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November 16, 2012

Arizona Corporation Commission
DOCKETED

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Docket Control
Arizona Corporation Commission
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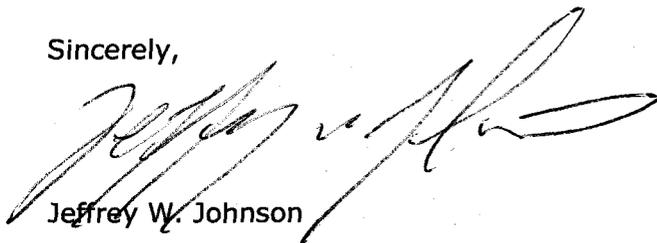
RE: Arizona Public Service Company's 2012 Integrated Resource Plan
Docket No. E-00000A-11-0113

On October 25, 2012, Staff held an Integrated Resource Planning workshop. Staff's Consultants presented a summary of their analysis and assessment completed regarding various utilities resource plans. At that time, Staff requested that parties file written comments in the docket responding to the presentation.

Attached, please find Arizona Public Service Company's comments to Staff's October 25, 2012 Resource Planning Assessment presentation.

If you have any questions regarding this information, please contact me at (602)250-2661.

Sincerely,



Jeffrey W. Johnson

JJ/cd

cc: Parties of Record

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This 16th day of November, 2012 to:

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Arizona Public Service Company
2012 Integrated Resource Planning Comments
Docket No. E-00000A-11-0113

Arizona Public Service (“APS”) appreciates the opportunity to provide feedback on the Arizona Corporation Commission (“Commission”) Staff Consultant’s (“Consultant”) presentation given at the second Integrated Resource Planning (“IRP”) workshop held on October 25, 2012. APS addresses the Consultant’s general findings identified on Page 57 of the presentation and then provides a few other general comments for the Consultant’s consideration.

- 1) On page 57, under general comments, the Consultant notes a perceived excessive reliance on short-term market purchases.**

The APS 2012 Resource Plan (“2012 IRP”) incorporates short-term market purchases into its resource mix as depicted in Attachment F.9(b) of the 2012 IRP. The short-term market purchases never exceed 4% of the APS Total Resources. These short-term purchases provide added flexibility to the resource plan.

- 2) On page 57 under general comments, the Consultant indicates a failure to consider all resource options.**

APS reviewed a number of commercially viable resource options in the 2012 IRP, as detailed in Attachment D.3 of APS’s Plan. APS looked at multiple types of natural gas generators, coal, integrated gasification combined cycle, nuclear, multiple solar technologies, wind, geothermal, biomass, biogas, energy efficiency (“EE”), distributed energy (“DE”), demand response (“DR”), and time-of-use rates.

- 3) On page 57, the Consultant notes that APS did not use a capacity expansion model, but rather developed plans manually.**

While APS did not use a capacity expansion model in the development of its 2012 IRP, APS performed extensive analyses and developed its portfolios based on input from a wide range of stakeholders, including: Commission Staff, clean energy proponents, merchant generators, equipment manufacturers, and other Arizona utilities.

Stakeholders specifically requested that APS create a portfolio representing a doubling of the RES standard, as well as a portfolio that showed the impacts of retiring the APS coal fleet. Although the use of a capacity expansion model is not required in the Commission’s resource planning rules, APS will evaluate the cost and benefits of including capacity expansion modeling in the development of future resource plans.

- 4) On page 57, the Consultant questioned APS’s consideration of new baseload generation and new nuclear generation.**

APS did consider new baseload generation and new nuclear options. However, based upon analysis of the results of APS’s dispatch model, APS has determined that it has

sufficient availability on its current combined cycle units to meet baseload requirements without incurring the expense of building new baseload resources.

Regarding new nuclear options, APS performed a busbar cost analysis on new nuclear capacity for screening purposes and found that nuclear had a higher capital cost than conventional resource options such as gas.

5) Page 24, Chart Depicting 2011 EE Energy Savings

The data reported by the various utilities included in the Consultant's chart may not result in an equivalent comparison due to varying assumptions among utilities. In 2011, APS did not report energy efficiency savings on EIA form 861 based on the cumulative impacts of EE while it appears that other utilities have included cumulative impacts.

