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BEFORE THE ARIZONA CORPORATION COMMISSION

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Arizona Corporation Commission
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IN THE MATTER OF RESOURCE PLANNING AND PROCUREMENT.	DOCKET NO. E-00000V-13-0070 **AMENDMENT TO APS'S 2014 IRP** **-AND-** **REQUEST TO APPROVE APS'S PLANS FOR CHOLLA UNIT 2 PURSUANT TO A.A.C. RULE 14-2-704(E)**

On April 1, 2014, Arizona Public Service Company ("APS" or "Company") filed its 2014 Integrated Resource Plan ("IRP"). Because of changes in the regulatory environment and on-going discussions with the federal Environmental Protection Agency, the Arizona Department of Environmental Quality and the owner of Cholla Unit 4, PacifiCorp, APS now supplements and amends its IRP to select a different portfolio of resources than the Selected Portfolio ("April 2014 Selected Portfolio") previously chosen in its April filing. APS's 2014 IRP Supplement is attached as Attachment A (hereafter "Supplement"). In the Supplement, APS now chooses as its selected portfolio a Managed Coal Strategy (formerly referred to as the "Coal Reduction Portfolio"), rather than the portfolio chosen in its April 1, 2014 filing. The Managed Coal Strategy includes the retirement of APS's coal-fired Cholla Power Plant Unit 2 and conversion or retirement of Cholla Units 1 and 3, reducing APS's projected coal generation as a percentage of it energy mix from 24.9 % to 16.9% by 2029.[1] This action allows APS to avoid significant environmental and generation upgrade costs on the Cholla plant, to the benefit of APS customers.

APS requests that the Commission specifically approve its proposed plans for the future of Cholla Unit 2 pursuant to A.A.C. Rule 14-2-704(E).

I. APS Changes Its Selected Portfolio to The Managed Coal Strategy.

APS's IRP analyzed four alternative portfolios, including the originally selected portfolio, an enhanced renewable portfolio, a managed coal strategy, and a coal-to-gas conversion portfolio. Each of those alternative portfolios is briefly summarized in the table below.

2014 IRP Portfolios Considered	April 2014 Selected Portfolio (2014 IRP – Selected Portfolio)	Enhanced Renewable Portfolio	Managed Coal Strategy (2014 IRP - Coal Reduction Portfolio)	Coal-to-Gas Conversion Portfolio
Description	Modernize Ocotillo; continue coal operations; EE and RE compliance	Modernize Ocotillo; continue coal operations; EE compliance; RE well above compliance	Modernize Ocotillo; replace Cholla with gas and renewable generation; EE and RE compliance	Modernize Ocotillo; convert Cholla to gas operation; EE and RE compliance
Resource Contributions (2029 Peak Capacity Contribution / % Energy Mix)				
Nuclear	1,146 MW / 18.1%	1,146 MW /18.1%	1,146 MW /18.1%	1,146 MW / 18.1%
Coal	1,932 MW / 24.5%	1,932 MW / 23.4%	1,285 MW / 16.9%	1,285 MW / 16.9%
Natural Gas & Demand Response	7.137 MW / 28.5%	6,933MW / 21.9%	7,749 MW / 35.0%	7,784 MW / 36.1%
Renewable Energy & Distributed Energy	1,088 MW / 13.6%	1,298 MW / 21.3%	1,117 MW / 14.7%	1,088 MW / 13.6%
Energy Efficiency	1,722 MW / 15.3%	1,722 MW / 15.3%	1,722 MW / 15.3%	1,722 MW / 15.3%

[1] The Managed Coal Strategy includes the closure of Cholla Unit 2 in April of 2016 and the retirement of Cholla Units 1 and 3 in the mid-2020s. APS, however, reserves the right to convert Units 1 and 3 to natural gas, rather than retire them, depending upon future needs and the economics of a coal to gas conversion at that time.

