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August 29, 2008

Docket Control
Arizona Corporation Commission
1200 W. Washington Street
Phoenix, Arizona 85007

RE: Arizona Public Service Application on Resource Planning
Docket No. E-01345A-08-0010

On January 7, 2008, Arizona Public Service Company (APS) filed a Resource Alternatives Application, which indicated that APS is initiating a series of stakeholder meetings regarding resource planning. The fifth meeting was held on July 11, 2008. Attached please find the meeting report, attendance list, and copies of presentations made at that meeting.

Meeting notices, agendas, presentations, reports, and other related information regarding APS' Resource Alternative Stakeholder meetings can be found at www.aps.com/resources. If you have any questions regarding this process or would like to be added to the service list, please send an email to ResourceAlternatives@aps.com.

Sincerely,

A handwritten signature in black ink that reads "Susan Casady". The signature is written in a cursive, flowing style.

Susan Casady

Attachment

SC/dst

CC: Ernest Johnson
Terri Ford
Barbara Keene
Interested Parties

**ARIZONA PUBLIC SERVICE COMPANY
RESOURCE ALTERNATIVE PLANNING
STAKEHOLDER MEETING REPORT
Docket No. E-01345A-08-0010**

DATE: July 11, 2008
TIME: 8:30 a.m.
PLACE: Arizona Public Service Corporate Headquarters, Room 2 South
400 North 5th Street, Phoenix, Arizona 85004

ATTENDANCE: See attached attendance list

TOPICS:

1. Updates and Recent Developments
2. Portfolio Analysis Results
3. Financial Sustainability
4. Roundtable Discussion and Wrap-Up

Copies of the Presentations are available on the website: <http://www.aps.com/resources>

DISCUSSION:

- **Dr. Marty Rozelle** of the Rozelle Group Ltd., facilitator for the stakeholder meetings, briefly explained the plan for the meeting, including the roundtable discussion at the conclusion of the meeting.
- **Brad Albert**, APS Director of Resource Planning, provided an overview of the Company's future plans related to Resource Planning. Following this meeting, APS intends to review the input received from this process, as well as changes in the industry and the economy, and develop a resource plan by the end of this calendar year. The report will detail the anticipated need for additional resources; address the timing and type of resources; examine the expected transmission needs to support these resources; examine the steps needed to implement the plan; and discuss areas of the plan needing regulatory support. Mr. Albert also explained that there will be a stakeholder meeting prior to filing the report, and that APS also intends to hold future stakeholder meetings to provide updates and to address specific issues.
- **Paul Smith**, APS Manager, Generation Market Analysis and Planning, presented "Portfolio Analysis Results."

Mr. Smith explained that this analysis looks at energy efficiency separate from gas, coal, renewables, and nuclear. Although all these resources are all part of the analysis, they are examined separately because there are some key differences and some difficulty in making direct comparisons. The portfolio analysis examines APS's existing generation and contracts plus future resources required to meet APS's load forecast, plus a 15% reserve margin. The data included as part of this analysis is consistent with the Resource Alternative Report filed by APS in this docket in January 2008.

In regard to energy efficiency, Mr. Smith explained that the assumptions made in the Company's analysis include a reference case in which customers fund the programs, the expansion plan

consists of gas and renewables, and the effects of naturally occurring energy efficiency are included. The analysis looked at the economic results based on APS's revenue requirements and the total resource cost ("TRC"). The analysis examined four levels of energy efficiency with up to total of \$75 million per year in DSM funding. This component of the analysis utilized the Market Potential Study furnished by ICF in August 2007 and assumed that APS paid 50% of the incremental cost as an incentive. It also used a program acceptance factor of .6. The risk analysis done as part of the analysis focused on natural gas prices and carbon dioxide ("CO₂") costs. Although the highest level of spending analyzed was \$75 million, APS intends to examine higher levels in its next analysis.

In analyzing the effect of energy efficiency on annual CO₂ emissions, the more that is spent on energy efficiency, the greater reduction in CO₂ emissions. Additionally, by 2027, there would be a 10% reduction in the natural gas burn if \$75 million is spent annually on energy efficiency. In analyzing the impact on revenue requirements, it was found that as spending on energy efficiency increases, the total cost to serve customers diminishes. However, there are diminishing returns as spending is increased.

In examining the characteristics and trade-offs of the four other technology choices (gas, coal, nuclear, and renewables), the analysis concentrated on resources needed in the 2015-2020 timeframe, compliance with Renewable Energy Standard ("RES") requirements, and assumed all natural gas as the resource for expansion. The various technology portfolios were compared to the "All Gas" plan, including the various capital costs needed for each of these technologies, the fuel costs and transmission miles needed for each, and the CO₂ emissions for each technology.

