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July 10, 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 June 6, 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](http://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](mailto:ResourceAlternatives@aps.com).

Sincerely,

Barbara Klemstine

Attachment

CC: Ernest Johnson  
Terri Ford  
Barbara Keene  
Interested Parties

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Director Utilities

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

**DATE:** June 6, 2008  
**TIME:** 8:30 a.m.  
**PLACE:** Arizona Public Service Corporate Headquarters,  
Room 2 South  
400 North 5<sup>th</sup> Street, Phoenix, Arizona 85004

**ATTENDANCE:** See attached attendance list.

**TOPICS:**

1. Updates and Recent Developments
2. SWEEP's Perspective on Energy Efficiency
3. APS Energy Efficiency Program Update
4. Energy Efficiency Baseline and Market Potential Study
5. APS Demand Response Program

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 final meeting in July.
- **Brad Albert**, APS Director of Resource Planning, provided some brief updates. Mr. Albert explained that the study conducted by Electric Power Research Institute ("EPRI") regarding carbon dioxide ("CO<sub>2</sub>") impacts is now online at <http://globalclimate.epri.com>
- **Pat Dinkel**, APS Director of Resource Acquisition and Renewables, discussed the recent renewable Request for Proposal ("RFP") released by APS. The RFP is available at [www.aps.com/rfp](http://www.aps.com/rfp). Mr. Dinkel discussed the purposes of the RFP and certain of the parameters for the RFP, all of which can be found in the RFP document on the website.
- **Jeff Schlegel**, SWEEP, presented "Energy Efficiency and Arizona's Future."

Mr. Schlegel provided a brief overview of SWEEP's history, its sources of funding and its purposes. SWEEP is involved at many levels in Arizona, including issues before the Arizona Corporation Commission, Salt River Project's ("SRP") Board, the state legislature, the Governor's office, cities and counties, and the Arizona congressional delegation.

Mr. Schlegel explained that energy efficiency benefits customers, the electric system, the economy and the environment. For the electric sector, energy efficiency can help to avoid investment in power plants and transmission and distribution, as well as reducing fuel, operating and purchased power costs. For customers, energy efficiency can lower total costs. Energy efficiency can also improve reliability to the electric system, reduce price volatility, and provide other macroeconomic and environmental benefits.

Mr. Schlegel also addressed how issues of rapid growth and pressure on infrastructure have caused SWEEP to focus on the needs of customers, which resources will be used, and how those resources will be financed. Arizona is facing high growth in peak demand, which will require substantial amounts of new resources to meet the demand. Energy efficiency will help address this issue, as it reduces peak growth and the pressure on prices and infrastructure. SWEEP's plan shows energy and capacity savings equal to 5% of total resources in 2010 through DSM programs and 15% of total resources in 2020.

Mr. Schlegel examined various greenhouse gas emission reduction proposals in Congress and Arizona greenhouse gas reduction goals. The Arizona goals look at both electricity and transportation, although Mr. Schlegel believes that electricity will be easier to regulate. Greenhouse gas emissions in Arizona from electricity are growing faster than the total growth rate for greenhouse gas emissions. According to the report from the Arizona Climate Change Advisory Group ("CCGA"), energy efficiency policies will provide 1/3 of the greenhouse gas reductions and \$5.5 billion in net economic benefits. Energy efficiency can significantly reduce greenhouse gases and can also provide net economic benefits. SWEEP supports the early adoption of climate change strategies, such as energy efficiency to address climate change.

Mr. Schlegel stated that energy efficiency has the highest potential and lowest cost. He believes that we should do as much as we can to utilize energy efficiency measures. With regard to customer action and participation, customers will take some action with regard to energy efficiency, but not sufficient action to maximize the potential. Programs and policies are critical if market barriers to energy efficiency are to be overcome. Programs can influence customer action when customers are acting within the market, so energy efficiency must be infused into customer purchasing decisions.

SWEEP's policy recommendations include the following items: cost effective DSM programs in the utility sector; the adoption of energy efficiency goals and funding mechanisms to support utility programs; upgrading building codes and appliance and equipment standards; promotion of highly efficient buildings; adoption of best practices in public sector energy management; adoption of utility rate, pricing and market reforms; and incorporation of energy efficiency into air pollution control and climate strategies.

For new homes, SWEEP supports developing “high performance” energy efficient homes. For mass market homes, they promote Energy Star/Power Wise homes. For commercial projects, Mr. Schlegel explained that it is important to identify projects years in advance to allow them to be influenced by energy efficiency. For commercial projects, design and financial assistance should be used to encourage energy efficiency.

Mr. Schlegel also examined the national landscape for energy efficiency. Interest exists in all 50 states, and many states are maximizing energy efficiency investment. Leading states that were once saving about 1% per year through energy efficiency are now considering 2-3% savings. Mr. Schlegel explained that it is important to look at deeper and broader savings from energy efficiency—instead of saving 5% to 20% for individual customers and business, we should be looking to save 20% to 50% or more now.