In the April 2014 IRP, APS made the April 2014 Selected Portfolio its chosen alternative because it provided a reasonable combination of overall economic performance, diversity in generation to meet reliability requirements and integrate renewable energy, and, at the time, was viewed as the best approach to manage uncertainty. Given APS's discussions with environmental regulators and its plans for the future, APS's choice of portfolios must change. Specifically, by this filing and attached Supplement, APS chooses as its selected alternative the Managed Coal Strategy as outlined in the IRP. Like the portfolio selected in April, the Managed Coal Strategy includes APS's proposed Ocotillo Modernization Project. However, the Managed Coal Strategy also assumes that Cholla Unit 2 is retired on or before April 1, 2016 to avoid the substantial environment upgrade costs. It further assumes that no coal will be burned at Cholla Units 1 and 3 after the expiration of the plant's current coal agreement in the mid-2020s.

The Cholla Power Plant is a four-unit 1,027 MW coal-fired power plant located in northeastern Arizona, near Holbrook. APS operates the plant and owns all of Units 1 (116 MW), 2 (260MW), and 3 (271MW). Unit 4, the largest of the Units with capacity of 380 MW, is owned by PacifiCorp.

II. APS Requests that The Commission Approve Its Cholla Unit 2 Retirement Plans.

A.A.C. Rule 14-2-704(E) provides that "[a] load-serving entity may seek Commission approval of specific resource planning actions." Pursuant to this rule, APS requests that, in addition to acknowledging APS's IRP as amended and supplemented, the Commission specifically approve the Company's plans for the retirement of Cholla Unit 2 in 2016.

A. *Resource Planning Benefits and Impacts of Cholla Retirement Plans*

Like the originally selected April 2014 Selected Portfolio, the Managed Coal Strategy allows APS to maintain a diverse energy mix. Additionally, the Managed Coal Strategy benefits from the added flexibility provided by a slight increase in both natural gas generation and renewable energy resources over the April selected portfolio because of their complementary attributes. The Managed Coal Strategy allows APS to proactively address environmental regulations, including the Mercury and Air Toxics Standard ("MATS") and Regional Haze rules, while delivering a sufficient mix of reliability, sustainability and customer choice that also maintains diversity and balances costs.

B. Environmental Benefits and Impacts of Cholla Retirement Plans

There are significant environmental benefits to the Managed Coal Strategy, which include water usage and emission reductions. As outlined in the IRP and Supplement, total water usage increases only 4.7% (verses 15.5% under the originally selected portfolio), a very moderate amount given the 52% projected load growth over the planning period. Likewise, carbon dioxide emissions with the Managed Coal Strategy increase over the planning period by a modest 10.4% rather than 31.3%. Thus, this change in portfolio and APS's plans for Cholla result in positive improvements for our environment.

C. Economic Benefits and Impacts of Cholla Retirement Plans

The Managed Coal Strategy also results in economic benefits for APS customers. This portfolio has a 2029 NPV revenue requirement that is $106 million less than the April 2014 Selected Portfolio. By closing Cholla Unit 2 in 2016, the Company will avoid the substantial costs associated with installing pollution control equipment on that unit to comply with MATS and the Regional Haze Rules, amongst other cost savings.

III. Conclusion

As demonstrated above and discussed in the IRP Supplement, the Managed Coal Strategy will save APS customers money compared to other plausible resource scenarios. It also provides significant environmental benefits and minimizes the cost impacts to APS customers of the MATS and Regional Haze Rules. Finally, it provides flexibility with the EPA to preserve the current status of Cholla Units 1 and 3 through the mid-2020s while still keeping open the option of gas conversion thereafter if that appears to be in the best interests of APS customers. Accordingly, APS asks that the Commission enter an Order consistent with the following:

A. IT IS THEREFORE ORDERED that APS's 2014 IRP as supplemented and amended is acknowledged pursuant to A.A.C. Rule 14-2-704(B); and

B. IT IS FURTHER ORDERED that APS's proposed plans for Cholla Unit 2, as discussed herein and in APS's 2014 IRP as supplemented and amended, are approved pursuant to A.A.C. Rule 14-2-704(E).

RESPECTFULLY SUBMITTED this 17th day of September 2014.

