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April 27, 2010

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

RE: Arizona Corporation Commission Inquiry into the Externalities of Electric Generation
E-00000J-10-0053

Pursuant to a request made by Commissioners at the April 9, 2010, workshop in the above-referenced matter, Arizona Public Service Company hereby submits a Water Resources Contingency Plan as Attachment A, and an updated water usage graph as Attachment B.

If you have any questions regarding this information, please contact Erinn Andreasen at (602)250-3276.

Sincerely,

Susan Casady

SC/sl
Attachments

cc: Steve Olea
Janice Alward
Lyn Farmer

Arizona Corporation Commission
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Attachment A

**Arizona Public Service Company
Water Resources Contingency Plan
April 2010**

The objective of the APS Water Resources Contingency Plan ("Plan") is to ensure adequate water supplies are available to support generation at existing APS owned/operated facilities during times of water shortage. Although water shortages may occur due to drought or other factors, this Plan is intended to protect generation from water-related disruption of services.

Water supplies are divided into two major categories; 1.) renewable ("surface water" or "effluent"), and 2.) non-renewable ("groundwater"). Renewable supplies are preferable to non-renewable due to higher reliability, lower risk of service disruption, and reduced need for contingency supplies. To achieve the objectives of the Plan, a three-phased strategy was developed:

- Phase 1 - Water Acquisition
- Phase 2 - Contingency Plans (back-up for non-renewable water supplies or for adverse conditions impacting all water supplies, i.e., drought).
- Phase 3 - Monitor and Review

Phase 1 – Water Acquisition. APS has acquired sufficient Phase 1 water supplies at all generation sites to meet current generation demand.

Phase 2 – Contingency Plans. Contingency plans for each site have been developed and are either executed or in progress. Following is a summary of current APS generation facilities and associated water contingency plans.

1. Palo Verde Nuclear Generating Station – Palo Verde, co-owned by APS and six other Participants, is the largest power producer and consumer of water among the APS owned/operated fleet. Palo Verde is located within the Phoenix Active Management Area ("AMA"). In 1973, effluent was purchased from the Sub-Regional Operating Group, owners of the 91st Avenue Wastewater Treatment Plant, for cooling water use at Palo Verde. The initial contract period of 40 years was scheduled to expire in increments between 2025 and 2027, and in 2010 a new contract was put in place to extend the supply of renewable water to Palo Verde through 2050 with an option to renegotiate for an additional 20 years. Site drinking water and industrial process water (relatively small volume when compared to cooling water) are pumped from Arizona Department of Water Resources ("ADWR") permitted wells with associated long-term water rights sufficient in quantity to meet current demand. Groundwater withdrawals are metered and reported to ADWR consistent with permit requirements.
2. Redhawk Power Plant – Redhawk is a combined cycle natural gas plant located within the Phoenix AMA, and is wholly owned and operated by APS. Cooling water is treated effluent, a renewable supply delivered under a long-term contract with Palo Verde. Site drinking water and industrial process water (relatively small volume when compared to cooling water) are pumped from ADWR

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permitted wells with associated long-term water rights sufficient in quantity to meet current demand. This non-renewable water supply is backed up by APS fleet groundwater rights. These water rights are available within the Phoenix AMA in sufficient quantity to support current needs of Redhawk, Ocotillo, and West Phoenix Power Plants, and to provide flexibility of use between the three plants. Groundwater withdrawals are metered and reported to ADWR consistent with permit requirements.

3. West Phoenix Power Plant – West Phoenix is a combined cycle natural gas plant located within the Phoenix AMA, and is wholly owned and operated by APS. Cooling water and plant process water are pumped from wells regulated by ADWR with associated long-term water rights sufficient in quantity to meet current demand. This non-renewable water supply is backed up by APS fleet groundwater rights. These water rights are available within the Phoenix AMA in sufficient quantity to support current needs of Redhawk, Ocotillo, and West Phoenix Power Plants, and to provide flexibility of use between the three plants. Groundwater withdrawals are metered and reported to ADWR consistent with permit requirements. Drinking water is provided by the City of Phoenix.
4. Ocotillo Power Plant – Ocotillo is a natural gas/oil plant located in Tempe, Arizona within the Phoenix AMA, and is wholly owned and operated by APS. Cooling water and plant process water are pumped from wells regulated by ADWR with associated long-term water rights sufficient in quantity to meet current demand. This non-renewable water supply is backed up by APS fleet groundwater rights. These water rights are available within the Phoenix AMA in sufficient quantity to support current needs of Redhawk, Ocotillo, and West Phoenix Power Plants, and to provide flexibility of use between the three plants. Groundwater withdrawals are metered and reported to ADWR consistent with permit requirements. Drinking water is provided by the City of Tempe.
5. Saguaro Power Plant – Saguaro is a natural gas plant consisting of steam and combustion turbine units located north of Tucson within the Tucson AMA, and is wholly owned and operated by APS. Cooling water, plant process water, and drinking water are pumped from wells regulated by ADWR with associated long-term water rights sufficient in quantity to meet current demand. Groundwater withdrawals are metered and reported to ADWR consistent with permit requirements.
6. Sundance Generating Station – Sundance is a natural gas plant consisting of combustion turbine units located in Coolidge, Arizona within the Pinal AMA, and is wholly owned and operated by APS. Sundance receives water primarily from the Central Arizona Project (“CAP”) through the Excess Water program. On a yearly basis, the APS Water Resources Department (“APS Water Resources”) contracts with the Central Arizona Project and the Hohokam Irrigation District for delivery of CAP/Colorado River water for use at the facility. Although the site