Each of the plans examined (*i.e.*, the gas plan, the nuclear plan, the coal plan, and the renewable plan) was a "snapshot" and each assumed a natural gas burn of about 25% (except for the gas plan). The renewable plan was based on large-scale renewables, rather than distributed generation. The cumulative spending comparison showed that coal and nuclear are fairly comparable, and the renewable plan has the highest capital cost. The next comparison showed the annual natural gas burn in 2020, with the coal plan at 36% less than the gas plan, the nuclear plan at 35% less than the gas plan, and the renewable plan at 32% less than the gas plan. In comparing annual CO₂ emissions for each of these plans, the nuclear plan and the renewable plan have the lowest CO₂ emissions. There are primary risk factors for each plan. These include low and high gas prices for the gas plan; high gas prices (favorable) and high CO₂ prices (unfavorable) for the coal plan; high CO₂ prices (favorable) and high capital costs (unfavorable) for the nuclear plan; and high CO₂ prices (favorable) and no production tax credit or investment tax credit (unfavorable) for renewables.

In summary, Mr. Smith set forth the following conclusions reached from the analysis:

- The energy efficiency scenario provides fuel diversity, as well as environmental and economic benefits, but financial disincentives and unrecovered fixed costs for utilities must be addressed.
- Natural gas, coal, and nuclear scenarios are nearly equivalent from a long-term economic perspective.
- The renewable scenario is projected to result in higher capital costs than the other three plans.

- Coal, nuclear, and renewable plans would reduce gas burn by about 35%, which represents a sizeable reduction in customer gas price risk.
- Renewable and nuclear plans would reduce CO₂ emissions by 15-17%, as compared to the natural gas scenario.
- The coal plan (conventional pulverized coal without carbon capture and sequestration) results in emissions of 36% more CO₂ than the nuclear scenario.

Brad Albert, APS Director of Resource Planning, presented “Financial Sustainability.”

As background for the presentation, Mr. Albert explained that, as used in this presentation, “financial sustainability” meant that there are no financial or regulatory barriers to implementing resource options in the best interests of customers, and that the utility was financially sound and could efficiently meet its public service obligations. An example included creditworthiness, which allows the utility to enter into Power Purchase Agreements (“PPAs”) and conduct hedges without onerous collateral requirements, margining or prepayment provisions. Another example is the utility having full and efficient access to capital markets to fund necessary infrastructure expansion.

Current economic drivers include customer growth (this has slowed now and will need to be re-assessed); increased cost for all commodities; and increased exposure to natural gas, which increases the unit cost of energy and its volatility. Policy initiative drivers include the RES rules, energy efficiency programs, environmental improvements, and the impact of the competitive generation market. The following mechanisms have been adopted as a regulatory response to these economic and policy drivers: the power supply adjustor (“PSA”); the RES recovery mechanism; the DSM adjustor; the environmental improvement surcharge (“EIS”); and a modified Schedule 3 (a revised line extension policy to recover extension costs from customers).

Mr. Albert also discussed the Company’s financial status. APS earnings are below its authorized rate of return and its cash flow from operations has been less than capital expenditures, which requires access to capital markets to finance capital expenditures. Currently, APS’s BBB- debt rating is at risk and there has been an increase in imputed debt.

The resource analysis planning done to date by APS indicated that there is a future need for major new generation and related transmission infrastructure. The analysis also shows that there is a sizable cost associated with all technologies and methods of acquisition, and there are and will be environmental issues with carbon-based fuels and greenhouse gas emissions. The analysis also highlighted major uncertainties ahead with regard to cost escalation and material and labor availability.

There are a number of major issues that APS faces, including an issue with the magnitude of the financial commitments that APS must make and the Company’s creditworthiness. Renewable and conventional PPAs require long-term commitments from the utility, and baseload resources require substantial capital over a long development period. In addition, construction financing can add thirty to fifty percent to the cost of the new baseload resource. Part of this issue is the timing of project completion and recovery in rates. The second major issue results from the time lag between the commitment to a resource and the time when it is put in service. The uncertainty surrounding many variables in planning leads to the potential for cancellation of projects (if in the future it becomes clear that it is no longer appropriate to proceed with the project), which illustrates the need for flexibility. In addition, although hedging transactions reduce uncertainty, they do not guarantee lower costs. Long-

term generation resource expenditures would have to be financed in addition to other capital needs, such as infrastructure additions, long-term PPAs, and commodity hedging.

