ORIGINAL

0000125550

BEFORE THE ARIZONA CORPORATION COMMISSION

RECEIVED

2011 MAY 31 P 4: 54

AZ CORP COMMISSION
DOCKET CONTROL

COMMISSIONERS

GARY PIERCE - Chairman
BOB STUMP
SANDRA D. KENNEDY
PAUL NEWMAN
BRENDA BURNS

IN THE MATTER OF THE APPLICATION OF ARIZONA PUBLIC SERVICE COMPANY FOR AUTHORIZATION FOR THE PURCHASE OF GENERATING ASSETS FROM SOUTHERN CALIFORNIA EDISON AND FOR AN ACCOUNTING ORDER.	**DOCKET NO. E-01345A-10-0474** **STAFF'S NOTICE OF FILING DIRECT TESTIMONY**

Staff of the Arizona Corporation Commission ("Staff") hereby files the Direct Testimony of Staff Witnesses Laura A. Furrey, Jeffrey M. Michlik and Margaret "Toby" Little in the above-referenced matter.

RESPECTFULLY SUBMITTED this 31st day of May, 2011.

Wesley C. Van Cleve
Scott Hesla
Attorneys, Legal Division
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007
(602) 542-3402

Original and thirteen (13) copies of the foregoing filed this 31st day of May, 2011, with:

Docket Control
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

Arizona Corporation Commission
DOCKETED
MAY 31 2011
DOCKETED BY

Copy of the foregoing mailed this
<u>31st</u> day of <u>May</u>, 2011, to:

Meghan H. Grabel
Thomas L. Mumaw
PINNACLE WEST CAPITAL CORP.
P.O. Box 53999, Mail Station 8695
Phoenix, Arizona 85072-3999

Greg Patterson
Attorney at Law
916 West Adams Street, Suite 3
Phoenix, Arizona 85007
Attorney for Arizona Competitive Power Alliance

Timothy M. Hogan
ARIZONA CENTER FOR LAW
IN THE PUBLIC INTEREST
202 East McDowell Road, Suite 153
Phoenix, Arizona 85004

David Berry
WESTERN RESOURCE ADVOCATES
P.O. Box 1064
Scottsdale, Arizona 85252-1064

Daniel W. Pozefsky
RUCO
1110 West Washington Street, Suite 220
Phoenix, Arizona 85007

Travis Richie
SIERRA CLUB ENVIRONMENTAL
LAW PROGRAM
85 Second Street, 2nd floor
San Francisco, California 94105

Pamela Campos
ENVIRONMENTAL DEFENSE FUND
2060 Broadway
Boulder, Colorado 80302

Lawrence R. Robertson, Jr.
Attorney at Law
P.O. Box 1448
Tubac, Arizona 85646
Attorney for SWPG/Bowie

Roseann Osorio

BEFORE THE ARIZONA CORPORATION COMMISSION

GARY PIERCE
Chairman
BOB STUMP
Commissioner
SANDRA D. KENNEDY
Commissioner
PAUL NEWMAN
Commissioner
BRENDA BURNS
Commissioner

IN THE MATTER OF THE APPLICATION OF ARIZONA PUBLIC SERVICE COMPANY FOR AUTHORIZATION FOR THE PURCHASE OF GENERATING ASSETS FROM SOUTHERN CALIFORNIA EDISON AND FOR AN ACCOUNTING ORDER	))))))	DOCKET NO. E-01345A-10-0474

DIRECT

TESTIMONY

OF

LAURA A. FURREY

ELECTRICITY SPECIALIST

UTILITIES DIVISION

ARIZONA CORPORATION COMMISSION

MAY 31, 2011

TABLE OF CONTENTS

EXECUTIVE SUMMARY
ARIZONA PUBLIC SERVICE COMPANY
DOCKET NO. E-01345A-10-0474

Arizona Public Service Company ("APS" or the "Company") is the largest electric utility in Arizona and the principal subsidiary of Pinnacle West Capital Corporation. APS serves more than one million customers in 11 counties throughout most of the state, mainly concentrated in northern and central Arizona.

The Four Corners Power Plant ("Four Corners") Units 1-3 are owned and operated by APS. Four Corners Units 4 and 5 are operated by APS and co-owned by APS, Southern California Edison Company ("SCE"), El Paso Electric Company, Salt River Project Agricultural Improvement and Power District, and Tucson Electric Power Company. For reasons unique to California utilities, SCE stated that it would no longer make "life extending" capital investments in Four Corners and would divest or otherwise terminate its 48% ownership share in Units 4 and 5 by 2016. APS believes that if no one purchases SCE's share, the remaining owners of Units 4 and 5 may elect to close those units.