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does not utilize cooling towers (as all units are combustion turbines), it does utilize water for a variety of power generation purposes and for plant drinking water. CAP Excess Water contracts are subject to curtailment when Excess Water is not available; therefore, two water supply contingency plans have been identified. A Development Plan is in place with ADWR to allow for conversion of existing Irrigation Grandfathered Groundwater Rights to Type 1 Industrial Grandfathered Rights in quantities substantially exceeding current annual requirements. Sundance also has existing groundwater rights which would allow it to withdraw groundwater for use in limited quantities. As an alternative, APS could lease or purchase CAP Municipal and Industrial (M&I) water rights, if available, from an existing CAP contractor.

7. Yucca Power Plant – Yucca is a natural gas-fueled plant consisting of steam and combustion turbine units located in Yuma, Arizona. Yucca is operated by APS and is jointly owned by Imperial Irrigation District. Yucca withdraws Colorado River water (groundwater within Colorado River Accounting Area regulated as surface water) pursuant to a 5th/6th priority contract¹ with the Bureau of Reclamation. If a shortage is declared, the 5th/6th priority water could be lost resulting in possible interruption to operations. APS is evaluating alternative supply options which would protect Yucca from Colorado River shortages including construction of a new well outside of the Colorado River Accounting Area, purchasing cooling water from local water providers, or purchasing higher priority Colorado River water rights.

8. Cholla Power Plant – Cholla is a coal-fired power plant located in Navajo County within the Joseph City Irrigation Non-Expansion Area (INA) about two miles east of Joseph City, Arizona. Cholla is operated by APS and is jointly owned with PacifiCorp. Cooling water, plant process water, and drinking water are pumped from wells regulated by ADWR with associated long-term water rights, sufficient in quantity to meet current demand. Groundwater withdrawals are metered and reported to ADWR consistent with permit requirements. As a contingency to this non-renewable groundwater supply, APS has entered into negotiations with Joseph City Irrigation Company to utilize its wells and a portion of its surface water rights with an 1876 priority date.

9. Four Corners Power Plant – Four Corners is a coal-fired power plant located near Farmington, New Mexico. Four Corners is operated by APS and is jointly owned with five other participants. Cooling water, plant process water, and drinking water are acquired from the San Juan River and the Navajo Reservoir, managed by the U.S. Department of the Interior, Bureau of Reclamation. The water is delivered through a contract with BHP (mining operation) and is sufficient for

¹ Under this contract type, 5th/6th priority water is the lowest priority Colorado River water contracted by the Bureau of Reclamation. This priority water would be the first water reduced or cut if a shortage was declared on the Colorado River.

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current needs, but is subject to declared shortages in times of drought. Therefore, APS has entered into a Shortage Sharing and Mitigation agreement with other users of the San Juan River which allows APS to take additional water in times of shortage or to share equally in cutbacks. A 10-year supplemental water supply agreement with the Jicarilla Apache Nation was signed in 2007 whereby APS reserves access to additional surface water supplies. APS monitors snowpack conditions and stream flows in the Upper Colorado River and reservoir levels, including Navajo Reservoir levels, on the Bureau of Reclamation official website.

