office (RUCO), regarding their recommendations and comments concerning operating expenses and rate base.

Form No. 155.0 (03/2001) Word

My rebuttal and rejoinder testimony may not specifically respond to each issue or argument brought forth by the respective intervening parties in their direct and surrebuttal testimony. My silence should not be taken as acceptance of any intervening party's position, but rather that my previously filed direct and rebuttal testimony adequately supports the Company's position.

Q. 4 Did you prepare exhibits to support your rejoinder testimony?

A. 4 Yes, I have prepared Rejoinder Testimony Exhibit No.___(RLA-1) to support my rejoinder testimony.

Q. 5 Please summarize your rejoinder testimony.

A. 5 My rejoinder testimony will address the following issues:

- Labor Annualization: RUCO's recommendation to disallow the 2005 wage increase and within-grade movement for employees on the Company's payroll at the end of the test period
- Compensation of 37 Southwest Employees: RUCO's recommendation to eliminate the total compensation of 37 Southwest employees from the cost of service
- Sarbanes-Oxley (SOX): Staff's proposed disallowance and RUCO's assertion that test year

costs had not been removed from the cost of service

- Interest on Customer Deposits: Staff removal of the Company's entire adjustment
- Miscellaneous Expenses: RUCO's conclusion that the majority of these costs should not be recovered from customers
- AGA Dues: RUCO's conclusion that the public affairs and communications group within AGA support shareholders' interests and encourage greater gas sales
- Completed Construction Not Classified (CCNC): RUCO's conclusion that an adjustment for CCNC projects not placed in service during the test period should not be allowed

LABOR ANNUALIZATION

Q. 6 Did Staff change its position regarding the Company's adjustment to post-test year wage increases in its surrebuttal testimony?

A. 6 Yes. Staff now accepts both the general wage increase and the within-grade movement portions of the Company's post-test period wage adjustment, as both are now known and measurable and are very close to the amounts the Company estimated in its filing.

Q. 7 In its surrebuttal testimony, RUCO stated that the Company did not request post-test year treatment of any other rate base, expense, and revenue items other than the post-test year wage increases. Is this true?

A. 7 No. In addition to the post-test year wage increases, the Company requested post-test year treatment for the following items:

- Sarbanes-Oxley audit fees
- Transmission Integrity Management Program
- Intangible Plant
- Service Investigation Program Amortization

Furthermore, in rebuttal testimony, the Company agreed with RUCO that it is appropriate to incorporate a post-test year property tax assessment ratio change in the cost of service. Staff concurred with the Company and RUCO in its surrebuttal testimony. The Company, Staff, and RUCO agree that the ratio should be reduced to the ratio that will be effective on January 1, 2006, from 25 percent to 24.5 percent.

The Commission has historically accepted post-test year changes such as those listed above, if the change is more reflective of the costs to serve test year customers when rates from the general rate case proceeding go into effect.

Q. 8 Did RUCO object to the Company's post-test year treatment of those items?

A. 8 RUCO accepted the Company's other post-test year adjustments (except for a $500,000 intangible plant project, which the Company agreed should be removed).

Q. 9 Would the Commission's acceptance of the Company's post-test year wage increases create biased rates or result in double-counting, as RUCO asserts in its surrebuttal testimony?

A. 9 No. The Company did not update all changes in its labor expenses in this adjustment. It only updated the wages for those employees on the payroll at the end of the test period at August 31, 2004, to approximate the salaries of those employees serving test period customers at the time rates from this proceeding are expected to go into effect. Thus, the matching between rate base, revenues, and expenses to serve test year customers is maintained.

COMPENSATION OF 37 SOUTHWEST EMPLOYEES

Q. 10 In Southwest's Data Request No. 3.1 to RUCO, Mr. Moore was asked the following:

> *"On lines 7-8 on page 15 of the direct Testimony of Mr. Rodney L. Moore, he identifies 37 employees who he states "fill positions whose primary responsibilities include the marketing of gas and gas products." Please explain how Mr. Moore*

arrived at his conclusion and the resulting recommended disallowance."

What was RUCO's response?

A. 10 RUCO responded with the following:

> *"The Company's response to RUCO's Data Request 2.13 explains the "Sales Incentive Plan", which provides the basis for my disallowance.* ***The actual amount of the disallowance was calculated from the Company's response to RUCO's Data Request 2.08."*** (Emphasis added.)

Q. 11 The Company stated in its rebuttal testimony that

> "it appears RUCO relied solely on the Sales Incentive plan (SIP) document, which was provided in response to a data request requesting information about the Company's incentive programs, to justify its adjustment." (Aldridge Rebuttal, Page 8, Lines 8-11).

What was RUCO's response in its surrebuttal testimony?

A. 11 RUCO states in its surrebuttal testimony that the claim is not true (Moore, Page 13, Line 5). This is in direct contradiction to its response to Southwest Data Request No. 3.1. RUCO goes on to state that "in an effort to reduce costs and conserve manpower RUCO relied on the Company's response to RUCO data requests regarding the SIP that were received in two previous rate cases filed in 1996 and 2000." (Moore, Page 13, Lines 5-9).

Q. 12 Does RUCO's reliance on data requests regarding the SIP from rate cases filed during or before 2000 have any bearing on the costs the Company is requesting recovery for in this rate case?

A. 12 No. The Company substantially revised the SIP in 2003. Therefore, any data responses regarding the SIP prior to this rate case are obsolete and not relevant to this proceeding.

Q. 13 RUCO dedicated about two and one half pages of its surrebuttal testimony to listing partial job descriptions from previous rate cases for the positions it proposed to disallow. Can these old descriptions be relied upon in this case to support the disallowance RUCO is proposing?

A. 13 No. RUCO has relied upon old information that is not relevant to this proceeding. RUCO didn't even know specifically which job titles it proposed to disallow until the Company listed the positions in its rebuttal testimony (Palacios, Page 3, Lines 11-14). Note that RUCO's list of the positions it recommends to exclude in its surrebuttal testimony (Moore, Page 13, Lines 12-15) does not entirely match the list the Company provided. Company witness Christina A. Palacios gave a comprehensive overview of the present responsibilities and functions of these positions in her rebuttal testimony. Her overview is current and emphasizes the necessity of these positions, and is the information that is relevant to this proceeding.

Q. 14 RUCO quoted the Commission's rationale in disallowing certain promotional expenses in Decision No. 57075 to validate its position. How has the Company's operating environment changed since 1990 when the Commission issued Decision No. 57075?

A. 14 During the mid-1980s and into the early 1990s, after the Company acquired the gas properties of Arizona Public Service in 1984, it was struggling to grow its customer base as a result of an extended moratorium on new customers prior to the acquisition. As noted in Exhibit No.___(RAM-1), Sheet 4 of Robert A. Mashas' direct testimony, between 1987 and 1994 the Company added less than 7,700 residential customers in its Phoenix district. At that time, the Company felt it was necessary to spend a large amount on promotional advertising and commit manpower to promotional activities in order to establish itself in the marketplace in Arizona. However, since 1999 and through the end of the test period in this case (August 2004), the Company has added over 91,000 residential customers, or over 1,600 per month on average, in its Phoenix district alone.

Due to this rapid growth, the primary function for these 37 employees is to establish service for the continuous influx of new customers, who come to the Company requesting gas service, in an efficient and effective manner.

The Commission has not disallowed a single dollar of the Company's marketing or sales labor since 1990 (Decision 57075). To the contrary, in the latest rate case decision dated October 30, 2001, Decision No. 64172, the Commission recognized the importance that the Company's sales departments have in serving customers. The Company needs these 37 employees to continue to provide necessary services to customers and their compensation should remain in Southwest's cost of service.

SARBANES-OXLEY (SOX)

Q. 15 Staff in its surrebuttal testimony states it continues to support its recommendation to reduce the Company's proposed SOX cost recovery for two reasons. The first reason was that it believed 25 percent to be non-recurring. Please comment on this first reason.

A. 15 Staff appears to base its opinion that future SOX costs will be less than $915,000 based on published articles. Staff witness James D. Dorf, in his surrebuttal Exhibit 1, attached a page from a white paper dated July 2004. This Exhibit listed seven ways to reduce SOX costs going forward. Staff also points out this white paper states that using a compliance software alone can save a minimum of 30 percent of the initial cost of complying with SOX.

Regarding compliance software, the Company's Accounting department has indicated that its initial cost would likely be in excess of $200,000. The Company is currently considering the purchase of such software. However, at this time compliance software for SOX is not being requested in the cost of service because it is not known and measurable.

Further, this article is over a year old, which is arguably outdated in the ever-evolving Sarbanes-Oxley environment. In mid-2004, the Company believed its SOX audit fees would be approximately $450,000. In reality, the actual cost was more than double what the Company anticipated at that time. SOX compliance is an ongoing process and there is no guarantee that the seven recommendations Staff refers to will result in reduced costs going forward. There are still many uncertainties regarding SOX compliance that may offset these "savings". As such, Staff's requested disallowance is not proper.

Q. 16 Please comment on Staff's second reason for reducing the Company's proposed SOX cost recovery.

A. 16 Staff continues to recommend that the Company be denied the opportunity to recover 100 percent of its reasonable business expenses. Other than its opinion that 25 percent of the SOX audit fees are non-recurring going forward, Staff did not have an issue with the reasonableness of the audit fees. It is never appropriate to disallow costs when the evidence is uncontradicted that the costs are reasonable. If this is allowed, the Company would be deprived of the opportunity to earn its authorized rate of return. Shareholders do not receive any benefit from the disallowance of reasonable costs the Company must incur to comply with a federal mandate. Furthermore, the motivation of Congress in approving SOX legislation is irrelevant - the Company must comply with SOX whether any benefits are realized from the additional costs or not. Both the Company's proposed regulatory amortization of SOX implementation costs and 100 percent of the audit fees should be allowed in rates.

Q. 17 Can you provide clarification to your rebuttal testimony that further shows that the Company did not double count any SOX expenses in its pro forma adjustment, as alleged by RUCO?

A. 17 Yes. Please refer to my Rebuttal Exhibit No.___(RLA-2). All references herein refer to this exhibit.

I removed the test year invoices totaling $61,990 (see Page 2, Lines 1-5 for the detail) from my adjustment calculated on Page 1. The $61,990 carries forward to Page 1, Lines 1 and 2. On Line 4, "Test Year Costs to Reclassify", $61,990 is removed. Next, the Modified Massachusetts Formula and the 4-Factor Allocation are applied to the $61,990, which leaves $34,164 allocable to Arizona. This $34,164 is carried down the schedule to Line 23, where it is netted against the incremental audit fees allocated to Arizona on Line 22, which results in a net adjustment to A&G expense of $458,530. Had I failed to remove the test year expenses from the incremental audit fees allocated to Arizona as Ms. Diaz Cortez alleges, the adjustment to A&G expense would have been $492,693 and not $458,530. My Rebuttal Exhibit No.___(RLA-2) clearly demonstrates that the Company properly reclassified the amount allocated to Arizona of $34,164 from A&G expense to regulatory amortization expense.

INTEREST ON CUSTOMER DEPOSITS

Q. 18 Please comment on Staff's surrebuttal testimony regarding interest on Customer Deposits.

A. 18 The normalized customer deposit balance in rate base has not been disputed by Staff. Therefore, as I noted on my Rebuttal Exhibit No.___(RLA-4), an increase in the customer deposit rate from three percent to six percent doubles the requested expense for customer deposits from $717,364 to $1,434,728. The recorded test year expense for interest on customer deposits was $1,404,209. As such, the pro forma adjustment is $30,519 ($1,434,728 - $1,404,209 = $30,519), not a complete removal of the pro forma adjustment recommended by Staff in its surrebuttal testimony.

MISCELLANEOUS EXPENSES

Q. 19 In its surrebuttal testimony, RUCO claims the Company's opposition to RUCO's adjustment is contrary to the Company's own adjustment to miscellaneous expenses. Is this true?

A. 19 No. Contrary to RUCO's assertions, I performed a line-by-line review of all of the transactions that RUCO identified in its adjustment, with the exception of certain vendors the Company uses regularly for beverage and bottled water service. I removed all transactions that met the criteria of the Company's original miscellaneous adjustment and noted the amount in my rebuttal testimony, and determined that the remaining transactions should indeed remain in the cost of service.

Q. 20 What is the amount that the Company agreed to remove?

A. 20 RUCO stated in its surrebuttal that in RUCO Data Request No. 11-01, the Company agreed to remove $33,181. However, this amount is superseded by the amount in my rebuttal testimony in Rebuttal Exhibit No.___(RLA-5), which includes additional transactions RUCO identified subsequent to RUCO Data Request No. 11-01, bringing the total amount to $62,165.

Q. 21 Please respond to RUCO's contention that certain categories of expenses should not be the financial burden of ratepayers.

A. 21 Contrary to RUCO's assertions, during my line-by-line review of the expense transactions, I removed all items I found in the following categories: liquor, charitable/community service/ club donations, sports events, club memberships, and barbeques and accessories. As such, the items RUCO identified in these categories are part of the $62,165 adjustment I already removed as part of my rebuttal testimony.

Q. 22 Please comment on the Company's position on the following categories: smoothies, bagels, donuts, subs, etc.

A. 22 In my direct testimony at Page 23, Line 21, I stated that the Company removed various meals. These meals included those for employee appreciation and charitable events - certainly not ALL meals. The remaining meals have a necessary business purpose and should be allowed in rates. For example, the Company requires some of its employees to attend meetings at various times at its convenience, which may occur outside of regular business hours or during the lunch hour. If the Company chooses to provide a working meal, that is a reasonable business expense. These meals are not the type of expenses the Commission has disallowed in the past.

Q. 23 RUCO has revised its adjustment to miscellaneous expense by making a unilateral adjustment of 20 percent (or $69,260) from its direct testimony position. What is the Company's opinion on this recommendation?

A. 23 RUCO maintains its 40 pages of workpapers adequately substantiate its adjustment. However, RUCO's work papers have nothing more than an invoice number, vendor name, and dollar amount. This level of detail was not even enough for the Company to determine whether a transaction should remain in the cost of service. I had to pull invoices and examine back-up documentation, and in many cases call or e-mail the originators of these transactions, so I could determine whether to continue to request recovery for these transactions. RUCO has simply presented insufficient evidence to support their proposed disallowance and the Commission should accept the Company's rebuttal adjustment to reduce operating expenses by $62,165, and reject the remainder of RUCO's adjustment.

AGA DUES

Q. 24 What evidence has been presented to support RUCO's assertion that the AGA's public affairs and communications activities support shareholder interests and encourage greater gas sales?

A. 24 RUCO did not present any specific analysis of the material provided in response to RUCO Data Request No. 14.2 that would reasonably lead to a conclusion that the activities of the public affairs and communication groups, other than the percentage already removed by the Company for lobbying, should be disallowed. I refer to my Rebuttal Exhibit No.___(RLA-3), which is a page from the response to RUCO Data Request No. 14.2 which details the activities of the public affairs group. To further support the Company's position that the portion of AGA dues related to these groups should be recovered in rates, I have attached Rejoinder Exhibit No.___(RLA-1) which defines the AGA's functional cost centers, including communications and public affairs.

COMPLETED CONSTRUCTION NOT CLASSIFIED (CCNC)

Q. 25 Please respond to RUCO's claims that the Company is inconsistent with regard to its position on treating plant as CCNC only when it is confirmed that the plant related to a particular work order was placed in service at the end of the test year or shortly thereafter.

A. 25 It appears RUCO has taken a portion of my direct testimony out of context. In my direct testimony in reference to the Arizona direct portion of non-revenue producing gas plant included in the CCNC adjustment, I indicated that: "…the actual closing to GPIS was made after the end of the test year, largely due to delays in the field in entering the required information into the Company's computer systems." (Aldridge, Page 11, Lines 19-22). However, in reference to the Company's system allocable miscellaneous intangible plant, I indicated that: "It is proper to add to rate base the estimated plant in service and to add the related amortization expense for those projects in CWIP that are estimated to be closed to plant prior to December 31, 2004." (Aldridge Page 13, Lines 8-12). Apparently RUCO did not realize this statement related to system allocable miscellaneous intangible plant <u>only</u>. This statement related to intangible plant and does not apply to the Arizona direct gas plant portion of the CCNC adjustment that RUCO is disputing.

Q. 26 Do you agree with RUCO's assertion that the Company should have requested post-test year plant instead of a CCNC adjustment?

A. 26 No. Despite two rounds of testimony and numerous data requests related to this issue, it appears that RUCO still does not fully understand that the direct gas plant portion of the CCNC adjustment is plant that was serving test year customers at the end of the test year. This adjustment was made simply to match test year plant with test year customers. The amount the Company is requesting was not physically placed in service after the end of the test period. <u>It</u>

is not post-test year plant. By proposing that a portion of the CCNC adjustment be disallowed, RUCO is recommending a mismatching of ratemaking elements.

Q. 27 Does this conclude your prepared rejoinder testimony?

A. 27 Yes, it does.

AMERICAN GAS ASSOCIATION

Definitions of Functional Cost Centers
For the Year Ended December 31, 2002

COST CENTER	DESCRIPTION
03	Communications develops informational materials for member companies and consumers and coordinates all media activity.
	Public Affairs provides members with information on legislative developments; prepares testimony, comments, and filings regarding legislative activities; lobbies on behalf of the industry.
12	Finance & Administration develops and implements programs in such areas as accounting, human resources and risk management for member companies.
05	General Counsel & Corporate Secretary provides legal counsel to the Association.
06	Corporate Affairs provides opportunities for interaction between member companies and the financial community. The focus is to promote interest in the investment opportunities in the industry.
09	Regulatory Affairs provides members with information on FERC and state regulatory developments; prepares testimony, comments, and filings regarding regulatory activities.
08	Market Development assists members in their efforts to encourage the most efficient utilization of gas energy by exchanging information about marketing trends, conducting utilization efficiency programs and exploring market opportunities.
14	Operating & Engineering develops and implements programs and practices to meet the operational, safety and engineering needs of the industry.
07	Policy & Analysis identifies the need for and conducts energy analyses and modeling efforts in the areas of gas supply and demand, economics and the environment.
	General & Administrative includes:
01	Office of the President provides senior management guidance for all A.G.A. activities.
10	Human Resources develops and administers employee programs and provides general office and personnel services.

