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BEFORE THE ARIZONA CORPORATION COMMISSION

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COMMISSIONER
BARRY WONG
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IN THE MATTER OF THE APPLICATION OF ARIZONA PUBLIC SERVICE COMPANY FOR A HEARING TO DETERMINE THE FAIR VALUE OF THE UTILITY PROPERTY OF THE COMPANY FOR RATEMAKING PURPOSES, TO FIX A JUST AND REASONABLE RATE OF RETURN THEREON, TO APPROVE RATE SCHEDULES DESIGNED TO DEVELOP SUCH RETURN, AND TO AMEND DECISION NO. 67744	Docket No. E-01345A-05-0816
IN THE MATTER OF THE INQUIRY INTO THE FREQUENCY OF UNPLANNED OUTAGES DURING 2005 AT PALO VERDE NUCLEAR GENERATING STATION, THE CAUSES OF THE OUTAGES, THE PROCUREMENT OF REPLACEMENT POWER AND THE IMPACT OF THE OUTAGES ON ARIZONA PUBLIC SERVICE COMPANY'S CUSTOMERS.	Docket No. E-01345A-05-0826
IN THE MATTER OF THE AUDIT OF THE FUEL AND PURCHASED POWER PRACTICES AND COSTS OF THE ARIZONA PUBLIC SERVICE COMPANY.	Docket No. E-01345A-05-0827

NOTICE OF FILING

The Residential Utility Consumer Office ("RUCO") hereby provides notice of filing the Surrebuttal Testimony of Marylee Diaz Cortez, William A. Rigsby, Stephen G. Hill, David A. Schlissel and J. Richard Hornby in the above-referenced matter. Confidential material has been redacted from the testimony of Mr. Hill that is being filed with Docket Control. The confidential portion of his testimony is being lodged under seal with the Hearing Division, and is available to parties that have entered Protective Agreements with APS by contacting RUCO's counsel.

RESPECTFULLY SUBMITTED this 27th day of September 2006.

Scott S. Wakefield
Chief Counsel

AN ORIGINAL AND SEVENTEEN COPIES
of the foregoing filed this 27th day
of September 2006 with:

Docket Control
Arizona Corporation Commission
1200 West Washington
Phoenix, Arizona 85007

COPIES of the foregoing hand delivered/
mailed or *emailed this 27th day of September 2006 to:

*Lyn Farmer
Chief Administrative Law Judge
Hearing Division
Arizona Corporation Commission
1200 West Washington
Phoenix, Arizona 85007

*Christopher Kempley, Chief Counsel
Legal Division
Arizona Corporation Commission
1200 West Washington
Phoenix, Arizona 85007

*Ernest Johnson, Director
Utilities Division
Arizona Corporation Commission
1200 West Washington
Phoenix, Arizona 85007

*Thomas L. Mumaw
*Karilee S. Ramaley
Pinnacle West Capital Corporation
Law Department
P. O. Box 53999
Mail Station 8695
Phoenix, Arizona 85072-3999

*Deborah R. Scott
Kimberly A. Grouse
Snell & Wilmer L.L.P.
400 East Van Buren
Phoenix, Arizona 85004-2202

*Barbara Klemstine
*Brian Brumfield
Arizona Public Service
P. O. Box 53999
Mail Station 9708
Phoenix, Arizona 85072-3999

*Bill Murphy
Murphy Consulting
5401 N. 25th Street
Phoenix, Arizona 85016

*Douglas V. Fant
Law Offices of Douglas V. Fant
3655 W. Anthem Dr.
Suite A-109 PMB 411
Anthem, AZ 85086

*Dan Austin
Comverge, Inc.
6509 W. Frye Road, Suite 4
Chandler, AZ 85226

Jim Nelson
12621 N. 17th Place
Phoenix, AZ 85022

*Michael W. Patten, Esq.
*Laura E. Sixkiller, Esq.
*J. Matthew Derstine, Esq.
Roshka, DeWulf & Patten, PLC
400 East Van Buren Street
Suite 800
Phoenix, Arizona 85004

*Michelle Livengood, Esq.
UniSource Energy Services
One South Church Street, Suite 200
Tucson, Arizona 85702

*Timothy M. Hogan
Arizona Center for Law in the
Public Interest
202 E. McDowell Road, Suite 153
Phoenix, AZ 85004

*Jeff Schlegel
SWEEP Arizona Representative
1167 W. Samalayuca Dr.
Tucson, AZ 85704-3224

*David Berry
Western Resource Advocates
P. O. Box 1064
Scottsdale, AZ 85252-1064

*Eric C. Guidry
Western Resource Advocates
2260 Baseline Road, Suite 200
Boulder, Colorado 80302

Tracy Spoon, Executive Director
Sun City Taxpayers Association
12630 N. 103rd Avenue, Suite 144
Sun City, AZ 85351

*Walter W. Meek
Arizona Utility Investors Association
2100 N. Central Avenue, Suite 210
Phoenix, Arizona 85004

*The Kroger Co.
1014 Vine Street, G-07
Cincinnati, Ohio 45202

*Michael L. Kurtz, Esq.
*Kurt J. Boehm, Esq.
Boehm, Kurtz & Lowry
36 East Seventh Street, Suite 1510
Cincinnati, Ohio 45202

*Robert W. Geake
Vice President & General Counsel
Arizona Water Company
P. O. Box 29006
Phoenix, AZ 85038-9006

*Donna M. Bronski
Deputy City Attorney
3939 N. Drinkwater Blvd.
Scottsdale, AZ 85251

*C. Webb Crockett
*Patrick J. Black
Fennemore Craig
3003 N. Central Avenue, Suite 2600
Phoenix, AZ 85012-2913

*Greg Patterson, Director
Arizona Competitive Power Alliance
916 West Adams, Suite 3
Phoenix, AZ 85007

George Bien-Willner
3641 N. 39th Avenue
Phoenix, AZ 85014

*Lawrence V. Robertson, Jr.
Munger Chadwick
P. O. Box 1448
Tubac, AZ 85646

*Lieutenant Colonel Karen S. White
Chief, Air Force Utility Litigation Team
AFLSA/JACL-ULT
139 Barnes Drive
Tyndall AFB, FL 32403

*Sean Seitz, President
Arizona Solar Energy Industries Association
3008 N. Civic Center Plaza
Scottsdale, Arizona 85251

*Michael M. Grant
Gallagher & Kennedy, P.A.
2575 East Camelback Road
Phoenix, Arizona 85016-9225

*Jay I. Moyes, Esq.
Moyes Storey Ltd.
1850 N. Central Avenue, Suite 1100
Phoenix, AZ 85004

*Kenneth R. Saline, P. E.
K.R. Saline & Assoc., PLC
160 N. Pasadena, Suite 101
Mesa, AZ 85201

*Andrew W. Bettwy
*Karen S. Haller
Assistants General Counsel
Legal Affairs Department
Southwest Gas Corporation
5241 Spring Mountain Road
Las Vegas, Nevada 89150

*Debra S. Jacobson
Director
Government & State Regulatory Affairs
Southwest Gas Corporation
5241 Spring Mountain Road
Las Vegas, Nevada 89150

*Amanda Ormond
Interwest Energy Alliance
7650 S. McClintock
Suite 103-282
Tempe, AZ 85284

David C. Kennedy
Attorney at Law
818 E. Osborn Road
Suite 103
Phoenix, Arizona 85014

Joseph Knauer, President
Jewish Community of Sedona
100 Meadowlark Drive
P. O. Box 10242
Sedona, AZ 86339

Tammie Woody
10825 W. Laurie Lane
Peoria, AZ 85345

By Ernestine Gamble
Ernestine Gamble
Secretary to Scott Wakefield

ARIZONA PUBLIC SERVICE COMPANY

DOCKET NO. E-01345A-05-0816 et al.

SURREBUTTAL TESTIMONY

OF

MARYLEE DIAZ CORTEZ, CPA

ON BEHALF OF

THE

RESIDENTIAL UTILITY CONSUMER OFFICE

SEPTEMBER 27, 2006

INTRODUCTION

Q. Please state your name for the record.

A. My name is Marylee Diaz Cortez.

Q. Have you previously filed testimony in this docket?

A. Yes. I filed direct testimony in this docket on August 18, 2006.

Q. What is the purpose of your surrebuttal testimony?

A. In my surrebuttal testimony I will respond to the positions and arguments set forth by various APS witnesses in their rebuttal testimony. I will show that certain arguments are without merit and demonstrate why such arguments should be rejected. I also will address certain positions advanced by other parties to this docket and advocate RUCO's position on these issues.

Q. What areas will you address in your surrebuttal testimony?

A. I will address the following issues in my surrebuttal testimony:

* Overall Reasonableness of RUCO's Recommendations

Rate Base

* Palo Verde Steam Generator
* Deferred Credit
* Supplemental Executive Retirement Plan
* Working Capital

Operating Income

* DSM Net Lost Revenues
* Decommissioning Expense
* Out-of-Period Expense – Tax Consulting
* Miscellaneous Expenses
* Unregulated Expenses
* Lobbying Expense
* Amortization Expense

Rate Design

Other Issues

* Power Supply Adjustor
* Hook-up Fees
* Environmental Improvement Charge
* Demand Side Management
* Demand Response Programs
* Environmental Portfolio Standard
* APS Rebuttal Proposals to Increase Earnings

OVERALL REASONABLENESS OF RUCO'S RECOMMENDATIONS

Q. Does the Company contest the reasonableness of RUCO's revenue requirement and rate recommendations in its rebuttal testimony?

A. Yes. Several APS witnesses claim that RUCO's recommendation will not allow APS to recover its cost of service, will not allow APS to recover

RUCO's recommended 9.25% return on equity, and will result in bond rating downgrades to "junk" status. The Company further claims that RUCO did not "test" its revenue requirement recommendations to determine whether they produced reasonable financial results.

Q. Are these true statements?

A. No. Regulatory law and principles require that rates be set to allow a utility the opportunity to recover its reasonable and prudent operating expenses, and a fair return on its prudent, used and useful investments. RUCO's recommended rates are set to do exactly that. RUCO's rates, in keeping with ratemaking standards, provides the opportunity for the Company to generate sufficient revenues to pay RUCO's recommended operating expenses, interest on APS' long-term debt and will provide a 9.25% return on equity for APS' prudent used and useful investment. Further, RUCO's recommendation sets the base cost of fuel and purchased power[1] at the level proposed by the Company, and with the exception of the hedge sharing proposal[2], accepts the PSA as proposed by the Company. Thus, APS' will have the ability to recover any fuel costs that exceed the Company's proposed base cost of fuel via the PSA.

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[1] I will refer to the cost of fuel and purchased power as the cost of fuel

[2] RUCO witness Richard Hornby's surrebuttal testimony is recommending that the base cost of fuel be adjusted slightly from APS' original request to recognize that APS has withdrawn its hedge sharing proposal.

Accordingly, RUCO's recommendation passes the regulatory "test" for fair and reasonable rates.

Q. Given this, why is the Company claiming RUCO has failed to put its recommendations to some sort of test?

A. It appears the Company believes RUCO should have prepared some future financial forecasts and projections for APS based on RUCO's revenue recommendations.

Q. Should financial forecasts form the basis of the Commission's determination of fair and reasonable rates?

A. No. A financial forecast is only as good as the speculative assumptions that are built into it. The assumptions that materially affect a financial forecast go far beyond the rates that RUCO recommends. Assumptions that must be made include sales levels, growth, conservation, weather, plant operational efficiency, fuel and purchased power prices, management decisions, and employee productivity. The set of assumptions goes on and on. Change the assumptions and the result changes. Engaging in such speculation as the basis for setting rates is irresponsible at best and is why traditionally the ratemaking process relies on the set of principles that I discussed at the outset of this testimony.

Q. The Company also presents some of its own projections of what certain rating agency metrics might look like in the future given RUCO's recommendations. Please respond.

A. The Company's calculation of its projected rating agency metrics appear to be based on the same type of financial forecasts just discussed. Likewise, the Company's rating agency metric projections are fraught with the same problems as financial forecasts and are only as good as the myriad of assumptions and guesswork built into them. Further, Wall Street's perceptions or misconceptions regarding the appropriate ratemaking methodology should not be the main criteria used in setting rates.

Q. Do APS' claims that RUCO's recommendations will reduce its bond ratings to "junk" have merit?

A. No. APS' bonding ratings, status quo, are not "junk". RUCO is recommending a $232 million rate increase and a stronger PSA mechanism. This is not a scenario that would logically translate into "junk" bond status.

Q. In summary, what are the appropriate criteria for determining fair and reasonable rates?

A. Adherence to ratemaking law and principles is the best way to determine fair and reasonable rates. Fundamental ratemaking law and principles have withstood for over 100 years, and are tried and tested. Speculation, Wall Street opinion, and rhetoric should not form the basis of a utility's rates. The Commission should not be beguiled by any argument that states otherwise.

Q. How does RUCO's proposed revenue requirement compare with other parties' recommendations in this docket?

A. Only the Company, Commission Staff, Phelps Dodge, Arizonians for Electric Choice (AECC), and RUCO have set forth revenue requirement recommendations. Of those recommendations, RUCO is recommending the lowest rate increase.

Q. Please provide a numerical comparison of these parties' recommendations.

A. Staff and AECC are recommending different base costs of fuel than are the Company and RUCO. Because the cost of fuel will be whatever it turns out to be and fully recovered through the base cost plus the PSA adjustor, it is necessary to equalize the cost of fuel for all parties so there is an "apples to apples" comparison of the parties' recommendations.

	Company	Staff	RUCO	AECC
Rev. Increase	$449.6 M	$203.9	$232.3	$290.6
Add: Fuel Cost	0	64.1	0	67.0
Total	$449.6 M	$268.0	$232.3	$357.6

RATE BASE

Palo Verde Steam Generator

Q. How does the Company respond to your recommended Palo Verde Steam Generator recommendations?

A. The Company has accepted RUCO's adjustment and accordingly has reduced both plant in service and accumulated depreciation by $36.7 million to reflect the retirement of the old steam generators.

Deferred Credit

Q. Please discuss the Company's rebuttal response to RUCO's recommendation regarding the rate base treatment of a deferred credit for long-term disability.

A. The Company states that it agrees with this adjustment and agrees with the resultant net rate base reduction of $3.9 million.

Supplemental Executive Retirement Plan (SERP)

Q. Please discuss the Company's rebuttal response to RUCO's recommended disallowance of the cost of its Supplemental Executive Retirement Plan.

A. The Company objects to RUCO's recommendation and argues that the plan is needed to attract and retain good employees. APS further argues that RUCO has not objected to the reasonableness of the Company's overall employee compensation levels and concludes on that basis that disallowance of the SERP is not warranted.

Q. Please respond.

A. The Company's arguments mirror the same arguments utilities made back in the 1980's for rate recovery of employee benefits and perks. While such arguments may have had some degree of merit at that time, they do not now. We live in a dynamic environment. Times have charged, costs have risen, and industry has changed the way it conducts business in response to current dynamics. Companies no longer provide 100% free health care to employees, but rather require employees to fund a portion of those costs. Many competitive companies have done away with defined pension plans for new hires. In a time of rising costs, particularly for the energy sector, non-regulated companies have had to modify the manner in which they do business in order to remain competitive. It should be no different for a regulated company.

Q. Has this Commission already validated your above arguments?

A. Yes. I made the same arguments for disallowance of the SERP in the recent Southwest Gas rate case. The Commission agreed with RUCO and in its Decision No. 68487 found that the SERP "is not a reasonable expense that should be recovered in rates".

Working Capital

Q. Please discuss the Company's rebuttal response to RUCO's working capital recommendations.

A. Contrary to RUCO's position that depreciation is a non-cash item that should not be included in a cash working capital calculation, the Company argues that depreciation should be included in cash working capital.

Q. What is the Company's logic for this opinion?

A. The Company appears to be arguing two points on this issue. First, it argues that current period depreciation expense has the affect of reducing rate base before cash is collected from customers. Second, APS argues that while it agrees that depreciation is a non-cash item at the time it is expensed, that there is a lag between when the Company records its depreciation expense and when it is recovered from ratepayers.

Q. Please respond to these arguments.

A. Neither argument has merit. The logic behind each argument hinges on the erroneous assumption that a lead lag study and the resultant working capital requirement is intended to measure regulatory lag as opposed to measuring the period of time between when service is rendered and cash is received or dispersed. The rate of return that a utility earns on its rate base is where the Company is compensated for the time value of money, not in the working capital requirement. It is called cash working capital because that what it measures – cash dispersion vs. cash receipts.

Q. Has this Commission ever authorized the inclusion of depreciation expense or any other non-cash items in working capital?

A. No. In fact this Commission has consistently ruled that non-cash items are not included in cash working capital requirements[3].

Q. What other arguments has the Company set forth regarding your working capital recommendations?

A. The Company argues that interest expense payment lags should not be considered in the cash working capital calculations.

Q. Why not?

A. This is a good question. Interest expense is certainly a cash expense that ratepayers are required to fund and there is a lag between incurrence of interest expense and the cash payment of interest expense. Thus, inclusion of the lag associated with interest expense in the working capital calculation is no different than the inclusion of the payroll expense lag or the repair and maintenance expense lag.

[3] Examples of the Commission's policy on non-cash items in working capital are: Tuscon Electric Power Decision No. 56659 and Paradise Valley Water Company Decision 59079. There are numerous other examples.

Q. Is there any reason why APS might be opposing the depreciation and interest expense position of both Staff and RUCO?

A. Yes. These two items have a substantial impact on the resultant level of cash working capital allowed in rate base. If depreciation is allowed in the calculation and interest expense omitted from the calculation the resultant working capital requirement is approximately $75 million higher than it otherwise would be.

OPERATING INCOME

DSM – Net Lost Revenues

Q. Please discuss the Company's rebuttal response to RUCO's Net Lost Revenue adjustment.

A. The Company's rebuttal argues that it should be allowed to recover its estimated net lost revenues from DSM because its proposal would not fund this adjustment with the settlement agreement's $48 million spending requirement. The Company further argues that if the net lost revenues are not allowed it will not recover its revenue requirements.

Q. Please respond.

A. The notion that the Company will be unable to recover its revenue requirement in the absence of a net lost revenue adjustment is illogical. The DSM program was authorized with the intent that it would reduce APS' load growth. No party to the APS case has ever suggested that

DSM *alone* would be able to reduce existing load; rather DSM is deployed as a tool to mitigate the level of load *growth*. Thus, the notion that APS has lost or will lose existing revenues to DSM is simply wrong.

Q. Doesn't APS already have the opportunity to earn a performance incentive on its DSM efforts?

A. Yes. The settlement agreement in Decision No. 67744 provides for a performance incentive that allows the Company to share in the net economic benefits from energy efficient DSM programs. RUCO supports the incentive as laid out in the settlement agreement.

Decommissioning Expense

Q. Please discuss the Company's rebuttal comments regarding your decommissioning expense adjustment.

A. APS testifies that RUCO's recommended level of decommissioning expense does not include that portion of the expense that is related to post-shutdown spent nuclear fuel storage.

Q. Do you agree?

A. No. RUCO's adjustment differs from the Company's because the amount of test year recorded decommissioning expense identified by the Company in its response to RUCO 2.9 (that RUCO relied on) exceeds the amount of test-year actual decommissioning expense included in the

Company's calculation (LLR_WP15, page 2). This adjustment remains as an issue since no costs have been omitted in my calculation, as represented by the Company.

Out-of-Period Expense – Tax Consulting Fees

Q. How did APS respond to your recommended adjustment for out-of-period tax consulting fees?

A. The Company agrees with this RUCO adjustment of $1.225 million and indicates that there is also a related adjustment necessary of an additional $1.5 million. Accordingly, RUCO's $1.225 million adjustment to decrease operating expenses should instead decrease operating expenses by $2.8 million.