In this application, APS is asking the Arizona Corporation Commission ("ACC" or "Commission") to authorize the Company to acquire SCE's share of Four Corners Units 4 and 5. Such a request is necessary because the Commission imposed a moratorium on the acquisition of new generation by APS in Decision No. 67744 (April 7, 2005). APS also seeks an accounting order that will (1) authorize the Company to defer for future recovery certain costs relating to the transaction; and (2) provide assurance that APS may continue to recover the capital carrying costs, depreciation, decommissioning, mine reclamation, and other obligations that may arise with respect to Four Corners Power Plant Units 1-3.

Staff recommends that the Commission authorize APS to pursue the acquisition of SCE's share of Four Corners Units 4 and 5, as required by Decision No. 67744, Paragraph 33. Commission authorization for APS to pursue the proposed transaction does not constitute Commission approval of the transaction itself nor does it determine the ultimate regulatory treatment that can or will be accorded to any interest in a generating facility ultimately acquired by APS. Staff is not recommending approval or denial of the acquisition itself, nor is Staff recommending that APS purchase or not purchase SCE's share of Four Corners. Staff's position is that APS' management should make the decision regarding this purchase. Normally, the management of a company is responsible for deciding whether any given acquisition should take place. The company then justifies management's decision in a subsequent rate case.

The following testimony is limited to a discussion of the criteria related to the self-build moratorium imposed by Decision No. 67744.

Commission Staff witness Jeffery Michlik will address the requested accounting order. Commission Staff witness Margaret Little, PE will discuss the reasonableness of the Company's proposed transaction and potential alternatives.

I. INTRODUCTION

Q. Please state your name, occupation, and business address.

A. My name is Laura Furrey. I am an Electricity Specialist employed by the Arizona Corporation Commission ("ACC" or "Commission") in the Utilities Division ("Staff"). My business address is 1200 West Washington Street, Phoenix, Arizona 85007.

Q. Briefly describe your responsibilities as an Electricity Specialist.

A. In my capacity as an Electricity Specialist, I provide recommendations to the Commission in a variety of electricity-related cases, including renewable energy projects and demand-side management programs. I also perform research on energy-related topics as needed.

Q. Please describe your educational background and professional experience.

A. In 2002, I graduated from California Polytechnic State University – San Luis Obispo, receiving a Bachelor of Science degree in Environmental Engineering. In 2003, I joined Stanley Consultants, Inc. in Phoenix, Arizona as a civil designer. In 2005, I became a licensed professional engineer in the State of California. In 2008, I graduated cum laude from Vermont Law School with a Juris Doctor degree, focusing on energy and environmental law. In 2008, I became a member of the State Bar of Arizona and began working with the American Council for an Energy-Efficient Economy in Washington, DC. In 2010, I became employed with the Staff of the Commission as an Electricity Specialist in the Telecom and Energy Unit. Since that time, I have attended various seminars and classes on general regulatory and energy issues.

Q. What is the purpose of your testimony?

A. My testimony addresses whether, as part of its request for Commission authorization to pursue self-build generation, APS has addressed the criteria detailed in Decision No. 67744 necessary to lift the self-build moratorium imposed by that Decision.

II. ARIZONA PUBLIC SERVICE COMPANY'S REQUEST

Q. Why is APS requesting that the Commission allow the Company to pursue the acquisition of SCE's share of Four Corners Units 4-5?

A. In Decision No. 67744 (April 7, 2005), the Commission approved a modified Settlement Agreement, the purpose of which was to settle disputed issues related to Docket No. E-01345A-03-0437, APS' application to increase rates. In that modified Settlement Agreement, APS agreed not to pursue any self-build option having an in-service date prior to January 1, 2015, unless expressly approved by the Commission. As modified, the term "self-build" does not include the acquisition of temporary generation needed for system reliability, distributed generation of less than 50 MW per location, renewable resources, or the up-rating of APS generation, which up-rating shall not include the installation of new units.[1] Under the modified Settlement Agreement, "self-build" does include the acquisition of a generating unit or interest in a generating unit from any merchant or utility generator.[2]

Q. Does Staff believe that Commission authorization is necessary in order for APS' to pursue the acquisition of SCE's share of Four Corners Units 4-5?

A. Yes. Although utilities routinely acquire assets from other entities without Commission approval, this transaction fits the definition of "self-build" as defined by the modified

[1] Decision No. 67744 (April 7, 2005) Attachment A: Settlement Agreement at paragraph 74. Docket No. E-01345A-03-0437

[2] Decision No. 67744 (April 7, 2005) at paragraph 33.