Finally, Mr. Schlegel examined the business case for energy efficiency for utilities. For utilities, there is a financial disincentive as energy efficiency results in lower revenues and less than full cost recovery of fixed costs. The solution proposed by SWEEP is to align utility earnings with the public interest by allowing for timely recovery of energy efficiency program costs, by allowing for performance-based incentive mechanisms and by decoupling revenues from sales.

- **Jim Wontor**, APS Manager, Demand Side Programs, presented “APS Energy Efficiency Program Update.”

Mr. Wontor discussed the key concepts relating to demand-side management, which includes energy efficiency, load shifting and demand response. Although energy efficiency is the least cost resource, over time, the cost will increase as the least cost options for energy efficiency are maximized. Energy efficiency is a key element of APS’s resource plan.

Mr. Wontor discussed how APS has increased its DSM spending since the late 1970s. In general terms, APS spent \$4 to \$5 million per year in the 1980s and 1990s. Beginning in 2000, the spending decreased for a few years (except for 2001) to approximately \$1 million per year, as a result of retail electric competition. However, starting in 2005 with the Commission’s approval of the APS Settlement Agreement, expenditures began to increase substantially and will continue to increase over the next three years. From 2005 to 2007, APS spent \$33.2 million on DSM programs. This accounts for a 3,276 lifetime gigawatt hours energy reduction at an approximate cost of \$11 lifetime megawatt hours (“MWh”). The measures installed will result in a lifetime savings of over \$250 million on customer bills and a 64 megawatt (“MW”) peak demand reduction. The measures provide for \$84 million in net benefits and a 1.5 million ton reduction in greenhouse gas emissions.

The criteria for APS’s energy efficiency programs were developed by stakeholders in the DSM collaborative group. These criteria include: programs to cover all types of

customers; cost effective programs; programs that are easy to participate in and pay up to 50% of incremental cost in incentives; and efficiently administered programs, *i.e.*, program administration costs are less than 10% of total program costs.

Mr. Wontor discussed APS's residential programs, which include consumer products (Compact Fluorescent Light bulb program); existing home Heating, Ventilation and Air Conditioning (rebates, quality install and duct test and repair programs); new construction (Energy Star); and low income programs (bill assistance and weatherization). APS has agreements for about 22,000 new Energy Star homes. On the non-residential side, APS has incentives and training for different market segments and has provided over 700 incentives to date. Training and education are key elements of the non-residential program.

In December 2007, APS filed for approval of its 2008-2010 programs. APS's proposed energy efficiency plans include \$76 million in spending from 2008 to 2010. APS expects that this will result in 657,000 MWh cumulative annual savings and 6,814,000 MWh lifetime savings.

In summary, the current APS programs have been very successful and continue to gain momentum. The potential for more energy efficiency savings exists, but the amount of future savings depends, in part, on continued cost effectiveness for APS and the impact on APS's earnings. The future of energy efficiency depends on customers' willingness to take action and the introduction of new technologies. The savings potential can be achieved by utility incentive programs, higher building efficiency codes, and higher appliance efficiency standards.

- **David Pickles**, ICF International, presented "Energy Efficiency Baseline."

Mr. Pickles described ICF International and its mission, which is to support Energy Star initiatives through market potential studies, program design, planning and implementation, market research, training and education and other technical and financial analysis and support.

The "APS Energy Efficiency Baseline and Market Potential Study" was undertaken to support the implementation and development of the existing APS program, document the current status of energy efficiency products and practices in the APS service territory, and to quantify the potential impact of additional energy efficiency technologies. The study is one of the most detailed studies ICF has done and included the evaluation of likely market acceptance of these technologies with APS's supply-side alternatives. ICF examined the technical potential, economic potential and market potential for energy efficiency.

The study used a methodology that included measure identification, qualitative screening, analysis of technical potential, cost-effectiveness screening, and market share projections. Approximately 100 measures passed the qualitative screening and proceeded to a more detailed evaluation. ICF conducted telephone surveys with 600

residential customers and performed on-site data collection at 24 existing residential homes. ICF also conducted telephone surveys with market actors; 30 home builders; and 783 commercial and industrial customers. Based on the survey results, it is clear that the opportunity to influence decisions is when the customer is purchasing something new.

Mr. Pickles next discussed the definition of cost effectiveness used by ICF for the study. The study used the total resource cost test, which looked at the benefits and the costs. Examples of the benefits included avoided generation capacity, avoided transmission and distribution losses; avoided reserve margins; avoided fuel, emissions and O&M (the avoided costs are APS's avoided costs). The costs included the incremental cost of "efficient equipment" and the cost of running the program. The incentive payments from the utility to the participant were not included in the analysis because they are a cost to the utility and a benefit to the participant, which zeros them out from the total resource cost test perspective.

The implications of the ICF study are the following:

- There appears to be significant cost-effective potential for additional DSM programs.
- The size of the programs will be a function of program type and design, expenditure level and customer acceptance.
- Expenditure levels must be viewed in context with acceptable short-term rate impacts; forecast of fuel and generation costs, equity between customer classes, environmental policy, cost recovery, shareholder incentives and other policy considerations.
- Broader issues, such as governmental mandates, may have a significant impact on the expenditure and cost effectiveness of DSM programs.