Miscellaneous Expenses

Q. Does the Company agree with your proposed miscellaneous expense adjustment?

A. The Company agrees to $166,000 of my $566,000 recommended adjustment. The $166,000 is comprised primarily of sponsorships and donations.

...

Q. What is the $400,000 amount that the Company does not agree with?

A. The $400,000 is the annual amount APS spends to provide its employees with "free" lunches when they are required to work through their lunch hour. RUCO does not believe these types of discretionary expenses should be recovered from ratepayers. In most organizations it is understood that in crunch situations employees rise to the occasion and that the organization returns the favor when employees need personal time. This method is much more effective in building employee morale and loyalty and certainly is less costly than "free" meals.

Unregulated Expenses

Q. Please discuss the Company's response to your unregulated expense adjustment.

A. The Company agrees with RUCO's $15.1 million adjustment to remove test year unregulated losses from marketing and trading activities. APS acknowledges that these activities did not relate to native load and as such should not be included in regulated rates.

Lobbying Expense

Q. Please discuss the Company's rebuttal comments regarding your lobbying expense adjustment.

A. The majority of the Company's rebuttal comments are aimed at the Staff's lobbying adjustment as opposed to RUCO. The Staff disallowed 100% of

APS' lobbying costs whereas RUCO's adjustment disallows 50% of these costs. APS cites several examples of lobbying activities that have benefited customers through reductions in costs. The Company concludes that because of these benefits that some of its lobbying costs should be recovered from ratepayers.

Q. Does that mean the Company has accepted RUCO's 50/50 sharing of these costs?

A. Not explicitly. However, APS' arguments merely justify ratepayer recovery of a portion of its lobbying costs. At the time RUCO examined the lobbying expenses it was aware that a portion of these expenses benefited ratepayers, hence RUCO's position to share these costs 50/50. The Company's rebuttal comments point to the same conclusion, albeit not explicitly stated. RUCO believes its sharing recommendation for lobbying expenses should be adopted.

Amortization Expense

Q. Does the Company agree with RUCO's recommended amortization expense adjustment?

A. No. The Company argues that a $10 million increase in amortization expense is warranted because that amount is based on a calculation that multiplies the amortization rates authorized in Decision 67744 by APS' test-year-end intangible plant assets.

Q. Were you able to verify the Company's purported amortization calculations?

A. No. Despite being asked specifically in RUCO data request 11.4, the Company has never provided the calculations that generate its requested level of amortization expense. Further, as discussed in my direct testimony the intangible asset accounts were not included in the Company's depreciation study, yet the Company is requesting changes in some of the amortization rates. Despite RUCO's efforts, the Company has yet to substantiate its proposed amortization expense. RUCO cannot support a $10 million increase in expenses without substantiation.

Q. The Company characterizes your methodology of calculating proforma amortization expense as a "high level general estimating process". Please respond.

A. As just discussed, RUCO requested detailed workpapers showing the Company's methodology for quantifying its requested 35% increase in amortization expense. APS did not provide the data. Thus, a high level analysis was the only analysis possible. The fact is that RUCO's "high level" analysis affords the Company a 12% increase in amortization expense when the Company has yet to substantiate *any* increase.

RATE DESIGN

Q. Please discuss the Company's rebuttal comments regarding RUCO's proposed rate design.

A. The Company provides no rebuttal comments of substance regarding RUCO's proposed rate design, which distributes RUCO's recommended revenue requirement evenly across customer classes and rate schedules. The Company does rebut some of the special issues addressed by RUCO such as hook-up fees and the PSA. These issues are addressed separately below.

OTHER ISSUES

Power Supply Adjustor

Q. Please compare the Company's rebuttal position regarding the PSA to RUCO's recommendations.

A. In direct testimony the Company proposed the following modifications to the existing PSA:

1) Elimination of the total fuel cost cap;

2) Changing of the cumulative four mil cap on the PSA annual adjustor to an annual cap;

3) Exclusion of renewable resources and fixed costs of PPAs acquired through the competitive bidding process from the 90/10 sharing;

4) Exclusion of 10% of the gains and losses realized on hedging from both the base fuel amount and in subsequent PSA operations.

RUCO supported the first three of these modifications and rejected the fourth. In its rebuttal testimony APS withdrew its request for the fourth modification regarding sharing of hedging gains and losses. Thus, APS and RUCO are no longer in dispute regarding the proposed PSA modifications.

Q. Are there any other outstanding PSA issues between RUCO and APS?

A. Yes. Two new issues have arisen as a result of the Company's rebuttal testimony.

Q. Please discuss the first of these two issues.

A. The first new issue arises as a result of an alternative PSA proposal set forth for the first time in the Company's rebuttal testimony. The Company testifies that is does not agree with the Staff-proposed base cost of fuel but indicates that were the Commission to accept the Staff's base cost recommendation that it should also accept the Staff's PSA proposal[4]. RUCO likewise does not agree with the Staff's base cost recommendation, however, RUCO is even more strongly opposed to the

[4] The Company further qualifies its acceptance of an alternative method to it having accurately understood the Staff position. RUCO also shares the Company's concerns regarding the ambiguity in the Staff position. RUCO, thus, also qualifies its position on this issue to having correctly understood the Staff position.

Staff PSA proposal (which the Company recommends if the Staff base cost is accepted).

Q. Does the Company support the Staff-proposed PSA, if APS' proposed base cost of fuel is approved?

A. No. The Company only would accept the Staff-proposed PSA if the Staff base cost were accepted. Even in that event, the Company indicates its proposal (as well as RUCO's) is preferable. The Company describes the Staff proposal as "a dramatic change to both the determination of the base fuel costs and the current form of Annual PSA Adjustor."

Q. Why does RUCO so strongly oppose the Staff PSA recommendations?

A. The Staff proposal would set the effective PSA adjustor and surcharge based on *forecasted* fuel and purchased power costs as opposed to *actual* costs. Ratemaking standards have always required that costs must be known and measurable before receiving rate recovery, and the current PSA Adjustor establishes the adjustor and surcharges based on actual costs. The PSA is a true-up mechanism that affords the Company and its customers the ability to recover any deviation in actual fuel and purchased power cost from the cost included in base rates. PSAs are not intended to act as mechanisms that attempt to second guess or speculate on future costs. RUCO recommends that the Commission reject the Staff PSA proposal regardless of its decision on the base cost of fuel and purchased power.

Q. Please discuss the second outstanding PSA issue between RUCO and the Company.

A. In its rebuttal testimony the Company poses the question to RUCO whether it opposes the APS proposal to delete the mandatory surcharge filing required under the existing PSA when the balancing account reaches $100 million.

Q. How do you respond?

A. The existing PSA allows for one surcharge application per year, thus, under the existing PSA the mandatory provision is moot because it cannot result in any action by the Commission to respond to the high PSA balance. To the extent that the one surcharge filing per year feature of the PSA is retained in the instant case, RUCO would not oppose the deletion of the mandatory filing requirement.

Hook-up Fees

Q. How has APS responded to your recommendation that potential implementation of hook-up fees should be further explored in a stakeholder workshop?

A. The Company supports RUCO's recommendation for a workshop to explore this issue.

Q. Has the Company identified some of the issues that would need to be addressed in such workshops?

A. Yes. Some of the issues identified by the Company are: tax implications, growth and housing industry implications, short and long term rate impacts of hook-up fees, magnitude of fee, and infrastructure to be funded by the fees. RUCO agrees that all of these issues will need to be thoroughly explored prior to any action on hook-up fees.

Q. What is Staff's position on hook-up fees?

A. Staff also supports RUCO's recommendation and recommends that a generic docket be set up for all affected parties to explore the issues. Staff also has identified a number of issues that will need to be explored[5]. RUCO agrees that the issues identified by both the Company and Staff should be examined in the context of a stakeholder workshop.

[5] Direct Testimony of Erinn Andreason, pages 28 and 29.

ENVIRONMENTAL IMPROVEMENT CHARGE

Q. How does the Company respond to RUCO and the Staff's recommendation to deny its proposed Environmental Improvement Charge (EIC)?

A. The Company continues to argue that ratepayers should prepay APS for environmental improvement projects because such projects are "good public policy". The Company goes on further to cite recent and impending Federal environmental mandates and acts that require or will require APS' compliance. The Company pleads that no revenue is generated from environmental projects and that such projects will require substantial funding. These general arguments form the support for the Company's proposed EIC.

Q. Do these arguments have merit?

A. No. These arguments hinge on the merit of the following assumptions:

1) That APS has "earned" extraordinary ratemaking treatment because it is implementing "good public policy" through environmental improvements; and

2) That ratepayers have an obligation to fund utility infrastructure that does not generate incremental revenue for APS.

Assumption 1 has no merit because compliance with environmental standards is mandatory and an integral part of APS' obligation to serve. In complying with industry law and standards APS is not making some magnanimous gesture that should be rewarded with extraordinary rate treatment at customer expense. Assumption 2 has even less merit. APS is required to provide safe and reliable service regardless of whether the necessary investment will immediately generate additional revenues.

Q. Do the Company's rebuttal arguments in any way sway RUCO's position on the EIC as set forth in its direct testimony?

A. No. The Company has presented no new arguments or evidence that convince RUCO that ratepayers should be required to prepay for utility plant investment simply because such investment is in the public interest and requires substantial funding. Standard ratemaking practice provides for recovery of utility investment once such assets are in-service and used and useful.

Q. In its rebuttal testimony does the Company agree with RUCO's statement that "Even in the case of the U.S. Environmental Protection Agency (EPA) arsenic mandate, the Commission has continued to require that the plant actually be in service prior to allowing the arsenic surcharge to be collected."?

A. No. The Company disagrees with RUCO's statement and in support of that disagreement cites Decision No. 67163 where an arsenic surcharge was authorized for Mountain Glen Water Service Company prior to the construction of the plant.

Q. Please respond.

A. Mountain Glen is a Class D water company and as such is subject to different processes than are Class A, B and C utilities. The rate case minimum filing requirements for the Class D and E companies are abbreviated. A hearing is not necessarily required, nor are revenue requirements necessarily determined based on rate of return. My testimony refers only to peer utilities of APS (i.e. Class A and B).

Demand Side Management

Q. Has APS responded to RUCO's concern that there needs to be a definitive decision in this case regarding DSM programs and funding since the three year period covered under Decision No. 67744 will soon expire?

A. No. APS merely states:

> It is our expectation that the programs will continue at the same funding level and with the same design until APS submits proposals to modify program design and/or budget requirements and such modifications are approved by the Arizona Corporation Commission (Commission). The programs are essentially "evergreen" in the absence of proposed modifications or Commission intervention. The nature of our funding mechanism, comprised of 2 elements – one element is in base rates ($10M) and the other element flows through the DSM Adjustor – allows for DSM programming to continue and grow as cost-effective program opportunities emerge. [Rebuttal Testimony of Teresa A. Orlick at page 3]

Q. Should the parties and Commission rely on an "expectation" of what might happen to DSM once the provisions of Decision No. 67744 expire?

A. No. Contrary to APS' "expectations" there is no provision for what happens after the DSM provisions of Decision No. 67744 expire. RUCO is unwilling to rely on mere expectations and believes it is imperative that the Commission address in the affirmative APS' DSM requirement after the terms of Decision No. 67744 expire.

Q. Aside from your aversion to relying on APS' expectations as set forth in Ms. Orlick's testimony, do you agree with her vision of DSM after the expiration of Decision No. 67744?

A. Yes. RUCO agrees that the Commission should authorize continuance of the DSM provisions of Decision No. 67744 until the Company's next rate case, with one exception. RUCO recommends that the DSM adjustor mandatory spending rate should be increased from $6 million to $10 million.

Q. Does the Company agree with this recommendation?

A. Not entirely. APS observes that the current DSM adjustor is "flexible" and as it stands allows the Company to expend amounts in excess of $6 million. The Company therefore concludes that RUCO's proposal is "not needed".

Q. Do you agree RUCO's proposal is "not needed"?

A. No. The Company has missed the point of RUCO's proposal, which is that APS be *required* to expend additional funds on DSM. The fact that the current adjustor *allows* additional funding does not ensure additional funding. DSM is an important resource which to-date has been under utilized by Arizona utilities. Increasing mandatory funding of DSM at this juncture is warranted.

Q. What was the Company's rebuttal response to RUCO's position regarding APS' request for authority to accrue interest on its DSM deferrals?

A. The Company agrees with RUCO that interest was not explicitly discussed as part of the DSM settlement terms. However, the Company states that it believes that the omission of an interest component was merely an "oversight" and such interest earnings are now warranted because the DSM funds that flow through the adjustor are expended by the Company prior to be recovered through the adjustor.

Q. Please respond.

A. First, RUCO does not agree with the APS opinion that the omission of an interest component was an "oversight". The parties realized during negotiations that collections from the $10 million amount would probably exceed expenditures during the initial ramp up of the DSM programs. Thus, the only interest that would be relevant at that time would be interest on customer prepayments for DSM. For this reason no provision was made in the settlement agreement for interest. Were this not the case in the early years of the DSM ramp up, an interest component could possibility have been considered appropriate to recognize the time value of the deferrals. However, when the *actual* status of APS' DSM funding is considered, the Company's arguments come up short. Since April 2005, when the rates set in Decision No. 67744 became effective, APS has expended $0.00 in the deferral DSM adjustor account. Thus, to-date even if authorized no interest would have accrued. The Company has yet to expend the annual base rate DSM funding of $10 million. As a result APS continues to hold unexpended ratepayer DSM monies for which it pays ratepayers no interest. This situation is expected to continue for some time yet as implementation of programs has not ramped up as quickly as most of the parties anticipated.

Q. Do these circumstances warrant the accrual of interest?

A. No. Under a different set of circumstances the Company's interest proposal may have some merit. However, until such time as the Company actually begins to meet its DSM mandatory spending levels is neither warranted nor applicable. RUCO believes this issue could potentially merit a revisit in APS' next rate case.

Demand Response Programs

Q. How has APS responded to RUCO's recommendation that Demand Response programs should be further explored in by a task force?

A. The Company first states that it is interested in pursuing Demand Response initiatives. Second, APS says that although it does not oppose a task force, it feels that more can be accomplished if the Company undertakes a preliminary study to determine what potential Demand Response programs would be beneficial to APS and then use that study as the starting point for the task force.

Q. Please comment.

A. RUCO supports APS' proposal to undertake a preliminary study of Demand Response programs that would serve as a basis for the task force's work. APS' proposal makes sense from an efficiency standpoint and more importantly would jump-start the work of a Demand Response specific task force.

Environmental Portfolio Standard

Q. What is the Company's rebuttal position regarding the Environmental Portfolio Standard (EPS)?

A. While the Company originally recommended no change in the EPS tariff in its direct testimony, it has modified that recommendation in its rebuttal testimony. The Company's rebuttal now requests a modification in the

EPS tariff to fund an additional $4.25 million for the Uniform Credit Purchase Program.

Q. Do you agree with the Company's recommended modification of the EPS?

A. Yes. Commission Decision No. 68668 required this additional EPS funding for the Uniform Credit Purchase Program. Thus, it is appropriate to modify the EPS tariff to allow recovery of the additional $4.25 million in required spending.

Q. If the Commission were to later order additional EPS spending, will APS be able to recover such increases once this rate case is closed?

A. Yes. In Decision No. 67744 the Commission modified the EPS tariff to allow adjustment outside of a rate case in response to any additional requirements imposed by the Commission.

APS PROPOSALS TO INCREASE FINANCIAL STRENGTH

Q. Has APS set forth any new ratemaking proposals in its rebuttal testimony?

A. Yes. In response to Chairman Hatch-Miller's request, the Company has set forth five additional ratemaking proposals that it claims would increase its financial strength.

Q. Has the Company included these new proposals as part of its rate request in the current docket?

A. No, not exactly. APS' requested rate increase does not include funding associated with these five proposals, however the Company requests that the Commission "consider these concepts at this time".

Q. Since the Company is not at this time actually requesting these five new proposals why is RUCO addressing these new proposals at this time?

A. APS has portrayed these proposals in a very positive and fair light, however, some of the new proposals set forth in the Company's rebuttal testimony if implemented will result in biased rates that are discriminatory to ratepayers Given that APS wants the Commission to "consider these concepts at this time" RUCO believes the Commission should have the opportunity to consider these proposals from other parties' vantage points.

Post-Test Year Plant in Service

Q. Please discuss APS' post-test year plant in service proposal to boost earnings.

A. One of the Company's proposals to boost earnings is to include all plant additions made through the end of 2006 (post-test year) in rate base for both a return and depreciation expense recovery.

Q. Would this proposal boost earnings?

A. Certainly. However, it would result in biased rates. Recognition of one ratemaking element (in this case plant) on a post-test year basis and non-recognition of all other ratemaking elements on a post-test year basis creates mismatches that result in biased rates. For example, new post-test year plant additions can result in operation and maintenance savings, which under the Company's proposal would not be reflected matched with the post-test year plant. Further, test year plant would continue to accrue additional years of accumulated depreciation, which would not be correctly reflected as a rate base reduction under the Company's proposal. The mismatches inherent in APS' post-test year plant proposal are myriad. The Company's proposal is inherently biased as it would mitigate the regulatory lag that is detrimental to the Company yet leave in place the regulatory lag that is detrimental to the ratepayer.

Attrition Adjustment

Q. Please discuss APS' attrition adjustment proposal to boost earnings.

A. The Company proposes an attrition adjustment that would provide an ROE adjustment in this rate case for the Company's estimated future losses of return on investment due to such forces as regulatory lag, growth, volatility in fuel prices, and high construction costs. The Company suggests that an attrition adjustment of 1.7% would be appropriate in 2007.

Q. What is the downside to this proposal?

A. The downside to this proposal is that it also will result in biased rates. An increase in rates for a presumed level of attrition that looks to only some elements of the ratemaking formula inherently assumes that all regulatory lag is disadvantageous to the Company. Likewise, because the proposed attrition adjustment is based on estimates of future events it shares the same inadequacies inherent in financial forecasts, as discussed earlier in my testimony. Further, it violates the requirement for a finding of fair value and fair value rate of return in order to raise rates.

Allowance for Accelerated Depreciation

Q. Please discuss APS' Allowance for Accelerated Depreciation proposal to boost earnings.

A. This proposal, it appears, would allow the Company annually to automatically increase its rates to include additional depreciation expense related to plant additions. The Company argues that its large level of annual investment coupled with regulatory lag would justify the automatic depreciation expense adjustor.

Q. Do you agree?

A. No. Again, there is no symmetry in the Company's proposal. The proposal would automatically increase rates for depreciation on new assets, yet would not decrease rates for asset retirements. It also would not decrease rates for the decline in rate base that takes place when another year of depreciation on existing plant is recovered. Neither would the adjustor look at deferred income tax impacts, changes in debt or equity costs, etc.

The proposal is slanted entirely in favor of APS, at ratepayer cost.

CWIP in Rate Base

Q. Please discussed the Company's CWIP in rate base proposal to boost earnings.

A. This proposal would allow the Company to increase rate base by allowing it to include its construction work in progress balance in rates.

Q. Is this the accepted ratemaking treatment for CWIP?

A. No. Utility regulation has routinely excluded CWIP from rate base because it does not meet the used and useful ratemaking standard, which requires that assets actually be in service and providing a benefit to ratepayers before their inclusion in rates. Utility accounting already allows the accrual of interest, in the form of AFUDC, on the CWIP balances. These interest accruals are ultimately recovered over the life of the asset once it enters service through depreciation expense. Thus, rate base treatment of CWIP does not change a utility's level of earnings, merely the timing of earnings recovery.

Q. Are you aware of any instances where utility commissions have made an exception to standard ratemaking treatment and included CWIP in rate base?