Settlement Agreement. APS is seeking to acquire an interest in generating units from SCE, a utility generator, with an anticipated acquisition date of October 2012. This transaction would be prior to the moratorium end date of January 1, 2015. As such, APS must have Commission authorization in order to pursue the transaction.

Q. Does Commission authorization of APS' request to pursue the acquisition itself guarantee APS' cost recovery?

A. No. Staff is not recommending authorization or denial of the acquisition itself. Typically such decisions are made at the time of a general rate case. Commission authorization for APS to pursue the proposed transaction does not constitute Commission approval of the transaction itself nor does it determine the ultimate regulatory treatment that can or will be accorded to any interest in a generating facility ultimately acquired by APS.

Q. Is it Staff's position that APS should acquire SCE's share of Four Corners Units 4 and 5?

A. No. Staff is not recommending that APS purchase or not purchase SCE's share of Four Corners. Staff's recommendation relates to the moratorium imposed in Decision No. 67744. Staff recommends that the moratorium be lifted in order to allow APS to pursue the acquisition. Staff's position is that APS' management should make the decision regarding this purchase. Normally, the management of a company is responsible for deciding whether any given acquisition should take place. The company then justifies management's decision in a subsequent rate case.

Q. What is Staff's position regarding APS' request?

A. As discussed below, Staff recommends that the Commission waive the self-build moratorium in order to allow the Company to pursue the acquisition of SCE's share of Four Corners Units 4 and 5, if APS management decides to do so..

III. DECISION NO. 67744 CRITERIA

Q. Are there criteria that must be addressed by APS in order for the Commission to lift the self-build moratorium?

A. Yes. Paragraph 75 of the modified Settlement Agreement approved in Decision No. 67744 states that "[a]s part of any APS request for Commission authorization to self-build generation prior to 2015, APS will address:

a. The Company's specific unmet needs for additional long-term resources.
b. The Company's efforts to secure adequate and reasonably-priced long-term resources from the competitive wholesale market to meet these needs.
c. The reasons why APS believes those efforts have been unsuccessful, either in whole or in part.
d. The extent to which the request to self-build generation is consistent with any applicable Company resource plans and competitive resource acquisition rules or orders resulting from the workshop/rulemaking proceeding described in paragraph 79.
e. The anticipated life-cycle cost of the proposed self-build option in comparison with suitable alternatives available from the competitive market for a comparable period of time."[3]

---

[3] Decision No. 67744 (April 7, 2005) at paragraph 75.

Q. Has APS addressed the Company's specific unmet needs for additional long-term resources?

A. Yes. APS provided Staff with a Loads and Resource table, (attached to Pat Dinkel's testimony, as PD-1), which was filed with the Application on November 22, 2010. This table shows that, even if the proposed transaction moves forward, APS will require another 545 MW of resources to meet its 2017 load requirements. This shortfall already accounts for the addition of over 1,400 MW of renewable resources and energy efficiency programs.

APS maintains that the proposed transaction essentially preserves a well balanced energy supply portfolio for APS, with a slight net increase of 179 MW which provides protection against volatile natural gas prices as well as the potential loss of the Navajo Generating Station capacity. APS also expects to further defer the need for new baseload generation if the transaction is approved. According to APS, given Commission approval to pursue this transaction, it does not anticipate needing new baseload capacity until after 2025, assuming the load forecast as shown in PD-1.

Q. Has APS indicated what its unmet needs will be if the moratorium is not lifted?

A. Yes. If the proposed transaction fails, APS has stated that its need for new resources could increase to over 1,500 MWs in 2017.[4] According to APS, the U.S. Environmental Protection Agency ("EPA") has indicated that Navajo Generating Station may also require significant environmental controls in the near future, which could give rise to the need for an additional 315 MW of replacement power since APS is one of the owners.[5]

[4] Dinkel Testimony at 12.
[5] Application at 8 fn 41; Schiavoni testimony at 5 fn 2.

In addition, if both Four Corners and Navajo Generating Station have to be shut down entirely, APS has indicated that its existing base load resources would be limited to the Cholla Power Plant (providing a total of 647 MW)[6] and Palo Verde Nuclear Generating Station (providing 1,146 MW) - a total of 1,793 MW to serve a 2020 minimum system demand of 2,530 MW.[7]

Q. Has APS addressed the Company's efforts to secure adequate and reasonably priced long-term resources from the competitive wholesale market to meet these needs?