#### **Presentation Discussion:**

A discussion occurred about technological changes that could occur in the next few years. One potential advance is in LED lighting, although there are mixed opinions on the timeframe for LED lighting. In jurisdictions in which ICF has done multiple studies, it seems that the potential for energy efficiency has remained fairly constant. This could be the result of changes in technology and in customers' perspectives.

A discussion also occurred regarding customers' views on payback timeframes. Although there are energy services companies that finance some of this, it tends to be more appealing to institutions, such as schools. The private sector tends to be less interested in them.

**John Sterling**, APS Resource Acquisition Department, presented "APS Demand Response Study."

Mr. Sterling explained that the purpose of the study was to assess the different types of Demand Response (“DR”) programs and determine the programs that would be cost-effective and beneficial. APS will file the Demand Response Study with the Commission by June 28, 2008. Unlike energy efficiency, a net reduction in consumption is not the goal for demand response (although some programs may result in net reduction in consumption). Rather, the goal is to have customers reduce/shift their consumption at the time of system peak. The DR Study explained the total resource cost test, which looks at net benefits; the societal cost test, which includes environmental factors; and the program administrator test, which focuses on the entity administering the program, as well as the estimated emissions impact of different programs.

Programs examined included: direct load control programs, such as residential air conditioning cycling, other residential load control and commercial and industrial load control; scheduled load management, including thermal energy storage, scheduled water pumping (time of use options) and battery storage; customer load response, including curtailable/interruptible rates, demand bidding/buyback, standby generation, and plug-in vehicles; and time-differentiated rates, including time of use rates, critical peak pricing and real-time pricing.

The residential survey conducted as part of the DR Study included 1,000 residential “low country” customers (those residing in desert regions of APS service territory) who own single family homes. The survey results indicated that 14-17% of all APS residential customers would be interested in allowing APS to remotely cycle their air conditioning unit via a thermostat or air conditioning switch. (This equates to 25-30% of low country single-family customers.) The preliminary findings from the DR Study are that the following programs should be considered: commercial and industrial direct load control; residential direct load control; residential super-peak pricing; and commercial/industrial/irrigation critical peak pricing pilot program. Other programs need additional evaluation by APS.

APS has issued an RFP, which is similar to a capacity call option contract, *i.e.*, APS could call on a third party and it would reduce customer load. APS received proposals in December, and the responses are still being considered by APS. As part of the consideration, the proposals were compared to a conventional supply-side resource and multiple companies with benefit/cost ratios greater than one were short-listed. Contract negotiations are on-going.

Mr. Sterling discussed the potential for demand response on the APS system. As shown in the results, the method of dispatch has a significant impact and longer durations tend to result in the potential to reduce more megawatts of energy. This implies that customers would be required to reduce load for longer periods on “event” days, which could limit the appeal of the demand response program. Also, a “snapback” (the amount of energy that was not consumed during a DR event that will still be consumed either pre-event or post-event) assumption of 50% greatly reduces the maximum demand response potential in most cases.

## **FUTURE MEETINGS AND AGENDAS:**

Mr. Albert discussed the next meeting, which will be held July 11, 2008 from 8:30am to noon at the same location. The meeting will include three items: 1) a discussion of portfolio level tradeoffs in resource alternatives; 2) a discussion of financial issues, *i.e.*, what will it take for the utility to implement resource options; and 3) a wrap-up to provide an opportunity for comments and additional input on the resource plan.

**APS Resource Alternatives Planning Workshop**  
**Friday June 6, 2008**  
**Attendance List**

<u>Name</u>	<u>Company</u>
Barbara Keene	Arizona Corporation Commission
Bud Annan	Annan Group
Chuck Skidmore	City of Scottsdale
Daniel Musgrove	Universal Entech
David Berry	Western Resource Advocates
David Pickles	ICF International
Debbie Kimberly	Salt River Project
Dimitrios Laloudakis	City of Phoenix
Gary Yaquinto	Arizona Investment Council
Ira Domsy	Arizona Department of Environmental Quality
Jana Brandt	Salt River Project
Jason Gellman	Roshka DeWulf & Patten, PLC
Jeff Schlegel	Southwest Energy Efficiency Project
John Coggins	Salt River Project
Jon Findley	Sierra Club
John LeSueur	Arizona Corporation Commission
Karen Nally	Moyes Storey
Laura Sanchez	Natural Resources Defence Council
Lew Dodendorf	Salt River Materials Group
Mark Marshall	K. R. Saline & Associates, PLC
Marty Rozelle	The Rozelle Group
Michael Hallam	Lewis & Roca
Mike Sheehan	Tucson Electric Power
Patrick Black	Fennemore Craig, P.C.
Ray Williamson	Arizona Corporation Commission
Tim Coley	Residential Utility Consumers Office
Stephen Mellentine	Salt River Project
Tom Alston	American Solar Electric, Inc
Tonya Norwood-Pearson	Arizona Association of Conservation Districts
Travis Wright	STMicroelectronics
Marylee Diaz Cortez	Residential Utility Consumers Office