A. Yes, but only as result of extraordinary circumstances. During the 1970's and 1980's many utility commissions made an exception and allowed CWIP in rate base. In most cases the exception was made due to the drain on cash flow caused by construction of nuclear plants. Due to the large outlays of cash required to build a nuclear plant coupled with the very long lead time before such plants enter service, many utilities became unable to service their debt due to lack of cash flows. The inclusion of CWIP was considered an emergency measure as well as a temporary measure. It historically has not been a routine ratemaking mechanism, as APS seems to be suggesting here.

Q. Has there ever been a situation in Arizona where such CWIP treatment was warranted?

A. Yes, CWIP rate base treatment was warranted at certain stages of the Palo Verde Nuclear Generating Station construction. Were APS again to turn to nuclear to meet its growing generation needs, there may become a time when such treatment is again warranted.[6] However, the Company's

[6] This is debatable since APS probably will never again build three nuclear plants at once, as well as the fact that APS is a much larger company than it was in 1980 with current assets, customers, and revenue far in excess of 1980 levels.

current situation provides no basis for such an extraordinary departure from ratemaking treatment.

Q. Does this conclude your surrebuttal testimony?

A. Yes.

ARIZONA PUBLIC SERVICE COMPANY

DOCKET NO. E-01345A-05-0816 et al.

SURREBUTTAL TESTIMONY

OF

WILLIAM A. RIGSBY

ON BEHALF OF

THE

RESIDENTIAL UTILITY CONSUMER OFFICE

SEPTEMBER 27, 2006

INTRODUCTION

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

A. My Name is William A. Rigsby. I am a Public Utilities Analyst V employed by the Residential Utility Consumer Office ("RUCO") located at 1110 W. Washington, Suite 220, Phoenix, Arizona 85007.

Q. Have you filed any prior testimony in this case on behalf of RUCO?

A. Yes, on August 18, 2006, I filed direct testimony with the Arizona Corporation Commission ("ACC" or "Commission") on Arizona Public Service Company's ("APS" or "Company") application requesting a permanent rate increase ("Application").

Q. Please state the purpose of your surrebuttal testimony.

A. The purpose of my surrebuttal testimony is to respond to APS' rebuttal testimony, which was filed on September 15, 2006, on my recommended adjustments on certain rate base and operating expense items. RUCO's remaining rate base and operating expense adjustments will be addressed by RUCO witness Marylee Diaz Cortez, CPA, and by RUCO consultants David A. Schlissel and J. Richard Hornby, both of Synapse Energy Economics.

Q. Will your surrrebuttal testimony also address the rate design and cost of capital issues in the case?

A. No. Ms. Diaz Cortez will address the rate design issues associated with the case and RUCO consultant Stephen G. Hill will address the cost of capital issues.

Q. How is your surrebuttal testimony organized?

A. My surrebuttal testimony contains four parts: the introduction that I have just presented, a summary of the rebuttal testimony of APS' witnesses, a section that addresses RUCO's surrebuttal position on my recommended rate base adjustment, and a section that addresses RUCO's surrebuttal positions on my recommended operating expense adjustments.

SUMMARY OF APS' REBUTTAL TESTIMONY

Q. Which APS witnesses provided rebuttal testimony on the specific recommendations that you have made in this case?

A. The APS witnesses that provided rebuttal testimony on the specific recommendations that I have made in this case are Stephen M. Wheeler, Laura L. Rockenberger, Chris N. Froggatt and APS consultant Mark K. Gordon, who is providing testimony for the first time in this proceeding.

Q. Briefly summarize the Company's rebuttal testimony that pertains to the specific recommendations that you made in this case.

A. Mr. Wheeler's rebuttal testimony provides an overview of the various issues that are in dispute in this case, and specifically addresses my recommended adjustment that reduces incentive pay for APS employees. This same issue is also addressed in the rebuttal testimony of Mr. Gordon. Ms. Rockenberger's rebuttal testimony addresses my rate base and operating expense adjustments for bark beetle remediation and my operating adjustments on depreciation expense, property taxes and advertising expense. My recommended adjustments for interest on customer deposits and the method used to calculate federal and state income tax expense are addressed in the rebuttal testimony of Mr. Froggatt. For the sake of convenience and ease of comparison, I will address each of these issues in the same order that I addressed them in my direct testimony.

RATE BASE

Rate Base Adjustment #3 – Bark Beetle Regulatory Asset

Q. Have you reviewed APS' rebuttal testimony regarding the level of deferred costs associated with the Company's bark beetle regulatory asset that APS seeks to earn a return on?

A. Yes. I have reviewed the rebuttal testimony of APS witness Rockenberger on this issue. Ms. Rockenberger also addresses the operating expense aspect of this issue, which I will discuss in the next section of my testimony.

Q. What is APS' position on your rate base adjustment, which reduces the estimated level of deferred costs associated with the Company's bark beetle regulatory asset by $6,115,000?

A. APS disagrees with my adjustment which reduced the Company's estimated level of deferred costs to the actual test year-end deferral balance of $4,469,059. Ms. Rockenberger has taken the position that it is appropriate under the matching principle to use estimated costs to ensure that the rates in effect in 2007 provide for the amortization of the actual costs incurred by year-end 2006.

Q. Do you agree with Ms. Rockenberger's position on this issue?

A. No. RUCO respectfully disagrees with Ms. Rockenberger's position for the same reasons that I stated in my direct testimony. RUCO believes that the actual test year-end deferral balance of $4,469,059 is the amount on which the Company should be able to earn a return on and recover through amortization expense over an appropriate period of time. The year-end balance treatment that RUCO is recommending is no different than the treatment that the Commission typically affords rate base assets. For that matter, it is no different than the treatment that the Company has recommended in its calculation of interest on customer deposits. In the case of interest on customer deposits, the Company has used the actual amount, as opposed to an estimated amount, of customer deposits that were recorded at the end of the test year in order to determine an appropriate level of interest expense. RUCO believes that the bark beetle regulatory asset issue at hand is no different. The actual amount of deferred costs associated with the Company's bark beetle regulatory asset at test year-end should be amortized and the Commission should not allow APS to earn a return on a level of deferred costs that exceed the actual test year amount of $4,469,059.

OPERATING INCOME

Operating Adjustment #2 – Interest on Customer Deposits

Q. Have you reviewed Company witness Froggatt's rebuttal testimony on your recommended adjustment that increases interest on customer deposits by $976,000?

A. Yes, I have.

Q. Has the Company accepted your recommended adjustment, which uses an updated one-year constant maturities rate to calculate interest expense on customer deposits?

A. Yes and no. Mr. Froggatt accepts my recommendation to apply the most recent known available interest rate of 4.38 percent, but points out that I had inadvertently used the Company's March 31, 2006 customer deposit balance as opposed to the actual test year balance recorded on September 30, 2005. Mr. Froggatt's revised calculation produces an increase in interest expense of $871,000 resulting in an adjusted level of $2.4 million as opposed to RUCO's $2.5 million figure.

Q. Do you accept Mr. Froggatt's revised calculation?

A. Yes. My Surrebuttal Schedule WAR-1 reflects the actual balance of APS customer deposits booked at the end of the test year and exhibits the same $871,000 adjustment calculated by Mr. Froggatt.

Operating Adjustment #7 – Amortization of Bark Beetle Regulatory Asset

Q. Are all of the parties in this case in agreement on the Company-proposed three-year amortization period for recovery of the bark beetle regulatory asset in rates?

A. Yes. As explained in the rebuttal testimony of Company witness Rockenberger, ACC Staff, APS and RUCO are all in agreement that three years is an appropriate amortization period for the recovery of the Company's bark beetle regulatory asset.

. . .

Q. Does APS accept RUCO's recommended level of amortization expense that will allow the Company to recover the deferred costs included in rate base?

A. No. As I explained earlier, the Company disagrees with the level of recoverable deferred costs that I have recommended and is therefore opposed to the level of amortization expense that I have recommended in my direct testimony.

Q. Is RUCO maintaining its original position on this issue?

A. Yes. For the reasons stated earlier, I believe that the Commission should reject the Company-proposed level of amortization expense, and only allow a three-year amortization of the actual deferred costs of $4,469,059.

Operating Adjustment #10 – Depreciation Expense

Q. Has APS accepted RUCO's recommended adjustment to depreciation expense?

A. Yes and no. The Company has accepted one of the two portions that make up my recommended $666,000 adjustment. APS witness Rockenberger agrees with the $262,000 portion of my adjustment related to retired turbo-generator units valued at $9,231,000 (depreciated at a rate of 2.84 percent). She disagrees with the $404,000 portion of my adjustment that is associated with retired reactor plant equipment valued at $27,453,000 (depreciated at a rate of 1.47 percent). According to Ms.

Rockenberger's rebuttal testimony, APS had included an adjustment for the retirement of these particular assets and my adjustment would result in a double count of the reduction of depreciation expense.

Q. Does RUCO accept the Company's position on this issue?

A. Yes. A review of Ms. Rockenberger's workpaper labeled LLR_WP17 Page 1 of 12 supports her argument regarding the double count of $404,000. As a result, RUCO agrees to reduce its depreciation expense adjustment from $666,000 to $262,000.

Operating Adjustment #15 – Reduce Incentive Pay

Q. Has APS accepted RUCO's recommendation to reduce APS' expensed incentive program costs by $4,563,000?

A. No. APS opposes RUCO's recommendation.

Q. What is the Company's rationale for opposing RUCO's recommendation?

A. APS witness Wheeler argues in his rebuttal testimony that RUCO's recommendation is arbitrary and is based on no analysis of either the Company's incentive program itself or of APS employee compensation levels. Mr. Wheeler goes on to state that RUCO's recommendation takes a "share the pain" approach that would force the Company's employees to subsidize the cost of providing electricity to APS customers because RUCO believes that rates would otherwise be too high. Mr. Wheeler further states that RUCO's testimony implies that APS employees are somehow overpaid and that they should be able to absorb a 20 percent reduction in performance pay. In order to provide support for the Company's argument, APS offers the testimony of Mr. Gordon, an outside consultant, who provides an analysis of the Company's incentive program.

Q. Has RUCO changed its position on this issue as a result of the arguments and information put forth in the rebuttal testimony of Mr. Wheeler and Mr. Gordon?

A. No.

Q. Please respond to Mr. Wheeler's statements.

A. RUCO has never purported that its recommendation, which allows APS to recover 80 percent of the Company's existing expensed incentive program, was ever tied to any type of formal analysis. In fact, RUCO has stated to APS that the recommended adjustment represents a policy decision on the part of RUCO and, as explained in my direct testimony, forms a recommended starting point from which the Commission can make whatever changes, if any, it wishes to make.[1] It is also important to note that other than its recommended level of reduction, RUCO has not made any specific recommendations regarding the development, administration, goals or the internal execution of the Company's incentive

[1] RUCO's response dated August 29, 2006, to APS Data Request APS-RUCO-4-2.

program. RUCO has also never propounded that its recommendation had anything to do with how the Company's expensed incentive program compares to those of other companies, which I believe is the main focus of Mr. Gordon's testimony. Furthermore, my direct testimony was never meant to imply that APS employees were overcompensated as Mr. Wheeler states in his rebuttal testimony.

Q. Please respond to Mr. Wheeler's statement that RUCO has proffered a "share the pain" explanation for its recommendation for reducing the Company's level of expensed incentive compensation.

A. While it is true that I stated in my direct testimony that RUCO believes that it is only fair that the pain of increased energy costs should be borne not only by ratepayers, but shared by the Company as well, I believe that if the Company scaled back its incentive program to the level where RUCO is recommending recovery, it would have less impact on APS employees than what the Company argues. As noted earlier, under RUCO's recommendation eligible APS employees would still be able to receive 80 percent of the Company-proposed level of expense for the incentive program as opposed to APS executives who are foregoing 100 percent of their incentive compensation. All that would be eliminated, under RUCO's recommendation, would be 20 percent of "at risk" incentive compensation that employees might not have seen anyway if they failed to meet established goals.

Q. What are some of the positive impacts that could result from APS' acceptance of RUCO's incentive pay adjustment?

A. By accepting RUCO's recommendation, APS would send a stronger message to investors, rating agencies, Wall Street analysts and the Company's ratepayers that the Company is serious about cutting costs to keep rates as low as possible in the face of rising fuel costs. While it is true that APS eventually did agree to make reductions in executive compensation, sports sponsorships and types of advertising that centers on branding or self-promotion, the Company's original position was that it was opposed to making reductions to these types of items. On the same day that APS filed its application for a permanent rate increase, the Company launched a public relations campaign through local media outlets (i.e. radio, newspaper and internet) to explain the reasons for the requested increase. The fact that higher fuel costs was the main reason for APS' request probably came as no surprise to the Company's ratepayer's who were already paying higher prices at the gasoline pump and facing higher natural gas heating costs in the upcoming winter. In fact many Salt River Project electric customers, including myself, were already paying higher monthly electric bills because of increased fuel costs. Missing from APS' original campaign messages were the steps that the Company was taking to keep rates as low as possible.

...

Q. Please address APS witness Gordon's arguments that APS' incentive program is in line with those of other firms?

A. As I stated earlier, RUCO has never tried to make an argument that APS' incentive program wasn't in line with other firms. The main purpose of RUCO's adjustment was to provide an option for the ACC to make a decision that would send a true message to APS ratepayers that steps were being taken to keep their utility rates as low as possible, and that cuts in compensation recovery were being made on a Company-wide basis.

Q. Are reductions in employee compensation common in other segments of the economy?

A. Yes. It is not uncommon for companies in competitive industries to renegotiate union contracts or to even seek court approval to be relieved of obligations to its employees. Even state employees in Arizona have had to face lower take home pay as a result of underperformance of state pension fund investments and now face the possibility of losing at-risk pay for not meeting performance goals. Perhaps the most drastic example of cost cutting was the recent court decision that relieved UAL Corporation, the parent of United Airlines, of its obligation to make pension payments to retired employees. A more positive example was the decision by Southwest Airline's employees to take voluntary pay cuts in order to help their airline handle higher fuel costs during the early nineties. As can be seen in the above examples, RUCO's recommendation is not out of line with what occurs in other segments of the economy and is nowhere near as drastic as some of the events that have occurred in the airline industry that is also impacted heavily by rising fuel costs. It should also be reiterated that RUCO's recommended adjustment is only focused on at-risk incentive compensation as opposed to base pay.

Q. Does RUCO's recommendation merely seek a reduction in recovery of incentive pay as opposed to a complete elimination of incentive pay for APS employees?

A. Yes. If the Commission were to adopt RUCO's recommendation in full, APS employees would still be able to earn 80 percent of the Company-proposed level of incentive pay. RUCO also recognizes that in a future rate case proceeding, when economic conditions improve, an adjustment to incentive pay may not be warranted and the Company could raise its levels of incentive pay.

Q. Does RUCO still recognize that the ACC might want to adjust the Company's incentive pay recovery by some amount other that what RUCO is recommending?

A. Yes. As I stated in my direct testimony, RUCO understands that the ACC Commissioners will be the ones to make a final decision on how much, if any, the Company's expensed incentive compensation will be reduced.

Because of this, RUCO has still not attempted to tie its $4,563,000 recommended adjustment to a specific formula or calculation.

Operating Adjustment #17 – Property Tax Expense

Q. Have you reviewed the rebuttal testimony of APS witness Rockenberger on RUCO's recommended adjustment to the Company-proposed level of property tax expense?

A. Yes.

Q. Does Ms. Rockenberger agree with RUCO's recommendation to reduce the Company-proposed level of property tax expense by $5,976,49?

A. No. Ms. Rockenberger has rejected RUCO's recommended adjustment in favor of ACC Staff's recommended adjustment, which reduces property tax expense by $1,708,000.

Q. Has RUCO accepted the Company's revised level of property tax expense?

A. No. RUCO believes that Ms. Rockenberger is simply accepting a lower adjustment that is not reflective of what APS' actual property tax expense level is.

...

Q. Please explain why RUCO believes that Ms. Rockenberger is simply accepting a lower adjustment that is not reflective of what APS' actual property tax expense level is?

A. Ms. Rockenberger argues that RUCO's adjustment fails to take into account known and measurable net increases in the Company's 2007 assessed value for the Pinnacle West Energy Corporation ("PWEC") units regulatory disallowance that she states were included in Company records and discussed in her direct testimony. However, the RUCO data request, exhibited in Attachment A of my testimony with APS' response, specifically provided Ms. Rockenberger with the opportunity to update and restate the Company's adjustment to property tax expense to reflect a suspension of the county education tax that was recently signed into law. RUCO's adjustment relied entirely on the figures that were provided by Ms. Rockenberger who had the opportunity to factor in the same assessed values that she claims I failed to take into account.

Q. Does RUCO accept the rationale for ACC Staff's adjustment to property tax expense?

A. Yes. RUCO's proposed property tax adjustment and ACC Staff's property tax adjustment are two distinct issues. RUCO's adjustment does not capture the adjustment made by ACC Staff's consultant and the Staff consultant's adjustment does not capture the suspension of the county education tax. The two adjustments are not mutually exclusive and RUCO believes that the Commission should adopt both ACC Staff's adjustment and RUCO's adjustment despite the arguments put forth by Ms. Rockenberger.

Q. Would it be appropriate to revise RUCO's recommended level of property tax expense based on the 2007 revised assessed values discussed in Ms. Rockenberger' rebuttal testimony?

A. No. Again, APS, as it has in many instances in this rate case, is advocating the recognition of costs as far as 2 and 3 years outside of the test year where it will increase the Company's revenue requirement but would adhere to the test year where it would not.

Operating Adjustment #18 – Advertising Expense

Q. Has APS accepted your recommended $4,625 reduction to advertising expense?

A. Yes. APS witness Rockenberger stated in her rebuttal testimony that the Company has accepted my adjustment related to promotional advertising and has included my recommended reduction in her rebuttal adjustment that reduces test year operating expenses by $508,000.

. . .

Operating Adjustment #19 – Income Tax Expense

Q. Does the Company agree with RUCO's methodology for calculating federal and state income tax expense?

A. Yes. In his rebuttal testimony, Mr. Froggatt agrees with RUCO's use of the synchronized interest methodology to determine the amount of interest expense to be deducted from income tax. Mr. Froggatt also observed that the difference between RUCO's and the Company's recommended levels of income tax expense is the result of the difference in each party's recommended adjustments to rate base and changes to the weighted cost of debt as opposed to the method used to calculate the expense.

Q. Does your silence on any of the issues or matters addressed in the Company's Application constitute either your, or RUCO's, acceptance of the Company's position on such issues or matters?

A. No, it does not.

Q. Does this conclude your testimony on APS?

A. Yes, it does.

ARIZONA PUBLIC SERVICE COMPANY
DOCKET NO. E-01345A-05-0816 et al.
TABLE OF CONTENTS TO SURREBUTTAL SCHEDULES WAR

SCHEDULE #

ARIZONA PUBLIC SERVICE COMPANY
ADJUSTED TEST YEAR ENDED SEPTEMBER 30, 2005
OPERATING INCOME ADJUSTMENT #2 - INTEREST ON CUSTOMER DEPOSITS (000'S)

DOCKET NO. E-01345A-05-0816 et al.
SURREBUTTAL SCHEDULE WAR-1

LINE NO.	DESCRIPTION	(A) PER COMPANY WORKPAPER	(B) PER RUCO AUDIT	(C) DIFFERENCE
1	CUSTOMER DEPOSIT BALANCE (SEPTEMBER 30, 2005)	$ 54,800	$ 54,800	$ -
2	TIMES: CONSTANT MATURITY RATE ON 1-YEAR U.S. TREASURY SECURITY	2.79% (a)	4.38%	1.59%
3	TOTAL INTEREST EXPENSE ON CUSTOMER DEPOSITS	$ 1,529	$ 2,400	
4	RUCO ADJUSTMENT			$ 871

REFERENCES:
COLUMN (A): LINE 1 - COMPANY WORKPAPER CNF_WP9
COLUMN (B): LINE 1 - COMPANY WORKPAPER CNF_WP9
COLUMN (B): LINE 2 - FEDERAL RESERVE WEBSITE – ONE-YEAR CONSTANT MATURITIES RATE ON JANUARY 3, 2006
COLUMN (B): LINE 1 - COMPANY RESPONSE TO DATA REQUEST UTI 1-60
COLUMN (C): COLUMN (B) - COLUMN (A)

NOTES
(a) PER APS WITNESS FROGGATT DIRECT TESTIMONY (PAGE 13, LINES 10 THRU 12):
ONE-YEAR TREASURY CONSTANT MATURITIES RATE EFFECTIVE THE FIRST BUSINESS DAY OF EACH YEAR
AS PUBLISHED ON THE FEDERAL RESERVE WEBSITE

ATTACHMENT A

11.2 Property Taxes Re. property tax cuts that were recently signed into law by Governor Napolitano. Please update the Company's adjustment to property tax expense to reflect the suspension of the county education tax for three years, and eliminates the 43-cent levy for each $100 of assessed value.