The presentation included examples of resource alternatives and issues affecting financial sustainability. For energy efficiency programs, the key issue affecting sustainability is the effect of reduced energy sales that result in unrecovered fixed costs. Other key issues are the timing of program cost recovery and incentives for the utility. Currently, energy efficiency is addressed in APS's pending rate case. APS is proposing recovery of program costs on a prospective basis through an annual adjustor mechanism and actual fixed cost recovery. APS is also proposing that the cap on performance incentives be eliminated.

Mr. Albert addressed energy efficiency programs in both Colorado and Nevada. The Colorado program provides for significant targets and cost recovery on a prospective basis through an adjustor mechanism. The Colorado program also has a disincentive offset if 80% of the energy savings are achieved and a performance incentive of up to 12% of program benefits. In Nevada, energy efficiency projects and budgets are approved as part of the Integrated Resource Planning ("IRP") process. Energy efficiency can be used to meet 25% of the state's renewable requirement and approved energy efficiency costs can be capitalized as a regulatory asset, which includes a monthly carrying charge of 1/12 of authorized rate of return. The regulatory asset is then included in each general rate case with a three year amortization, and an incentive provides a 5% adder to the equity portion of the authorized return.

Mr. Albert also discussed financial sustainability issues relating to market transactions (PPA and hedging). Long-term PPA commitments increase the debt equivalents used by rating agencies. In addition, regulatory approval clauses in the PPAs may impact project availability and feasibility. With regard to hedging transactions, there are increased transaction costs based on the credit rating. These transactions are subject to swings in valuation, and issues exist relating to the costs and availability of liquidity to support collateral and margining. For renewable resources, transactions involve above "avoided cost" energy without the guarantee of future recovery. Also, long-term commitments may be subject to swings in valuation.

For renewable PPAs, the RES surcharge is a forward-looking mechanism that covers distributed program costs and above avoided costs of energy for non-distributed renewable resources. The surcharge is reviewed annually. For conventional PPAs, PPA capacity and energy charges are allowed in the prospective PSA calculation, and capacity charges for long-term PPAs are not subject to the 90/10 sharing requirement.

For commodity hedge transaction, the issues impacting financial sustainability include changes in creditworthiness or market movements that can trigger collateral postings, as well as the fact that by design, hedging locks in the future cost level at the time the hedge is executed. For baseload construction projects, there are many issues that impact financial sustainability. As project construction time can be long and the projects are large, construction without adequate assurance of recovery creates too much risk to attract adequate financing. There are large up-front costs with these projects, and accounting requirements require that they are expensed. Another difficult issue is that there is a potential for changing conditions that could result in cancellation of projects after substantial expenditures have been made. Finally, the completion of construction without synchronization with rates creates risks.

Mr. Albert also discussed baseload construction projects and the impact of financing costs. In one example, which was based on a \$5 billion construction project, annual expenditures for financing costs could exceed construction expenditures in the later years of a project, and financing costs could add 38% to the total project cost. However, the inclusion of construction work in progress (“CWIP”) in rates could lower cumulative financing costs to 8% of total project costs.

In conclusion, Mr. Albert explained that “business as usual” will not work given future needs. Conventional prudence tests and rate relief will not provide adequate support for the Company’s long-term resource requirements to make significant generation and related transmission investments. The implementation of resource alternatives will require expanded regulatory support to ensure financial sustainability.

Roundtable Discussion:

Following the presentations, stakeholders reviewed and responded to a set of questions for discussion. The following comments were received as part of the roundtable discussion:

A. What worked well in the stakeholder meetings? What areas could be improved next time? What information would you have liked to have had, but didn’t?

Worked well:

- Meetings were well-organized and provided transparency into APS’ planning methods.
- The amount of information provided worked well; ability to ask questions and receive answers appreciated.
- Subject areas were well-covered; level of detail was appropriate; fair evaluation of pros and cons.
- The meeting minutes were helpful.

Areas for improvement:

- Use of the notes feature with the presentations would have allowed for more recall by the stakeholders after the presentations. Availability of handouts prior to meetings would be helpful.
- Possibly record or videotape the presentation and put the whole presentation on the website.
- Include this process in Integrated Resource Planning process at the Commission.
- Allow for more question and answer time; possibly have questions submitted prior to presentations.
- Assumptions used in modeling were those incorporated in Company’s Resource Alternative Report that was filed in January 2008; with changes in market, many are already out-dated.