MASHAS

Southwest Gas Corporation
Docket No. G-01551A-04-0876

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of
ROBERT A. MASHAS

BEFORE THE ARIZONA CORPORATION COMMISSION

Prepared Rejoinder Testimony
of
ROBERT A. MASHAS

INTRODUCTION/BACKGROUND

Q. 1 Please state your name and business address.

A. 1 My name is Mr. Robert A. Mashas. My business address is 5241 Spring Mountain Road, Las Vegas, Nevada 89150-0002.

Q. 2 Are you the same Robert A. Mashas who sponsored direct and rebuttal testimony on behalf of Southwest Gas Corporation (Southwest or the Company) in this proceeding?

A. 2 Yes, I am.

Q. 3 What is the purpose of your prepared rejoinder testimony?

A. 3 I am responding to specific issues addressed in the surrebuttal testimonies of Arizona Corporation Commission (Commission) Utilities Division Staff (Staff) witnesses, Mr. James J. Dorf and Mr. William H. Musgrove. In addition, I am responding to specific issues raised in the surrebuttal testimonies of the Residential Utility Consumer Office (RUCO) witnesses Ms. Marylee Diaz Cortez and Mr. Rodney L. Moore. My rebuttal and rejoinder testimony may not specifically respond to each issue or argument brought forth by the respective intervening parties in their direct and surrebuttal testimony. My silence should not be taken as acceptance of any intervening party's position, but rather that my previously filed direct and rebuttal testimony adequately supports the Company's position.

Q. 4 Did you prepare exhibits to support your rejoinder testimony?

A. 4 Yes. I prepared exhibits identified as Rejoinder Exhibit No.___(RAM-1) through Rejoinder Exhibit No.___(RAM-3).

Q. 5 Please summarize your rejoinder testimony.

A. 5 My rejoinder testimony will address the following issues:

- Supplemental Executive Retirement Program (SERP): RUCO's proposed disallowance of SERP.
- Management Incentive Program (MIP): RUCO's recommendation that 67 percent of MIP be disallowed and Staff's recommendation that 50 percent of MIP be disallowed.
- Transmission Integrity Program (TRIMP): Staff's proposal to share (shareholder/customer) or disallow a portion of the cost of a federally-mandated safety program and the "DOT Pipeline Safety Surcharge" as a mechanism to recover TRIMP-related expenses.
- Pipe Replacement Program: The Company's disagreement with RUCO as to the effective date for applying the write-off percentages derived using the 40-year standard for certain pipe replacement expenditures.
- Injuries and Damages: RUCO's proposed reduction to the Company's self-insured retention (SIR)

normalization and Staff's proposal to calculate the SIR using a ten-year average.

- <u>Line Extension Practice, Residential Class Results and Declining Average Use</u>: Staff's assertion that declining average residential use per customer has not impacted the Company's results of operations and its concern over the validity of the Company's claim that new customers earn 9.20 percent while the residential class is earning 2.29 percent.

<u>SUPPLEMENTAL EXECUTIVE RETIREMENT PROGRAM (SERP)</u>

Q. 6 Does RUCO continue to recommend excluding SERP-related costs from operating expenses?

A. 6 Yes. RUCO, in the surrebuttal testimony of Mr. Rodney L. Moore, continues to support its adjustment to remove SERP costs from operating expenses.

Q. 7 Please comment on RUCO's analysis.

A. 7 RUCO embarks on a mathematical exercise that it purports to be proof that the Company's SERP expense is excessive and should be removed from operating expenses. RUCO divides the number 12 (officers whose salaries are greater than $160,000) by the number 1,712 (Arizona direct and corporate system allocable employees included in this proceeding) to get the number 0.70 percent. RUCO then divides the $1,849,069 SERP expense by $48,004,348 (total benefits of the 1,712 employees) to get the number 3.85 percent. Since the 3.85 percent is larger than the 0.70 percent, RUCO opines that this demonstrates the

Company's SERP is excessive.

Q. 8 Are there any flaws in RUCO's analysis?

A. 8 Yes. The SERP cost represents the accrual required to compensate all officers (both current and retired) for the limitations resulting from the Internal Revenue Service regulations that restrict the upper amount of the Basic Retirement plan (BRP) earnings, as well as the fact that compensation deferred under the Executive Deferred Compensation Plan is excluded from the BRP computation. The SERP accrual calculation takes these factors into consideration for a total of 53 current and retired officers. If the 1,712 is divided by 53 rather than 12, the number derived is 3.10 percent, which is not significantly different when compared to the 3.85 percent number computed by RUCO.

Q. 9 Is either of the numbers (0.70 percent or 3.10 percent) relevant when determining the appropriateness of including SERP costs in rates?

A. 9 No. The Company has provided this correction to demonstrate to the Commission that RUCO has yet to focus on the Company's top executives' overall compensation package and has not provided any analytical evidence that the overall compensation is excessive.

Q. 10 Should the Commission reject RUCO's proposal to remove the entire cost of SERP from operating expenses?

A. 10 Yes. For the reasons provided in my rebuttal testimony and the fact that RUCO has not shown that the Company's overall executive compensation package is excessive, the Commission should reject RUCO's proposed SERP adjustment, which is consistent with the Commission's decision in 2001, Decision No. 64172.

MANAGEMENT INCENTIVE PLAN (MIP)

Q. 11 Does RUCO provide any reasoning why the Commission should now accept its proposed arbitrary 67 percent disallowance given the fact that the Commission rejected RUCO's arbitrary 50 percent disallowance in the Company's last rate case?

A. 11 No. RUCO provides no evidence why its current proposal to disallow 67 percent of MIP is more appropriate than the previous Commission-rejected 50 percent. Also, RUCO provides no testimony addressing why the Commission should change the methodology it adopted in the Company's last general rate case of allowing 100 percent of the three "non-return on equity" factors that resulted in a 71 percent test year MIP expense recovery and the disallowance of the two "return on equity" factors that resulted in 29 percent of the MIP being disallowed from recovery.

Q. 12 Is RUCO's position that the benefits of cost containment measures go to the shareholders between rate cases a valid reason to disallow 67 percent of MIP?

A. 12 No. Cost reductions experienced between rate cases are needed to offset cost increases not addressed in the ratemaking process (inflation, wage and benefit increases, non-revenue producing capital expenditures to name a few; also see my direct testimony page 7, line 22 through page 11, line 24). The ratemaking process constitutes a natural sharing mechanism; between rate cases cost reductions offset cost increases, until the next rate case where cost savings experienced since the last rate case are passed on to the customer in the form of a lower cost of service had the cost reductions not taken place.

Q. 13 Please comment on RUCO's statement that an improved capital structure is desirable and could positively impact Southwest's cost of capital.

A. 13 The RUCO statement is apparently in response to the Company's rebuttal testimony where I state that management's focus on improving return on equity benefits the customer through an improved capital structure, thus increasing the percent of utility investment supported by shareholder funds and, in turn, a lower cost of debt. The Company agrees with RUCO on this issue. Apparently Staff also does when it states "Staff would agree that the five factors, if successfully achieved, could derive benefits for both ratepayers and shareholders" (surrebuttal testimony of James J. Dorf, page 10, lines 1 through 2).

Q. 14 Does Staff's acknowledgment that all five factors (including the two return on equity factors) and RUCO's return on equity goals leading to an improved capital structure favorably address the Commission's concern on this issue expressed in Decision No. 64172?

A. 14 Yes. The Commission stated in Decision No. 64172, page 13, lines 7 and 8 that "Southwest could not state how reaching return on equity goals benefits ratepayers." Based on the acknowledgement of Staff and RUCO, the Company has now provided evidence that was apparently lacking in its last general rate case.

Q. 15 Please comment on RUCO's assertion that management's focus on improving return on equity has not resulted in an improved capital structure.

A. 15 RUCO provides the capital structures for the years ended 1999 through 2004, and opines that little or no improvement has taken place during the last six years, i.e. 1999 common equity (35.8 percent) compared to 2004 (35.9 percent). RUCO's analysis is incomplete, and thus misleading. When comparing 2001 (33.0 percent) to 2004 (35.9 percent), the common equity weighting has increased by 8.8 percent [(35.7-33.0) divided by 33.0]. Furthermore, the Company's June 2005 common equity weighting is 37.2 percent, which represents a 13.4 percent increase when compared to 2003. The Company considers this to be a significant improvement in its capital structure.

Q. 16 Are there circumstances beyond management's control that have limited its ability to improve the Company's capital structure?

A. 16 Yes. Company witness Theodore K. Wood, in his prepared direct, rebuttal and rejoinder testimonies, details the steps the Company has taken to improve its capital structure. Also, regardless of all the steps taken by management to improve earnings and capital structure, there are certain circumstances beyond its control that offset these measures. First, management, in most cases, only has control as to the timing of the filing of rate cases. Management has no control over the time it takes to process the rate case once filed. The time it takes the Commission to process an increase in rates (margin) represents the "regulatory lag" which results in reduced earnings to the detriment of common equity. Second, management has no control over changes in appliance efficiency or housing standards. To the extent that legislation addressing improved efficiencies in appliance and/or housing standards or conservation programs (including, Commission-mandated DSM programs) result in reduced gas use, this will ultimately translate into reduced Company earnings given that the recovery of a substantial portion of the cost of service is dependent on gas usage.

Q. 17 Please illustrate how regulatory lag and declining average residential usage have impacted the Company's capital structure?

A. 17 Rejoinder Exhibit No.____(RAM-1) shows the Company's June 30, 2005 actual capital structure (37.2 percent common equity) and as adjusted for the after-tax regulatory lag that is detailed on my direct testimony

Exhibit No.___(RAM-2), sheet 1 of 1, line 7(h). The percentage of utility investment that would be financed by common equity would increase to 40.2 percent. The 40.2 percent common equity component would be 42.0 percent when adjusted for the ten-month regulatory lag resulting from this case (August 2004 through June 2005). When adjusted for the negative financial impact of declining average residential use [derived on my direct testimony Exhibit No.___(RAM-1), sheet 4, line 18(l) and sheet 6, line 18(l)], the common equity component increases to 48 percent. The impact of regulatory lag and declining residential use has negatively impacted common equity by as much as 10 percent. Despite these obstacles, the Company's management has been able to increase the common equity component by 13.4 percent since December 2003.

Q. 18 Should the Commission in this case provide the same ratemaking treatment (full cost recovery) for the costs related to the two common equity MIP factors (which focus on cost containment and improved earnings) as it did for the three factors that focus management on increasing employee productivity and providing exceptional customer service?

A. 18 Yes. The Staff, RUCO, and the Company now agree that the two MIP factors that focus management's attention on improving earnings (return on equity), and that represent 29.1 percent of the test year expense, benefit the customer through an improved capital structure that will ultimately result in a lower cost of capital required to finance the utility's investment. Consistent with its treatment in the Company's last rate case (100 percent inclusion of two employee productivity factors and one customer service factor), the Commission should allow the inclusion of 100 percent of the costs related to the two factors that focus on improved earnings. The Company has successfully addressed the Commission's concern as stated in Decision No. 64172, that the Company was not able to demonstrate that reaching return on equity goals (improved earnings) benefits customers. Consistent with its decision in the Company's last general rate case, the Commission should reject the arbitrary percentage disallowance of the MIP factors as proposed by Staff and RUCO.

TRANSMISSION INTEGRITY MANAGEMENT PROGRAM (TRIMP)

Q. 19 Please cite the language contained in the Public Utilities Commission of Nevada (PUCN) order that authorizes the Company to defer 100 percent of its TRIMP cost.

A. 19 The PUCN, at the top of page 8, paragraph 40 of its Decision, pursuant to Docket No. 04-9012, states:

> Southwest acknowledged that pursuant to the Uniform System of Accounts, which the Commission adopted by reference in NAC 704.640, the deferral of the TRIMP related costs in Account No. 182.3, Other Regulatory Assets, could not occur without regulatory agency approval. **The Commission does not grant the authority until the effective date of this Order. Therefore, Southwest should be**

> **authorized to defer its TRIMP Costs accrued, on a going forward basis only, upon the effective date of this Order until December 31, 2007, or the effective date of the Company's rates set in Southwest's next general rate case, which ever is earlier.** All deferred amounts in the regulatory asset will be subject to a prudence review in Southwest's next general rate case. *(Emphasis added)*

With respect to the prudence review, all incurred utility costs requested for recovery in rates are subject to a review for prudence at the time of the request for recovery. The Company is authorized to defer and recover in its next general rate case, all prudently incurred TRIMP-related expense from March 16, 2005 through December 31, 2007, or the effective date of new rates, whichever is earlier. The Staff's reliance on the PUCN decision authorizing the deferral of all TRIMP expenses is not a proper basis for its position to allow the Company to only collect 50 percent of a prudently incurred expense that is necessary in order to comply with a federally-mandated safety program. In fact, it supports the Company's position that all TRIMP-related expenses should be recovered in rates.

Q. 20 Is the Company confident that its current TRIMP estimates will reasonably reflect the level that will be incurred during the period that rates in this proceeding will be in effect?

A. 20 Yes. The actual TRIMP-related pipeline mileage is known and the Company has actual experience in carrying out this program. Consequently, Southwest is confident its current estimates are reasonably accurate. Also, a portion of the TRIMP expense being requested is an amortization of the actual costs incurred to date ($899,716 through August 31, 2005).

Q. 21 Who is at risk if the cost of the program is more than Southwest's current estimates?

A. 21 Until the effective date of the Company's next rate case, the shareholder is at risk, not the customer.

Q. 22 Is a tracking mechanism inherently wrong?

A. 22 No. Allowing a utility to recover only 50 percent of a necessary and reasonable expense is wrong. A tracking mechanism that guarantees that the Company only recovers its actual cost of complying with the new federal safety regulations protects both shareholders and the customer, but it should not be the basis to disallow 50 percent of the expenses of the program. The Company could accept a tracking mechanism, but only if it ensures that the Company is reimbursed for 100 percent of its actual cost of complying with the federal regulations.

Q. 23 Will a separate line item on a customer's bill that will average $0.04 per month ($0.48 per year divided by 12 months) provide the customer with valuable information that justifies a separate identification?

A. 23 No. The $0.04 average monthly amount, $0.00 or $0.01 during the summer season, does not warrant separate identification on the customer's bill. The Commission should reject the Staff's proposal for a separate line item on the customer's bill for an expense that is very small on a monthly basis, and instead include the expense in base rates.

PIPE REPLACEMENT PROGRAM

Q. 24 Does the Company agree with RUCO's position regarding the Commission's lack of authority to change the write-off percentage for Aldyl HD pipe replacements?

A. 24 No. Southwest submits that the Commission has the authority to determine the level of cost that is just and reasonable given the facts that are presented in this proceeding. The expenditures in question relate to pipe footage and the associated cost that took place after the test year in the Company's last general rate case, and as such, have never been included in rates. The Company's position is that the Commission has the authority to determine the level of cost that is just and reasonable given the facts that are present at this time. The Company submits that to go back and recapture the portion of pipe replacement cost that has previously been excluded from rates through the ratemaking process, and now include such costs in rates, would be retroactive ratemaking.

Q. 25 In this proceeding, what choice does the Commission have on this issue?

A. 25 The Company contends that the Commission has the authority to determine the appropriate level of pipe replacement expenditures that should be borne by the customer. The Commission has the authority to calculate a write-off, if any, by using the write-off percentages contained in the 1993 Agreement, which all parties to this proceeding agree, at least on a go-forward basis, no longer accurately reflect the portion of replacement expenditures that should be excluded from rates. Alternatively, the Commission can calculate the write-off using the percentages derived from the 40-year standard, that all parties to this proceeding agree more accurately reflect the portion of pipe replacement that should be removed from rates. The Company recommends that the Commission use the rates derived from using the 40-year standard.

INJURIES AND DAMAGES

Q. 26 Has the Company's position changed in regards to its adjustment for injuries and damages?

A. 26 No. However, the Company is willing to accept the Staff's proposal to use a ten-year average for the normalization of the self-insured portion of liability claims. In regards to RUCO's proposed adjustment, the Company also continues to disagree. However, by adopting a ten-year average, this disagreement goes away because RUCO's proposed adjustment concerns activity that is beyond the ten years used by Staff.

Q. 27 Does the Company have any other comments or clarification?

A. 27 Yes. The Company respectfully requests that both the liability expense and the self-insured portion of claims be considered system allocable expense. Consistent with all system allocable expense, Paiute Pipeline Company is first allocated its portion of system allocable expense using the Modified Massachusetts Formula. The net remaining balance is allocated to all state jurisdictions using the 4-Factor Allocation Methodology. Company witness Ms. Randi L. Aldridge detailed this procedure in her prepared direct testimony. Since this constitutes a change in ratemaking for this expense, the Company requests that if the Commission accepts this methodology, that it clearly state this in its order.

LINE EXTENSION PRACTICE, RESIDENTIAL CLASS RESULTS AND DECLINING AVERAGE USE:

Q. 28 What portion of the surrebuttal testimony of Staff witness Mr. William H. Musgrove will you be addressing in this portion of your rejoinder testimony?

A. 28 I will address Mr. Musgrove's surrebuttal testimony beginning on page 3, line 10 and ending on page 5, line 26. Specifically, I will address how the Company's line extension policy and practices ensure that new customers can provide the authorized 9.20 percent return on an incremental basis, while the residential class as a whole, is earning 2.29 percent.