Response: Please see the attached adjusted pages 1 and 2 of the original LLR_WP20 work papers, attachment APS10660, which reflect the temporary suspension of the county education tax rate provided by HB 2876 Tax Relief; Omnibus. The county education tax and the 43 cent levy for each $100 of assessed value are one and the same.

Witness: Laura Rockenberger

Proforma Adjustment
APS Property Taxes
Adjusted to Reflect the Temporary Suspension of the County Education Tax Rate

RUCO 11-2

Line No.	Description	APS Property Taxes
1	Electric Operating Revenues	-
2	Fuel Expense	-
3	Oper Rev Less Fuel	-
	Other Operating Expenses:	
4	Operations Excluding Fuel Expenses	
5	Maintenance	-
6	Subtotal	-
7	Depreciation	-
8	Amortization of Gain	-
9	Administrative and General	-
10	Other Taxes	10,890,462
11	Total	10,890,462
12	Operating Income	(10,890,462)
13	Net Deductions	-
14	Interest	-
15	Taxable Income	(10,890,462)
16	Current Income Tax Rate - 39.05%	(4,252,725)
17	Deferred Tax	-
18	Net Income	(6,637,737)

Note: Adjustment to Test Year operations to reflect changes in property taxes using December 31, 2004 plant balances, and include PWEC and Sundance Units. The adjustment also reflects the temporary suspension of the county education tax rate per HB 2876 Tax Relief; Omnibus.

ARIZONA PUBLIC SERVICE COMPANY
TWELVE MONTHS ENDED 9/30/05 PROPERTY TAX PRO FORMA
Adjusted to Reflect the Temporary Suspension of the County Education Tax Rate

RUCO 11-2

	PRO FORMAS						
		APS		PWEC UNITS		SUNDANCE UNITS	TOTAL
	Ref.		Ref.		Ref.		
Twelve Months Ended 9/30/05 Accrued O&M Property Taxes	A20	121,736,987	A20	1,666,666		0	123,403,653
Less:							
New Mexico	A20	(9,450,000)		0		0	(9,450,000)
Nevada	A20	(40,971)		0		0	(40,971)
California	A20	(26,687)		0		0	(26,687)
A&G Allocation	A20	84,000		0		0	84,000
Navajo County Refund (2003)	A40	1,281		0		0	1,281
CIAC Reserve (2003)	A40	(496,875)		0		0	(496,875)
O&M Property Taxes For Twelve Months Ended 9/30/05		111,807,734		1,666,666		0	113,474,401
2006 Estimated O&M Property Taxes	A50	105,628,564	A50	12,464,229		0	118,092,793
Add:							
Maricopa Community College Bond (2006)	A55	617,997	A55	17,177		0	635,173
Sundance Units Estimated Property Tax for 2006:		0		0	A80	4,022,634	4,022,634
Phase-In Adjustment for PWEC Units: Increase from 2005 to 2007		0	A90	1,614,263		0	1,614,263
Normalized Pro Forma O&M Property Taxes		106,246,561		14,095,669		4,022,634	124,364,863
Total Pro Forma O&M Adjustment		(5,561,174)		12,429,002		4,022,634	10,890,462

ARIZONA PUBLIC SERVICE COMPANY

DOCKET NO. E-01345A-05-0816 et al.

SURREBUTTAL TESTIMONY

OF

STEPHEN G. HILL

ON BEHALF OF

THE

RESIDENTIAL UTILITY CONSUMER OFFICE

SEPTEMBER 27, 2006

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SURREBUTTAL TESTIMONY

STEPHEN G. HILL

Docket No. E-01345A-05-0816

ARIZONA PUBLIC SERVICE COMPANY

INTRODUCTION / SUMMARY

Q. PLEASE STATE YOUR NAME, OCCUPATION AND ADDRESS.

A. My name is Stephen G. Hill. I am self-employed as a financial consultant, and principal of Hill Associates, a consulting firm specializing in financial and economic issues in regulated industries. My business address is P.O. Box 587, Hurricane, West Virginia, 25526 (e-mail: sghill@compuserve.com).

Q. ARE YOU THE SAME STEPHEN HILL WHO TESTIFIED PREVIOUSLY ON BEHALF OF THE RESIDENTIAL UTILITY CONSUMER OFFICE (RUCO) REGARDING CAPITAL STRUCTURE AND COST OF CAPITAL ISSUES IN THIS PROCEEDING?

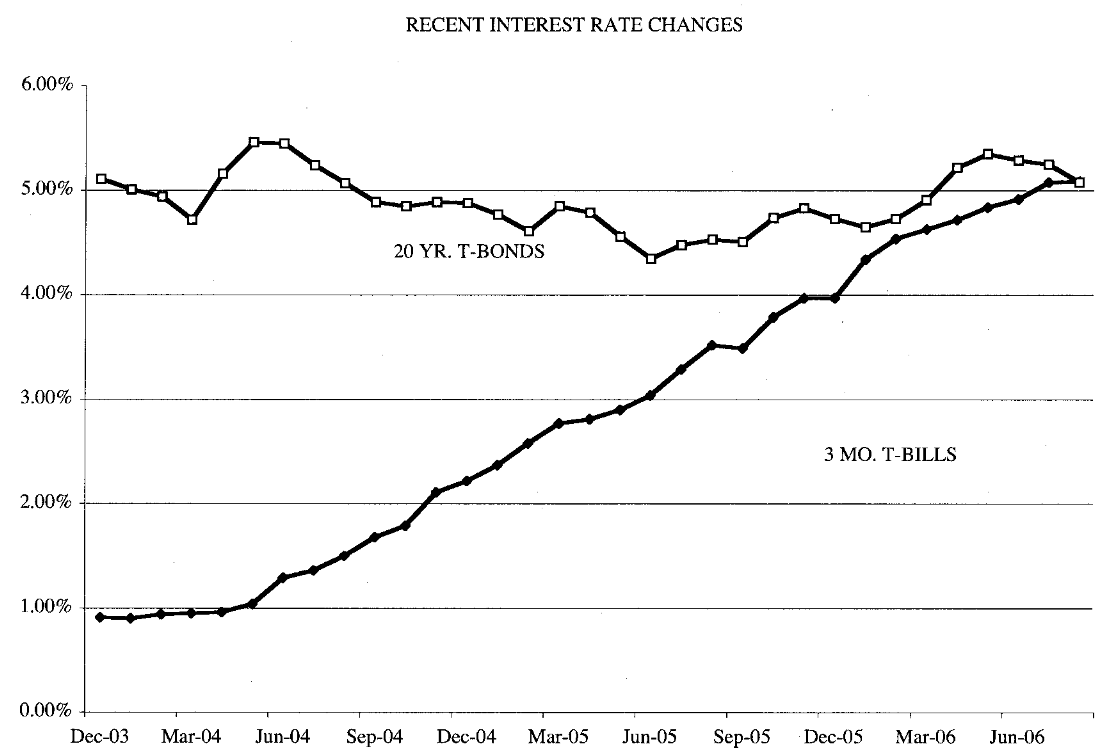
A. Yes, I am.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY AT THIS TIME?

A. I will respond to the Rebuttal Testimony of Company witnesses Dr. William Avera and Donald Brandt concerning the capital structure and the cost of equity capital, and the adequacy of my overall return recommendation. I will also comment, briefly, regarding the cost of capital testimony of Staff cost of capital witness David Parcell as well as the testimony of Arizona Utility Investors Association witness Julie Cannell.

Q. HAVE ANY SUBSTANTIAL CHANGES OCCURRED IN THE CAPITAL MARKETS SINCE THE FILING OF YOUR DIRECT TESTIMONY THAT WOULD CAUSE YOU TO ALTER YOUR EQUITY RETURN RECOMMENDATION?

A. No, my most recent review of current market conditions indicates that a range of 9.25% to 9.75% is reasonable for electric utilities similar in risk to APS, and due to the higher common equity ratio and lower financial risk of APS, the 9.25% cost of equity capital I recommend in this proceeding for Arizona Public Service Company (APS, the Company) remains reasonable. As shown in the graph below (which is an update of the same graph contained in my Direct Testimony), long-term interest rates have generally remained in the same range over the past couple of years and have declined slightly since I preformed the cost of capital analysis contained in my Direct Testimony.



Data from Federal Reserve Statistical Release H.15

Q. HAS THE COMPANY'S REBUTTAL TESTIMONY CAUSED YOU TO ALTER THE RECOMMENDATIONS YOU MADE IN YOUR TESTIMONY IN ANY WAY?

A. No. With regard to my capital structure and cost of capital recommendations in this proceeding, the Company's rebuttal testimony has not caused me to alter my recommendations. In addition, Company witness Avera has not responded effectively to the criticisms of his analytical technique offered in my Direct Testimony.

Q. HOW IS YOUR SURREBUTTAL TESTIMONY ORGANIZED?

A. I respond initially to the rate of return adequacy and capital structure issues raised by APS's Chief Financial Officer, Donald Brandt. Next, I address Dr. Avera's comments on my cost of equity analyses. Following my discussion of the Company's rebuttal, I address Staff witness Parcell's equity cost analysis, which, as a result of relying too heavily on his CAPM results, produces equity cost estimates that are somewhat overstated. Finally, I address the comments provided in the Direct Testimony of investor-advocate witness Cannell.

I. COMPANY REBUTTAL TESTIMONY

A. Mr. Brandt

Q. MR. BRANDT CLAIMS IN HIS REBUTTAL THAT RUCO DID NOT ASSESS THE ADEQUACY OF ITS OVERALL COST OF CAPITAL RECOMMENDATION IN THIS PROCEEDING. IS THAT CORRECT?

A. No, Mr. Brandt is incorrect on that point. At page 4 of my Direct Testimony, and again at page 49 and in Schedule 13 attached to my Direct Testimony, I point out that the capital structure and overall cost of capital I recommend in this proceeding, affords the Company an opportunity to achieve a pre-tax interest coverage level of 3.85 times. Moreover, I point out that the Company's own S.E.C. Form 10-K reports indicate that over the past three years, APS's average pre-tax interest coverage has averaged 2.94 times. My recommendation would provide an after-tax return sufficient to increase its interest coverage by 30% over the level actually realized by APS over the past three years. Clearly this represents an adequate return recommendation and affords the Company an opportunity to improve its financial position.

Q. MR. BRANDT PROVIDES PROJECTED INCOME STATEMENT DATA THROUGH 2008 THAT SHOW THE COMPANY'S BOND RATING BENCHMARKS DETERIORATING IF RUCO's REVENUE REQUIREMENT IS ADOPTED. HOW DO YOU RESPOND?

A. First, it appears from the workpapers that Mr. Brant provided with his testimony, that a primary difference between the operating expenses attributed to his "RUCO projection"(Attachment DEB-3RB) and those contained in his projections for APS is the addition of roughly $600 Million in debt to the capital structure, which increases interest expense by roughly $45 Million annually. Those figures imply an assumed debt cost rate of 7.29%, considerably higher than APS current embedded debt cost. The addition of more than a half billion dollars of debt to the "RUCO projection" causes the common equity ratio to decline to 43.8%. Of course, that does not represent RUCO's recommended capital structure in this proceeding, and the use of that more debt-heavy capital structure higher debt costs by Mr. Brandt in projecting the results of RUCO's case would tend to exaggerate any debt-related bond ratings benchmarks such as the FFO/debt ratio.

Second, while I requested the workpapers supporting Mr. Brandt's projected data upon receipt of his testimony, I have not yet received that information. Therefore, I cannot comment on the accuracy or details of his projections. However, it is noteworthy to point out that in his Direct Testimony, Mr. Brandt indicated that if the Company were granted its requested rate increase, in 2007 APS would achieve a FFO/debt ratio of 22% (Brandt Direct, Attachment DEB-4). However in his rebuttal, Mr. Brandt indicates that the Company will achieve a FFO/debt ratio of 19.2% (Attachment DEB-1RB). Similarly, in his Direct Testimony, Mr. Brandt indicated that in 2007 APS, with no rate increase whatsoever, would achieve a FFO/debt ratio of about 14%, which falls in Standard & Poor's "BB" debt range. However, in rebuttal, Mr. Brandt's calculations indicate with the rate increase recommended by RUCO (about one-half of that requested by the Company) the FFO/debt ratio would be 15%—similar to the level projected in the initial filing for no rate increase. These data indicate that Mr. Brandt's projection matrix is different now that it was when he filed his Direct Testimony. At this point, it is not clear why that is the case.

Finally, APS's FFO/debt ratio has been in S&P's "BB" range since 2004, and has not precipitated a decline in bond rating to junk status for the Company (as the Company now indicates will be the case if RUCO's recommendations are adopted). Also, the Company indicates that the FFO/debt benchmark is deemed by Standard & Poor's bond rating agency to be of primary importance in bond ratings (Fetter Rebuttal, p. 7). My experience is that all financial benchmarks are secondary to bond rating agencies' evaluation of a firm's measures of business risk (service territory economics, customer mix, generation mix, management efficiency, etc). The fact that APS has maintained an investment grade bond rating despite its FFO/debt ratio being in the below investment-grade range since 2004 indicates that that particular metric is not, alone, determinative of bond ratings, as the Company implies.

Q. MR. BRANDT ALSO PROJECTS LOWER EQUITY RETURNS AND OTHER WITNESSES (WHEELER, AVERA) DISCUSS THE COMPANY EARNING LESS THAN ITS ALLOWED RETURN. WHAT ARE YOUR COMMENTS?

A. First, it is not unusual that during a construction phase for a regulated utility that the relationship determined in a test year between billing determinants (number of customers) and the amount of utility plant necessary to provide service is not precisely representative of that relationship in the future. During a construction cycle, the amount of utility plant usually increases at a greater rate than the number of customers and, between construction cycles the reverse may occur. However, that is precisely why utilities have the right to seek re-balancing of those relationships in future rate cases and, over time, an appropriate balance can be restored.

Second, if there are administrative aspects of the ratemaking process that can be adjusted to better address the time between the addition of necessary (prudently incurred) utility plant and the inclusion of that plant in regulated rate base, then I believe that it would be reasonable to pursue those options. The Company has suggested shorter time-frames for rate proceedings, more rapid recognition of construction expenditures in rate base, or tracking accounts as well as other suggestions. I believe those are reasonable avenues of investigation in addressing what may be aspects of regulation that could cause the Company to under-recover its allowed return. However, it is important to underscore that I strongly disagree with the Company's suggestion that a non-specific attrition adjustment to the allowed return on equity is a reasonable option in that regard. In my view, that is simply "throwing money at the problem"—a "solution" that would allow the Company to earn a profit in excess of its cost of capital and would be unnecessarily expensive for ratepayers, while not addressing the details of the actual factors that may lead to under-earning.

Third, while I believe it is reasonable to investigate and perhaps adjust certain aspects of the manner in which rates are set during a time of substantial capital additions, I also believe the Commission should be wary of attempting to ensure or guarantee that the regulated entity earns its allowed return. <u>Hope</u> and <u>Bluefield</u> require only that a regulated entity be given the *opportunity* to earn a return that is commensurate with other enterprises of corresponding risk, not a guarantee. If the equity return is guaranteed, then the regulator has effectively turned the common stock of the utility into a hybrid security more akin to a preferred stock, which would call for a drastic reduction in allowed return. Moreover, if management is assured of earning its allowed return, there would be little incentive to operate the utility in the most cost-effective manner because there would be no adverse consequences for not doing so.

Therefore, while I believe that the Company's suggestions regarding the regulatory process during a heavy construction phase deserve review by the Commission, it is important to recall that the variability of a firm's earned return is simply a risk inherent in the business. No firm, regulated or unregulated, enjoys earned returns that do not vary. Utility investors are aware of the risks indicated by fluctuating earned returns, they are also aware that the utility may seek higher prices to account for higher incurred costs and adjust the stock prices they are willing to provide accordingly. In that way, the return volatility of normal utility operations (including construction cycles) is included in the equity cost estimates based on that market data. An attrition adjustment to the allowed return in this proceeding is unnecessary.

Q. MR. BRANDT DISCUSSES YOUR CAPITAL STRUCTURE RECOMMENDATION AT PAGES 37 TO 40 IN HIS REBUTTAL TESTIMONY. HOW DO YOU RESPOND?

A. At pages 37 and 38, Mr. Brandt indicates that Pinnacle West infused common equity to APS because they were urged to do so by the bond rating agencies, and indicates that this Commission approved the addition of common equity. I recognize that the Company elected to recapitalize APS and that this Commission approved the addition of equity capital. However, capital structures are not static, which indicates that the newly-adjusted capital structure of APS may not necessarily be appropriate for ratesetting purposes.

First, as I note in my Direct Testimony, the shift in capital structure for APS (which happened just prior to this rate proceeding) is expensive for ratepayers. The shift from a 45% common equity ratio to a 55% common equity ratio (if approved in this case) would add $58 Million annually to rates. Mr. Brandt did not dispute that calculation.

Second, just because the parent company recently issued equity, sold assets and elected to infuse that capital into the subsidiary as common equity does not mean that it will maintain that capital structure indefinitely. Financial capital additions are a "lumpy" undertaking. That is, substantial amounts of debt or equity procured for the purpose of financial plant addition could substantially alter the capital structure going forward. In fact, as I note at page 25 of my testimony, the Company projects that its common equity ratio will decline by 2007 and be more in line with the capital structure I recommend than that which the Company requests. Mr. Brandt does not dispute those figures.

Third, a utility can capitalize its operations with too much equity just as it can capitalize its operations with too little equity. This Commission adopted my capital structure recommendation in its recent Order in a Southwest Gas rate proceeding (Docket No. G-01551A-04-0876). In that case, Southwest was capitalized with a relatively low common equity ratio—one well below average for the industry and below a level that would be reasonable for ratemaking purposes. Therefore, I recommended a ratesetting capital structure that contained a higher percentage of common equity than that actually employed by Southwest, but not as high as that requested by the company. That capital structure afforded the company a stronger financial position while imparting some of the lower-cost aspects of debt to ratepayers. This Commission adopted that recommendation and set rates for Southwest Gas with a 40% common equity ratio and a 9.50% return on common equity.

The capital structure issue in this proceeding is the mirror image of that in the Southwest Gas case. The Company is requesting that its rates be set with a current capital structure that contains substantially more common equity than that with which it was recently capitalized and is substantially higher than exhibited, on average, in the energy utility industry. That capital structure would be very expensive for ratepayers. Therefore, I recommend that rates be set with a capital structure containing a more moderate level of common equity than that requested by the Company. The 50% common equity ratio I recommend is still above the level previously utilized by the Company and well above industry-average levels and the average common equity ratio of similar-risk utilities.