A. Yes. According to APS, potential replacement alternatives for any lost Four Corners generation, a baseload resource, include coal and nuclear (large, conventional "baseload" resources), geothermal and biomass/biogas (small, renewable baseload resources), and natural gas (an "intermediate" resource that is reliable although it has greater fuel cost volatility compared to others and is most cost-effective when serving peak load).[8] Few of these alternative resources, however, can realistically fill the energy void left if Four Corners Units 4 and 5 were to shut down in 2016.

---

[6] According to APS, the Cholla Power Plant does not face the same issues as Four Corners and Navajo Generating Station for a number of reasons. First, beginning in 2007, APS installed a series of pollution control equipment upgrades at the Cholla Power Plant, resulting in significant emissions reductions. The Four Corners and Navajo Generating Station units have not had similarly recent pollution control upgrades. Second, although Cholla is subject to the same environmental programs to which Four Corners and Navajo Generating Station are subject, Cholla is regulated by the Arizona Department of Environmental Quality ("ADEQ") (whereas Four Corners and Navajo Generating Station are regulated by U.S. EPA Region 9, since they are located on tribal lands). ADEQ has proposed that no additional pollution control technologies will be required at Cholla pursuant to the Clean Air Act's regional haze rules; if ADEQ's proposal is approved by U.S. EPA, this would mean that selective catalytic reduction technology ("SCRs") will not be required at Cholla (whereas U.S. EPA has proposed the installation of SCRs on all units at Four Corners). Furthermore, Cholla has bag houses on Units 1, 3 and 4 and will install a baghouse on Unit 2 shortly. Third, Cholla does not face the additional challenges Four Corners and Navajo Generating Station currently face, including: a participant owner who has announced its intent to divest from the jointly owned units; the need for BIA approval of the lease extension with the Navajo Nation and for BIA issuance of federal rights-of-way, both of which are anticipated to trigger review under the National Environmental Policy Act; and the need for a new coal purchase agreement. These additional requirements create risk for Four Corners that does not exist with Cholla.

[7] Dinkel Testimony at 12.

[8] Application at 11.

APS asserts that there is no existing market for a coal or nuclear resource that would be available to replace Four Corners generation on the necessary timeline. APS believes that the next most viable resource available in the competitive wholesale market would be natural gas. However, natural gas is not an appropriate replacement for the Four Corners units.[9]

APS states that it "has maintained an awareness of market conditions in the competitive wholesale markets through a number of different sources. APS has participated in solicitations with merchant gas generators in the recent past with the intent of replacing gas generation that will be lost when long-term contracts for gas generation expire. APS was not successful in acquiring any gas generation in these solicitations."[10]

Q. Did APS issue a request for proposals ("RFP") or participate in other competitive solicitations in an attempt to secure adequate and reasonably-priced long-term resources from the competitive wholesale market to meet the need that would arise should Four Corners Units 4 and 5 shut down?

A. APS did not issue an RFP or participate in other competitive solicitations with the intent of replacing generation from Four Corners. To Staff's knowledge, APS has made no effort to secure adequate and reasonably priced long-term resources from the competitive wholesale market to meet the specific needs that would arise should any or all of Four Corners units be shut down.

---

[9] APS response to Staff DR 3.8(a).
[10] APS response to Staff DR 1.24.

Q. Does Staff believe that APS was required to issue an RFP or competitive solicitation in an effort to secure adequate and reasonably priced long-term resources from the competitive wholesale market to meet the needs that would arise should any or all of Four Corners units be shut down?

A. No. As discussed below in Section V, Staff is of the opinion that the proposed transaction represents a genuine, unanticipated opportunity to acquire a power supply resource at a discount, compared to the cost of acquiring new generating facilities, and which will provide unique value to APS' customers, eliminating the need for APS to have issued an RFP.

Q. Has APS addressed the reasons why APS believes its efforts to secure adequate and reasonably priced long-term resources from the competitive wholesale market have been unsuccessful, either in whole or in part?

A. Yes. As stated previously, APS has found that there is no existing market for a coal or nuclear resource that would be available to replace Four Corners generation on the necessary timeline. And although APS has participated in solicitations with merchant gas generators in the recent past with the intent of replacing gas generation that will be lost when long-term contracts for gas generation expire, APS was not successful in acquiring any gas generation in these solicitations.[11]

[11] APS response to Staff DR 1.24.

Q. Has APS addressed the extent to which the request to self-build generation is consistent with any applicable Company resource plans and competitive resource acquisition rules or orders resulting from the workshop/rulemaking proceeding described in Decision No. 67744 paragraph 79?