I will also address that, even though the total number of therms sold to the residential class has exceeded the total level used to establish rates in the Company's last general rate case, the decline in average use per residential customer has resulted in the recovery of less margin both on a per customer basis and a total basis than would otherwise have been realized. This is due to the fact that residential customers have historically been assigned a significant portion of the cost of service to be recovered through gas consumption and the average use, as measured on a per customer basis, has declined over the last 20 years.

I will further demonstrate that the decline from previous authorized levels, in average residential use, has occurred for both new customers and existing customers.

Q. 29 Please explain how the Company's line extension practices ensure that new customers provide at least the authorized rate of return (9.20 percent)?

A. 29 In compliance with the Commission's directive resulting from the Company's last general rate case, my direct testimony beginning on page 22 (question and answer 42) addresses the Company's line extension practices as contained in Southwest Tariff Rule No. 6 (Rule No. 6). The profitability of new customers is addressed during the line extension process, which begins with a customer's request for service. Rule No. 6 requires that the Company compare the "incremental" new customer margin to the incremental expense and investment in order to determine the level of customer advance or contribution required to ensure that the new customers are providing at least the authorized (9.20 percent) rate of return on an incremental basis. In other words, if the incremental margin (both the fixed basic service charge and the volumetric charge) is not sufficient to provide the authorized rate of return, the Company can remedy this situation by requiring either the builder or the customer to provide a refundable customer advance or permanent contribution. As such, to the extent that new customer average use is less than the system average use that was utilized to establish rates in the Company's last general rate case, this shortfall is remedied through the line extension process.

Q. 30 Please provide some of the reasons why the Company's class cost of service study at present rates contained in Supporting Schedule G-1A, Sheet 1, line 37(d) shows that the residential class is earning 2.29 percent?

Q. 30 My direct testimony beginning on page 7, question 13 provides some of the major reasons and underlying causes for the deficiency (all customer classes) in this proceeding. My testimony categorizes the reasons into four areas. The first is the decline in residential use since the Company's last general rate case ($15.0 million).

The second is increases in operation and maintenance (O&M) expense ($24.0 million). In my direct testimony, I go on to detail the components of O&M expense, such as general wage increases, increases in labor due to within-grade movements, benefits, inflation, changes in federal and local safety guidelines, to name a few.

The third is the Company's proposal for an increase in the cost of capital above the levels previously authorized by the Commission. This category does not impact recorded results, but does impact the amount of the deficiency requested in this proceeding.

The fourth area mentioned in my testimony is injuries and damages. This area is a separate component of the O&M increase and for purposes of my direct testimony was addressed separately.

Q. 31 Please explain how new customers can provide at least a 9.20 percent return while the Company's class cost of service study at present rates, contained in Supporting Schedule G-1A, Sheet 1, line 37(d), shows that the residential class is earning 2.29 percent.

A. 31 In order for the Company to earn its authorized rate of return, the following three events must occur: (1) existing customers (included in the last rate case) must generate the margin levels used to establish rates in the last rate case; (2) new customers (post-test year) must provide the authorized rate of return on an incremental basis; and (3) other sources of revenue or cost savings must be realized to offset cost increases. Unlike new customers, the Company is only able to remedy the earnings shortfall impacting all customer classes (including residential) through the ratemaking process. The Company is unable to request customer advances and/or contributions to offset declining use or cost increases. Assuming no customer growth, if the existing customers use natural gas at the levels used to establish the commodity portion of rates, the Company will recover the cost of service established in the rate case, but will be deficient with respect to cost increases that occur subsequent to the test year. If the usage level declines, the margin shortfall from authorized levels will add to the deficiency caused by cost increases. Both scenarios may be components of a deficiency in a rate case. Therefore, new customers can provide the authorized rate of return on an incremental basis, while the residential class as a whole can be contributing 2.29 percent on a fully embedded cost of service basis.

Q. 32 Please comment on Mr. Musgrove's attempt to show that total residential recorded volumes have exceeded the residential volumes authorized in the Company's last general rate case.

A. 32 Mr. Musgrove describes a confusing analysis in an attempt to prove his position that total residential recorded volumes have exceeded authorized residential volumes. A comparison of how the current rates were designed in the Company's last general rate case (Supporting Schedule H-2) and the authorized results applicable to this proceeding (Schedule H-2, Sheet 1 of 16) would show current residential rates were designed for 655,995 customers (7,871,941 bills / 12) using 254.8 million therms for an average use of 388 therms. The cost of service assigned recovery from the residential class was $179.8 million or an average margin per customer of $274.13.

In this proceeding, Supporting Schedule H-2, Sheet 1 of 16, shows that 791,410 average customers (9,496,924 bills / 12) used 274.6 million therms for an average per customer use of 347 therms and a realized average margin per customer of $255.85, or $18.28 less than the margin per customer that resulted from the rate design used in the last rate case. The Company acknowledges that in this case, 791,410 customers used more therms than the 655,995 customers used to establish rates in the Company's last rate case. However, the Company notes that the 347-therm average residential use experienced in this proceeding is less than the 388-therm average used to establish residential commodity margin rates in the Company's last general rate case. The Company also notes that 65 percent of the residential margin was assigned recovery through a volumetric charge and the 41 therm reduction (388 - 347) in average use created an $18.28 per customer shortfall, or a $14.5 million total shortfall ($18.28 per customer times 791,410 customers) for the residential class. The fact that average customer use declined did not cause any of the Company's expenses to decline. The shortfall between rate cases is a detriment to the Company and is a major component (20.5 percent) of the filed deficiency in this proceeding ($14.5 million shortfall / $70.8 million deficiency).

Q. 33 Please explain Rejoinder Exhibit No.___(RAM-2).

A. 33 Rejoinder Exhibit No.___(RAM-2) shows how the current residential rates were designed and the amount of margin that current rates recover in this proceeding (Supporting Schedule H-2, Sheet 1 of 16). In the current test year, the residential class has used 19,830,324 more therms than in the test year ended December 31, 1999. The winter/summer first tier contains 19,596,902 (3,227,160 + 16,369,902) more therms while the winter/summer second tier contains only 233,422 more therms. The $22,654,788 increase in margin consists of $12,999,864 [basic service charge (BSC)], $9,560,753 (winter/summer first tier) and $94,171 (winter/summer second tier). Clearly the decline in margin impacts the winter/summer second tier margin the most. Company witness A. Brooks Congdon supports a rate design (with CMT) that reduces the declining use impact by lowering the second tier margin rate to $0.25 per therm and reducing the second tier block to greater than 30 therms (winter) and greater than 8 therms (summer).

Q. 34 Does the fact that the residential customer class consists of more customers, and does the fact that there are more total therms being sold, than was used to design current rates in the Company's last general rate case, change your position on the financial impact on both the Company's earnings between rate cases and the deficiency in this proceeding?

A. 34 No. Current rates were designed to recover, on average, $274.13 per customer and those same rates now recover $255.85. The cause for the decline in margin recovery was the result of assigning 65 percent of the margin to volumetric usage, which has been declining. The Company's position is that how rates are designed today directly impacts how much margin the Company will recover tomorrow.

Q. 35 Please explain Rejoinder Exhibit No.___(RAM-3).

A. 35 Rejoinder Exhibit No.___(RAM-3) illustrates how residential rate design can impact margin recovery. Rejoinder Exhibit No.___(RAM-3) compares the margin recovery in this proceeding given four different rate design proposals in the Company's last rate case. The four scenarios are: 1) current rate design; 2) a BSC only; 3) current BSC ($8.00) and commodity recovery in first tier only; and 4) current BSC and commodity recovery in second tier only.

Rejoinder Exhibit No.___(RAM-3) summarizes the results. All four scenarios designed rates to recover the $179.8 million cost of service assigned to the residential class in the Company's last rate case. However, those four scenarios yielded significantly different margin at present rates using the customers and volumes in this case. The current rate design scenario produced \$202.5 million in margin. The BSC-only scenario produced \$216.9 million, or \$14.5 million more than the rate design currently in effect. The BSC and first tier-only produced \$206.6 million and the BSC and second tier-only produced only \$193.1 million in margin. The \$193.1 million represents a difference of \$23.8 million when compared to a BSC-only rate design.

The Company acknowledges that three of the four scenarios are extreme. They were simply used to prove a point. Only the margin included in the BSC can be counted on to be realized in future results of operations, and any margin assigned to the second tier is greatly at risk for recovery. Even the first tier, if established at too high a level (40/20 therms) can be at risk in a period of declining use.

Q. 36 In lieu of a radical rate design that assigns all residential margin to the basic service charge or no margin to the second tier, what has the Company proposed to achieve the average margin per customer established in this rate case?

A. 36 Mr. A. Brooks Congdon and Company witness Edward B. Gieseking have proposed increases in the BSC, but nothing approaching the recovery of the entire residential cost of service from the BSC. In addition, they are proposing to reduce the tier blocks from the current 40/20 to 30/8, increase the margin rate per therm for the first tier, and reduce the margin rate for the second tier. This will also improve the chances of the Company achieving its average margin per customer, which will ultimately improve earnings and reduce future increases resulting from declining average residential use. Mr. Gieseking also supports the need for a CMT that will allow the Company to realize only the authorized margin per residential customer to the extent that the rate design changes that they propose do not, by themselves, correct the problem that is inherent in the current rate design methodology. Taken in total, the rate design proposals supported by both Mr. Gieseking and Mr. Congdon will enable the Company to realize the average margin per customer that results from the Commission's authorized residential class cost of service in this proceeding. The realization of the average margin per customer during the time period that these rates are in effect will improve earnings and capital structure which ultimately will benefit the customer through lower debt cost and lower future rate increases. A CMT, however, will not guarantee that the Company will earn its authorized rate of return. The Company's management will need to continue focusing on cost reduction measures that will be necessary to offset future cost increases.

Q. 37 Does the Company agree with Mr. Musgrove's assertion that declining use is the result of new customer growth?

A. 37 No. Company witness James L. Cattanach provides extensive testimony that clearly shows that declining average customer use has been the result of both vintage (existing at the time of a rate case) and new (added subsequent to the test year of a rate case) customers. Attached to my prepared direct testimony is Exhibit No.___(RAM-1), sheets 4 and 5 of 6, which shows a comparison of the Phoenix and Tucson district's authorized and actual residential average use per customer. In Docket No. 86-301 (Central Arizona-Phoenix) and Docket No. 86-300 (Southern Arizona), both used a test year ended December 31, 1986, the average residential use was 556 therms. Mr. Cattanach in his Rejoinder Exhibit No.___(JLC-5) shows that the Arizona customers that used 556 therms in the 1986 rate cases are now using 342 therms. This substantial reduction did not occur overnight. As I have stated previously, during the nearly 20-year period that this reduction took place, the decline in average use has had a significant negative impact on earnings and capital structure. For each rate case subsequent to 1986, the Company has not been able to realize the residential margin on a per customer basis, to the detriment of the Company and its customers, through reduced earnings and capital structure attrition.

Q. 38 Have "new" customers added subsequent to 1986 contributed to the decline in average use?

A. 38 Yes, Mr. Cattanach in his Rejoinder Exhibit No.___(JLC-4) shows the test year August 31, 2004 average usage for customers residing in dwellings that first took gas service for years 1991 through 2002. The average residential use per customer ranged from 374 therms (1991) to 313 therms (2002). Current rates were established using all customers added through December 1999 and the average use was 388 therms. Customers added subsequent to the test year in the last rate case (December 1999), average use ranged from 331 therms (2000) to 313 therms (2002). Accordingly, the decline in average use is also the result of new customer additions. To the extent that margin recovery was assigned to the commodity portion of new customer rates, the result was the Company was provided less than the authorized margin and all the negative impacts that result.

Q. 39 Has the decline in average residential use from levels established in previous rate cases been the result of customers who reside in both old and new dwellings that use less natural gas?

A. 39 Yes. The decline in average residential use has been the result of customers residing in both old and new dwellings who are using less natural gas than the levels used to establish rates in previous rate cases.

Q. 40 Does this conclude your prepared rejoinder testimony?

A. 40 Yes, it does.

Rejoinder Testimony
Exhibit No.___(RAM-1)

SOUTHWEST GAS CORPORATION
ARIZONA
RESTATEMENT OF CAPITAL STRUCTURE AT JUNE 30, 2005
REFLECTING THE IMPACT OF 100 PERCENT OF ARIZONA REGULATORY LAG AND PHOENIX AND TUCSON DECLINING RESIDENTIAL USE

Amounts ($000,000)	Balance At 6/30/2005	Adjust For Arizona Regulatory Lag	Adjusted Balance At 6/30/2005	Adjust For Arizona Regulatory Lag	Adjusted Balance At 6/30/2005	Adjust For Declining Phoenix Residential Use	Adjust For Declining Tucson Residential Use	Adjusted Balance At 6/30/2005
Debt	$ 1,173	$ (61)	$ 1,112	$ (36)	$ 1,077	$ (96)	$ (27)	954
Preferred Securites	100		100		100			100
Common Equity	756	61	816	36	852	96	26.5	974
Total Capitalization	$ 2,029	$ 0	$ 2,029	$ 0	$ 2,029	$ 0	$ 0	2,029
Reference		Exh.No.(RAM-2) Sheet 1 of 1 Line 7 (h)		Exh.No.(RAM-2) Sheet 1 of 1 Line 8 (h) x 10/12		Exh.No.(RAM-1) Sheet 4 of 6 Line 18 (l)	Exh.No.(RAM-2) Sheet 5 of 6 Line 18 (l)	
Percent								
Debt	57.8%		54.8%		53.1%			47.1%
Preferred Securites	4.9%		4.9%		4.9%			4.9%
Common Equity	37.2%		40.2%		42.0%			48.0%
Total Capitalization	100.0%		100.0%		100.0%			100.0%

Rejoinder Testimony
Exhibit No.___(RAM-2)

SOUTHWEST GAS CORPORATION
ARIZONA
RESIDENTIAL MARGIN AUTHORIZED IN DECISION NO 46780
TEST YEAR ENDED DECEMBER 31, 1999

Description	No. of Bills	Therms	Rates	Margin BSC	Margin Commodoty	Margin Total	Percent of Volumetric Margin	Percent of Total Margin
		Rate Design Authorized by the Commission in Docket No. G-1551A-00-0304						
Residential								
Basic Service Charge	7,871,941		8.00	$ 62,975,528		$ 62,975,528		35.0%
Summer (May-October)								
First 20 Therms		46,366,200	$ 0.48762		$ 22,609,086	$ 22,609,086	19.3%	12.6%
Over 20 Therms		9,591,981	0.40344		3,869,789	3,869,789	3.3%	2.2%
Winter (Nov. - April)								
First 40 Therms		120,228,054	$ 0.48792		58,661,672	58,661,672	50.2%	32.6%
Over 40 Therms		78,604,644	0.40344		31,712,258	31,712,258	27.1%	17.6%
Total Residential Sch. G-5		254,790,879		$ 62,975,528	116,852,805	$ 179,828,333	100.0%	100.0%
Average Customer Use	655,995	388.4				$ 274.13		
		Residential Margin at Present rates and Present Rate Schedules (Sche. H-2, Sheet 1 of 16)						
Residential								
Basic Service Charge	9,496,924		8.00	$ 75,975,392		$ 75,975,392		37.5%
Summer (May-October)								
First 20 Therms		49,593,360	$ 0.48762		$ 24,182,714	$ 24,182,714	19.1%	11.9%
Over 20 Therms		9,691,283	0.40344		3,909,851	3,909,851	3.1%	1.9%
Winter (Nov. - April)								
First 40 Therms		136,597,796	$ 0.48792		66,648,797	66,648,797	52.7%	32.9%
Over 40 Therms		78,738,764	0.40344		31,766,367	31,766,367	25.1%	15.7%
Total Residential Sch. G-5		274,621,203		$ 75,975,392	126,507,729	$ 202,483,121	100.0%	100.0%
Average Customer Use	791,410	347.0				$ 255.85		
Residential Margin Increase								
Basic Service Charge						$ 12,999,864		57.4%
Summer (May-October)								
First 20 Therms		3,227,160				$ 1,573,628		6.9%
Over 20 Therms		99,302				40,062		0.2%
Winter (Nov. - April)								
First 40 Therms		16,369,742				7,987,125		35.3%
Over 40 Therms		134,120				54,109		0.2%
Total Margin Increase	135,415	19,830,324				$ 22,654,788		100.0%

Rejoinder Testimony
Exhibit No.___(RAM-3)
Sheet 1 of 3

SOUTHWEST GAS CORPORATION
ARIZONA
COMPARISON OF MARGIN AT PRESENT RATES IN DOCKET NO. G-1551A-04-0876 TO MARGIN AUTHORIZED IN DECISION NO. 64172
TEST YEAR ENDED AUGUST 31, 2004

Description	Test Year Ended December 31, 1999				Test Year Ended August 31, 2004			
	Current Authorized	BSC Scenario	BSC & First Tier Scenario	BSC & Second Tier Scenario	Current Authorized	BSC Scenario	BSC & First Tier Scenario	BSC & First Tier Scenario
Residential								
Basic Service Charge	$ 62,975,528	$ 179,828,333	$ 62,975,528	$ 62,975,528	$ 75,975,392	$ 216,949,315	$ 75,975,392	$ 75,975,392
Summer (May-October)								
First 20 Therms	22,609,086	0	32,522,253	0	24,182,714	0	34,785,775	0
Over 20 Therms	3,869,789	0	0	12,708,535	3,909,851	0	0	12,840,078
Winter (Nov. - April)								
First 40 Therms	58,661,672	0	84,330,552	0	66,648,797	0	95,812,426	0
Over 40 Therms	31,712,258	0	0	104,144,270	31,766,367	0	0	104,321,776
Total Residential Sch. G-5	$ 179,828,333	$ 179,828,333	$ 179,828,333	$ 179,828,333	$ 202,483,121	$ 216,949,315	$ 206,573,593	$ 193,137,246
Average Customers	**655,995**	655,995	655,995	655,995	**791,410**	791,410	791,410	791,410
Average Use per Customer	388	388	388	0	347	347	347	347
Average Margin Per Customer	$ 274.13	$ 274.13	$ 274.13	$ 274.13	$ 255.85	$ 274.13	$ 261.02	$ 244.04
Residential Margin Shortfall					$ 14,466,677	$ 0	$ 10,376,206	$ 23,812,553