APS's cumulative energy efficiency savings impacts from 1992 through 2011 are approximately 6.9% of 2010 retail sales or 1,916,036 MWh rather than the approximately 1.5% depicted in the chart.

6) Page 25, Chart Depicting 2011 Potential Peak Demand Reduction from DR

In 2011, APS did not report a peak demand reduction from demand response on EIA form 861. However, APS's potential peak demand reduction from DR programs could result in demand response reduction of approximately 2.8% as a percent of 2010 peak demand or 194 MW.

7) Page 26-29, EE, DR, Supply Side, and Distributed Generation Options Considered

The charts in the Consultant's presentation do not reflect all energy efficiency, demand response, supply side, and distributed generation options considered by APS. It should be noted that every option or program evaluated by APS may not have been specifically referenced in the 2012 IRP. The following charts depict the additional options considered by APS. APS requests that the Consultant revise their charts accordingly to reflect that APS considered the options identified below.

Page 26, Energy Efficiency Options - Additions

Energy Efficiency	APS Treatment
<u>Residential EE</u>	
Education and Outreach	Included in IRP
Energy Codes Enhancement Program	Included in IRP
Residential Energy Financing	Included in IRP
SEER Air Conditioners	Included in IRP
LED Christmas Lights	Considered, but rejected

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Thermostatic Controlled Showerheads	Included in IRP
In-Home Display	Included in IRP
<u>Non-Residential EE</u>	
Bid for Efficiency	Included in IRP
Combined Heat and Power	Considered, but rejected
Retro-Commissioning	Included in IRP
Refrigerated Display LED Lighting Strips	Included in IRP

Page 27, Demand Response Programs Considered - Additions

<u>Demand Response</u>	<u>AFS Treatment</u>
<u>Residential</u>	
Direct Load Control	Included in IRP
<u>Non-Residential</u>	
Direct Load Control	Included in IRP

Page 28, Supply-Side Options Considered - Additions

<u>Supply Side Options</u>	<u>AFS Treatment</u>
<u>Energy Storage</u>	
Compressed Air Energy Storage	Considered, but rejected
Batteries	Considered, but rejected
<u>Purchased Power</u>	
Long-Term	Included in IRP - Considered as a resource option but specific ownership is not specified. Any future resource considered could be structured as a purchase power agreement.

Page 29, Distributed Generation Considered - Additions

Distributed Generation ("DG") The DG options identified below are eligible for APS's RES program, under R14-2-1802 (A) and (B).	APS Treatment
Solar Space Heating & Cooling	In the 2012 IRP, APS assumes compliance with the RES Standard. APS does not specifically break down its DG assumptions by resource type.
Small Hydro	
Small Wind	
Biogas or Biomass	

8) Page 30, Assumptions Natural Gas Combustion Turbine Cost

It appears the Consultant may have based the cost identified in its presentation for a natural gas combustion turbine on one 7FA chilled inlet combustion turbine. However, the natural gas combustion turbine used in the base assumptions for APS's 2012 IRP is the LMS100PA. The construction cost for this technology is \$1,012 per kW. Detail about this technology can be found on Attachment D.3 at ATT – 68 of the APS 2012 IRP. APS requests that the natural gas combustion turbine cost information be updated accordingly.

9) Page 34, APS Plans Considered

All four portfolio plans considered by APS assume full compliance with the Commission's EE and Renewable Energy Standards ("RES"). The presentation notes EE and RES compliance only in relation to the APS Base Case. The information should be updated to reflect EE and RES compliance in all of APS's portfolios: Base Case, Four Corners Contingency, Enhanced Renewable, and Coal Retirement plans.

Under the Enhanced Renewable option, the presentation indicates that 30% additional energy needs are met with renewable energy which is not accurate. To clarify, the statement should reflect the fact that 30% of retail sales are met with renewable energy under this option.

10) Page 56, Rate Impacts

This slide appears to reference average annual rate increases at specified percentage levels. This representation is not correct. The rate impact percentages referenced in this slide refer only to estimated future generation and associated future transmission costs and are not necessarily reflective of rate increases. APS requests that this slide be clarified.