By: Thomas L. Mumaw

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Attorneys for Arizona Public Service Company

ORIGINAL and thirteen (13) copies of the foregoing filed this 17th day of September 2014, with:

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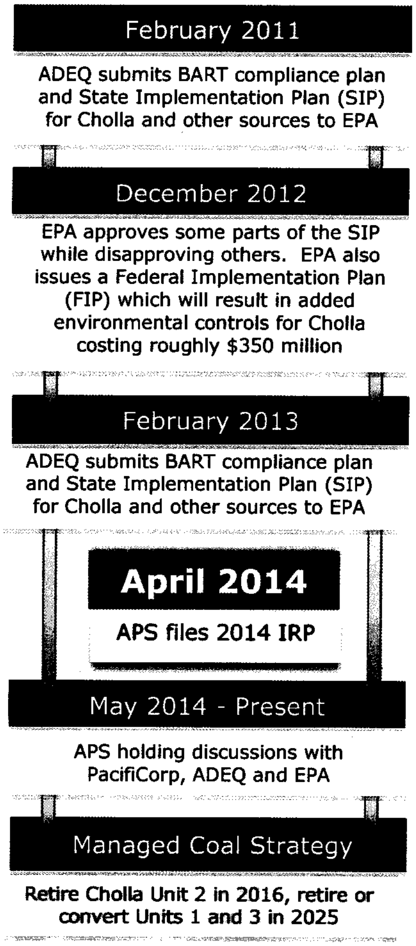
ATTACHMENT A

2014 IRP SUPPLEMENT INTRODUCTION

In filing this supplement to its 2014 Integrated Resource Plan (IRP), APS is modifying its portfolio selection from the Selected Portfolio (hereafter referred to as the April 2014 Selected Portfolio) to the Coal Reduction Portfolio (hereafter referred to as the Managed Coal Strategy and also known as the September 2014 Selected Portfolio) for the 2014-2029 Planning Period. This modification is being submitted because of post-filing discussions with PacifiCorp[1], ADEQ and EPA regarding the compliance status of the Cholla power plant under EPA's Mercury Air Toxics Standard (MATS) and Regional Haze requirements. In particular, these discussions focus on the economic challenges of investing in further environmental upgrades at Cholla given their small unit size and associated equipment costs to meet compliance.

Potential APS resolution with ADEQ and EPA facilitates the Managed Coal Strategy



To address this issue, APS is proposing a strategy for the Cholla power plant similar to the one taken with the Four Corners Power Plant. The 2012 IRP detailed the Four Corners transaction, in which APS ultimately decided to retire Units 1-2-3 in exchange for delaying the installation of selective catalytic reduction (SCR) on Units 4 and 5 and acquiring SCE's share of Units 4-5. The Four Corners strategy underscored APS's commitment to a diverse energy mix.

The 2014 IRP Action Plan highlighted seven items projected to be focal points for the near-term. One of those items was the evaluation and resolution of Cholla, in light of the string of events involving the EPA depicted in the graphic at left. At issue with Cholla is the $350 million in new environmental control costs that the EPA requires for APS's Units 1-3 under the EPA's Regional Haze program and MATS.

In addition to the Best Available Retrofit Technology (BART) requirements of the Regional Haze program – as detailed on the next page – Unit 2 is also subject to MATS requirement costs of $135 million. Together, those requirements impose added costs to APS customers of roughly $235 million – a sum that is in excess of that Unit's remaining book value. Given that Unit 2 is relatively small, justifying such a significant investment in required environmental controls simply doesn't make sense economically if better alternatives are available

Just as the Four Corners Transaction prompted APS to shut down the smaller Units 1-2-3 rather than make the $586 million capital investment for environmental upgrades, APS is now in discussions with the ADEQ and EPA that will likely result in the retirement of Cholla Unit 2 (260 MW) to avoid further environmental investment in that Unit. The Cholla Units are of a similar size to the now retired, Four Corners Units 1-3, lacking in sufficient scale to support the capital expenditures required for compliance. The fact that the EPA rules tend to hit smaller units the hardest is well evidenced by the examples of other coal retirements across the country, which, like Cholla Unit 2 and Four Corners Units 1-3, are small relative to those units able to economically withstand the additional capital spend.

The 2014 IRP contemplated this potential course of events. The Coal Reduction Portfolio, introduced in the Executive Summary and discussed in Chapter 4, envisioned that Cholla Unit 2 would be retired in 2016 to avoid costly environmental upgrades and that Units 1 and 3 would no longer burn coal beyond the expiration of their coal contract. Going forward, the options for Units 1 and 3 include

[1] PacifiCorp owns 100% of Cholla Unit 4

either retirement or conversion to natural gas in 2025, the latter of which was discussed as an alternative in the Coal to Gas Conversion Portfolio of the 2014 IRP.