SOUTHWEST GAS CORPORATION
ARIZONA
RESIDENTIAL MARGIN AUTHORIZED IN DOCKET NO. G-1551A-000309, DECISION NO 64172
TEST YEAR ENDED DECEMBER 31, 1999
THREE ALTERNATIVE RATE DESIGN SCENARIOS

Description	No. of Bills	Therms	Rates	Margin BSC	Margin Commodoty	Margin Total	Percent of Volumetric Margin	Percent of Total Margin
Authorized Margin Assigning all Margin to a Fixed Basic Service Charge								
Residential								
Basic Service Charge	7,871,941		22.84	$ 179,828,333		$ 179,828,333		100.0%
Summer (May-October)								
First 20 Therms		46,366,200			$ 0	$ 0	0.0%	0.0%
Over 20 Therms		9,591,981			0	0	0.0%	0.0%
Winter (Nov. - April)								
First 40 Therms		120,228,054			0	0	0.0%	0.0%
Over 40 Therms		78,604,644			0	0	0.0%	0.0%
Total Residential Sch. G-5		254,790,879		$ 179,828,333	0	$ 179,828,333	0.0%	100.0%
Average Customer Use	655,995	388.4				$ 274.13		
Margin Recovery through the Basic Service Charge and First Tier								
Residential								
Basic Service Charge	7,871,941		8.00	$ 62,975,528		$ 62,975,528		35.0%
Summer (May-October)								
First 20 Therms		46,366,200	$ 0.70142		$ 32,522,253	$ 32,522,253	27.8%	18.1%
Over 20 Therms		9,591,981			0	0	0.0%	0.0%
Winter (Nov. - April)								
First 40 Therms		120,228,054	$ 0.70142		84,330,552	84,330,552	72.2%	46.9%
Over 40 Therms		78,604,644			0	0	0.0%	0.0%
Total Residential Sch. G-5		254,790,879		$ 62,975,528	116,852,805	$ 179,828,333	100.0%	100.0%
Average Customer Use	655,995	388.4				$ 274.13		
Margin Recovery through the Basic Service Charge and Second Tier								
Residential								
Basic Service Charge	7,871,941		8.00	$ 62,975,528		$ 62,975,528		35.0%
Summer (May-October)								
First 20 Therms		46,366,200	$		$ 0	$ 0	0.0%	0.0%
Over 20 Therms		9,591,981	1.32491		12,708,535	12,708,535	10.9%	7.1%
Winter (Nov. - April)								
First 40 Therms		120,228,054	$		0	0	0.0%	0.0%
Over 40 Therms		78,604,644	1.32491		104,144,270	104,144,270	89.1%	57.9%
Total Residential Sch. G-5		254,790,879		$ 62,975,528	116,852,805	$ 179,828,333	100.0%	100.0%
Average Customer Use	655,995	388.4						

SOUTHWEST GAS CORPORATION
ARIZONA
RESIDENTIAL MARGIN AT PRESENT RATES DOCKET NO. G-1551A-04-0876
TEST YEAR ENDED AUGUST 31, 2004
THREE ALTERNATIVE RATE DESIGN SCENARIOS

Description	No. of Bills	Therms	Rates	Margin BSC	Margin Commodoty	Margin Total	Percent of Volumetric Margin	Percent of Total Margin
	Authorized Margin Assigning all Margin to a Fixed Basic Service Charge							
Residential								
Basic Service Charge	9,496,924		22.84	$ 216,949,315		$ 216,949,315		100.0%
Summer (May-October)								
First 20 Therms		49,593,360	$		$ 0	$ 0	0.0%	0.0%
Over 20 Therms		9,691,283			0	0	0.0%	0.0%
Winter (Nov. - April)								
First 40 Therms		136,597,796	$		0	0	0.0%	0.0%
Over 40 Therms		78,738,764			0	0	0.0%	0.0%
Total Residential Sch. G-5		274,621,203		$ 216,949,315	0	$ 216,949,315	0.0%	100.0%
Average Customer Use	791,410	347.0				$ 274.13		
	Margin Recovery through the Basic Service Charge and First Tier							
Residential								
Basic Service Charge	9,496,924		8.00	$ 75,975,392		$ 75,975,392		36.8%
Summer (May-October)								
First 20 Therms		49,593,360	0.70142		$ 34,785,775	$ 34,785,775	26.6%	16.8%
Over 20 Therms		9,691,283			0	0	0.0%	0.0%
Winter (Nov. - April)								
First 40 Therms		136,597,796	0.70142		95,812,426	95,812,426	73.4%	46.4%
Over 40 Therms		78,738,764			0	0	0.0%	0.0%
Total Residential Sch. G-5		274,621,203		$ 75,975,392	130,598,201	$ 206,573,593	100.0%	100.0%
Average Customer Use	791,410	347.0				$ 261.02		
	Margin Recovery through the Basic Service Charge and Second Tier							
Residential								
Basic Service Charge	9,496,924		8.00	$ 75,975,392		$ 75,975,392		39.3%
Summer (May-October)								
First 20 Therms		49,593,360	$		$ 0	$ 0	0.0%	0.0%
Over 20 Therms		9,691,283	1.32491		12,840,078	12,840,078	11.0%	6.6%
Winter (Nov. - April)								
First 40 Therms		136,597,796	$		0	0	0.0%	0.0%
Over 40 Therms		78,738,764	1.32491		104,321,776	104,321,776	89.0%	54.0%
Total Residential Sch. G-5		274,621,203		$ 75,975,392	117,161,854	$ 193,137,246	100.0%	100.0%
Average Customer Use	791,410	347.0				$ 244.04		

MOODY

Table of Contents of Prepared Rejoinder Testimony of WILLIAM N. MOODY

BEFORE THE ARIZONA CORPORATION COMMISSION

Prepared Rejoinder Testimony
of
WILLIAM N. MOODY

INTRODUCTION

Q. 1 Please state your name and business address.

A. 1 My name is William N. Moody. My business address is 5241 Spring Mountain Road, Las Vegas, Nevada 89150-0002.

Q. 2 Are you the same William N. Moody that sponsored rebuttal testimony on behalf of Southwest Gas Corporation (Southwest or the Company)?

A. 2 Yes, I am.

Q. 3 What is the purpose of your prepared rejoinder testimony?

A. 3 I am responding to the surrebuttal testimonies of the Arizona Corporation Commission Utilities Division Staff (Staff) witnesses Mr. William Gehlen and Mr. Bob Gray. Specifically, in terms of Mr. Gehlen's testimony, I am providing a response to his recommendations that Southwest: (1) provide a recommended scope of work regarding the benchmarking study and the evaluation of portfolio software; and (2) preclude certain employees from any stock ownership or other financial interest with any supplier, or class of suppliers, with whom they conduct business. In terms of Mr. Gray's testimony, I am responding to his recommendation that Southwest pursue opportunities to build its own laterals or acquire El Paso Natural Gas Company (El Paso) laterals to reduce El Paso's monopoly position in Arizona. My rebuttal and rejoinder testimony may not specifically respond to each issue or argument brought forth by the respective intervening parties in their direct and surrebuttal testimony. My silence should not be taken as acceptance of any intervening party's position, but rather that my previously filed rebuttal testimony adequately supports the Company's position.

SOUTHWEST'S RESPONSE TO MR. GEHLEN'S RECOMMENDATIONS

Q. 4 Did Southwest agree to any of the Staff recommendations contained in Mr. Gehlen's direct testimony?

A. 4 Yes. Southwest agreed to: (1) conduct a best practices review of the fuel procurement and planning functions by an impartial outside organization and review non-gas commodity hedging; (2) provide a check and balance in the fuel procurement process that would separate contract award authority from invoice approval authority; (3) eliminate the use of cell phones during term fuel bidding and negotiating activities and ensure all discussions are recorded and bidding and negotiation activities are observed by neutral personnel; and (4) perform a review of available portfolio evaluation software.

Q. 5 Were there any Staff recommendations in Mr. Gehlen's direct testimony that Southwest did not respond to?

A. 5 Yes, there was one. Mr. Gehlen recommended that Southwest investigate how other peer utilities address commodity price hedging, with an emphasis on steel, and file a report in Docket Control by June 30, 2006.

Q. 6 Does Southwest accept that recommendation?

A. 6 Yes.

Q. 7 Does Southwest have any concerns regarding the 30-day deadline for filing a scope of work with Docket Control pertaining to the best practices review of the fuel procurement and planning functions?

A. 7 Yes. Southwest does not believe that a comprehensive and complete scope of work, covering multiple functions can be adequately developed in a 30-day period. Accordingly, Southwest requests that it be allowed 60 days from the date of a Commission decision in this matter to file the proposed scope of work with the Commission's Docket Control office. At the end of that same 60-day period, Southwest would also provide the scope of work for portfolio evaluation software and non-gas commodity price hedging, with an emphasis on steel.

Q. 8 Does Southwest oppose Mr. Gehlen's recommendation that Southwest employees be precluded from owning any stock or having any other financial interest with any supplier or class of suppliers with whom they conduct business?

A. 8 No. Southwest shares Staff's concerns regarding potential conflicts of interest. Southwest's concerns are exemplified by Southwest's existing Code of Business Conduct & Ethics (Code of Ethics); and the Employee Handbook (which is provided to every employee), which further reiterates Southwest's position on potential conflicts of interest. In fact, a condition of employment at Southwest is that every director, officer and exempt employee is required to complete and sign annually a Conflict of Interest Form. A copy of the relevant pages of the Employee Handbook and the Conflict of Interest Form are included as an attachment to this testimony as Rejoinder Exhibit No.__(WNM-1). Aside from the Code of Ethics and Employee Handbook, Southwest maintains written procedures that have been developed to insure accuracy and independent review of procurement transactions.

Although, Mr. Gehlen provides no evidence that this combination of policies and procedures at Southwest is inadequate to control potential conflicts of interest in Southwest's procurement activities, he requests that the Commission mandate further restrictions.

Notwithstanding, Southwest is willing to develop and implement standard practices and procedures that define or establish measurement criteria for what constitutes substantial stock or other financial interest, and that will apply to individuals within the purchasing and gas procurement departments.

SOUTHWEST'S RESPONSE TO MR. GRAY'S RECOMMENDATIONS

Q. 10 Please respond to Mr. Gray's recommendations regarding El Paso laterals?

A. 10 Mr. Gray's recommendations are duly noted by Southwest. Southwest, as a general practice, builds needed laterals for its distribution system when it is cost-effective and reasonable to do so. Southwest also investigates opportunities to acquire El Paso laterals, and would consider purchasing laterals when there is sound business justification for doing so and when the conditions are beneficial to Southwest's customers. Southwest intends to continue its current practice.

Q. 11 Does that conclude your prepared rejoinder testimony?

A. 11 Yes, it does.

CONFLICTS OF INTEREST AND OUTSIDE BUSINESSES

Southwest Gas has earned and maintained a strong reputation for honesty and integrity. This outstanding reputation can only be maintained if you and all other employees are committed individually to honesty and integrity in all business relationships—with fellow employees, customers, shareholders, suppliers, contractors, government units, and all other members of the communities we serve and the groups with which we interact. This means conducting business in a manner that is in accord not only with all legal requirements, but also with the highest ethical standards.

You are required to avoid any situation that involves—or may appear to involve—a ***conflict of interest between your personal interests and the interests of the Company***. One condition of employment is the completing and signing of a ***Conflicts of Interest Form (No.*** *759.2 10/93).* All directors, officers and exempt employees are expected to update their forms annually. Human Resources administers this program.

If you have any doubt about whether or not a potential course of action could be considered to involve a conflict of interest between yourself and the Company, you should discuss the matter fully with your supervisor or a Human Resources representative before taking action.

The Company does not intend to infringe on your right to engage in outside business or other activities which do not conflict with your obligations to Southwest Gas. The following situations, however, would be in conflict with your duties and contrary to Company policy:

A. Serving as an official, director or employee of another company which is a present or prospective Southwest Gas competitor, customer or supplier, without the prior written approval of the appropriate vice president or the vice president/Human Resources;

B. Engaging in any business activity which impairs the overall job performance expected from you; or

C. Holding any **substantial stock or other financial interest** in any competitor or supplier or other organization with which you are engaged in a business relationship. (An exception would be if you own any widely-held securities where the amount you hold is insignificant to the total amount of publicly-held securities of that company.)

COPYRIGHT COMPLIANCE

The Company is committed to the support of intellectual property rights and the protection of copyrighted information. Copyrightable works include the following categories: literary works; musical works, including any accompanying words; dramatic works, including any accompanying music; pantomimes and choreographic works; pictorial, graphic and sculptural works; motion pictures and other audiovisual works; sound recordings; and architectural works.

These categories should be viewed broadly. Maps and architectural plans would be included under pictorial, graphic and sculptural works; computer programs and/or software are included as part of literary works. Original works of authorship are automatically protected by federal copyright law from the moment of their creation. **Unauthorized duplication of original works of authorship constitute copyright infringement regardless of whether it is done for sale, for free distribution or for personal use. Employees are liable for copyright infringement whether or not they knowingly violated the federal copyright law. Violation of this rule will result in disciplinary action up to and including termination.**

To assist the Company with compliance under Federal copyright law, Southwest maintains a photocopy license with Copyright Clearance Center, Inc. (CCC), a non-profit royalty fee remittance organization that represents thousands of domestic and foreign publishers and their publications. This license gives Company employees the right to photocopy a portion of over 1.75 million registered publications **for internal purposes only on a limited basis.**

The license does **not** allow employees: to photocopy all or substantially all of a work (except where a work is a portion of a larger work, i.e., one article in a journal issue containing many articles); to request or receive photocopies from

SOUTHWEST GAS CORPORATION

CONFLICTS OF INTEREST

I have reviewed the statement of Company policy regarding conflicts of interest in the Employee Handbook and understand it.

To the best of my knowledge and belief neither I nor any member of my immediate family has any interest in or any connection with or has within the last year engaged in any activity which might conflict with the Company's interest.

Check One:

☐ The foregoing statement is true, without exception.
☐ The foregoing statement is true, with the following exception(s):

(use a separate sheet if required)

____
____
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____
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____
____

____
Employee's Name *(please print)*

____
Employee's Signature **Date Signed**

____
Job Title

When changes occur that impact the accuracy of a previously completed Conflicts of Interest statement, the **employee has the responsibility** of completing an updated statement reflecting the correct facts.

MAREK

Southwest Gas Corporation
Docket No. G-01551A-04-0876

Table of Contents of Prepared Rejoinder Testimony of MARTI MAREK

BEFORE THE ARIZONA CORPORATION COMMISSION

Prepared Rejoinder Testimony
of
MARTI MAREK

INTRODUCTION

Q. 1 Please state your name and business address.

A. 1 My name is Marti Marek. My business address is 5241 Spring Mountain Road, Las Vegas, Nevada 89150-0002.

Q. 2 Are you the same Marti Marek who sponsored rebuttal testimony in this proceeding?

A. 2 Yes.

Q. 3 What is the purpose of your rejoinder testimony?

A. 3 The purpose of my rejoinder testimony is to respond to the recommendation in Staff witness Robert G. Gray's surrebuttal testimony that Southwest provide in this proceeding a list, along with background information, the potential entities other than the Gas Technology Institute (GTI) to which research funds might be directed. My rebuttal and rejoinder testimony may not specifically respond to each issue or argument brought forth by the respective intervening parties in their direct and surrebuttal testimonies. My silence should not be taken as acceptance of any intervening party's position, but rather that my previously filed rebuttal testimony adequately supports the Company's position.

LIST OF RESEARCH ENTITIES

Q. 4 What is Southwest's response to Staff's request for background information on research entities other than GTI?

A. 4 In my rebuttal testimony I provided a list of private, non-profit and governmental organizations that compete with GTI for research funding, along with some examples of the types of projects they are working on or have worked on in the past.

Below I have provided the home page web sites for each of these entities, followed by the web site address for more specific research information:

1) The Pipeline Research Council International (PRCI)
http://www.prci.org/
http://www.prci.org/current_research/DCO/project_index.cfm

2) NYSEARCH
http://www.northeastgas.org/nysearch/
http://www.nygas.org/main.html

3) Southwest Research Institute (SWRI)
http://www.swri.org/swri.htm
http://www.swri.org/4org/d18/mechflu/flomeas/home.htm

4) The Edison Welding Institute (EWI)
http://www.ewi.org/
http://www.ewi.org/membership/crp.asp

5) Battelle
http://www.battelle.org/default.stm
http://www.battelle.org/pipetechnology/http://www.battelle.org/environment/whatwedo.stm

6) Sandia National Laboratory
http://www.sandia.gov/
http://www.ca.sandia.gov/industry partner/sensors1.html

7) U.S. Department of Transportation (DOT)
http://primis.phmsa.dot.gov/rd/
http://primis.phmsa.dot.gov/matrix/

8) U.S. Department of Energy - National Energy Technology Lab(DOE-NETL)
http://www.netl.doe.gov/scngo/index.html
http://www.netl.doe.gov/scngo/NaturalGas/index.html

9) U.S. Environmental Protection Agency(EPA)
http://www.epa.gov/ord/htm/aboutord.htm
http://www.epa.gov/nrmrl/pubs/600r01066/600r01066.htm

Q. 5 Does this conclude your prepared rejoinder testimony?

A. 5 Yes, it does.

CATTANACH

Southwest Gas Corporation
Docket No. G-01551A-04-0876

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of
Prepared Rejoinder Testimony
of
James L. Cattanach

BEFORE THE ARIZONA CORPORATION COMMISSION

Prepared Rejoinder Testimony
of
James L. Cattanach

INTRODUCTION

Q. 1 Please state your name and business address.

A. 1 My name is James L. Cattanach. My business address is 5241 Spring Mountain Road, Las Vegas, Nevada 89150-0002.

Q. 2 Are you the same James L. Cattanach who sponsored direct testimony on behalf of Southwest Gas Corporation (Southwest or the Company) in this proceeding?