B. Are there any stakeholders missing from this conversation? How might we best engage them?

- Not sure who the stakeholders were—have people identify themselves at each meeting.
- Representatives from municipalities, counties and the state should be part of the discussion. [APS explained that Company is working on this through outreach to governmental entities and community leaders].
- Maricopa Association of Governments could be used as a means to disseminate some of this information.
- Universities.
- Participants from other states.
- Low-income advocates.
- Community leaders and business leaders—impact of these decisions should be explained to decision-makers.

C. When developing the Resource Plan, are there any resource options that APS should NOT consider and why?

- All options should be considered and evaluated, but carbon risk must be considered and quantified in every analysis. Several comments expressed concern regarding CO2 emissions for both coal and natural gas, with emphasis on the cleanest options. The societal cost of resources should be examined.
- Some participants thought nuclear should not be pursued. Others cautioned against nuclear because of uncertainty related to federal policy and the storage of nuclear waste; others noted that must take into account the fuel cycle for nuclear—refining process is energy intensive.
- Should look at the economic development aspects of solar—savings are spent in the Arizona economy.

D. During the stakeholder meetings did you experience any “ah-ha’s”? What ideas or concepts really resonated for you? Which of your assumptions were challenged?

- Learned about the different types of generation and the costs associated with them.
- Learned about hedging and permitting issues—there is much behind the scenes activity that consumers do not take into account.
- Need more input from the public for acceptance of resource plans.
- Now have better understanding of strategic role distributed power plants can have in resource portfolio.
- Now understand that there is uncertainty in all options and that a diverse portfolio is likely the best approach.
- Now have better understanding of synchronization of rate recovery and construction project completion, and the need for long-term decision making related to rates to support utility’s financial decision.

E. Given the uncertainty around the extent and timing of “climate change” laws and regulations, how might the issue be considered in assessing resource options?

- Climate change factors should be included in sensitivity analysis and simulation results should be presented to stakeholders. Include worst case scenarios and distributed generation scenario.
- From the industrial side, many of these issues were not thought about 10-15 years ago; now they need to be the first thought; it can now make a project unfeasible.
- Air quality is a big issue; should consider the cleanest options.
- As carbon will be regulated, there should be a carbon cost assigned to any analysis; there are many benefits of reducing carbon that might not now be recognized; should look at different sensitivities. APS should choose a mid-range CO2 price assumption.
- Need to consider the impact of increased costs from climate change policies will have on low income customers.
- Consider carbon now; build zero emission generation now rather than other generation.
- Utilities should assume high carbon costs in assessing resource options.

APS Resource Alternatives Planning Workshop
Friday July 11, 2008
Attendance List

<u>Name</u>	<u>Company</u>
Al Bellac	
Amanda Ormond	The Ormond Group LLC
Bob Baltes	Distributed Energy Association of Arizona
Brian Hageman	Deluge, Inc
Carmine Tilghman	Tucson Electric Power
Chuck Skidmore	City of Scottsdale
David Berry	Western Resource Advocates
Gary Mirich	Energy Strategies, LLC
Greg Patterson	Arizona Competitive Power Alliance
Ira Domsy	Arizona Department of Environmental Quality
Jana Brandt	Salt River Project
Jason Gellman	Roshka DeWulf & Patten, PLC
Jeff Schlegel	Southwest Energy Efficiency Project
Joe McGuirk	Sun Miner, LLC
Jon Findley	Sierra Club
Kara Kelty	
Karen Nally	Moyes Storey
Laura Sanchez	Natural Resources Defence Council
Lee Tanner	Solar Mission Technologies
Lew Dodendorf	Salt River Materials Group
Mark Marshall	K. R. Saline & Associates, PLC
Martha Roberts	Environmental Defense Fund
Marty Rozelle	The Rozelle Group
Marylee Diaz Cortez	Residential Utility Consumers Office
Michael Hallam	Lewis & Roca
Michael Neary	Desert Sun Solar, Inc
Mike Sheehan	Tucson Electric Power
Norris Nordvold	Friends of The West Valley Recreation Corridor
Ray Williamson	Distributed Energy Association of Arizona
Roger Clark	Grand Canyon Trust
Sandy Bahr	Sierra Club
Sarah Kubiak	Fennemore Craig, P.C.
Scott Wakefield	Ridenour, Hinton, Kelhoffer & Lewis, PLLC
Stephen Mellentine	Salt River Project
Teri Aurther	Robert Lynch & Associates
Toby Voge	Tucson Electric Power
Travis Wright	STMicroelectronics
Victor Aguirre	Tucson Electric Power