CHOLLA UNIT 2 CHALLENGES

As discussed in the 2014 IRP Chapter 3 and Section D, the cost of environmental compliance facing Cholla Unit 2 is two-fold:

a. $135 million - Mercury and Air Toxics Standard (MATS)
This rule establishes standards and requirements for reducing mercury and other Hazardous Air Pollutant (HAP) emissions from certain electric generating units. Under this rule, APS is required to install a fabric filter and perform scrubber upgrades for Cholla Unit 2, and install activated carbon injection for Cholla Units 1-3. Similar to the retired, smaller Four Corners Units 1-3, Cholla 2 does not currently have a fabric filter. Cholla 2 upgrade costs are discussed in the 2014 IRP Section E.

b. $100 million - Regional Haze Rule
This EPA rule requires an analysis of the impacts of air emissions from certain industrial facilities and the installation of BART to control emissions from those facilities to improve visibility in affected national parks and wilderness areas. The focus of the regulation is to reduce emissions of nitrogen oxides (NOx), sulfur dioxide (SO2) and particulate matter (PM), which contribute to visibility impairment in these federal areas.

On December 5, 2012, EPA issued a final BART rule applicable to Cholla. EPA approved ADEQ's BART emission limits for SO2 and emissions of PM, but added an SO2 removal efficiency requirement of 95%. In addition, EPA disapproved ADEQ's BART determination for NOx on which Arizona's state implementation plan (SIP) was based, and promulgated a federal implementation plan (FIP) establishing more stringent NOx requirements. In order to comply with these requirements, APS will be required to install costly SCR technology on Units 2 and 3. APS's total plant costs for these post-combustion NOx controls would be approximately $200 million – covering Cholla Units 2 and 3 – split relatively evenly. Under the FIP, APS has five years from December 2012 to complete installation of the equipment and achieve the BART emission limit for NOx.

HOW THE MANAGED COAL STRATEGY CHANGES THE IRP

At the time of the 2014 IRP filing, discussions with EPA and others regarding environmental compliance options for Cholla had not progressed to a point where any potential decision regarding the fate of the plant could be determined with any certainty. The April 2014 Selected Portfolio was chosen because it provided the most reasonable combination of overall metrics. However, in recognition of the fluidity in the planning process, the Executive Summary stated: *"Moving through the Planning Period, circumstances governing current assumptions and forecasts will undoubtedly change and will be updated in future resource plans, potentially shifting the preferred portfolio."*

The advancing discussions regarding Cholla have prompted a shift, with the preference now given to the Managed Coal Strategy, as it reduces costs for customers as well as exposure to future uncertainties, while maintaining a diverse and flexible resource mix. At the same time, the potential for continued operation of Cholla 1 and 3 beyond the mid-2020s using natural gas is preserved and will be addressed in future IRP filings.

<u>MANAGED COAL STRATEGY BENEFITS</u>

- Lower comparative revenue requirements
- Lower CO2 emissions
- Lower water consumption
- Modestly higher gas burn
- Greater operational and financial flexibility