A. 2 Yes, I am.

Q. 3 What is the purpose of your prepared rejoinder testimony?

A. 3 The purpose of my prepared rejoinder testimony is to reply to the surrebuttal testimony presented by Arizona Corporation Commission Utilities Division Staff (Staff) witness Mr. William H. Musgrove regarding his assertions related to declining residential consumption per customer.

Q. 4 Did you prepare exhibits to support your rejoinder?

A. 4 Yes. I prepared the exhibits identified as Rejoinder Exhibit No.___(JLC-1) through Rejoinder Exhibit No.___(JLC-5).

Q. 5 Please summarize your rejoinder testimony.

A. 5 I will reply to the incorrect assertion made by Mr. Musgrove that "Southwest refuses to accept that average sales per residential customer have been decreasing at rates that are driven by increases in the number of customers" (William H. Musgrove, Surrebuttal Testimony, Page 3, Lines 18 - 20). I will provide empirical evidence that both refutes Mr. Musgrove's assertion and clearly supports Southwest's position regarding the important role of vintage and new customers in explaining the decline in overall residential consumption per customer. I will also respond to Mr. Musgrove's statement that "Furthermore, Staff believes that the reported impact of a decline in residential sales per customer of approximately 11 percent since 1999 is overstated." (William H. Musgrove, Surrebuttal Testimony, Page 3, Lines 16 through 18.)

Q. 6 Could you briefly state Southwest's position related to declining residential consumption per customer in Arizona?

A. 6 Yes. Southwest's position has always been that improved appliance and dwelling efficiencies, and **the dramatic customer growth that Southwest has experienced in Arizona** are the primary factors contributing to the decline in overall residential consumption per customer. (James L. Cattanach, Direct Testimony, Pages 5 through 7.) The improved appliance efficiencies and better insulated homes have implications for both new customers and vintage customers. For new customers, it should be intuitive that improved efficiencies will translate into lower consumption, and in turn, contribute to the decline in overall residential consumption per customer. The vintage customers have also contributed significantly to the decline in consumption per customer. For the vintage customers, the turnover or replacement of older appliances with relatively more efficient new appliances contributes to the decline in overall residential consumption per customer. It would also be reasonable to expect that a certain number of vintage customers would be adopting energy conservation practices to improve the thermal integrity of their homes. To reiterate, Southwest's position is that both vintage and new customers play a non-trivial role in explaining the decline in overall residential consumption per customer. Southwest's position was clearly outlined in my direct testimony.

Q. 7 Have you performed any empirical research that corroborates Southwest's position that both new customer growth and vintage customers contribute to the decline in overall residential consumption per customer?

A. 7 Yes. A number of quantitative analyses were performed that confirm residential consumption per customer is declining for both new and vintage customers. Both time series and cross-sectional data sets were utilized to analyze the historical declines in residential consumption per customer. **In conducting the empirical research, the null hypothesis is that both vintage and**

new customers are contributing to the decline in overall residential consumption per customer. In applied empirical research, the null hypothesis is the position that we believe is true. The null hypothesis is rejected only if there is compelling empirical or statistical evidence to the contrary.

QUANTITATIVE ANALYSIS ONE

Q. 8 Could you briefly discuss each quantitative analysis related to declining residential consumption per customer that was performed?

A. 8 Yes. The first data set examined was a time series data set that reflects weather normalized annual residential consumption per customer and average number of customers between 1985 and 2004. This data set provides an excellent "macro" level overview of declining residential consumption per customer in Arizona. Three-year centered moving averages of both residential consumption per customer and the number of customers were calculated to better discern the longer-term trends in the data. The attached Rejoinder Exhibit No.___(JLC-1) presents a time series plot overlay that depicts 3-year centered moving averages of both variables on the same graph (1985 and 2004 are dropped in the graph presentation due to the calculation of the centered moving averages). Examination of the graph reveals a number of important historical trends related to residential consumption per customer. First, it is quite evident based on casual empiricism, a statistically significant downward trend in residential consumption per customer has occurred between 1985 and 2004. Second, the trajectory of consumption per customer was downward between 1985 and approximately 1992, even though customer growth was relatively moderate during this period. This would suggest that significant conservation was occurring with vintage customers during this period. Third, the graph depicts that the downward trend in consumption per customer steepened significantly in the mid-1990's. The structural change in the downward trajectory of residential consumption per customer coincides with both the escalation of residential customer growth and implementation of the Energy Policy Act of 1992. Overall, the graphical analysis illustrates the combined impacts of improved appliance and dwelling efficiencies and their linkage to both vintage and new customer consumption over the last twenty years.

QUANTITATIVE ANALYSIS TWO

Q. 9 Please continue your review of the analytical analyses that test the hypothesis that both vintage and new customers have contributed to the decline in overall residential consumption per customer.

A. 9 A second empirical analysis was performed utilizing a cross-sectional data set. Cross-sectional data is information collected on a set of observational units at a point in time. While the time series data in the previous analysis provides a "macro" view of the downward trend in residential consumption per customer, the cross-sectional data provides a wonderful "micro" level picture of declining residential consumption per customer. In this quantitative analysis, the observational units are residential customers and their associated consumption, and the time period is the test year. For the 12-months ended August 2004, annual consumption per customer was examined by year of customer installation. The attached Rejoinder Exhibit No.___(JLC-2) presents a graph of weather normalized consumption per customer (12-months ended August 2004) for customers installed prior to 2000 (vintage customers), and customers installed for each year between 2000 and 2002 (new customers). A review of the graph reveals that new customer consumption is trending downwards, and new customers are consuming less than vintage customers. In fact, the most recent new customers are consuming less than the "older" new customers. The consumption data presented in the graph also provides important information on the decline in consumption per customer for vintage customers. The 2004 test year consumption for the vintage customers (installs prior to 2000) of 344.8 therms per customer is a reasonable approximation of the current consumption for the residential customers included in the 2000 rate case (Docket No. 01551A-00-0309). In the 2000 rate case, residential consumption was 388.4 therms per customer. The attached Rejoinder Exhibit No.___(JLC-3) presents residential consumption per customer for the 2000 rate case and the comparable consumption for customers in the current rate case. Consumption per customer of the vintage customers has declined by approximately 43.6 therms between the 2000 rate case and the current rate case (installs prior to 2000). The empirical evidence is clear that vintage customers are utilizing significantly less natural gas, and contributing to the decline in overall residential consumption per customer. To summarize, the results of cross-sectional analyses presented in attached Rejoinder Exhibit Nos.___(JLC-2) and ___(JLC-3) demonstrate that new customers are consuming less than the vintage customers, new customer consumption is trending downward, and the vintage customers are consuming less than they did previously. **Therefore, it is reasonable to conclude that both new and vintage customers are contributing to the decline in overall residential consumption per customer.**

QUANTITATIVE ANALYSIS THREE

Q. 10 Did you perform any other empirical research to corroborate the previous analyses?

A. 10 Yes. Southwest utilized the cross-sectional data set to confirm the *a priori* expectation that the downward trend in consumption per customer for both vintage and new customers has been occurring over a longer historical time period. The attached Rejoinder Exhibit No.___(JLC-4) graphically presents consumption per customer for the 12-

months ended August 2004 for customers installed each year between 1991 and 2002. The data provides an indication of the trend in "new" residential consumption per customer since the escalation of customer growth and implementation of the Energy Policy Act of 1992. The graph clearly indicates that "new" customer consumption has been declining over a longer historical sample range. New customers installed in 2002 are using over 61 therms per customer less than "new" customers installed in 1991 for the same 12 month period ended August 2004. The longer-term decline in vintage consumption per customer is graphically presented in Rejoinder Exhibit No.___(JLC-5). In order to assess the change in vintage customer consumption over the longer term, residential consumption per customer (12-months ended August 2004) for customers installed prior to 1986 was compared to the consumption per customer utilized in the 1986 rate case (Docket Nos. U-1551-86-300 and 301). As was the case with the rate case comparison conducted in the previous analysis, the current consumption of the customers installed prior to 1986 is a reasonable approximation of current consumption levels of the 1986 rate case customers. The annual consumption of the vintage customers has declined from 555.6 therms (1986 rate case) to 341.7 therms (customers installs prior to 1986) per customer between the 1986 rate case and the current rate case. This is a decline of 213.9 therms per customer for vintage customers over the nineteen year period. This second cross-sectional analysis confirms the *a priori* expectation that both new and vintage customers have contributed to the decline in overall consumption per customer over longer historical time periods.

Q. 11 Could you respond to Mr. Musgrove's statement that "Furthermore, Staff believes that the reported impact of a decline in residential sales per customer of approximately 11 percent since 1999 is overstated?" (William H. Musgrove, Surrebuttal Testimony, page 3, Lines 16 - 18)

A. 11 Yes. To be quite honest, I was perplexed by this statement. Both the 388.4 (2000 rate case) and the 347.0 (2004 rate case) therms per customer are a matter of evidentiary record. Both consumption statistics utilize weather normalized consumption per customer in the numerator and number of customers in the denominator. The difference between the two consumption statistics is 41.4 therms per customer. The calculated percentage decline is 10.7 percent. The weather normalized consumption per customer, difference, and percentage decline are straightforward arithmetic calculations. Since this not abstract math, there is no room for overstatement. As outlined in my direct testimony and supported by the quantitative research, a number of factors including improved appliance and dwelling efficiencies, and customer growth are contributing to the decline in consumption per customer between the 2000 and 2004 rate cases.

<u>CONCLUSION</u>

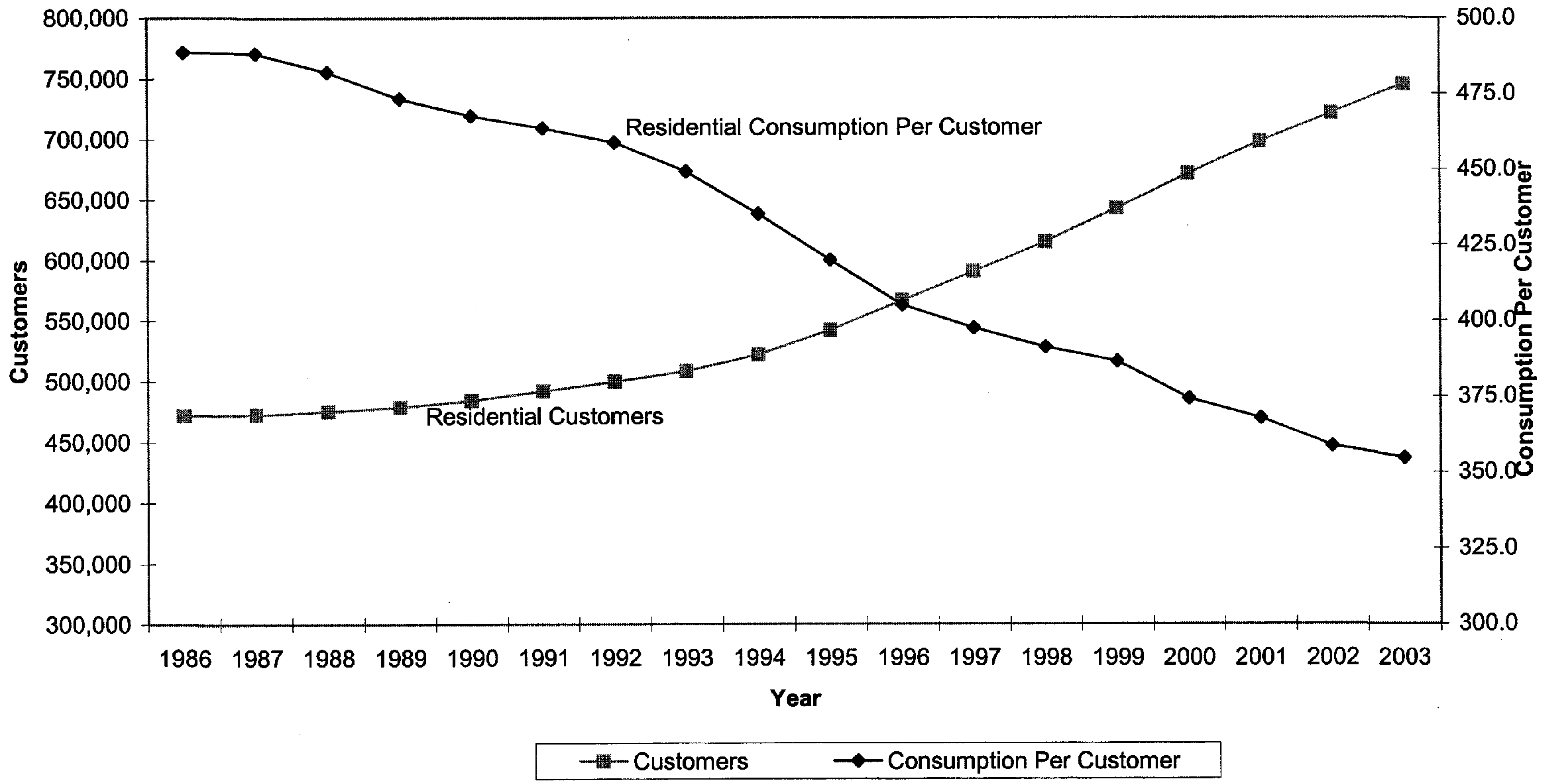
Q. 12 Could you please summarize your conclusions and recommendations based upon the results of the empirical research presented?

A. 12 Yes. The results of the empirical research are unambiguous regarding the following: **<u>(1) overall residential consumption per customer has declined dramatically over the last twenty years; (2) residential consumption per customer for both vintage and new customers has declined significantly over the last twenty years; and (3) both vintage and new customers have contributed to the decline in overall residential consumption per customer.</u>** In the parlance of hypothesis testing, there is no compelling empirical evidence to reject the null hypothesis that both vintage and new customers are contributing to the decline in overall residential consumption per customer. Southwest's position that both vintage and new customers are contributing to the decline in overall residential consumption per customer is supported by common sense, casual empiricism, and more rigorous quantitative analyses. Mr. Musgrove's assertion that "Southwest refuses to accept that average sales per residential customer have been decreasing at rates that are driven by increases in the number of customers" is incorrect since the empirical evidence suggests that customer growth is a contributing factor to the decline in overall residential consumption per customer. This is Southwest's position and this position has not changed. Since Mr. Musgrove's testimony is difficult to decipher, I will also state that any assertions made by Mr. Musgrove that vintage customers are not contributing to the decline in overall residential consumption per customer are erroneous and not supported by quantitative data and research. To trivialize the contribution of either vintage or new customers to declining overall residential consumption per customer is a result of misinterpreting the data.

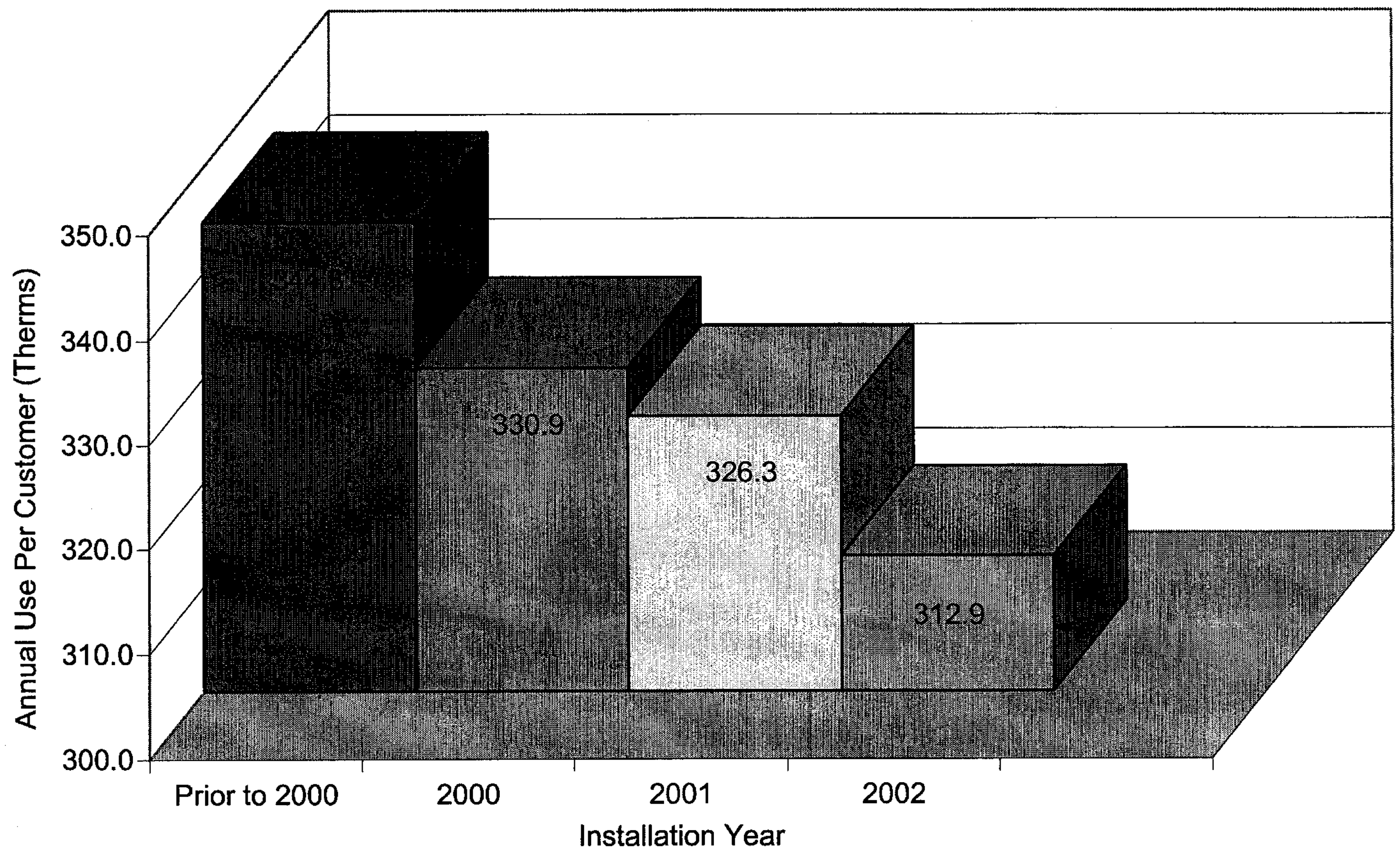
Q. 13 Does this conclude your prepared rejoinder testimony?