The 50% common equity ratio I recommend provides financial safety for the Company during its construction cycle with a capital structure containing more equity than it employed previously, but moderates the cost to ratepayers from the level of common equity requested by the Company.

Q. MR. BRANDT ALSO INDICATES THAT PINNACLE WEST'S CAPITAL STRUCTURE IS IRRELEVANT BECAUSE ITS UNREGULATED OPERATIONS ARE SMALL AND ITS OVERALL RISK IS SIMILAR TO THAT OF APS. DOES THAT POSITION SUPPORT SETTING RATES FOR APS WITH A COMMON EQUITY RATIO HIGHER THAN THAT OF PINNACLE WEST?

A. No, it does not. First, although it is really a moot point, Pinnacle West's unregulated operations are not as insignificant as Mr. Brandt's testimony indicates. Page 16 of the Company's second quarter 2006 S.E.C. Form 10-Q indicates that Pinnacle West's unregulated operations accounted for 23% of operating revenues in the three months ended June 30, 2006.

However, even if we assume that the parent's real estate, energy marketing and other operations are small and contribute zero additional risk to Pinnacle West, the fact that the parent company, an unregulated entity, is capitalized with less common equity and more debt than its regulated subsidiary, APS, provides rationale against setting rates for the latter with substantially more common equity. If firms have the same risk, they should be capitalized similarly. Pinnacle West is an unregulated entity, capitalized with 50% common equity. We must assume Pinnacle West capitalizes its own operations to minimize its overall cost of capital—a goal of any financial manager. APS, on the other hand, benefits directly by increasing its common equity ratio before a rate case and having rate set on that higher equity ratio. The higher the equity ratio included in rates, the higher the annual revenue that results from the rate case. If the parent company and APS have identical risks, as Mr. Brandt asserts, and the parent is capitalized with 50% common equity, there is no reason to set rates for APS with a common equity ratio any higher than 50%.

Q. AT PAGES 35 AND 36 OF HIS REBUTTAL TESTIMONY, MR. BRANDT TAKES ISSUE WITH YOUR RELIANCE ON THE COMPANY'S PROJECTED PENSION FUND RETURNS AS EVIDENCE THAT YOUR RECOMMENDED 9.25% RETURN ON COMMON EQUITY IS REASONABLE. WHAT IS YOUR RESPONSE?

A. There are two points to note in regard to Mr. Brandt's rebuttal on this issue. First, he fails to acknowledge the source of the information that I cite in my Direct Testimony—the Company's response to RUCO 11.1, which is the Company's retirement portfolio manager's (Towers-Perrin) assessment of expected market returns. That information was obtained after asking the Company three times for the data from its portfolio manager which forms the basis of its return expectation. In response to RUCO 3.11, the Company provided the table shown on page 36 of Mr. Brandt's rebuttal. In response to RUCO 7.1 (a follow-up to RUCO 3.11), the Company provided the information shown in Mr. Brandt's

Attachment DEB-15RB. The portfolio manager's information, which I cite, was provided in response to RUCO 11.1 (a follow-up to RUCO 7.1). The Towers-Perrin report (provided in response to RUCO 11.1) is very clear about the long-term return expectations for common stock—a [redacted] percent risk premium above ten-year U.S. Treasury bonds. The Company's investment advisor also notes that its projections are based on [redacted].[1] This information most definitely supports the reasonableness of my 9.25% recommended return in this proceeding and underscores the substantially overstated nature of the Company's requested return on common equity.

Second, the "alpha" factor shown in Mr. Brandt's Attachment DEB-15RB (the Compnny's response to RUCO 7.1) is the additional (1%) return APS plans to realize above the expected return on the stock market (9.5%). Even if we assume the Company expects that through superior portfolio management it can earn a return on the stock market of 11%—more than one hundred basis points above the long-term return of common stocks expected by its portfolio manager, that also provides additional evidence that Dr. Avera's equity return estimate for APS of 11.5% is too high. Utilities are less risky than the stock market in general and, if 11% is the Company's actual expected return on common stocks, then APS's cost of capital cannot be 11.5% as Dr. Avera claims, it must be lower.

If we assume that investors actually expect the market to earn an 11% return. With a current 5% long-term T-bond yield, that implies a 6% market risk premium (11% - 5% = 6%). That risk premium, multiplied by an average beta coefficient for similar risk electric utilities of 0.83 (Hill Direct, Schedule 7), implies a cost of equity for APS—based on the Company's own 11% market return expectation—of 9.98% [5% + 0.83 x 6% = 9.98%].

Of course, there is substantial evidence that 9.9% overstates the Company's current cost of capital. The Company's portfolio manager, along with many in the financial

[1] Company response to RUCO 11.1, Towers-Perrin, U.S. Capital Market Assumptions for Asset/Liability Forecasting, October 1, 2005. The redacted information is provided in a Surrebuttal Exhibit A, which is confidential.

academic community believe that the market risk premium, going forward is well below 6%. A lower market risk premium would result in a lower cost of capital estimate. Also, one of the inherent problems with a CAPM-type analysis is that beta coefficients explain only a small part of the return variability between one stock and the market in general, even though the CAPM theory assumes that beta is the only risk measure of concern to investors. In addition, the measured beta coefficients for utilities in the current market are higher than they have been traditionally, also exaggerating the results of a CAPM-type analysis.

In summary, Mr. Brandt fails to discuss the point I raise in my Direct Testimony, namely that the Company's portfolio investment manager projects equity returns for the market that indicate my recommended return in this proceeding for APS is reasonable. In addition, even if all investors were as optimistic about the return on stocks as APS appears to be, that would indicate 1) the 11.5% return requested by APS cannot be accurate and 2) a more accurate cost of equity capital would be substantially lower.

Q. DOES THIS CONCLUDE YOUR COMMENTS ON MR. BRANDT'S REBUTTAL TESTIMONY?

A. Yes.

B. Dr. Avera

Q. DR. AVERA ALSO DISCUSSES YOUR TESTIMONY REGARDING THE COMPANY'S EXPECTED RETIREMENT PORTFOLIO RETURNS, DOES HE NOT?

A. Yes. At page 33 of his rebuttal, Dr. Avera duplicates some of the rebuttal points offered by Company witness Brandt, which are addressed above. However, Dr. Avera makes one other comment, which is incorrect and which should be addressed.

Dr. Avera testifies that the expected return on pension plan assets is, somehow, different from returns required by investors in the capital markets. In an attempt to provide credence to that position, Dr. Avera cites a portion of one footnote from the Towers-Perrin report that I reference. Dr. Avera deserves credit for referring to the document that I cite in my Direct Testimony, however, his conclusions are incorrect and the quote cited does not support his position.

APS is an investor in the capital marketplace. In order to meet the retirement requirements of its workforce in the future, the Company maintains a multi-million dollar investment portfolio comprised of stocks, bonds, real estate and other investments. Assessing the future value of that fund is a very important part of managing the Company's operating expenses, and part of that process is estimating the expected return on the different assets in which it invests.

The investor's expected return is *precisely* what cost of capital experts such as Dr. Avera and myself seek to estimate using our various econometric methodologies. However, with the evidence that forms the basis of the Company's portfolio return expectations—the Towers-Perrin capital market return expectations—we have <u>direct evidence</u> of what investors expect. That direct evidence, provided by the Company's own portfolio investment manager, indicates that Dr. Avera's equity cost methodologies produce a result that substantially overstates what investors expect. That evidence also indicates that my recommended return on equity may also overstate what utility investors expect, but, if so, to a much lower extent. Thus, the direct evidence provided by the Company's equity market return expectations supports RUCO's recommended equity return in this proceeding, not that of the Company.

In attempting to cast doubt on the reliability of the Towers-Perrin expected return information, Dr. Avera cites a portion of a footnote from one page of that report that shows the earned return on several asset classes over a ten-year period. Page 4 of 9 of the Towers-Perrin report (provided in Response to RUCO 11.1) shows the arithmetic and geometric returns of economic variables (bond yields, inflation) and asset classes (cash, bonds, real estate, stock) as well as their standard deviations.

However, the particular footnote cited by Dr. Avera refers to the model used by Towers-Perrin to evaluate historical returns, which are affected by serial correlation (i.e., the return from one year has an impact on the return measured in the following year). While eliminating serial correlation from historical results might lower those average arithmetic results to a degree, they would make those average results a more accurate representation of future returns not less accurate, as Dr. Avera seems to imply. Moreover, that ten-year historical evidence does not, alone, determine the return expectations used by Towers-Perrin. As I noted in citing the Towers-Perrin report, above, APS's portfolio manager bases its U.S. capital market return expectations on many factors, not just historical returns over a ten-year period. Again, however, the salient point here is that the Company's portfolio manager's report on capital market expectations, 1) provides direct evidence with regard to investor equity return expectations, and 2) indicates that RUCO's 9.25% equity return recommendation is far more similar to current investor expectations than that of the Company.

Q. AT PAGES 35 THROUGH 37 OF HIS REBUTTAL, DR. AVERA DISCUSSES YOUR RELIANCE ON RECENT RESEARCH INDICATING THAT THE MARKET RISK PREMIUM IS LOWER THAN INDICATED BY HISTORICAL EXPERIENCE. WHAT ARE YOUR COMMENTS?

A. First, Dr. Avera implies that I have selectively cited documents from the literature of finance in order to create an illusion that the academic community's current view of the forward-looking market risk premium is that it is lower than what has traditionally been accepted. Dr. Avera's implication is not accurate. The research that has been published within the past five years regarding investors' expectations of the market risk premium finds that it is substantially lower than represented in the often-cited Ibbotson data. That conclusion is nearly universal, and Dr. Avera cites the only study which tends to support the Ibbotson data (Harris 2003), which I discuss below.

For example, in a January 2004 paper that reviews twenty five of the recent research papers on the market risk premium, the authors observe: "there are no serious studies yet concluding that historical results are too low to serve as *ex ante* [forward-looking] estimates."[2] In other words, the current research on the topic of the market risk premium, as I note in my direct testimony, indicates that the Ibbotson historical long-term arithmetic market risk premium of 6.5% overstates the risk premium expectation of investors today. Dr. Avera's assertions to the contrary are without merit.

The fact that the current consensus in the academic community indicates that forward-looking market risk premiums are below historical averages also indicates that Dr. Avera's Attachment WEA-6, which finds a market risk premium of 9% is unlikely to be representative of current investor expectations. That is because the historical risk premium is too high and Dr. Avera's 9% risk-premium estimate is several hundred basis points <u>higher</u> than even the historical evidence indicates.

Q. DOESN'T DR. AVERA POINT TO A RECENT PUBLICATION THAT CONCLUDES THAT THE HISTORICAL RISK PREMIUM IS 6.9%?

A. Dr. Avera does cite a 2003 paper by Rajnish Mehra. However, that publication does not support Dr. Avera's rebuttal position that I have somehow miss-represented risk premium studies in the financial literature, and, in fact, does not even directly address that subject. Further, Dr. Avera has incorrectly calculated a market return that would result from the historical data that appears in the article he cites.

Understanding the point of the Mehra article requires a short history. In 1985 Mehra and a colleague, Prescott, published a paper on what would come to be known as the "equity risk premium puzzle."[3] In that paper, the authors noted that historical risk premiums were much higher than could be rationalized with standard economic models based on investors with reasonable risk aversion parameters. Mehra notes in the recent article cited by Dr. Avera:

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[2] Derrig, Orr, "Equity risk Premium: Expectations Great and Small," North American Actuarial Journal, Volume 8, Number 1, January 2004.

[3] Mehra, R., Prescott, E., "The Equity Premium: A Puzzle," Journal of Monetary Economics, No. 15 (March 1985), pp. 145-61.

> "To the original question: Are stocks so much riskier than T-bills that a 7 pp [percentage point] differential in their rates of return is justified?...Stocks and bonds pay off in approximately the same states of nature or economic scenarios, and hence, as argued earlier, they should command approximately the same rate of return. In fact, using standard theory to estimate risk-adjusted returns, we found that stocks, on average, should command, at most, a 1 pp return premium over bills."(Mehra, R., "The Equity Premium: Why Is It a Puzzle?, Financial Analysts Journal, January/February 2003, p. 56)

Mehra's 1985 paper challenged the academic community and set off a flurry of research on two tracks. One track focused on behavioral finance, attempting to apply new aspects to traditional models describing investors utility preferences, and expanding on Mehra's original research, which indicated that equities should at most command return premiums of 1% above bonds. If it could be shown that other models indicated that the theoretical return difference for equities was higher (and closer to the historical result), the "puzzle" originally postulated by Mehra would be somewhat less problematic. That is the focus of the recent article by Mehra—a review of other attempts to determine a theoretical risk premium based on behavioral economics. As Mehra notes in the abstract of the 2003 article cited by Dr. Avera, the "proposed resolutions" in this track of research "fail along crucial dimensions." In other words, no one has yet come up with a behavioral model that explains the risk premium puzzle.

The other track of research that resulted from Mehra's original article was a detailed examination of the of the historical risk premium data, i.e., the historical financial data based on the earned returns of stocks and bonds. The questions examined included: is the period chosen by Ibbotson too short; is the volatility experienced historically likely to be representative of the future; are there stochastic problems in the data such a survivor bias? It is to this latter research track that I refer—the research directly related to the historical market risk premium. As I note above the overwhelming result of that recent research is that the traditional Ibbotson data do, indeed, substantially overstate investors' current risk premium expectations.

Therefore, the paper cited by Dr. Avera in attempt to refute the research on the market risk premium is, in reality, an examination of a different branch of research, and does not support his rebuttal thesis.

Q. YOU ALSO INDICATE THAT DR. AVERA HAS INCORRECTLY USED DATA FROM THE 2003 MEHRA ARTICLE HE CITES TO CALCULATE AN EXPECTED MARKET RETURN. CAN YOU PLEASE EXPLAIN WHY THAT IS THE CASE?

A. Yes. Dr. Avera cites Mehra's calculation of a historical risk premium of 6.9%, noting that it is a "real"(net of inflation) risk premium. Then, when using that number to create a market return expectation, Dr. Avera adds a 3% inflation rate to the 6.9% historical risk premium. That is wrong. Dr. Avera is almost certainly aware that the risk premium (return difference between bonds and stocks) is the same whether the historical returns are measured on a nominal (including inflation) or a real (excluding inflation) basis.

For example, the 2003 Mehra article cited by Dr. Avera shows historical real returns for stocks and bonds of 7.9% and 1.0%; the difference between those returns is the historical market risk premium, 6.9%. If those historical real returns included inflation they would be 10.9% and 4.0%, and the risk premium would remain 6.9% [10.9% less 4.0% = 6.9%].

There are other problems with Dr. Avera's calculation as well. The 6.9% market risk premium is based on short-term risk free rate (T-Bills). Historically, T-Bill returns have been about 1.5% below Treasury Bond returns, and risk premiums based on long-term T-Bond yields are lower by 150 basis points, on average. Therefore, a 6.9% risk premium associated with T-Bills would correspond to a 5.4% premium with T-Bonds. Adding a current T-Bond yield of about 5% to Mehra's historical market risk premium, properly adjusted for long-term yields, indicates a return on the market of 10.4% [5% + 5.4% = 10.4%].

This analysis shows three things: 1) Dr. Avera's 14.7% market return attributed on the Mehra data is simply wrong, 2) Dr. Avera's recommended return of 11.5% exceeds what the Mehra article indicates is a reasonable return for the riskier stock market in general, and 3) RUCO's recommended return on equity in this proceeding is appropriately and proportionately lower than the expected return on the market, according to the data contained in the 2003 Mehra article cited by Dr. Avera.

Q. AT PAGE 35 OF HIS REBUTTAL, DR. AVERA CITES A 2003 ARTICLE BY HARRIS, ET AL, THAT SUPPORTS A MARKET RISK PREMIUM SIMILAR TO THE IBBOSTON HISTORICAL DATA. WHAT ARE YOUR COMMENTS REGARDING THAT ARTICLE?

A. The Harris article cited by Dr. Avera studies stock returns between 1983 and 1998. By most standards (e.g., those espoused by Ibbotson Associates) that is far too short a period to establish a reliable risk premium. A relatively short period can be unduly influenced by unusual and time-specific economic conditions. The time frame studied by Harris contains he longest bull market in U.S. history in conjunction with steadily declining interest rates, which would not provide a reasonable basis for determining a long-term risk premium and would exaggerate the result.

Q. DR. AVERA REFERENCES THE IBBOTSON AND CHEN ARTICLE THAT YOU CITE IN YOUR DIRECT TESTIMONY, AT PAGE 36 OF HIS REBUTTAL. WHAT COST OF CAPITAL WOULD RESULT FROM THE USE OF THE LONG-TERM MARKET RISK PREMIUM FOUND IN THAT ARTICLE?

A. Ibbotson's estimate of the forward-looking market risk premium is 5.9%. A long-term T-bond rate of 5%, a beta of 0.83 and a market risk premium of 5.9% would produce a CAPM cost of equity of 9.9% [5% + 0.83 x 5.9% = 9.9%]. Also, it is important to recall that Ibbotson's estimate of the forward-looking market risk premium is at the upper end of the range of recent estimates.

Q. DR. AVERA SEEMS CONCERNED THAT THE ACADEMIC STUDIES YOU CITE REGARDING THE MARKET RISK PREMIUM ARE NOT "FORWARD-LOOKING." DID HE DISCUSS IN HIS REBUTTAL THE GRAHAM AND HARVEY SURVEY OF CHIEF FINANCIAL OFFICERS YOU CITE IN YOUR TESTIMONY?

A. No, Dr. Avera did not discuss either the Graham and Harvey or the Welch survey studies. However, both of those studies are clearly forward-looking, are not at all related to historical data, and find market risk premiums of 3% to 5%.

Q. AT PAGES 38 AND 39 OF HIS REBUTTAL, DR. AVERA INDICATES THAT MARKET-TO-BOOK RATIOS DO NOT PROVIDE GUIDANCE WITH REGARD TO THE COST OF EQUITY CAPITAL. DO YOU BELIEVE THAT IS CORRECT?

A. No. In attempting to support his position that the relationship between market prices, book values and allowed returns on book equity are not informative, Dr. Avera cites a publication by Roger Morin. I am familiar with that publication. However, Dr. Morin is not the authority on the relationship among utility market prices, book value, return on equity and the cost of capital. The DCF is not called the Morin growth model, it is called the Gordon growth model, after the financial economist that originated the DCF model into regulation—Professor Myron Gordon. Professor Gordon makes quite clear that the relationship that exists between market price, book value, expected return on book value and the cost of capital for utilities: the market-to-book value ratio is greater than one when the ratio of the allowed (or expected) rate of return exceeds the cost of capital.

The expected return on book value of the electric utilities in my similar-risk sample group is 10.35% and their market price is well above book value. This relationship, according to Gordon's long-established logic, tells us that a reasonable cost of equity capital for those companies must be below the expected return on book equity of 10.35%. That very simple paradigm indicates that a 9.25% cost of equity for APS is reasonable and an 11.50% cost of equity for APS is not.

Q. DR. AVERA TESTIFIES THAT IT IS "NONSENSICAL" TO BELIEVE THAT UTILITIES CAN HAVE AN EXPECTED RETURN ON BOOK VALUE OF 10.35% AND A COST OF EQUITY CAPITAL OF 9.35%. CAN YOU EXPLAIN THAT?

A. I already have explained it, at pages 18 through 23 of my Direct Testimony, yet Dr. Avera does not directly address the rationale presented in that portion of my Direct Testimony.

Q. AT PAGE 40 OF HIS REBUTTAL, DR. AVERA STATES THAT THE INVESTOR SERVICE REPORT OF A.G. EDWARDS YOU CITE, WHICH SHOWS EXPECTED RETURN BELOW YOUR RECOMMENDATION, DOES NOT CONSTITUTE EVIDENCE THAT INVESTOR RETURN EXPECTATIONS ARE RELATIVELY LOW. IS DR. AVERA CORRECT?