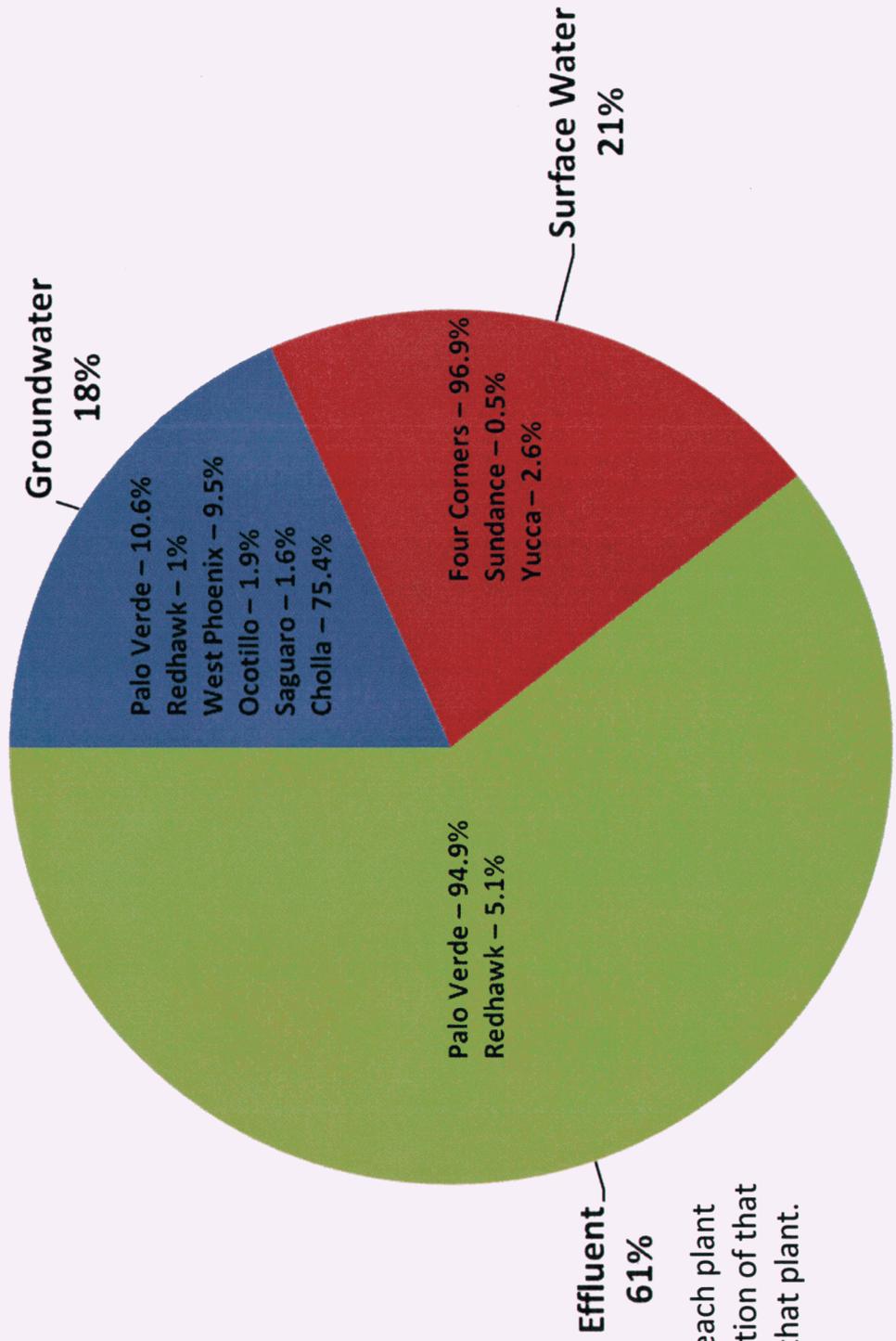
Phase 3 – Monitor and Review. APS Water Resources Department performs a continuous review of water conditions associated with each plant's water supplies. The following actions are taken to ensure water is available where and when it is needed in support of generation:

- Monitoring official records of current surface water conditions, watershed changes, weather patterns, groundwater levels, and factors that may impact water supplies.
- Proactive communication with plant sites to achieve a thorough understanding of operational changes that may influence water consumption.
- Consolidation of water data from all plants on a central website to improve feedback of water data and understanding of corporate water issues.
- Monitoring legal and regulatory changes to anticipate changes in water demand associated with such changes.
- Working with the APS Resource Planning Department to understand and prepare for future water needs.
- Monitoring the water market and recommending purchases.
- Monitoring and maintaining current water contracts.
- Monitoring stream adjudications and water rights issues.
- Actively pursuing technological innovations that improve water use efficiency.
- Engaging with local, regional, and national stakeholders, including regulatory agencies, to improve understanding of water/energy issues.

Attachment B

APS Fleet Water Usage by Source

Type 2009



Percentages next to each plant represent the proportion of that source type used by that plant.