A. 13 Yes, it does.

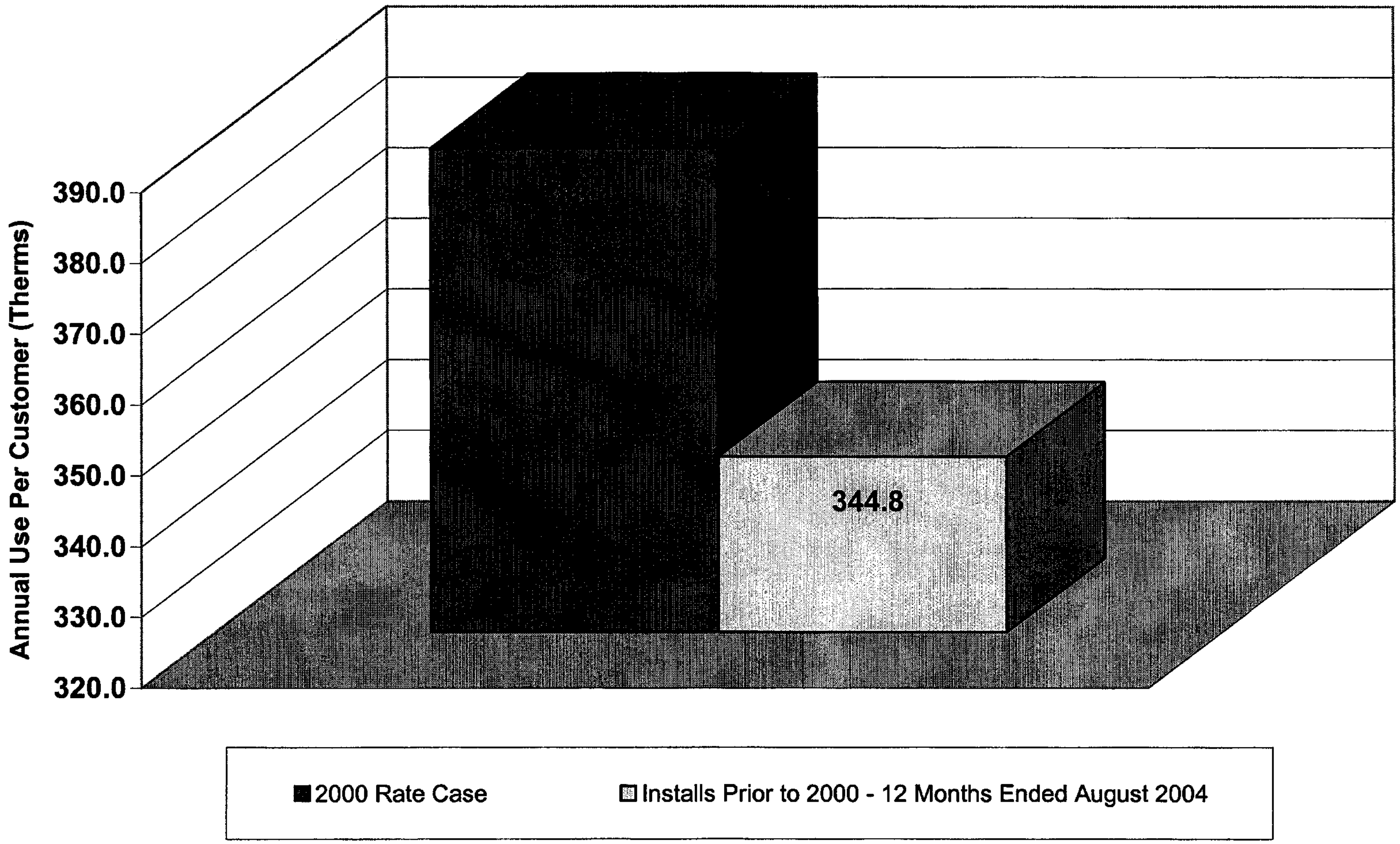
ARIZONA
RESIDENTIAL CUSTOMER CLASS (G-5)
CUSTOMERS AND WEATHER NORMALIZED CONSUMPTION PER CUSTOMER (THERMS)
3-YEAR CENTERED MOVING AVERAGES
1986 - 2003

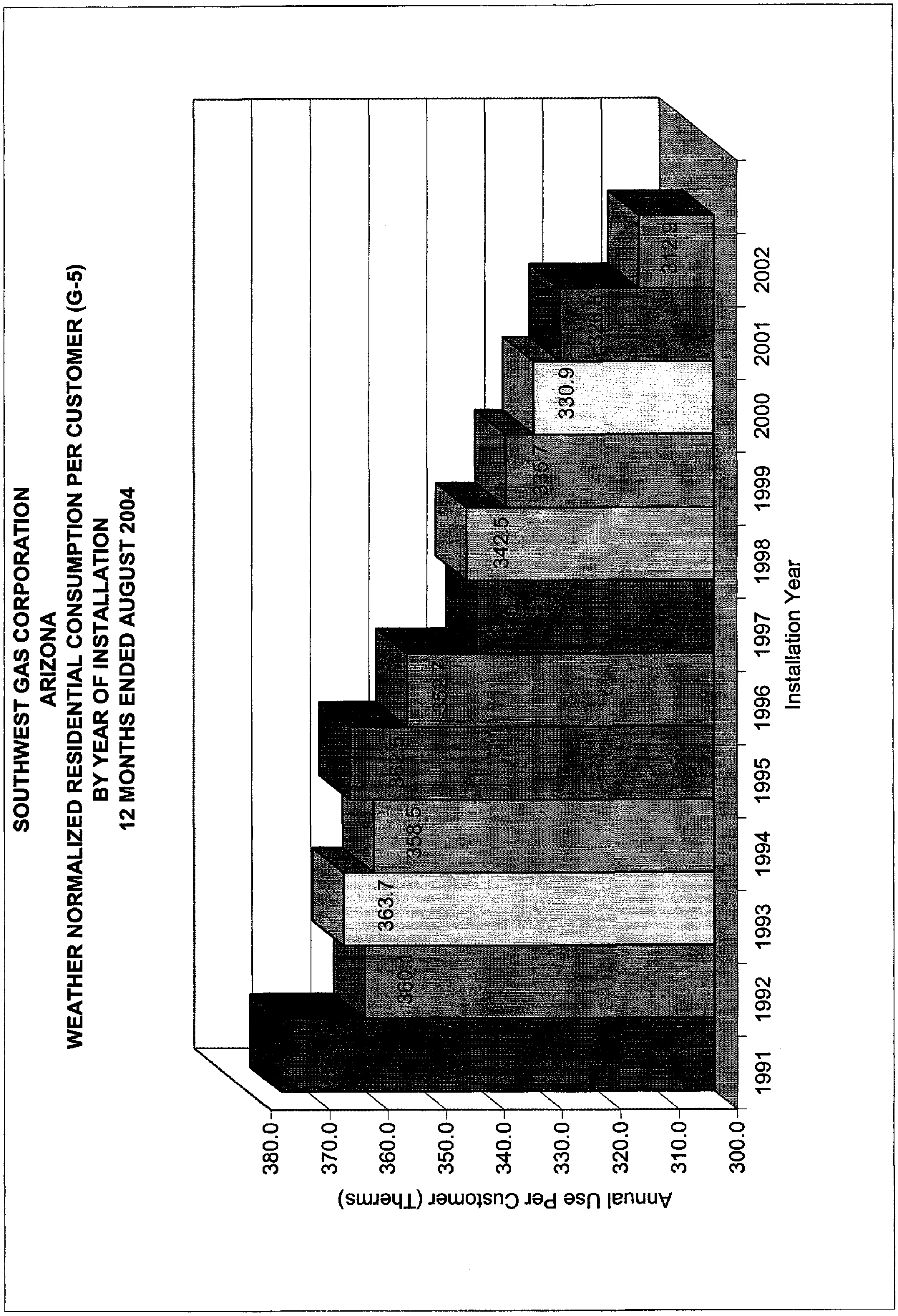


SOUTHWEST GAS CORPORATION
ARIZONA
WEATHER NORMALIZED RESIDENTIAL CONSUMPTION PER CUSTOMER (G-5)
BY YEAR OF INSTALLATION
12 MONTHS ENDED AUGUST 2004

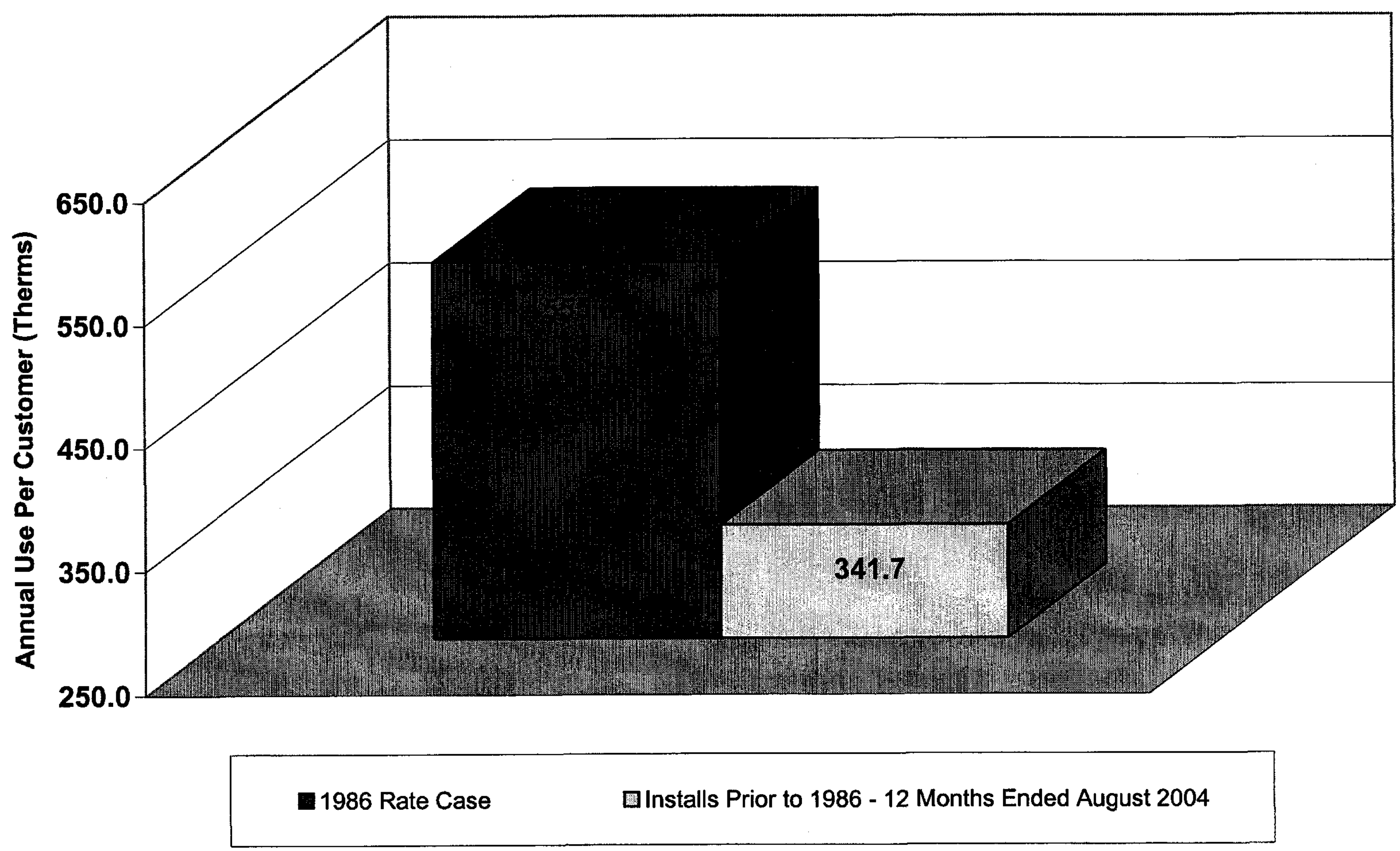


SOUTHWEST GAS CORPORATION
ARIZONA
WEATHER NORMALIZED RESIDENTIAL CONSUMPTION PER CUSTOMER (G-5)
VINTAGE CUSTOMERS
2000 RATE CASE VERSUS INSTALLS PRIOR TO 2000




SOUTHWEST GAS CORPORATION
ARIZONA
WEATHER NORMALIZED RESIDENTIAL CONSUMPTION PER CUSTOMER (G-5)
BY YEAR OF INSTALLATION
12 MONTHS ENDED AUGUST 2004
Annual Use Per Customer (Therms)
380.0
370.0
360.0
350.0
340.0
330.0
320.0
310.0
300.0
360.1
363.7
358.5
362.5
352.7
342.5
335.7
330.9
326.3
312.9
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
Installation Year

SOUTHWEST GAS CORPORATION
ARIZONA
WEATHER NORMALIZED RESIDENTIAL CONSUMPTION PER CUSTOMER (G-5)
VINTAGE CUSTOMERS
1986 RATE CASE VERSUS INSTALLS PRIOR TO 1986



SCOTT

Southwest Gas Corporation
Docket No. G-01551A-04-0876

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of
VIVIAN E. SCOTT

Southwest Gas Corporation
Docket No. G-01551A-04-0876

BEFORE THE ARIZONA CORPORATION COMMISSION

Prepared Rejoinder Testimony
of
VIVIAN E. SCOTT

INTRODUCTION

Q. 1 Please state your name and business address.

A. 1 My name is Vivian E. Scott. My business address is 5241 Spring Mountain Road, Las Vegas, Nevada 89150-0002.

Q. 2 Are you the same Vivian E. Scott who sponsored direct testimony and rebuttal testimony on behalf of Southwest in this proceeding?

A. 2 Yes. In my direct testimony, I described Southwest's current DSM programs and provided an overview of additional energy efficiency programs that Southwest is proposing for approval in this proceeding. In my rebuttal testimony, I addressed issues raised by other parties related to the proposed energy efficiency programs.

Q. 3 What is the purpose of your prepared rejoinder testimony?

A. 3 The purpose of my rejoinder testimony is to respond to specific aspects of the surrebuttal testimony presented by Mr. Steve P. Irvine, witness for the Arizona Corporation Commission Utilities Division Staff (Staff) regarding his recommendations and comments concerning the energy efficiency programs that Southwest has proposed in this proceeding. My rebuttal and rejoinder testimony may not specifically respond to each issue or argument brought forth by the respective intervening parties in their direct and surrebuttal testimony. My silence should not be taken as acceptance of any intervening party's position, but rather that my previously filed direct and rebuttal testimony adequately supports the Company's position.

Q. 4 Please summarize your rejoinder testimony.

A. 4 My rejoinder testimony will address the following issues:

- Program approval process
- Scope of the Energy Star® Home Certification program
- Performance incentive

PROGRAM APPROVAL PROCESS

Q. 5 Does Staff understand Southwest's position with regard to the program approval issue?

A. 5 No. Staff states that it is unclear as to Southwest's position regarding program approval. To clarify, Southwest expects to obtain Commission approval for the proposed programs and the funding level of those programs in this proceeding. Southwest will then work with the collaborative group to develop plans (including final funding levels) to administer each program and submit the plans to the Commission for final approval, within 120 days of a decision in this general rate case.

SCOPE OF THE ENERGY STAR® HOME CERTIFICATION PROGRAM

Q. 6 What is Staff's recommendation regarding the funding level for the Energy Star® Home Certification program?

A. 6 Staff recommends that the Energy Star® Home Certification program be funded at a level of $250,000 per year.

Q. 7 Does Southwest have any comments about Staff's recommended funding level for this program?

A. 7 Yes. Southwest would like to clarify that the Energy Star® Home Certification program could be funded at any number of different levels. Southwest can administer the program statewide at any of the proposed funding levels, but the level of funding will determine the breadth of the program. Clearly, with a higher funding level, the program can reach more builders and new homebuyers. This type of program is a good one, because it tends to be cost-effective, is well received by new homebuyers, and has long-term energy savings. Southwest will offer this program at whatever funding level the Commission deems reasonable and appropriate, especially when considered within the framework of the overall DSM program portfolio.

