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**
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