A. No. Just as Dr. Avera tries to deny that APS's own portfolio return expectations do not represent investor opinion, he claims that return projections for utility stocks taken from an investor service publication designed for investors is also not representative of investor opinion. His position is not logical. While it may be true that A.G. Edwards does not undertake a complex or detailed DCF analysis to determine return expectations for the investors that subscribe to their services, they do use that model to provide investors an indication of what they believe the returns will be. Dr. Avera cannot logically rely on certain investor service publications as representative of investor opinion (e.g., Value Line, Ibbotson Associates or Blue Chip) and simultaneously deny that another reputable publication is unreliable because it directly estimates the returns investors can expect. Either investor service publications are useful or they are not. Dr. Avera can't have it both ways. Simply put, the A. G. Edwards utility return data I cite is one of many independent objective indicators that confirm low capital costs and low investor return expectations.

Q. DR. AVERA CLAIMS, AT PAGES 41 THROUGH 43 OF HIS REBUTTAL, THAT YOU HAVE AN "ACADEMIC" DCF ANALYSIS THAT CONFUSES DCF THEORY WITH ITS APPLICATION. HOW DO YOU RESPOND?

A. First, on this point, I would draw the Commission's attention to the fact that for all of Dr. Avera's apparent concern regarding my application of the DCF model, as I show in my Direct Testimony at pages 53 to 58, his DCF result and mine are nearly identical.

I am aware of the theories underlying each of the equity cost estimation methods that I use, as any good analyst should be. I also am cognizant of the realities that must be addressed in applying those theoretical models to the market data of real companies in the capital marketplace today. Dr. Avera's claim that I am confused about any aspect of the application of the equity cost estimation methods I employ is simply without merit.

Q. AT PAGE 44 OF HIS REBUTTAL, DR. AVERA INDICATES THAT THE ONLY GROWTH RATE YOU USE IN YOUR DCF IS SUSTAINABLE GROWTH AND THAT IS DOWNWARD BIASED THROUGH VALUE LINE'S USE OF END-OF-PERIOD BOOK EQUITY. WHAT ARE YOUR COMMENTS?

A. Again, Dr. Avera's DCF results are approximately equal to mine. With regard to whether or not sustainable growth is the only growth rate I use, I refer Dr. Avera to my Direct Testimony at page 35, lines 8 through 14:

> In addition to the sustainable growth rate analysis, I have also analyzed published data regarding both historical and projected growth rates in earnings, dividends, and book value for the sample group of utility companies. Through an examination of those data, which are available to and used by investors, I am able to estimate investors' long-term growth rate expectations. To that long-term growth rate estimate, I add any additional growth that is attributable to investors' expectations regarding the on-going sale of stock for each of the companies under review."

Regarding the issue of end-of-period book value, a review of my growth rate recommendations shows that they rely primarily on projected data (Hill Direct, Schedule 5, p. 2). Value Line's projected equity returns, which are projected over a three- to five-year period, cannot be referenced to any end-of-period values because those precise period is unspecified. Again, Dr. Avera's concerns that my DCF growth rate might be downward-biased are unfounded.

Q. DR. AVERA CITES THE RESULTS OF A MULTI-STAGE DCF ANALYSIS OF YOUR SAMPLE GROUP COMPANIES AT PAGE 48 AND ATTACHMENT WEA-5RB. WHAT ARE YOUR COMMENTS?

A. Dr. Avera used a multi-stage DCF analysis several years ago in estimating the cost of capital (e.g. Washington Utilities and Transportation Commission Case Nos. UE-991606, UG-991607, Avista Corporation). However, he has dropped that analysis from his testimony and, in this case, used a standard DCF analysis. It is curious, then that Dr. Avera would champion the use of that model again since he has elected not to use it himself.

A multi-stage DCF analysis suffers from two fundamental flaws that make it a less reliable method for estimating the cost of equity than the constant-growth DCF. First, the multi-stage DCF makes more specific assumptions than the DCF and its, therefore, more likely to be inaccurate. For example, the analyst must decide the term of the initial growth period (for all of the companies under review), whether or not there will be a "transition period" in which the short-term growth rate will approach the sustainable growth , how long that transition period will be, and, the magnitude of the terminal or sustainable growth rate. Moreover, all those assumptions must be applied to all of the companies being analyzed, which means that all of the growth rates of all of the companies must change in the same manner at the same time—a very difficult event to predict with any accuracy.

Second, it is often assumed (as it is in the particular multi-stage DCF Dr. Avera elects to mention here), that the final growth stage will equal GDP growth—the average growth rate of the entire economy. Unfortunately, that is not a reasonable assumption. A comparison of GDP growth rates over the past 50 years indicates that utilities grow at a rate about half that of GDP. Exhibit__(SGH-2), Schedule SR1, shows that over the period 1947 through 1999, GDP growth averaged 7.3%, while utility earnings, dividends and book value growth averaged 3.8%—about half of GDP growth. Therefore, any multi-stage DCF analysis that includes GDP growth as a long-term sustainable growth rate for utilities will substantially overstate the cost of equity capital for firms in that risk class.

Dr. Avera's multi-stage rebuttal DCF, shown in his Attachment WEA-5RB suffers from that flaw. Substituting a growth rate equivalent to 1/2 of the projected GDP growth rate would (6.8% x 1/2 = 3.4%) for the terminal growth rate stage would produce an average multi-stage DCF result of 8.0%. That result would also have the support of the actual historical relationship between GDP growth and utility growth that Dr. Avera's multi-stage DCF does not. Therefore, if one elects to utilize a multi-stage DCF, 8.0%, would be a more reliable result.

Q. AT PAGES 48 THROUGH 54 OF HIS REBUTTAL, DR. AVERA DISCUSSES YOUR SAMPLE SELECTION PROCESS. DOES YOUR SAMPLE GROUP PROVIDE A REASONABLE BASIS TO ESTIMATE THE COST OF EQUITY FOR APS?

A. Yes, it does. At page 49 of his testimony Dr. Avera expresses concern that one of the screens I use in selecting a similar-risk sample group is to limit the group to companies that have at least 70% of revenues generated by electric utility operations. Dr. Avera seems concerned that I have "provided no evidence" that there is a connection between the selection criteria I use and the "views of actual investors."

While Dr. Avera is correct that I have provided no study that shows investors believe that utility firms that draw the vast majority of their revenues from the same type of operations are relatively similar in risk, I believe such a screening criterion is simple common sense. It is certainly reasonable to assume that investors believe that firms having similar operations are generally similar in risk. Drug companies have similar risks to other drug companies; candy companies have generally similar risks to other candy companies; electric utility companies have generally similar risks to other electric utilities. When Dr. Avera is able to show that it is reasonable to believe that utility investors believe that firms that do <u>not</u> have utility operations are similar in risk to electric utilities, then his rebuttal to my selection criteria will have some weight. He has made no such showing thus far in the proceeding.

Finally on this point, the 70% electric utility operations criterion is only the first cut in my screening process. I also select companies based on bond rating similarities, historical operating stability, merger activity, and operating parameters (e.g., must have generation assets). Again, my sample selection process is based on common sense as well as an understanding of industry risks and investors' assessment of risk, and provides a similar-risk sample group appropriate for estimating the cost of equity capital for APS.

Q. DR. AVERA DISCUSSES YOUR USE OF GEOMETRIC MEANS IN YOUR CAPM ANALYSIS TO ESTABLISH A RANGE OF RETURNS FROM THE CAPM, AT PAGE 55 OF HIS REBUTTAL. WHAT IS YOUR RESPONSE?

A. It is necessary to utilize a range of market risk premiums when applying a CAPM analysis because, as I note in Section I of my Direct Testimony, there is substantial new research that indicates the published Ibbotson historical data significantly overstate investors' expectations with regard to the market risk premium. Also, Ibbotson Associates, while stating a preference for the arithmetic market risk premium, also publish the geometric market risk premium and investors have equal access to those data. Therefore, it is reasonable to believe, under the assumption of informationally-efficient markets, that such data is impounded in stock prices.

In addition, there are data anomalies associated with arithmetic risk premiums. In order to calculate arithmetic risk premiums based on a market index like the S&P 500 or the NYSE, it is commonly assumed that those indexes are bought and sold each year without transaction costs or tax consequences. That is unrealistic. Also, the arithmetic market risk premium is period-specific. That is, the longer the assumed holding period the lower the arithmetic risk premium.

It is commonly assumed that the holding periods (the amount of time between buying and selling the market portfolio) is one year, however, there is no magic to that particular time-span, it is simply a common assumption in the calculation. If, for example, we assume that the holding period is two years instead of three, the arithmetic market risk premium declines. If that holding period increases to three years, the market risk premium based on the Ibbotson data declines again.[4]

In sum, the Ibbotson arithmetic mean is at the upper end of the current range of market risk premium estimates according to recent research, and even that measure declines as the holding period increases. Therefore consideration of a lower bound for the determination of a CAPM cost of equity (the geometric mean) is reasonable for the purposes of determining the cost of common equity capital for APS.

Q. AT PAGE 55 OF HIS REBUTTAL, DR. AVERA INDICATES THAT IBBOTSON ASSOCIATES PUBLISH AN ARITHMETIC MARKET RISK PREMIUM OF 7.2%, AND YOU USE AN ARITHMETIC MARKET RISK PREMIUM OF 6.5% AS THE UPPER END OF A MARKET RISK PREMIUM RANGE. WHY IS THERE A DIFFERENCE AND WHICH IS THE MORE APPROPRIATE VALUE?

A. The 6.5% market risk premium is the more reliable representation of the Ibbotson historical data set, as I discuss in detail at pages 63 through 65 of my Direct Testimony.

Q. DR. AVERA CLAIMS, AT PAGE 56 OF HIS REBUTTAL, THAT PROJECTED BOND YIELDS ARE APPROPRIATE FOR USE IN A CAPM ANALYSIS TO ESTIMATE THE CURRENT COST OF EQUITY CAPITAL. IS THAT CORRECT?

A. No. Dr. Avera does not use projected stock prices in his DCF to estimate the current cost of common equity, because projected stock prices are unreliable and do not represent investors current expectations. For the very same reasons, he should not use the projected debt yields (which are a function of projected bond prices) when estimating the cost of equity with risk premium-type analyses.

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[4] Copeland, Koller, and Murrin, Valuation: Measuring and Managing the Value of Companies, 3rd Ed., McKinsey & Co., New York, 2006, pp. 218-221.

Q. DR. AVERA DISCUSSES YOUR MODIFIED EARNINGS-PRICE RATIO AND MARKET-TO-BOOK RATIO EQUITY COST ESTIMATION METHODS AT PAGES 59 AND 60 OF HIS REBUTTAL. WHAT ARE YOUR COMMENTS?

A. The modified earnings-price ratio methodology is based on the use of two measures of the cost of capital: the earnings-price ratio and the expected return on book value. Also the relationship between those two parameters is set out in Schedule 9 attached to my Direct Testimony. The fact that the expected return on book value will equal the cost of capital when a utility's market price approximates its book value is a long-accepted theorem of regulation, first propounded in Professor Myron Gordon's seminal work, The Cost of Capital to a Public Utility.[5] As Professor Gordon noted, the market-to-book value ratio will be > 1, when the ratio of the allowed rate of return to the cost of equity capital is > 1; and the market-to-book value will be < 1, when the ratio of the allowed rate of return to the cost of capital is < 1.

Schedule 9 attached to my Direct Testimony begins with the premise, set out by Professor Gordon, that when utility market price equals the book value, the cost of equity equals the expected return. Also, when market price equals book value, the earnings-price ratio equals the cost of capital.[6] Schedule 9 goes on to show how, when market prices diverge from book value, the expected return and the earnings-price ratio diverge in opposite directions from the cost of capital. So, in the current market situation where market prices exceed book value, the expected return exceeds, and the earnings-price ratio understates the cost of capital. However, because both of those econometric measures revolve around the cost of capital, and are equivalent to the cost of capital when the market price equals book value, the average of the two parameters (earnings-price ratio and the expected return on book value) provides a corroborative estimate of their locus—the cost of equity capital. However, Dr. Avera fails to mention my Schedule 9 in his attempted rebuttal of my modified earnings price ratio.

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[5] Gordon, M.J., The Cost of Capital to a Public Utility, MSU Public Utilities Studies, East Lansing, Michigan, 1974, pp., 63.

[6] At MP = BV, $i = r = \frac{E}{MP}$.

Regarding my use of the market-to-book ratio analysis, in my Direct Testimony I point out quite clearly that that methodology is an algebraic re-arrangement of the DCF and cannot be considered a stand-alone methodology. However, as I noted previously, the DCF is the most reliable equity cost estimation methodology. Also, the Market-to-Book Ratio (MTB) method uses point-in-time parameters projected one year and three-to-five years into the future, rather than the data used in the DCF, which are "smoothed" to replicate investors' long-term sustainable growth rate expectations. Because of that fact, the MTB does provide information to corroborate and temper the results of a traditional DCF.

Q. AT PAGES 67 AND 68 OF HIS REBUTTAL, DR. AVERA DISCUSSES WHETHER OR NOT SHORT-TERM DEBT SHOULD BE CONSIDERED IN DETERMINING AN APPROPRIATE CAPITAL STRUCTURE. WHARE ARE YOUR COMMENTS?

A. It is reasonable to consider the use of short-term debt in determining an appropriate ratesetting capital structure. First, it is not possible to specifically identify the source of monies spent on construction projects, or any other corporate expense, for that matter. Dollars enter the corporate treasury from many sources—retained earnings, common equity infusions from dividend reinvestment or stock issuances, asset sales, as well as long-term and short-term debt issuances. However, once those dollars are in the corporate treasury they are indistinguishable from one another. For that reason it is simply not possible, when monies are paid out of the treasury for construction (office supplies, pump valves or generating plants), precisely where those dollars come from. Therefore, it is not possible to reliably claim that construction is funded *only* by short-term debt. The only logical assumption is that construction, as indeed are all corporate expenses, is funded by a variety of investor-supplied sources as well as internally generated funds.

Second, short-term debt use by a regulated firm is consistent and on-going and its use should be considered in a ratemaking capital structure. Short-term debt is investor-supplied capital and is a quantifiable part of the capital mix utilized by utility operations. The use of an average level of short-term debt, then, recognizes the capital mix actually employed by utility management and more accurately represents the utility indsutry's actual capital mix.

Third, bond rating agencies, in calculating the debt-to-capital and interest coverage ratios include short-term debt and the interest on short-term debt, respectively, in those calculations. It is reasonable to assume, then, that those data are important in estimating the financial health of a firm and are important to investors. Although the level of short-term debt fluctuates from time to time, short-term debt is normally an on-going part of utility capital structures and should be considered for ratemaking purposes.

Fourth, because short-term debt carries a lower cost rate than other forms of capital, failure to consider a firm's use of that type of capital would result in an overstatement of the overall cost of capital. To the extent that the Company expects to utilize short-term debt, the exclusion of that type of capital from ratemaking considerations would tend to overstate the Company's actual capital costs.

Q. AT PAGES 70 THROUGH 77 OF HIS REBUTTAL, DR. AVERA DISCUSSES HIS RATIONALE FOR ALLOWING AN ATTRITION ADJUSTMENT OF 1.7 PERCENTAGE POINTS TO THE PROFIT LEVEL ALLOWED IN THIS PROCEEDING. YOU HAVE ALREADY DISCUSSED THE FACT THAT YOU BELIEVE SUCH AN ADJUSTMENT IS UNNECESSARY. DO YOU HAVE ANY ADDITIONAL COMMENTS REGARDING THE COMPANY'S ATTRITION REQUEST?

A. Yes. Dr. Avera notes at page 76 of his Rebuttal that Schedule F1 (p. 166) of the Company's January 31, 2006 filing projected a return on equity of 9.8% in 2007 if the Company's full request (including Dr. Avera's 11.5% ROE) were granted. It is on that basis that he selects his suggested 170 basis point addition to the cost of equity allowance (11.5% - 9.8% = 1.70%). According to the Company's rate of return witness, the basis for its newly-requested attrition adjustment is contained in its initial filing. Therefore, the Company had all the support in needed to request an attrition adjustment in its direct testimony in this proceeding, but did not do so. The Company has elected to wait until the rebuttal phase of this case to make its request regarding attrition. Quite aside from the fact that I believe an adjustment of this nature is unnecessary and not well supported, it constitutes additional direct testimony, in my view. Therefore, Dr. Avera's attrition adjustment should be give little, if any, weight by this Commission in its determination of an appropriate level of profit (return on equity) to be awarded in this proceeding.

Q. DOES THIS CONCLUDE YOUR COMMENTS ON THE COMPANY'S REBUTTAL TESTIMONY, MR. HILL?

A. Yes, it does.

II. STAFF WITNESS PARCELL

Q. WHAT EQUITY COST METHODS DID STAFF WITNESS DAVID PARCELL USE TO ESTIMATE THE COST OF EQUITY IN THIS PROCEEDING?

A. Mr. Parcell used a DCF analysis, a Comparable Earnings analysis and a CAPM analysis.

Q. WHAT WERE THE COST OF EQUITY RESULTS OF THOSE ANALYSES?

A. Mr. Parcell's DCF results are shown on page 24 of his Direct Testimony. He uses two sample groups to determine the cost of equity, his own and Dr. Avera's sample group. The median (middle-value) DCF results for those groups ranges from 8.4% to 8.8%. From those results, Mr. Parcell selects a slightly higher range of 9.0% to 10.0% as his DCF equity cost estimate in this proceeding.

For his Comparable Earnings (CE) analysis, Mr. Parcell reviews the historical and expected accounting returns of utilities and unregulated companies and determines, at page 31 of his Direct Testimony, that "the CE analysis indicates that the cost of equity for APS is *no greater* than 10 percent." (emphasis added)

At page 27 of his Direct Testimony, Mr. Parcell indicates that his CAPM analysis produces results for the two sample groups that range from 10.5% to 10.75%.

Q. BASED ON THOSE RESULTS, WHAT IS MR. PARCELL'S RECOMMENDED EQUITY RETURN IN THIS PROCEEDING?

A. Mr. Parcell recommends an equity return in this proceeding of 10.25%, which is based on the mid-point of a range drawn from "the upper portions of the respective model results." (Parcell Direct, p. 32)

Q. WHAT ARE YOUR COMMENTS ON MR. PARCELL'S SELECTION OF A POINT-ESTIMATE EQUITY COST, BASED ON THE ANALYSES HE PRESENTS?

A. I believe Mr. Parcell's analyses support a lower cost of equity capital than that which he recommends, for several reasons. First, Mr. Parcell provides no insight into why it would be reasonable to utilize the "upper portions" of his results. Both he and Dr. Avera selected a similar-risk sample group in order to analyze the cost of equity in this proceeding, and his equity cost estimates were based on those sample groups. Moreover, the common equity ratio recommended by Mr. Parcell in this proceeding contains substantially more common equity than the other companies whose market data he reviewed, indicating that APS has substantially less financial risk that his sample companies. Therefore, a move to the upper end of the range was a move in the wrong direction.

If APS has less financial risk, with a 54% common equity ratio, then the cost of equity determined from the sample groups (with lower equity ratios) will overstate the cost of equity appropriate for APS. The average common equity ratio of the companies used in Mr. Parcell's cost of equity analysis, as reported in the September 2006 edition of AUS Utility Reports is 46%, as shown in Table I, on the next page.

Table I.

Average Common Equity Ratios in Mr. Parcell's Sample

Sample Company	Equity Ratio
Cleco Corp.	52%
DTE Energy	43%
Energy East	42%
Hawaiian Electric Ind.	28%
Pinnacle West	52%
PNM Resources	38%
Puget Energy	43%
Black Hills Corp.	51%
Edison International	39%
Idacorp	49%
MDU Resources Group	58%
Sempra Energy	57%
Xcel Energy	43%
AVERAGE	46%

Data from AUS Utility Reports, September 2006.