PERFORMANCE INCENTIVE

Q. 8 What is Staff's recommendation regarding a performance incentive?

A. 8 Staff does not recommend implementation of a performance incentive.

Q. 9 Does Southwest agree with Staff's recommendation?

A. 9 No. Southwest believes it should be allowed to earn a performance incentive for effective DSM program performance. In light of the undisputed fact that there is a financial disincentive for Southwest to promote conservation and energy efficiency, and in the interest of fairness, Southwest believes that all Arizona utilities should be allowed to earn a performance incentive on DSM programs. Just as Arizona Public Service Company was allowed to earn a performance incentive of up to ten percent of their total DSM program funding, Southwest believes it is equitable for the Commission to allow the Company to earn a similar incentive. However, as noted in my rebuttal testimony, a performance incentive or the recovery of program costs do not fully compensate Southwest for lost earnings due to conservation and energy efficiency, and the approval of the DSM programs should be conditioned upon the Commission's approval of the conservation margin tracker.

Q. 10 Does this conclude your prepared rejoinder testimony?

A. 10 Yes.

CONGDON

Southwest Gas Corporation
Docket No. G-01551A-04-0876

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Prepared Rejoinder Testimony
of
A. BROOKS CONGDON

BEFORE THE ARIZONA CORPORATION COMMISSION

Prepared Rejoinder Testimony
of
A. BROOKS CONGDON

INTRODUCTION

Q. 1 Please state your name and business address.

A. 1 My name is Mr. A. Brooks Congdon. My business address is 5241 Spring Mountain Road, Las Vegas, Nevada 89150-0002.

Q. 2 Are you the same A. Brooks Congdon who sponsored prepared direct and rebuttal testimony in this Docket before the Arizona Corporation Commission (Commission) for Southwest Gas Corporation (Southwest or the Company)?

A. 2 Yes, I am.

Q. 3 What is the purpose of your prepared rejoinder testimony?

A. 3 The purpose of my rejoinder testimony is to respond to the surrebuttal testimony presented by the following witnesses: Ms. Marylee Diaz Cortez and Mr. Rodney L. Moore, witnesses for the Residential Utility Consumer Office (RUCO); Messrs. Robert G. Gray and William H. Musgrove, witnesses for the Arizona Corporation Commission Utilities Division Staff (Staff), regarding their recommendations and comments concerning Southwest's test period bills and volumes, proposed rate design, revenue allocation to customer classes, and customer bill format. Furthermore, my rebuttal and rejoinder testimony may not specifically respond to each issue or argument brought forth by the respective intervening parties in their direct and surrebuttal testimony. My silence should not be taken as acceptance of any intervening party's position, but rather that my previously filed direct and rebuttal testimony adequately supports the Company's position.

Q. 4 Did you prepare exhibits to support your rejoinder testimony?

A. 4 Yes. I prepared the exhibit identified as Rejoinder Exhibit No.___(ABC-1).

Q. 5 Please summarize your rejoinder testimony.

A. 5 My rejoinder testimony will address the following issues:

1. Southwest's proposed residential rate design shields customers from high winter bills.
2. RUCO's and Staff's proposed residential rate designs increase Southwest's risk of not recovering its revenue requirement when usage is declining and, conversely, increase the risk to customers of higher bills during a cold weather event.
3. Southwest's adjusted test period bills and volumes are appropriate.
4. Southwest's margin allocation is appropriate.
5. Southwest's proposed G-25 rates reflect an appropriate balance of movement toward cost-based pricing and gradualism.

. . . . .

<u>SOUTHWEST'S PROPOSED RESIDENTIAL RATE DESIGN SHIELDS CUSTOMERS FROM HIGH WINTER BILLS</u>

Q. 6 Please explain how Southwest's proposed residential rate design is actually more responsive to the concerns about high natural gas prices and the need to reduce customer impacts in the winter than either Staff's or RUCO's proposed residential rate designs.

A. 6 Very simply, Southwest's proposed residential rate design addresses Staff's concerns regarding high gas prices and high winter bills by moving the residential rate design closer to Southwest's cost of providing service and providing customers a more accurate price signal.

Q. 7 Please respond to Staff's attempt to dismiss the significance of the long-term benefits of cost-based pricing by claiming that Southwest is "front-loading cost in the customer charge and first usage block" and that the reason Southwest's residential rate design shifts costs from winter to summer months "is simply because Southwest is proposing such a large increase in the customer charge."

A. 7 First of all, the salience of Southwest's proposed residential rate design should not be characterized as "front-loading costs" but rather making appropriate and, given today's marketplace, necessary movement toward cost-based pricing. In fact, a proper characterization of Southwest's proposal is "unloading." non-cost-of-service-based charges from large volume residential customers and more fairly distributing the recovery of Southwest's cost of service across all residential customers. Southwest's proposed rate design, by unloading non-cost-of-service-based charges from larger volume residential customers, by itself shields customers from high winter bills as compared to Staff's and RUCO's proposals because the price per therm for incremental customer usage is less under Southwest's proposed rate design.

Q. 8 Have you quantified the effect of Southwest's, Staff's and RUCO's proposed residential rate designs on customers' bills?

A. 8 Yes. Bills for Single-Family and Low-Income Single-Family residential customers under Southwest's, Staff's and RUCO's proposed rate designs, and the resulting dollar differences between rate designs are reflected on my Rejoinder Exhibit No.___(ABC-1). Rejoinder Exhibit No.___ (ABC-1) allows the Commission to assess differences in the rate designs and their respective impacts on single-family and low-income single-family residential customers during winter (January) and summer (August) months.

I have also summarized the differences in the impact on customer's January bills between Southwest's and RUCO's, and Southwest's and Staff's, proposed residential rate designs in the following tables.

. . . . .

. . . . .

. . . . .

Single-Family Residential

	Therms	SWG less RUCO	SWG less Staff
1st 5% of Bills	11	$ 4.03	$ 4.91
Mid-Point	35	8.12	7.22
Most Bills	60	0.64	(0.85)
Mid-Point	105	(12.82)	(15.40)
95% of Bills	155	(27.78)	(31.56)

Low-Income Single-Family Residential

	Therms	SWG less RUCO	SWG less Staff
1st 5% of Bills	14	$ 3.49	$ 3.05
Mid-Point	35	6.22	5.10
Most Bills	55	1.14	0.19
Mid-Point	100	(10.31)	(10.89)
95% of Bills	145	(21.75)	(21.96)

Based upon the foregoing, it is readily apparent that Southwest's proposed rate design provides relief from high winter bills to large volume residential customers, including Southwest's low-income customers. These are the customers that are the most severely impacted by high winter bills and, therefore, are the customers in need of the greatest degree of relief because they are already paying significantly more in gas costs than Southwest's small volume residential customers.

Q. 9 How should the above information affect the Commission's decision on residential rate design in this proceeding?

A. 9 Future gas prices have already reached all-time sustained high levels, and that was before Hurricane Katrina. With the disruptions caused by Katrina, and now possibly

Hurricane Rita, it is reasonable to expect movement in gas prices alone will be sufficient to cause historically high customer bills, especially winter bills. Given the collective desire to assist customers in paying high winter bills, this is an ideal time for the Commission to implement Southwest's proposed changes to residential rate design because decreases to the second block margin rate will offset increases in the cost of gas, thus the impact of higher gas costs on customers' winter bills will be reduced.

Q. 10 Please discuss Staff's statement that APS' E-12 rate schedule has a declining block rate structure in summer months, and that Southwest opposes such a rate structure.

A. 10 Staff must have intended to state that APS' E-12 rate schedule has an inverted not a declining block summer rate structure. As stated in my rebuttal testimony, Southwest is not opposed to an inverted or declining block rate structure as long as the rate structure reflects the utility's individual cost-of-service. Southwest is strongly opposed to inverted rates for its own natural gas distribution service because inverted rates do not reflect Southwest's cost-of-service.

<u>RUCO'S AND STAFF'S PROPOSED RESIDENTIAL RATE DESIGNS INCREASE RISK TO CUSTOMERS AND SOUTHWEST</u>

Q. 11 Please respond to Ms. Diaz Cortez's assertion that RUCO's proposed residential rate design lessens Southwest's risk of not recovering its revenue requirement when usage is declining.

A. 11 This assertion is not correct. Both RUCO's and Staff's proposed residential rate designs actually increase Southwest's risk of not recovering its revenue requirement and also increase the risk to customers of higher bills during a cold weather event when compared to both Southwest's existing and proposed residential rate designs.

The risk of volatility to Southwest and Southwest's customers is directly related to the price per therm as demonstrated in the following table.

Description	SWG Current	SWG w CMT	SWG no CMT	Staff*	RUCO*
Marginal Price	$.40344	$.25000	$.15000	$.57320	$.54911
10 Therm Change in Use	$4.03	$2.50	$1.50	$5.73	$5.49

* Staff's and RUCO's rates are calculated at Southwest's proposed residential margin.

Accordingly, Ms. Diaz Cortez's statement on page 7 of her surrebuttal testimony that: "This shift in commodity revenue to fixed revenue lessens SWG's risk of not recovering its revenue requirement when usage is declining..." is relative and must be put into context. For instance, with regard to RUCO's and Staff's proposed residential rate designs, any benefit from the proposed increase in the basic service charge is offset by the increased risk to Southwest of having to recover its remaining fixed costs through volumetric rates that are greater than Southwest's currently effective second block rate. Therefore, relative to Southwest's currently effective residential rates, or Southwest's proposed residential rate designs, RUCO's and Staff's proposed residential rate designs increase volatility in Southwest's revenues and in bills for Southwest's customers.

Q. 12 Do you agree with Ms. Diaz Cortez's statement on page 8, lines 19 and 20 of her surrebuttal testimony that RUCO's recommended rate design comports with Southwest's proposed alternatives to the CMT ostensibly due, in part, to flattening the commodity rate to one block?

A. 12 Absolutely not. As I stated above, it is the price per therm that governs volatility in revenue for Southwest and in bills for Southwest's customers. Southwest's proposed residential rate designs, both with and without the CMT, seek to reduce the marginal commodity price per therm from the current level of $.40344 per therm to either $.25000 per therm or $.15000 per therm, respectively. (As an alternative to margin decoupling, the Public Utilities Commission of Nevada approved marginal commodity rates of approximately $.15000 per therm for Southwest's Northern and Southern Nevada Divisions.) RUCO's and Staff's proposed residential rate designs would increase the marginal commodity price per therm from the current level of $.40344 per therm to either $.54911 per therm or $.57320 per therm respectively. Therefore, RUCO's and Staff's proposed rate designs actually exacerbate volatility in revenue and consequently, do not adhere to Southwest's proposed alternatives to the CMT.

Q. 13 Have RUCO or Staff provided any quantifiable benefits associated with their proposed residential rate designs?

A. 13 No. RUCO and Staff both recommend moving prices further away from Southwest's marginal cost of providing service while providing no evidence whatsoever of any tangible benefit to Southwest, Southwest's customers, or the state of Arizona.

Q. 14 Does any party contest the fact that Southwest's proposed rate designs promote increased customer rate stability?

A. 14 No. In fact Staff states on page 9, line 15 of Robert Gray's surrebuttal testimony, that Southwest's proposed rate structure provides greater customer rate stability.

SOUTHWEST'S ADJUSTED TEST PERIOD BILLS AND VOLUMES

Q. 15 Please respond to RUCO witness Mr. Rodney L. Moore's continued insistence that RUCO needs to adjust Southwest's recorded test year bills and volumes reflected on Schedule H-2, Sheet 16.

A. 15 RUCO's adjustment to Southwest's recorded test year bills and volumes is unnecessary and contains several fatal errors which result in Mr. Moore's adjusted bills and volumes being unusable.

Q. 16 Please discuss the computational errors made by Mr. Moore in his effort to calculate "...a set of determinants that accurately reflect the size of the test-year customer base, its usage pattern and generate the test-year recorded revenue." (Moore surrebuttal testimony, Page 6, Lines 15-17)

A. 16 Computational errors discovered by Southwest include, but may not be limited to: 1) improper calculation of Southwest's average test year cost of gas; 2) incorrect pricing of bills and volumes for Southwest's former Black Mountain Gas Company customers; and 3) improperly pricing the gas cost and basic service charge revenue applicable to Schedule Nos. G-60 and G-80.

Q. 17 Please explain how Mr. Moore calculated Southwest's average test year cost of gas used in his analysis.

A. 17 Mr. Moore calculated an average annual gas cost rate of $.47131 per therm by dividing Southwest's test year recorded cost of gas of $327,132,801 (Schedule C-2, Sheet 1, Line 1) by total test year volume, including deliveries to transportation customers of 729,401,553 therms (Schedule H-2, Sheet 16, Line 23), and then multiplying the result by 1.050867.

Q. 18 Please describe why Mr. Moore's calculation of average recorded test year cost of gas is incorrect, and how it has impacted his analysis.

A. 18 As the Commission is fully aware, Southwest's cost of gas changes monthly. Therefore, Mr. Moore should have calculated gas cost by month for each rate schedule. Instead, Mr. Moore incorrectly utilized an annual average cost of gas. As a result, his analysis fails to capture the relationship between changes in Southwest's monthly cost of gas and changes in monthly sales volumes to each customer class. Mr. Moore also applies the same average cost of gas to all rate schedules, including Schedule Nos. G-60 and G-80. The gas cost included in sales rates for Schedule Nos. G-60 and G-80, as discussed by Staff witness Robert G. Gray in his direct testimony, changes seasonally and is unique to these rate schedules. In addition to applying the wrong cost of gas, Mr. Moore's analysis does not reflect the fact that G-80 customers are not charged a basic service charge during the winter season when most irrigation pumps are idle.

More importantly, Mr. Moore incorrectly used Southwest's recorded cost of purchased gas of $327,132,801, which reflects the amount Southwest paid for gas during the test year. Mr. Moore should have utilized the gas cost amount included in Southwest's recorded revenue, which is the cost of gas included in sales rates, to perform his calculations. Differences between what Southwest actually paid for purchased gas and amounts recovered through sales rates are accounted for in Southwest's Purchased Gas Cost Balancing Account. Mr. Moore further erred, because his divisor of 729,401,553 therms includes transportation volumes. Southwest does not purchase the volumes of gas used by transportation customers. Therefore, by including transportation volumes in the divisor, Mr. Moore understates the average cost of gas.

Aside from his initial misuse of data provided in Southwest's BFA's (see page 25 of my rebuttal testimony), Mr. Moore's incorrect calculation of average test year cost of gas appears to be the next most significant error in his analysis. Focusing on the residential class, the gas cost rate of $.47131 per therm utilized by Mr. Moore is $.02229 per therm less than the properly weighted average annual cost of gas for residential customers of $.49360 per therm. As a result, Mr. Moore understates residential gas cost by $6.0 million and, because in his worksheets, margin is equal to recorded revenue less gas cost, he correspondingly overstates residential margin by the same amount. It is errors of this magnitude that explain why Mr. Moore was unable to recalculate recorded revenues by rate schedule.

Q. 19 Have you prepared an exhibit that corrects Mr. Moore's calculations?

A. 19 Yes. In response to RUCO Data Request 9-1 attached as Rebuttal Exhibit No.___(ABC-4) to my rebuttal testimony, Southwest performed all the calculations necessary to verify the accuracy of Southwest's recorded number of bills and volumes and recorded revenue by rate schedule.

Q. 20 In your opinion what is the value of replicating recorded revenues as Mr. Moore attempted to do, and as Southwest successfully has done in Rebuttal Exhibit No.___(ABC-4)?

A. 20 I believe the value in recasting recorded revenues is confined to serving as a reasonableness check to determine whether the Company's accounting system is accurate, i.e. recorded bills, volumes and prices do, in fact, produce the correct recorded revenue amounts. Once validated, as Southwest was able to do in Rebuttal Exhibit No.___(ABC-4), recorded test year bills and volumes should be utilized as the starting point to develop adjusted test period bills and volumes by rate schedule, as was done by Southwest.

SOUTHWEST'S MARGIN ALLOCATION

Q. 21 Does testimony presented by Staff and RUCO alter your recommendation that the Commission accept Southwest's proposed allocation of margin to customer classes?

A. 21 No. Southwest, like Staff, is very concerned regarding the effect high gas prices will have on customers. Staff, however, would have the Commission use today's high gas prices as a basis to support Staff's reluctance to move toward cost-based pricing when, in fact, the better long-term solution is to move toward cost-based pricing as much as possible.

Q. 22 Please explain why Staff's position that high gas prices should limit the margin increase allocated to residential customers is ill-founded.

A. 22 Increases in the cost of purchased gas have affected all of Arizona's natural gas (and electric) customers, not just residential customers as Staff's logic would suggest. In fact, large volume customers have been financially impacted more severely than small volume customers by increases in the cost of gas. Increases in the cost of gas should not be used as an argument to relieve the residential customer classes of paying their fair share of the cost of operating Southwest's distribution system at the expense of Southwest's commercial and industrial customers. This is not a healthy long-term price signal to send when a competitive business sector is crucial in creating new jobs to sustain Arizona's growth.

Q. 23 Please explain why RUCO's testimony that its proposed rate design generates 67.16 percent of margin revenue from the residential class of service is inaccurate.

A. 23 RUCO's proof of its proposed rates is presented by witness Rodney L. Moore in Schedule RLM-16 of his surrebuttal testimony. Schedule RLM-16 reflects total proposed residential margin of $241,370,740 and total recommended margin of $370,818,589. Simple division shows that RUCO's proposed rates recover 65.09 percent of total margin from residential classes, not 67.16 percent as represented by Ms Diaz Cortez. Thus, RUCO's proposed residential rates recover approximately $7.7 million less from residential customers than would be necessary for the residential classes to contribute 67.16 percent of total margin. Putting this discrepancy aside, by simply maintaining the existing allocation of margin between residential and non-residential classes, RUCO's proposal (like Staff's) fails to move pricing closer toward

Southwest's cost of providing service. Therefore, when compared to Southwest's proposed allocation, RUCO's allocation fails to provide the best long-term price signals for Arizona.