ATTACHMENT A

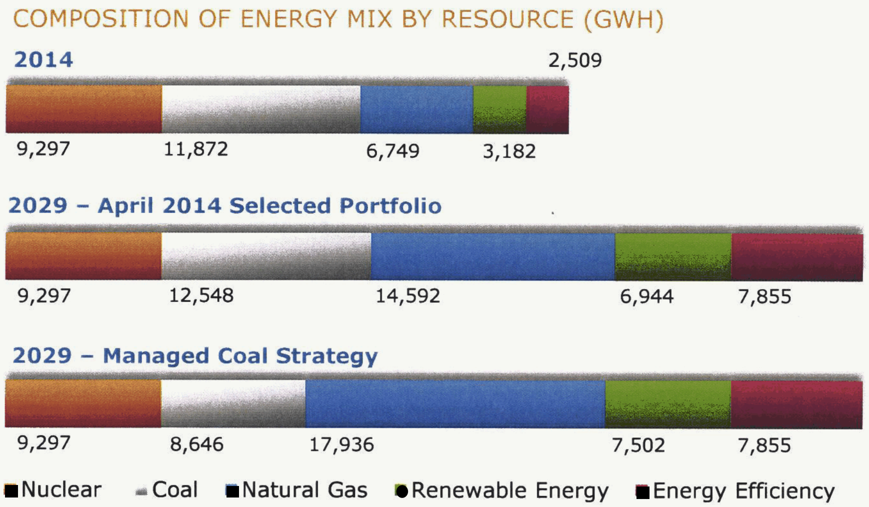
Side-by-Side Comparison

The following table provides a side-by-side comparison of the April 2014 Selected Portfolio and the Managed Coal Strategy, including benefits, rationale and detailed peak capacity contributions for each.

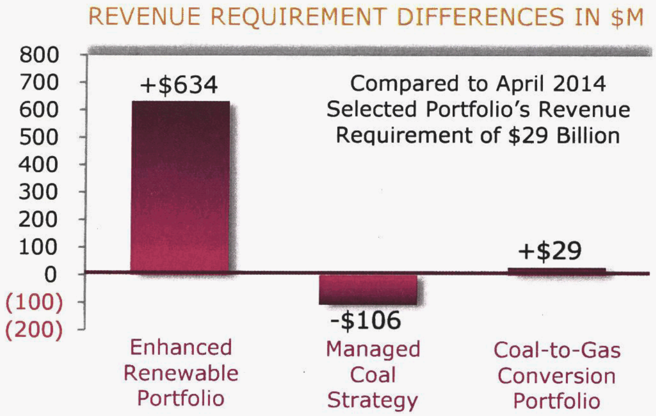
2014 IRP PORTFOLIOS CONSIDERED	APRIL 2014 SELECTED PORTFOLIO (2014 IRP - Selected Portfolio)	MANAGED COAL STRATEGY (2014 IRP - Coal Reduction Portfolio)
Description	Modernize Ocotillo; continue coal operations; EE and RE compliance	Modernize Ocotillo; replace Cholla with gas and renewable generation; EE and RE compliance
Rationale	**Designed to deliver a portfolio of generation resources that does not overly rely on one specific fuel source during the 15-year Planning Period. APS achieves compliance with Energy Efficiency and Renewable Energy Standards. The remaining growth is met with demand response and natural gas resources.**	**Developed to determine impact of reducing APS's coal generation and evaluate the impact of retiring coal if the Four Corners transaction was consummated. It was assumed that Cholla 2 would be retired in April 2016 and Cholla 1 & 3 would be retired by 2025.**
Benefit	52% of energy growth is met by emissions-free resources. This portfolio results in a diverse set of resources by expanding natural gas, renewables and energy efficiency. By 2029, the contribution of coal and nuclear in this portfolio would fall to 43% due to load increasing and coal and nuclear generation remaining constant.	Reduces APS's coal generation from 24.5% in 2029 to 16.9%, and accordingly reduces risk associated with the cost of other environmental controls. Estimates that 55% of future energy growth is met by emissions-free resources. Maintains fuel diversity.
RESOURCE CONTRIBUTIONS (2029 PEAK CAPACITY CONTRIBUTION / % ENERGY MIX)		
Nuclear	1,146 MW / 18.1%	1,146 MW / 18.1%
Coal	**1,932 MW / 24.5%**	**1,285 MW / 16.9%**
Natural Gas	7,137 MW / 28.5%	7,749 MW / 35.0%
Renewable Energy & Distributed Energy	**1,088 MW / 13.6%**	**1,117 MW / 14.7%**
Energy Efficiency & Demand Response	1,722 MW / 15.3 %	1,722 MW / 15.3%

More Flexibility, Increased Savings, Reduced Environmental Impact

In both the April 2014 Selected Portfolio and the Managed Coal Strategy, APS maintains a diverse energy mix. The added flexible generation in the Managed Coal Strategy will bridge conventional and renewable resources, facilitating more integration of variable energy assets as they continue to grow. With 35% of energy still generated from traditional baseload power – versus 43% under the April 2014 Selected Portfolio - the Managed Coal Strategy