As I show in my Direct Testimony, at pages 43 through 46 of my Direct Testimony a capital structure difference of that magnitude can have a significant—50 basis point—impact on the appropriate cost of equity. Given these data, Mr. Parcell's election to utilize the upper end of his equity cost estimate range can only be characterized as a move in the wrong direction. Reducing his recommended 10.25% equity return by 50 basis points would indicate a 9.75% cost of equity. However, that would only account for the financial risk difference between the Staff's recommended capital structure for APS and that of the sample group, it would not account for Mr. Parcell's use of the upper end of his equity cost results.

Second, the mid-point of Mr. Parcell's DCF results range from about 8.5% to 8.75%. Yet, in reporting the results of that analysis, he selects 9% to 10% as a reasonable range, adjusting that range upward. While I recognize that it is certainly within an experts discretion to adjust the results of a particular analysis, Mr. Parcell provides no discussion of his rationale for that adjustment. In addition, when he considers the range of equity cost estimates from which to select his final recommendation he again adjusts the bottom of his DCF range upward to 9.5%, while maintaining the uppermost end of the range (his upper-end CAPM estimate). Again, that additional upward adjustment is not explained. If Mr. Parcel had stuck to his initial DCF adjustment, with a 9% floor, his reasonable range would have been 9% (DCF low end) to 10.75% (CAPM upper end), with a mid-point of 9.875%.

Third, Mr. Parcell reports that his Comparable Earnings analysis indicates that the cost of equity capital for APS is "no greater than 10 percent." In my view, that result indicates a result below 10% would be reasonable and confirms his 9% to 10% DCF equity cost estimate. Yet, in his final analysis, Mr. Parcell reports the results of his CE analysis as 10%, not "below 10%," again providing an unexplained upward slant to the results.

Fourth, Mr. Parcell seems to be placing what I believe is inordinate emphasis on his CAPM results. I discussed the difficulties with each of the parameters used in a CAPM analysis in Appendix D attached to my direct testimony and will not repeat that discussion here. It is sufficient to say that while the CAPM remains an elegant theory of capital markets, even its advocates admit that equity cost estimates produced by that method are "invalid."[7] Betas, have very little explanatory power with respect to earned returns, in contrast to the theory on which the CAPM is based and recent evidence in the financial literature regarding the market risk premium, which I cited in Section I of my Direct Testimony, indicates that the market risk premium today is well below estimates based on historical risk premiums (like Mr. Parcell's). There is substantial theoretical and practical evidence that the standard CAPM, as presented by Mr. Parcell in this proceeding, is not a reliable estimator of equity capital costs and would tend to overstate the cost of equity capital for APS. Therefore, what appears to be a heavy reliance on CAPM results by Mr. Parcell is, I believe, unwarranted and serves to overstate his cost of equity recommendation.

Finally, I would point out that Mr. Parcell's recommended return for the regulated utility operations of APS is considerably higher than the Company, itself expects to earn on

[7] Fama, E., French, K., "The Capital Asset Pricing Model: Theory and Evidence," *Journal of Economic Perspectives*, Vol. 18, No. 3, Summer 2004, pp. 25-46

its equity investments in the broad marketplace. The equity return expectations used by the Company to gauge how much it should contribute annually to its pension fund are based on the returns of the broad equity market. Mr. Parcell points out at page 30 of his Direct, that the investment risk of the broad market (e.g., the S&P 500) is greater than that for utility operations. Therefore, it is not reasonable to award APS a return on equity that exceeds the return the Company, itself, expects to make over the long-term in the equity markets generally. Mr. Parcell's equity cost recommendation in this proceeding is overstated.

Q. DOES THIS CONCLUDE YOUR COMMENTS REGARDING THE STAFF'S EQUITY RETURN RECOMMENDAITON IN THIS PROCEEDING?

A. Yes, it does.

C. INVESTOR WITNESS CANNELL

Q. COMPANY WITNESS CANNELL ADDRESSES THE INVESTORS' VIEW OF THE RISKS FACING ARIZONA PUBLIC SERVICE COMPANY. ARE THERE ISSUES DISCUSSED BY MS. CANNELL THAT INDICATE YOUR RECOMMENDED RETURN SHOULD BE ADJUSTED IN SOME FASHION?

A. No. Ms. Cannell discusses several topics that are related to what she perceives to be the risks of investing in Arizona Public Service, with particular emphasis on the "uncertainty" of utility regulation in Arizona. However, her comments regarding what investors believe to be a "reasonable" return are not supported by any objective analysis on her part.

RUCO should certainly be able to present the testimony of any number of consumer "experts"(Arizona residents that have been paying their electricity bills for many, many years) to evaluate the reasonableness of the profit levels to be allowed in this case. Many, I'm sure, would wonder why a monopoly needs any profit at all. However, given the two options of including either a 9.25% profit or an 11.50% profit in the rates to be set in this proceeding, it is not difficult to envision that those consumer experts would uniformly select the 9.25% to be the more "reasonable." However, that is not how rates are made and, that selection by the consumer experts would not be made in reference to any analytical, econometric analysis—the same fundamental flaw in witness Cannell's testimony. In my view, Ms. Cannell's testimony in this case is of little moment with regard to the cost of capital that should be used to determine rates in this proceeding.

Q. CAN YOU ELABORATE ON THE REASONS WHY MS. CANNELL'S TESTIMONY IS INEFFECTIVE?

A. First, while Ms. Cannell testifies that she believes that investors would find the Company's 11.50% equity return request to be "reasonable," she also testifies, at page 6 of her Direct that investors "typically want the highest possible returns." With that caveat, a 20% allowed return on equity would be "reasonable."

The salient point here is that this Commission does not need the opinion of a utility advisory service (Ms. Cannell) to identify a reasonable cost of equity capital. That information is found in collective wisdom of the capital market in the prices investors are willing to provide for similar-risk utility operations. Through careful application of reliable econometric models (which are absent from Ms. Cannell's testimony) we are able to discern the return investors require for a utility investment similar in risk to APS. As I have shown in detail in my Direct Testimony, that return in today's market ranges from 9.25% to 9.75%. I also have demonstrated that the Company's requested return of 11.50% is substantially overstated for many reasons. Therefore, whether or not, in Ms. Cannell's subjective opinion, a return of 11.50% or 20% would be "reasonable" to investors who want the highest returns they can get is not a factor that should be considered in setting rates in this case.

Also, Ms. Cannell discusses how institutional traders and hedge funds might trade the stock of APS's parent company, Pinnacle West. Because those investors are free to trade any type of stock, and presumably do so, the manner in which they may or may not trade Pinnacle West stock is not germane the return investors require. As I noted in the first point above, that cost rate (investors' required return) is embodied in the market price those and other investors are willing to provide for similar-risk utility companies. I have taken the market opinion into account in my testimony; Ms. Cannell has not.

Finally, although I do not believe that Ms. Cannell's testimony provides any evidence that would cause me to adjust the 9.25% cost of common equity capital I recommend in this case, she does make one point with which I unequivocally agree. At page 6 of her Direct Testimony, Ms. Cannell is asked "Are you suggesting that the Arizona Corporation Commission should cater to the desires of investors, who typically want the highest possible returns?" She answers, "No. I realize that the Arizona Corporation Commission ('ACC' or "Commission') has to balance the interests of both investors, who want higher returns, and ratepayers, who want lower rates." On that point, we are in agreement.

Q. DOES THIS CONCLUDE YOUR DISCUSSION OF MS. CANNELL'S TESTIMONY IN THIS PROCEEDING?

A. Yes, it does.

Q. DOES THIS CONCLUDE YOUR SURREBUTTAL TESTIMONY, MR. HILL?

A. Yes, it does.

Exhibit__(SGH-2)
Schedule SR-1

ARIZONA PUBLIC SERVICE COMPANY
GDP GROWTH v. UTILITY GROWTH

YEAR	GDP	% Change	Dividends	% Change	Earnings	% Change	Book Value	% Change
1947	244.2		$1.56		$2.15		$27.92	
1948	269.2	10.2%	$1.60	2.6%	$2.15	0.1%	$28.24	1.1%
1949	267.3	-0.7%	$1.66	3.7%	$2.31	7.7%	$28.52	1.0%
1950	293.8	9.9%	$1.76	6.0%	$2.57	10.9%	$29.65	4.0%
1951	339.3	15.5%	$1.88	6.8%	$2.50	-2.4%	$30.88	4.1%
1952	358.4	5.6%	$1.91	1.6%	$2.55	1.8%	$31.11	0.7%
1953	379.4	5.9%	$2.01	5.2%	$2.78	9.1%	$31.54	1.4%
1954	380.4	0.3%	$2.13	6.0%	$2.87	3.2%	$32.24	2.2%
1955	414.8	9.0%	$2.21	3.8%	$3.12	8.5%	$33.36	3.5%
1956	437.5	5.5%	$2.32	5.0%	$3.32	6.7%	$34.65	3.9%
1957	461.1	5.4%	$2.43	4.7%	$3.36	1.1%	$36.57	5.5%
1958	467.2	1.3%	$2.50	2.9%	$3.57	6.2%	$38.24	4.6%
1959	506.6	8.4%	$2.61	4.4%	$3.76	5.4%	$40.14	5.0%
1960	526.4	3.9%	$2.68	2.7%	$4.02	7.0%	$41.20	2.6%
1961	544.7	3.5%	$2.81	4.9%	$4.25	5.6%	$42.95	4.2%
1962	585.6	7.5%	$2.97	5.7%	$4.56	7.5%	$44.88	4.5%
1963	617.8	5.5%	$3.21	8.1%	$4.90	7.3%	$47.91	6.8%
1964	663.6	7.4%	$3.43	6.9%	$5.21	6.3%	$50.69	5.8%
1965	719.1	8.4%	$3.86	12.5%	$5.73	10.1%	$52.68	3.9%
1966	787.8	9.5%	$4.11	6.5%	$6.15	7.3%	$54.53	3.5%
1967	832.6	5.7%	$4.34	5.6%	$6.50	5.7%	$57.53	5.5%
1968	910.0	9.3%	$4.50	3.7%	$6.71	3.3%	$60.97	6.0%
1969	984.6	8.2%	$4.61	2.4%	$6.84	1.9%	$63.90	4.8%
1970	1038.5	5.5%	$4.70	2.0%	$6.88	0.5%	$67.75	6.0%
1971	1127.1	8.5%	$4.77	1.5%	$7.01	1.9%	$70.24	3.7%
1972	1238.3	9.9%	$4.87	2.1%	$7.56	7.9%	$75.05	6.8%
1973	1382.7	11.7%	$5.01	2.9%	$7.64	1.0%	$76.84	2.4%
1974	1500.0	8.5%	$4.83	-3.6%	$7.38	-3.4%	$79.94	4.0%
1975	1638.3	9.2%	$4.97	2.9%	$7.76	5.1%	$85.79	7.3%
1976	1825.3	11.4%	$5.18	4.2%	$7.87	1.4%	$89.52	4.3%
1977	2030.9	11.3%	$5.54	6.9%	$8.84	12.3%	$92.96	3.8%
1978	2294.7	13.0%	$5.81	4.9%	$8.40	-5.0%	$94.77	1.9%
1979	2563.3	11.7%	$6.22	7.1%	$8.98	6.9%	$99.01	4.5%
1980	2789.5	8.8%	$6.58	5.8%	$8.75	-2.5%	$102.49	3.5%
1981	3128.4	12.1%	$6.99	6.2%	$9.80	12.0%	$101.84	-0.6%
1982	3255.0	4.0%	$7.43	6.3%	$10.82	10.4%	$104.43	2.5%
1983	3536.7	8.7%	$7.87	5.9%	$11.28	4.2%	$106.77	2.2%
1984	3933.2	11.2%	$8.26	5.0%	$12.52	11.0%	$111.65	4.6%
1985	4220.3	7.3%	$8.61	4.2%	$12.63	0.9%	$113.12	1.3%
1986	4462.8	5.7%	$8.89	3.3%	$12.86	1.8%	$118.61	4.9%
1987	4739.5	6.2%	$9.12	2.6%	$12.33	-4.1%	$122.19	3.0%
1988	5103.8	7.7%	$8.87	-2.7%	$10.03	-18.6%	$119.07	-2.6%
1989	5484.4	7.5%	$8.82	-0.6%	$8.91	-11.2%	$120.87	1.5%
1990	5803.1	5.8%	$8.79	-0.3%	$9.41	5.6%	$117.07	-3.1%
1991	5995.9	3.3%	$8.95	1.8%	$10.17	8.1%	$125.21	7.0%
1992	6337.8	5.7%	$9.05	1.1%	$10.26	0.9%	$131.59	5.1%
1993	6657.4	5.0%	$8.99	-0.7%	$9.91	-3.4%	$141.22	7.3%
1994	7072.2	6.2%	$8.96	-0.3%	$8.65	-12.7%	$148.67	5.3%
1995	7397.7	4.6%	$9.02	0.7%	$12.10	39.8%	$139.71	-6.0%
1996	7816.8	5.7%	$9.06	0.4%	$11.89	-1.7%	$140.71	0.7%
1997	8304.3	6.2%	$9.06	0.0%	$8.48	-28.7%	$141.97	0.9%
1998	8747.0	5.3%	$7.83	-13.6%	$5.76	-32.1%	$141.36	-0.4%
1999	9268.4	6.0%	$8.10	3.4%	$11.82	105.4%	$180.83	27.9%
Average Growth		**7.3%**		**3.3%**		**4.5%**		**3.7%**

Average of Earnings Dividends & Book Value
3.8%

GDP data from US Department of Commerce, Utility per share data from Moody's Public Utility Manual.

ARIZONA CORPORATION COMMISSION

In the Matter of the
Application of Arizona Public Service Company for a
Hearing to Determine the Fair Value of the Utility Property of the Company
for Ratemaking Purposes, to Fix a Just and Reasonable
Rate of Return Thereon, to Approve Rate Schedules Designed to Develop
Such Return, and to Amend Decision No. 67744

Docket No. E-01345A-05-0816

In the Matter of the
Inquiry into the Frequency of Unplanned Outages
during 2005 at Palo Verde Nuclear Generating Station,
the Causes of the Outages, the Procurement of Replacement Power
and the Impact of the Outages on
Arizona Public Service Company's Customers

Docket No. E-01345A-05-0826

In the Matter of the
Audit of the Fuel and Purchase Power Practices
of the Arizona Public Service Company

Docket No. E-01345A-05-0827

Surrebuttal Testimony of

David A. Schlissel

on behalf of

The Residential Utility Consumer Office

September 27, 2006

Q. Mr. Schlissel, please state your name, position and business address.

A. My name is David A. Schlissel. I am a Senior Consultant at Synapse Energy Economics, Inc, 22 Pearl Street, Cambridge, MA 02139.

Q. On whose behalf are you testifying in this case?

A. I am testifying on behalf of the Residential Utility Consumer Office ("RUCO").

Q. Mr. Schlissel, have you previously filed testimony in this proceeding?

A. Yes. I filed direct testimony on August 18, 2006.

Q. What is the purpose of this surrebuttal testimony?

A. The purpose of this surrebuttal testimony is to respond to the rebuttal testimony filed by Arizona Public Service Company ("APS") witness Peter Ewen which criticizes the variable O&M adjustment in my direct testimony.

Q. What is Mr. Ewen's criticism of your proposed O&M adjustment?

A. He claims that my proposed adjustment is inconsistent with the ACC Staff's consultants which found that "O&M expenditure patterns [to be] consistent with operation requirements."[1]

Q. Is this a valid criticism?

A. No. The Staff consultant review referenced by Mr. Ewen examined the historic O&M expenditures at APS' fossil station and not the Company's projected future levels of expenditures.[2] In contrast, my proposed adjustments did not address at all the reasonableness of historic O&M expenditures. Instead, my adjustments were focused (1) on making the Company's projected normalized variable O&M rate case requests for the PWEC and Sundance facilities consistent with APS' most recent projections of the expected generation of the those units during the

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[1] Rebuttal Testimony of Peter M. Ewen, at page 13, lines 4-5.

[2] August 31, Liberty Consultant Group *Final Audit Report APS Fuel and Purchased Power Procurement and Costs Non-Confidential Version*, at page 92.

years 2006-2008 and (2) ensuring that the Company's requested O&M reflect the actual levels of 2004 expenditures at the PWEC units as reflected in APS' response to Data Requests UTI-11-329.[3] As I noted in my direct testimony, APS' projected variable O&M were based on the Company's 2005 Long Range Forecast and not on the more recent 2006 Rate Case Forecasts.

Consequently, the Staff consultant's conclusions about historic O&M expenditure levels do not conflict in any way with my proposed adjustment of APS' forecast future variable O&M expenses at the PWEC and Sundance facilities. Indeed, the ACC Staff consultant review, cited by Mr. Ewen, does not appear to have addressed the O&M expenditures at the Sundance facility at all.[4]

Q. Does this complete your surrebuttal testimony at this time?

A. Yes.

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[3] Direct Testimony of David A. Schlissel, at page 4, line 11, through page 6, line 10.

[4] August 31, Liberty Consultant Group *Final Audit Report APS Fuel and Purchased Power Procurement and Costs Non-Confidential Version*, at page 92.

ARIZONA CORPORATION COMMISSION

IN THE MATTER

of the

Application of Arizona Public Service Company for a Hearing to Determine the Fair Value of the Utility Property of the Company for Ratemaking Purposes, to Fix a Just and Reasonable Rate of Return Thereon, to Approve Rate Schedules Designed to Develop Such Return, and to Amend Decision No. 67744

Docket No. E-01345A-05-0816

In the Matter of the Inquiry into the Frequency of Unplanned Outages during 2005 at Palo Verde Nuclear Generating Station, the Causes of the Outages, the Procurement of Replacement Power and the Impact of the Outages on Arizona Public Service Company's Customers

Docket No. E-01345A-05-0826

In the Matter of the Audit of the Fuel and Purchase Power Practices of the Arizona Public Service Company

Docket No. E-01345A-05-0827

Surrebuttal Testimony of

J. Richard Hornby

On behalf of

The Residential Utility Consumer Office

September 27, 2006

Q. Please state your name, position and business address.

A. My name is J. Richard Hornby. I am a Senior Consultant at Synapse Energy Economics, Inc, 22 Pearl Street, Cambridge, MA 02139.

Q. Did you file Direct Testimony in this proceeding?

A. Yes.

Q. What is the purpose of your surrebuttal testimony?

A. My Surrebuttal Testimony addresses three issues. First I address the updated base fuel rate proposed by APS witness Ewen in his Rebuttal Testimony. Then I discuss the alternative PSA proposal presented in the Direct Testimony of Staff witness Antonuk and addressed by APS witness Robinson in his Rebuttal Testimony. Finally I respond to the comments regarding the Company's hedging strategy presented in the Rebuttal Testimonies of APS witnesses Brandt and Carlson.

Q. Please summarize your surrebuttal testimony.

A. In his Direct Testimony Mr. Ewen proposed a Base Fuel Recovery Amount of 3.1904 cents/kwh. That Amount was based upon his proposed adjustments to Test Year conditions, including the APS proposal to exclude 10% of realized hedging gains and losses from the determination of PSA charges. Adjusting that Amount to reflect APS withdrawal of the hedging gains/losses proposal results in a Base Fuel Recovery Amount of 3.1202 cents/kwh. In his Direct Testimony Staff witness Antonuk proposed a Base Fuel Recovery Amount of 2.7975 cents/kwh. In his Rebuttal Testimony Mr. Ewen responded by proposing a new, higher Base Fuel Recovery Amount of 3.3112 cents/kwh based upon a new set of proposed adjustments as well as the Company's withdrawal of its hedging gains/losses proposal. I recommend that the Commission limit the Base Fuel Recovery Amount to 3.1202 cents/kwh, which is the original amount APS requested adjusted for withdrawal of the proposed sharing of hedge gains and losses.