SOUTHWEST'S PROPOSED G-25 RATES ARE BALANCED

Q. 24 Do you agree with Staff's assertion that Southwest's proposed G-25 rates move too quickly toward cost-based rates?

A. 24 No. Differences between Staff's and Southwest's proposed general service rate schedules' monthly basic service charges are reflected in the table below.

Proposed Schedule	Staff	SWG	Difference Dollar
Small GS	$24.00	$25.00	$ 1.00
Medium GS	24.00	35.00	11.00
Large GS	105.00	150.00	45.00
Transport Eligible	540.00	750.00	210.00

There is a one-dollar per month difference between Staff's and Southwest's proposed basic service charge for the proposed Small General Service (GS) rate schedule. Furthermore, the differences in proposed basic service charges of $11.00, $45.00, and $210.00 per month for customers on the proposed Medium, Large, and Transport Eligible GS schedules are not excessive. This is especially true to the extent many Small, Medium and Large General Gas Service customers are heat-only customers and do not take service during the summer months. These seasonal customers already contribute less to Southwest's cost of service on an annual basis simply because they only take service part of the year. The cost of their service is being subsidized by Southwest's year-round customers. Under Staff's proposal, heat-only customers would receive a $1.00, $11.00, or $45.00 per month benefit in the form of lower basic service charges which would further exacerbate the subsidy received by these customers vis-à-vis Southwest's general service rate design proposal.

Q. 25 Does this conclude your prepared rejoinder testimony?

A. 25 Yes, it does.

SOUTHWEST GAS CORPORATION
ARIZONA DIVISION
COMPARISON OF RATE DESIGNS AT SWG MARGIN REQUIREMENT
SINGLE-FAMILY RESIDENTIAL GAS SERVICE

Line No.	Description (a)	(Therms) (b)	Total SWG Bill (c)	Total RUCO Bill (d)	Total Staff Bill (e)	SWG less RUCO (f)	SWG less Staff (g)	Percentage of Bills in Interval [1] (h)	Line No.
	January Bills								
1	First 5 Percent of Total Bills	11	$ 28.31	$ 24.28	$ 23.40	$ 4.03	$ 4.91	4.98%	1
2	Mid-Point First Percent and Mode	35	60.94	52.82	53.72	8.12	7.22	16.38%	2
3	Mode Use (Greatest Number of Bills)	60	83.20	82.56	84.05	0.64	(0.85)	24.21%	3
4	Mid-Point Mode and 95 Percent	105	123.25	136.07	138.65	(12.82)	(15.40)	35.40%	4
5	95 Percent of Total Bills	155	167.76	195.54	199.32	(27.78)	(31.56)	13.95%	5
	August Bills								
6	First 5 Percent of Total Bills	1	$ 13.48	$ 12.39	$ 10.76	$ 1.09	$ 2.72	5.52%	6
7	Mid-Point First Percent and Mode	4	17.93	15.96	14.55	1.97	3.38	17.27%	7
8	Mode Use (Greatest Number of Bills)	6	20.90	18.34	17.08	2.56	3.82	15.64%	8
9	Mid-Point Mode and 95 Percent	15	30.10	29.04	28.45	1.06	1.65	45.76%	9
10	95 Percent of Total Bills	25	39.00	40.93	41.08	(1.93)	(2.08)	11.22%	10

Cost of gas and surcharges at $ 0.64017 per therm.

[1] Percent of monthly bills falling in each consumption interval. For example, 35.40% of January bills use between 60 and 105 therms and approximately **54 percent** (35.40 + 13.95 + 5) of residential customers' January bills are less under Southwest's proposed rate design.

SOUTHWEST GAS CORPORATION
ARIZONA DIVISION
COMPARISON OF RATE DESIGNS AT SWG MARGIN REQUIREMENT
LOW-INCOME SINGLE-FAMILY RESIDENTIAL GAS SERVICE

Line No.	Description (a)	(Therms) (b)	Total SWG Bill (c)	Total RUCO Bill (d)	Total Staff Bill (e)	SWG less RUCO (f)	SWG less Staff (g)	Percentage of Bills in Interval [1] (h)	Line No.
	January Bills								
1	First 5 Percent of Total Bills	14	$ 25.90	$ 22.41	$ 22.85	$ 3.49	$ 3.05	4.97%	1
2	Mid-Point First Percent and Mode	35	51.73	45.51	46.63	6.22	5.10	14.49%	2
3	Mode Use (Greatest Number of Bills)	55	68.66	67.52	68.47	1.14	0.19	19.41%	3
4	Mid-Point Mode and 95 Percent	100	106.73	117.04	117.62	(10.31)	(10.89)	40.14%	4
5	95 Percent of Total Bills	145	144.81	166.56	166.77	(21.75)	(21.96)	15.53%	5
	August Bills								
6	First 5 Percent of Total Bills	1	$ 8.35	$ 8.10	$ 8.26	$ 0.25	$ 0.09	4.15%	6
7	Mid-Point First Percent and Mode	4	12.40	11.40	12.03	1.00	0.37	15.69%	7
8	Mode Use (Greatest Number of Bills)	6	15.10	13.60	14.54	1.50	0.56	14.70%	8
9	Mid-Point Mode and 95 Percent	16	24.57	24.61	27.11	(0.04)	(2.54)	51.27%	9
10	95 Percent of Total Bills	25	32.19	34.51	38.42	(2.32)	(6.23)	10.57%	10

Cost of gas and surcharges at $ 0.63365 per therm.

[1] Percent of monthly bills falling in each consumption interval. For example, 40.14% of January bills use between 55 and 100 therms and approximately **60 percent** (40.14 + 15.53 + 5) of low-income residential customers' January bills are less under Southwest's proposed rate design.

GIESEKING

Southwest Gas Corporation
Docket No. G-01551A-04-0876

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of
Prepared Rejoinder Testimony
of
EDWARD B. GIESEKING

BEFORE THE ARIZONA CORPORATION COMMISSION

Prepared Rejoinder Testimony
of
EDWARD B. GIESEKING

INTRODUCTION

Q. 1 Please state your name and business address.

A. 1 My name is Edward B. Gieseking. My business address is 5241 Spring Mountain Road, Las Vegas, Nevada 89150-0002.

Q. 2 Are you the same Edward B. Gieseking who sponsored prepared direct and rebuttal testimony in this Docket before the Arizona Corporation Commission (Commission) for Southwest Gas Corporation (Southwest or the Company)?

A. 2 Yes, I am.

Q. 3 What is the purpose of your prepared rejoinder testimony?

A. 3 The purpose of my rejoinder testimony is to respond to the surrebuttal testimonies of the Arizona Corporation Commission Utilities Division Staff (Staff), the Residential Utility Consumer Office (RUCO) and the Southwest Energy Efficiency Project/National Resources Defense Council (SWEEP/NRDC). My rebuttal and rejoinder testimonies may not specifically respond to each issue or argument brought forth by the respective intervening parties in their direct and surrebuttal testimonies. My silence should not be taken as acceptance of any intervening party's position, but rather that my previously filed direct and rebuttal testimonies adequately support the Company's position.

RATE DESIGN POLICY AND GOALS

Q. 4 Southwest has stated that its rate design goals are to stabilize the recovery of revenue and reduce customer bill volatility. Why are these policy goals central to Southwest's case?

A. 4 In order for Southwest to have an opportunity to earn its authorized rate of return, it must recover the revenue authorized by the Commission. Due to circumstances beyond Southwest's control, it has been unable to recover the margin levels authorized by the Commission, and this has eroded Southwest's earned rate of return. Changing the way Southwest's costs of providing service are recovered from its customers can increase the stability of revenue recovery and Southwest's earnings.

Additionally, a rate design that is more closely aligned with the cost of service will decrease customers' bill volatility by decreasing customers' exposure to cold weather consumption.

Southwest's recommended rate designs reduce the risk of recovering authorized costs, reduces the volatility in customer bills, and eliminates the inherent disincentive to support conservation programs. Whereas, neither Staff's nor RUCO's proposed rate designs accomplish these objectives.

Q. 5 Please describe Southwest's stabilization efforts?

A. 5 Southwest proposes to stabilize the recovery of the cost-of-service and customer bills through a package of rate design changes and a mechanism that will true-up actual cost recovery to Commission-authorized costs.

Staff has not criticized Southwest's goal of increasing revenue stability. Although Staff recognizes that the "ultimate" stability would be achieved by recovering all fixed costs through a fixed customer charge, it fails to provide a rate design alternative that matches the stability of Southwest's proposed rate structure. In fact, Staff's rate design places Southwest at more risk than it currently is under its currently effective rates.

Q. 6 How have Staff, RUCO and SWEEP/NRDC addressed Southwest's efforts to stabilize the recovery of the residential cost-of-service?

A. 6 Neither Staff, RUCO nor SWEEP/NRDC dispute the facts that:

1) The cost to serve Southwest's customers is virtually fixed and, therefore, does not vary with changes in customer consumption;
2) The residential rate design for Southwest relies significantly on a volumetric rate to recover fixed costs;
3) Average residential consumption per customer has steadily declined after each rate case for the past 18 years; and

4) Southwest is routinely unable to recover the entire cost of providing service from its customers.

Yet, Staff, RUCO and SWEEP/NRDC reject Southwest's attempts to address this issue and propose no solutions of their own.

To the contrary, all three of these parties support rate design recommendations that would worsen the inequity that currently exists with Southwest's risk of fixed cost recovery.

Mr. Congdon, in his rejoinder testimony, addresses the revenue stability associated with the parties' rate designs and clearly shows that Staff's and RUCO's residential rate designs increase the risk of not recovering costs, while Southwest's recommended rate design reduces the risk of recovering authorized costs, reduces the volatility in customer bills, and reduces the inherent disincentive for Southwest to support conservation programs.

Q. 7 Although Staff proposed a declining block volumetric rate design, it does not oppose a flat rate structure. If the Commission concurs with Southwest's goal of stabilizing revenue recovery, but wanted to explore a flat volumetric rate structure, how should the flat volumetric rate be established?

A. 7 The exposure to fixed cost recovery is determined in the price established for the incremental unit of consumption. This would be the price per therm for the second block of a two block declining rate or the single flat volumetric price. To limit the level of cost recovery risk to an amount no greater than Southwest's current level of risk, a flat volumetric rate should be no higher than Southwest's current second block rate.

Q. 8 Staff dismisses Southwest's concerns regarding decreasing sales and rate of return with the statement "Staff believes Southwest can always file a subsequent rate case, should the need arise to do so." Is this the cure for Southwest's fixed cost recovery dilemma?

A. 8 No. If the rates established in this case do not adequately provide Southwest with the opportunity to recover the cost of service established in this proceeding, even under the best of circumstances, Southwest would operate approximately one and one-half years before rates could be adjusted. Therefore, absent colder than normal weather, Southwest would not recover its cost of service for an 18-month period.

CONSERVATION MARGIN TRACKER (CMT)

Q. 9 Please respond to Staff's and RUCO's continued objection to Southwest's proposal to limit the applicability of the proposed Conservation Margin Tracking (CMT) mechanism to the residential classes?

A. 9 I pointed out in my rebuttal testimony that various cost recovery techniques can be applied to different classes of customers, depending upon the cost characteristics of each class. For example, basic service charges differ between customer classes, demand rates are applicable to some classes and not others, and certain rate adjustments are applicable to some classes and not others.

As such, the CMT is simply a cost recovery technique and its application to only the residential class is not improper, and is consistent with how other cost recovery techniques vary among customer classes.

Q. 10 Please address RUCO's continued assertion that the CMT requires customers to pay for therms they do not use.

A. 10 First, to understand the foundation for the CMT, it is important to understand that Southwest's cost of providing service to a residential customer does not change appreciably from month-to-month, or even year-to-year, with variations in customer usage. Rather, Southwest provides the same level of service irrespective of how much gas a customer actually uses. Southwest agrees that a customer should not pay for services not used and that customers should be entitled to any cost reduction or savings that Southwest experiences as a result of customer behavior. However, the only cost savings Southwest experiences when a customer reduces their usage of gas is the cost of the gas itself, and the customer saves the entire cost of the gas not used.

The customer should be responsible for the cost of having natural gas available 24 hours a day, 365 days a year. The CMT is designed to simply earmark the distribution cost-of-service component of the price per therm in a customer's bill, so that if customer usage is less than what was authorized by the Commission in this proceeding, Southwest will recover its authorized cost of service.

Q. 11 Is the CMT truly a new ratemaking process, or are there existing mechanisms that function similar to the CMT that are already in place in Arizona?

A. 11 Putting aside the fact that the CMT itself is new, the concept is not. The CMT functions similar to Southwest's Purchased Gas Cost Adjustment Provision (PGA).

Q. 12 Please explain how the CMT is similar to Southwest's existing PGA.

A. 12 The PGA balances Southwest's authorized cost of purchased gas with the amount of revenue actually derived through rates to recover those costs. The CMT will balance Southwest's authorized cost of providing distribution service to its residential customers with the amount of revenue actually derived through rates to recover those costs. Furthermore, similar to how the PGA protects Southwest and its customers against changes in the cost of purchased gas, which are beyond the Company's ability to control, the CMT will protect Southwest and its customers against changes in average use per customer, which are also beyond the Company's control.

Q. 13 To the extent the fundamental objection to Southwest's proposal is the balancing nature of Southwest's proposal, are there other methods to achieve a true-up of actual margin to authorized amounts?

A. 13 Yes. Examples of mechanisms adopted by other regulatory bodies include the Northwest Natural Gas mechanism adopted by the Oregon Public Utilities Commission and the Baltimore Gas and Electric (BG&E) mechanism adopted by the Maryland Public Service Commission. These mechanisms utilize a current month adjustment and do not defer costs for later recovery.

Q. 14 Would a mechanism such as the one adopted for BG&E provide the level of fixed cost recovery stability sought by Southwest?

A. 14 Yes, it would.

Q. 15 Notwithstanding your position that the CMT would only recover the cost of providing service and not charge for services not rendered, what impact would the CMT have on customers if Southwest were to experience a ten therm decline in average consumption subsequent to rates established in this proceeding?

A. 15 Contrary to RUCO's expressed concern that the CMT would charge customers for therms they did not use, if consumption per customer declined ten therms in a year, customers would save money on their gas bill. Using the number calculated by Mr. Congdon that demonstrates the effect of a ten therm decline in average consumption, and dividing that per customer amount by annual per customer sales of 337 therms (347 therms test period average annual residential consumption minus 10 therm per customer decline = 337 therms), the quotient is the CMT recovery rate that would be applicable to the fixed cost under-recovery. The CMT recovery rate is reflected below.

10 Therm Change @ $0.25/therm	$2.50
CMT Recovery Rate	$0.00742

As such, if the Commission adopted Southwest's CMT rate design proposal, and consumption per customer declined ten therms, customers would save on average $2.50 plus the cost of gas (which is approximately $6.40 at current rates), for an initial average savings of $8.90 in year one. The CMT surcharge of $.00742 per therm would then be applied to permit Southwest to recover the fixed costs that were associated with the decrease in consumption.

Of course some customers may conserve more than others, while some may not conserve at all or actually increase their consumption. If a customer consumed the average during the test period, then conserved twice the average in the hypothetical 10 therm average reduction, they would save $17.80 in the first year ($5.00 margin plus $12.80 gas cost) and then $15.37 in the subsequent year if they sustain their conservation ($17.80 less CMT recovery of $2.43).

ENERGY EFFICIENCY PROGRAM IMPLEMENTATION

Q. 16 What is Southwest's position on the SWEEP/NRDC energy efficiency program expansion and implementation proposal?

A. 16 Successful energy efficiency programs will result in an under-recovery of the fixed costs of providing distribution service and an erosion of the experienced rate-of-return. Southwest can only support the implementation of expanded energy efficiency programs in conjunction with the decoupling of fixed cost recovery from sales. Southwest cannot, in good faith, support implementation of new and expanded efficiency programs, until the interests of customers and shareholders are in balance.

A basic tenet of utility rate design is that the established rates are expected to accurately reflect the cost-of-service for the rate period. This presumes that the margin recovered from customers will recover the cost-of-service. It is not appropriate to establish a rate structure that is not expected to recover the cost of service during the period rates are expected to be in place. This is exactly what will likely occur in this proceeding if energy efficiency programs are approved and implemented prior to the decoupling of margin recovery from rates.

PURCHASED GAS ADJUSTOR

Q. 17 Staff opposes Southwest's recommendation to increase the $0.10 band on the PGA adjustment rate to $0.13 per therm. Does Southwest have any modifications to its recommendation?

A. 17 Yes. Given recent changes in the gas markets, including the effects of hurricane activity in the Gulf Coast, it appears that the cost of gas supplies will remain at elevated levels for a considerable period. As these higher costs are incorporated into the "rolling 12-month average" used to establish the gas cost component of rates, the $0.10 band will hinder the adjustment of gas rates to reflect the calculated 12-month average cost. This will result in additional deferrals to the gas cost balancing account, additional interest costs to customers and even higher rates in a future period.

Southwest estimates that by January 2006, its rolling 12-month average cost will exceed the $0.10 upper band. Southwest recommends that a suspension of the band be implemented to allow the gas cost rate to gradually be adjusted to actual market costs. In the alternative, Southwest proposes an increase in the band to $0.20 per therm (allowing an additional $0.10 increase over the current amount). Although this will not prevent increases in the gas cost balancing account, it will mitigate the amount of deferred cost and minimize the accrued interest that customers will have to pay. In the event purchased gas costs decline over time, this proposal would also allow the gas cost rate to be adjusted downward without the hindrance of the $0.10 lower band.

Q. 18 Does this conclude your prepared rejoinder testimony?

A. 18 Yes.