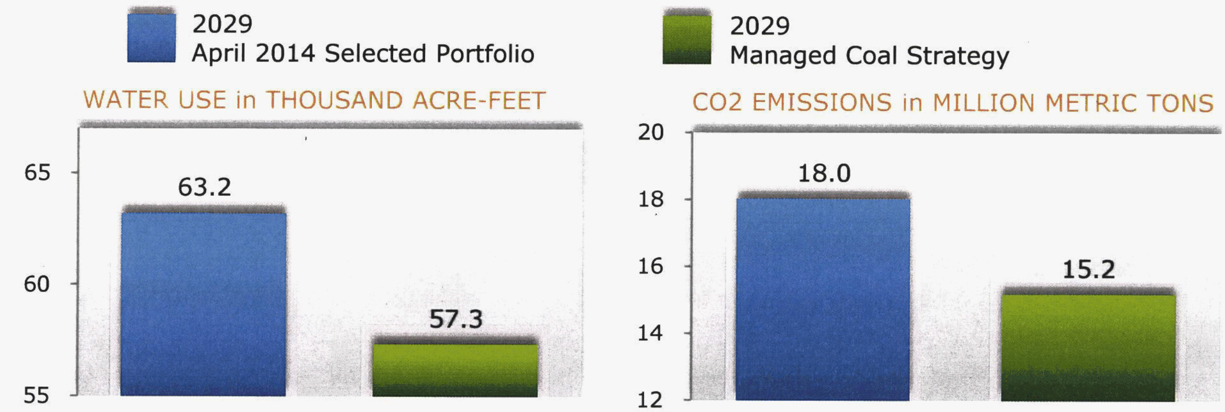


delivers a reasonable mix of reliability, sustainability, cost and diversity suitable for a changing energy environment. In addition, the Managed Coal Strategy underscores diversity by expanding on two complementary resource classes – namely, natural gas and renewable energy.



The modification to the Managed Coal Strategy will also produce a comparative cost savings of $106 million to APS customers over the 2014-2029 Planning Period. The reduction stems from a decreased need for environmental controls as over 50% of future energy growth is projected to be met with emission-free resources. As there are many economic, environmental and risk trade-offs, the Managed Coal Strategy will reduce APS's susceptibility to the uncertainties of an evolving energy market under an array of future economic and environmental conditions.

Other comparisons are also favorable. The following graphs depict the difference in environmental impact between the April 2014 Selected Portfolio and the Managed Coal Strategy. An analysis of other portfolios reviewed in the 2014 IRP can be found in Chapter 4. Within that analysis, the portfolios were subjected to a variety of scenarios to determine their robustness over the course of the Planning Period. Across all scenarios, the Coal Reduction Portfolio (now the Managed Coal Strategy) had the lowest CO_2 emissions and water use of the several portfolios reviewed.



By 2029, total water usage under the Managed Coal Strategy is forecast to be 9.3% less than under the April 2014 Selected Portfolio. In addition, the improvement in water intensity – the rate at which APS's generation portfolio uses water – is significant. The Managed Coal Strategy reduces water intensity by 31.3% during 2014 - 2029, a substantial improvement over the April 2014 Selected Portfolio's intensity reduction of 24.3%. The lower water intensity rates in the Managed Coal Strategy stem from that portfolio's reduction of water-intensive coal generation in favor of less water-intensive assets.

CO_2 emissions are also improved. By 2029, CO_2 emissions under the Managed Coal Strategy are projected to be 15.6% less than under the April 2014 Selected Portfolio. Similar to the discussion on water intensity, the projected improvement in CO_2 intensity – how many pounds of emissions per MWh - is even more dramatic with a 27.5% decrease under the Managed Coal Strategy over the Planning Period versus a 13.8% reduction under the April 2014 Selected Portfolio – almost a 50% improvement. The emissions advantage in the Managed Coal Strategy is driven by the pull-back from high-emitting resources towards a greater reliance on low-and zero-emitting resources.

ATTACHMENT A

CONCLUSION

Based on the cost to comply with EPA's MATS and Regional Haze requirements for Cholla Unit 2 and discussions to date with EPA and others on this issue, APS is modifying the 2014 IRP portfolio selection to the Managed Coal Strategy.