In his Direct Testimony Staff witness Antonuk discusses possible changes to the design of the existing PSA mechanism, including establishment of PSA charges based upon forecasts and changes to the 90/10 sharing approach. In his Rebuttal Testimony APS witness Robinson presents his interpretation of Mr. Antonuk's proposal in the form of a detailed alternative PSA mechanism. I recommend that the Commission limit the changes to the PSA to those outlined in the testimony of RUCO witness Marylee Diaz Cortez. Specifically I recommend that the Commission not implement a prospective or forward-looking PSA charge.

In their Rebuttal Testimonies APS witnesses Brandt and Carlson disagree with several of my conclusions regarding the Company's hedging strategy. Neither witness presents hard evidence that contradicts the facts underlying my statements.

BASE FUEL RATE

Q. Please describe the Base Fuel Recovery Amount that APS initially requested.

A In his Direct Testimony APS witness Ewen states that the Company's actual average base fuel and purchased power expenses in the year ending September 30, 2005 (i.e., The Test Year for this case) was 2.701 cents/kwh. He then proposed ten adjustments to those actual expenses to arrive at an estimated expense for calendar 2006, which he refers to as a "2006 Pro Forma". Those adjustments included higher commodity market prices for natural gas and power based upon forward market prices at the close of market on November 30, 2005. Another adjustment was to exclude 10% of projected hedging gains and losses to reflect the APS proposal in that regard. Based upon those adjustments Mr. Ewen proposed a Base Fuel Recovery Amount of 3.1904 cents/kwh, as shown in his Attachment PME-1.

Q. Did RUCO ask APS to provide an update of the adjustments underlying that proposed Base Fuel Recovery Amount.

A Yes. In June 2006 RUCO submitted a data request asking the Company for an update of all of those factors based upon the most recent actual data available to it and its most recent projections (RUCO 8.8). APS responded with a pro forma based upon forward market prices at the close of market on February 2, 2006. The Base Fuel Recovery Amount according to that pro forma was 2.9419 cents/kwh. According to its response to RUCO 8.8 this is the most recent update of that amount that APS had prepared as of early July 2006.

Q. Please explain why you did not file Direct Testimony proposing a Base Fuel Recovery Amount of 2.9419 cents/kwh.

A I did not file Direct Testimony proposing a Base Fuel Recovery Amount of 2.9419 cents/kwh because, in my judgment, it would not be representative of market conditions during the period the new rates would be in effect. The primary reason for the drop in APS' estimate of the 2006 Pro Forma Base Fuel Recovery Amount from 3.1904 cents/kwh to 2.9419 cents/kwh was the decline in forward market prices for 2006 between November 30, 2005, the source of market prices for the original estimate, and February 28, 2006, the source of market prices for the update. However the forward prices for 2007 and 2008 as of those two dates were not that different. Also, in early August when I was reviewing the APS response to RUCO 8.8 and preparing my testimony, forward market prices for 2007 and 2008 were in the same range as those as of November 2005.

Q. Did Staff ask APS to calculate an alternative 2006 pro forma by revising certain adjustments, using actual 2006 costs to date and forward prices as of June 30, 2006?

A Yes. Mr. Antonuk describes the revisions and updates that Staff asked APS to include in the alternative estimate on pages 28 to 32 of his Direct Testimony. The Base Fuel Recovery Amount based upon that alternative estimate was 2.8104 cents/kwh. (Mr. Antonuk proposed a further adjustment that would reduce that rate to $2.7966 cents/kwh.)

Q. Did Staff ask APS to estimate expected 2007 fuel and purchased power expenses using a number of assumptions provided by Staff?

A Yes. Mr. Antonuk makes it clear in his Direct Testimony that the "value" of this estimate is simply to show that it is reasonable to expect APS' fuel and purchased power expenses in 2007 to be higher than in 2006.

Q. Please describe the Base Fuel Recovery Amount that Mr. Ewen has proposed in his Rebuttal Testimony.

A In his Rebuttal Testimony Mr. Ewen has proposed a new, higher Base Fuel Recovery Amount of 3.3112 cents/kwh based on his estimate of costs in calendar year 2007 that he prepared in July 2006 for Staff. This estimate reflects the Company's withdrawal of its hedging gains/losses proposal.

Mr. Ewen expresses a concern that a Base Fuel Recovery Amount of 2.7975 cents/kwh, based on the 2006 pro forma prepared according to Staff's adjustments, could lead to significant fuel cost deferrals if the Company's costs actually prove to be 3.3112 cents/kwh in 2007.

Q. Can you summarize the chronology of these various estimates of the Base Fuel Recovery Amount, and provide an "apples to apples" comparison.

A Yes. The need for an "apples to apples" comparison arises because several of the estimates that have been prepared have not included a calculation of the Base Fuel Recovery Amount reflecting the Company's withdrawal of its hedging gains/losses proposal. A summary of these results is presented in the table below. The Base Fuel Recovery Amounts corresponding to the Company's initial application and to its response to RUCO 8.8 are 3.1202 cents/kwh and 2.9385 cents/kwh respectively. The derivation of those amounts is presented in Exhibit___(JRH-1R). All of the other estimates presented in the table are found in the testimonies of Mr. Ewen and Mr. Antonuk.

Comparison of Estimates of Base Fuel Recovery Amounts		
Source	**Base Fuel Recovery Amount (cents/kwh)**	
	With APS' proposed sharing of hedging gains and losses	**No sharing of hedging gains and losses**
Per 2006 ProForma		
Mr. Ewen Direct Testimony. January 2006	3.1904	**3.1202**
APS response to RUCO 8.8. July 2006	2.9419	2.9385
APS response to Staff. July 2006	2.8104	2.8111
Mr. Antonuk Direct Testimony. August 2006.	2.7966	2.7975
Per 2007 ProForma		
Mr. Ewen Rebuttal Testimony. September 2006	-	**3.3112**

Q. Which of these Base Fuel Recovery Amounts do you recommend be approved?

A I recommend that the Commission limit the Base Fuel Recovery Amount to 3.1202 cents/kwh. This is the rate that APS originally requested, after adjusting for withdrawal of the proposed sharing of hedging gains and losses.

Q. What is the basis for your recommendation?

A. The rationale underlying my recommendation to limit APS to the rate it originally requested, rather than the rate Mr. Ewen proposed in his rebuttal, is presented below.

The Base Fuel Recovery Amount that APS initially requested is based upon a 2006 Pro Forma. In contrast, the Base Fuel Recovery Amount Mr. Ewen proposed in his Rebuttal Testimony is based upon a 2007 Pro Forma, thereby moving the reference point. Moreover, according to its response to RUCO 8.8, APS did not develop an updated Base Fuel Recovery Amount using a 2007 Pro Forma until late July. In fact it appears that APS was prompted to prepare that analysis by a request from Staff. If APS was seriously concerned about potential revenue shortfalls and fuel deferrals in 2007 if its Base Fuel Recovery Amount was set according to its initial 2006 pro forma, then I would have expected APS to have presented an updated Base Fuel Recovery Amount as of late June/early July, in response to RUCO 8.8, reflecting the factors it considered known about 2007 at that time.

Staff did ask APS to prepare an estimate of its 2007 fuel costs based on information and assumptions as of late July. However in making that request they were not seeking an estimate upon which to set either the Base Fuel Recovery Amount or a 2007 PSA rate. Instead Staff wanted to obtain an estimate for 2007 to compare with their alternative 2006 pro forma estimate.

The support materials accompanying the initial 2006 pro forma include approximately 20 pages of testimony, 19 attachments and 17 workpapers. Mr. Ewen has presented very little in the way of supporting materials for the proposal in his Rebuttal Testimony.

The support materials for Mr. Ewen's initial proposed Base Fuel Recovery Amount were filed on or about January 31, 2006. Intervenors then had approximately six and a half months during which to review that material, file discovery and analyze the discovery responses. In contrast, his Rebuttal Testimony was filed on September15, leaving intervenors essentially no time to review the material, file discovery and analyze the discovery responses prior to filing surrebuttal on September 27.

ALTERNATIVE PSA PROPOSAL

Q. Does Staff witness Antonuk explicitly recommend that the existing PSA mechanism be replaced with an alternative PSA mechanism?

A. No. In his Direct Testimony Mr. Antonuk discusses possible changes to the existing PSA mechanism that the Commission should consider if it decides to "...alter the current 90/10 sharing approach based on historical costs". He does not explicitly recommend that the Commission make such a decision nor does he provide any quantitative analysis to support such a recommendation.

Mr. Antonuk refers to the impacts of fuel price volatility in general. However, APS has reduced its exposure to that volatility substantially by hedging 85% of its natural gas and power purchases.

Q. Do you support replacement of APS' existing PSA mechanism, which is based on historical costs, with an alternative PSA mechanism based upon forecast costs?

A No. The rationale underlying my recommendation to remain with the existing PSA mechanism based on historical costs is presented below.

The existing PSA system was established after extensive deliberations and has only been in effect a short time. During those deliberations the settling parties did not recommend the types of changes that Mr. Antonuk is now recommending. Moreover the proposed change raises important issues. For example it includes changes to the amount which is subject to 90/10 sharing between ratepayers and the Company. It also could require additional hearing time and would likely entail disagreements over forecasts. These are significant changes that warrant close scrutiny. Based upon these factors I consider it premature to move to a PSA mechanism based upon forecast costs.

APS HEDGING STRATEGY

Q. Please begin by identifying the conclusions from your Direct Testimony regarding the Company's hedging strategy with which APS witnesses Brandt and Carlson disagree.

A. APS witnesses Brandt and Carlson disagree with two of my conclusions regarding the Company's hedging strategy. Those conclusions relate to the benefit of the hedging strategy to ratepayers and the quantitative analyses underlying the detailed design of the strategy.

Q. Please address Mr. Brandt's comments on page 50 of his Rebuttal Testimony regarding your conclusions on the benefits of the APS hedging strategy.

A. Mr. Brandt did not provide any quantitative evidence demonstrating that stabilization of natural gas and purchased power prices, in and of itself, is of major benefit to APS ratepayers. Ratepayers want stable bills but they also want low bills. The question then arises as to what is the most acceptable combination of rate stability and rate minimization. My point regarding the APS hedging strategy is simply that ratepayers see its benefit from a different perspective. The portion of their rates that is stabilized through that program is small relative to total retail rates and ratepayers can participate in the Company's budget billing program if they wish to have stable bills. Ratepayers do see a benefit but it is more modest than the benefit that APS sees.

Second, Mr. Brandt refers to the situation in California during 2000 and 2001 when California utilities were purchasing 100 percent of their supply. That is a very different situation from APS, which purchases only a small portion of its supply.

Third, Mr. Brandt provides a partial quote from the Direct Testimony of Mr. Antonuk. The full quote is "It protects substantially against price increases, but will not operate to allow costs to fall when the market does." The prices to which Mr. Antonuk is referring in that sentence are the natural gas and purchased power prices that APS pays, not the retail rates that ratepayers pay.

Q. Please address the comments of Mr. Brandt and Mr. Carlson regarding an explicit strategy to minimize natural gas and purchased power costs.

A. My fifth conclusion was that "APS has not presented a corresponding explicit strategy to minimize its natural gas and purchased power costs". My point was simply that APS should have an explicit strategy for minimizing its natural gas and purchased power costs to correspond to its explicit gas and purchased power price stabilization strategy. The Commission, in provisions 66 and 67 of Decision 68685, directed APS to file studies on the effectiveness of its gas purchasing practices and on gas storage. As I discuss in my Direct Testimony, as noted above, the goals of rate stability and rate minimization are often inconsistent. Staff's consultants discuss this point on page 80 of the non-confidential version of their **Final Audit Report of APS Fuel and Purchased Power Procurement and Costs.** Satisfying both of these goals in a reasonable manner typically requires a price stabilization component, a price minimization component and tradeoffs between the two. In its response to RUCO 13.3 c, provided in Rebuttal Exhibit (JRH___2R), APS states that it has conducted no analysis that ranks the relative importance customers place on low rates versus stable rates.

Mr. Brandt did not address the need for APS to have an explicit strategy for minimizing its natural gas and purchased power costs to correspond to its explicit gas and purchased power price stabilization strategy. Instead he simply states that cost minimization is not the goal of the APS hedging strategy.

Mr. Carlson states that APS minimizes its natural gas and purchased power costs by determining the most economic quantity, or mix, of each for the term of the hedge position. That economic dispatch analysis is necessary but not sufficient. My concern is relates to the Company's long-term plan for minimizing its energy and capacity costs, including its natural gas and purchased power costs.

Q. Please address Mr. Brandt's comments on page 53 of his Rebuttal Testimony regarding your conclusions on the quantitative analyses underlying the APS hedging strategy.

A. My fourth conclusion was that "the detailed design of the APS hedging program does not appear to be based upon quantitative studies or analyses". That conclusion was based upon the fact that APS did not provide any such studies or analyses in response to our discovery (RUCO 13-2 c), provided in Rebuttal Exhibit (JRH___2R). Mr. Brandt did not provide copies of any such studies or analyses with this Rebuttal Testimony.

Q. **Does this complete your surrebuttal testimony?**

A. Yes.

Exhibit___(JRH-R1)

Calculation of Net Retail Fuel Cost with no 90/10 sharing of hedging gains/losses

Line No.		Fuel Expense ($000)	Native load Sales (GWH)	Weighted Average Cost cents/kwh	Off-system margin credit ($000)	Jurisdictional factor	Test Year Retail Sales (GWH)	Off-system margin credit cents/kwh	Net Retail Fuel Cost cents/kwh
		a	b	c = a/b	d	e	f	g = d*e/f	h = c - g
1	11/30.05 Market Prices, 90/10 sharing of hedging, 2006 (PME_WP1)	961,486	29,261	3.2859	(25,965)	0.9839	26,759	(0.0955)	**3.1904**
2	remove 90% of hedging gains/losses (PME_WP4)	(185,024)			(10)				
3	add 100% of hedging gains/losses (PME_WP4)	(205,582)			(11)				
4	Calculation with no sharing (4 = 1 - 2 +3)	940,928	29,261	3.2156	(25,966)	0.9839	26,759	(0.0955)	**3.1202**

Line No.		Fuel Expense ($000)	Native load Sales (GWH)	Weighted Average Cost cents/kwh	Off-system margin credit ($000)	Jurisdictional factor	Test Year Retail Sales (GWH)	Off-system margin credit cents/kwh	Net Retail Fuel Cost cents/kwh
5	2/28/06 Market Prices, 90/10 sharing of hedging, 2006 (RUCO 8.8)	875,014	29,223	2.99	(14,249)	0.9839	26,759	(0.0524)	**2.9419**
6	remove 90% of gas hedging (APS10565 p 1)	(22,841)			730				
7	remove 90% of electric hedging (APS10565 p 1)	15,137			(1,708)				
8	add 100% of gas hedging (line 6/0.9)	(25,379)			811				
9	add 100% of electric hedging (line 7/ 0.9)	16,819			(1,898)				
10	Calculation with no sharing (10 = 5 -6-7+8+9)	874,158	29,223	2.99	(14,358)	0.9839	26,759	(0.0528)	**2.9385**

EXHIBIT JRH-2R

APS RESPONSES TO RUCO DISCOVER 13.2 AND 13.3

RUCO 13-2 Reference Response to RUCO 8.2 (b) and (c) as well as Attachment APS08164 to Response to RUCO 8.2, the Confidential APS System Hedge Strategy Calendar Years 2005-2008.

a. Please clarify the reference to hedging 85% of "energy" on page 3 of 10 of the attachment. Does "energy" refer only to purchased power? If not, please identify all the forms of energy to which it refers.

b. If "energy" refers to more resources than purchased power, is every resource hedged at 85%?

c. Provide the studies, analyses, assessments, reports and other documents underlying the decision to hedge the first twelve months of energy at 85%.

d. Please define the specific natural gas basis that is being hedged.

e. Provide the studies, analyses, assessments, reports and other documents underlying the decision to hedge the first twelve months of natural gas basis at 50%.

f. Provide the studies, analyses, assessments, reports and other documents underlying the decision to hedge the second twelve months of energy at 50-60%.

g. Provide the studies, analyses, assessments, reports and other documents underlying the decision to hedge the third twelve months of energy at 30-40%.

h. What criteria are used to determine actual value achieved when the target is given as a range, such as 30-40%?

i. Please describe the hedging structure currently in effect for the next twelve months.

Response:

a. Under the terms of the June 21, 2005 System Hedge Plan and the reference to hedging 85% of energy, the term "energy" refers to both natural gas and purchased power.

b. The percentage of natural gas and/or purchased power hedged can vary by commodity and term based on forward price values and load requirements. However, under the terms of the June 21, 2006 plan, the combined hedge percentages of natural gas and purchased power must equate to 85% with certain limited acceptable deviation levels, for the applicable forward twelve month term.

c. The decision to hedge the first twelve months of energy at 85% was based on a series of discussions with outside consultants and executive management that addressed the appropriate risk exposure for APS. Since the late 1990's, APS had consistently hedged its forward calendar twelve month commodity exposure at approximately 75% of projected volumes. That hedge was required to be in placed by Dec 31st of the previous year. In June 2005, after consultation with RiskAdvisory, a consultant with risk management expertise, and with APS executive management, APS made the decision to enhance its hedge plan in a manner that increased the forward twelve month hedge position to 85% in order to further reduce commodity risk exposure to APS and its customers. Please see the supplemental response to RUCO 8.2 part c., which contains the aforementioned RiskAdvisory Assessment, as well as, other responses within this data request and previous responses.

d. Depending on the term, APS will hedge natural gas basis risk in either the San Juan or Permian basins, or both.

e. Please refer to 13.2 c. The decision to hedge the first twelve months of natural gas basis at a minimum of 50% was a result of the same discussions with RiskAdvisory and with APS executive management prior to June 2005.

f. Please refer to 13.2 c. The decision to hedge the second twelve months of natural gas at 50-60% of projected volumes was a result of the same discussions with RiskAdvisory and with APS executive management prior to June 2005.

g. Please refer to 13.2 c. The decision to hedge the third twelve months of natural gas at 30-40% of projected volumes was a result of the same discussions with RiskAdvisory and with APS executive management prior to June 2005.

h. The actual hedge percent value achieved is a mathematical calculation that divides the hedged energy volumes by the total energy volumes for a particular term.

i. As required by the June 21, 2005 Hedge Plan, which was provided in response to data request RUCO 8.2, APS is approximately 85% hedged for the next twelve months.

Witness: TBD

13.3 Reference Response to RUCO 8.2 (b) and (c) as well as Attachment APS08164 to Response to RUCO 8.2, the Confidential APS System Hedge Strategy Calendar Years 2005-2008.

a. Please clarify the term "price stability" on page 2 of the attachment. Is the primary goal to stabilize the energy prices that APS pays to acquire fuel and purchased power or is it to stabilize the rates that APS charges its retail customers?

b. If the primary goal is to stabilize the rates that APS charges its retail customers, please provide all analyses demonstrating that this is the best way to accomplish that goal.

c. Please provide all analyses that APS prepared of the relative priorities that its retail customers place on low rates and on stable rates respectively.

d. Does APS offer its customers a budget billing option? If so please provide the details of that option.

Response:

a. The primary goal of the Hedge Plan is to reduce the volatility of natural gas and purchased power for the Company and our customers.

b. See response to RUCO 13-3 a.

c. The Company has conducted no analysis that ranks the relative importance customers place on low rates versus stable rates.

d. Yes. Please see attachment APS08311. Additionally, attached as APS08312, is the informational brochure available for customers.

Witness: Pete Ewen