A. Yes. The proposed transaction's consistency with the applicable Company resource plan is discussed below in Section IV. The proposed transaction's consistency with the competitive resource acquisition rules is discussed below in Section V.

Q. Has APS addressed the anticipated life-cycle cost of the proposed self-build option in comparison with suitable alternatives available from the competitive market for a comparable period of time?

A. Yes. APS participated in solicitations with merchant gas generators in early 2010. The data generated from these solicitations formed the basis for an estimated $750/kW existing combined cycle capital cost used as a lower sensitivity in the cost analysis presented in the application. This lower sensitivity produces a levelized life-cycle cost, including necessary transmission, of about $91/MWh. Estimated construction costs for a new 588-MW, 2+1 Combined Cycle Gas Turbine provided the upper sensitivities of $1,253/kW, not including transmission costs, and $1,357/kW including transmission costs. The higher capital cost of $1,357/kW translates into a life-cycle levelized cost of about $100/MWh (including transmission costs and the estimated cost of compliance with anticipated carbon dioxide emissions legislation).[12]

APS' proposed transaction, at a levelized life cycle cost of $85/MWh appears to be about $6 per MWh less than the alternative of existing combined-cycle natural gas available in

[12] Dinkel Testimony at 6.

the competitive market. When compared to the cost of new combined-cycle natural gas generation, the cost of the proposed transaction is $15 per MWh less.[13]

Over the life of these investments, the net present value of customer benefits associated with the proposed transaction are between approximately $240 million and $488 million when compared to the combined-cycle natural gas generation alternative.[14] The exact level of benefits is dependent on the cost of the generation which, as previously discussed, could range from $750/kW to about $1,367/kW. As the cost of the alternative increases, so do the benefits associated with the proposed transaction.

IV. CONSISTENCY WITH APPLICABLE RESOURCE PLAN

Q. Has APS addressed how the proposed transaction is consistent with APS' Applicable Resource Plan?

A. Yes. APS has stated that the Resource Plan currently on file with the Commission, filed in 2009, stresses the value of maintaining a diverse energy supply portfolio - one that balances coal, gas, and nuclear generation to complement the ever-growing role of renewable resources and energy efficiency in meeting its customers' energy needs. APS further states that acquiring the SCE interest in Units 4 and 5, combined with the early retirement of Units 1-3, is fully consistent with the Company's resource plans.[15]

Consistent with the 2009 Resource Plan, the proposed transaction "does not place undue reliance on any single resource type" but rather helps APS maintain a resource mix similar to that proposed in the 2009 Resource Plan.[16] Moreover, the proposed transaction is

[13] Dinkel Testimony at 6.
[14] APS Customer Benefits Due to SCE Transaction. Dinkel Testimony at 10.
[15] Application at 26-27
[16] In the Matter of Arizona Public Service Company's Resource Plan. Docket No. E-01345A-09-0037 (January 29, 2009). Resource Plan Report at 2.

consistent with APS' plan in limiting reliance on natural gas which is important to managing fuel cost volatility and the potential for customer price impacts.[17]

Q. Beyond resource diversification, are there other key considerations included in the 2009 Resource Plan?

A. Yes. While APS' 2009 Resource Plan stresses diversity of energy sources going so far as to state that "diversity of energy sources is one of the most important planning considerations,"[18] as APS asserts, that plan also stresses other key considerations including financial sustainability, resource self-sufficiency, positioning for climate change policy, long-term planning for resource needs, high reliability, and the need for flexibility.[19]

Q. Has APS addressed how the proposed transaction is consistent with the 2009 Resource Plan's consideration of financial sustainability?

A. Yes. "Financial sustainability is perhaps the most important resource planning consideration for the Company. This refers to the ability of APS to maintain its financial health while taking on the large commitments that will be required to carry out this Resource Plan."[20] To this point, in its Application, APS states that the estimated "cost of purchasing SCE's share of and installing the EPA-proposed environmental upgrades on Units 4 and 5 is half of what it would cost APS to replace its Four Corners output with natural gas generation and build the transmission needed to bring that power to customers."[21]

---

[17] In the Matter of Arizona Public Service Company's Resource Plan. Docket No. E-01345A-09-0037 (January 29, 2009). Application at 2.
[18] In the Matter of Arizona Public Service Company's Resource Plan. Docket No. E-01345A-09-0037 (January 29, 2009). Resource Plan Report at 5.
[19] In the Matter of Arizona Public Service Company's Resource Plan. Docket No. E-01345A-09-0037 (January 29, 2009). Resource Plan Report at 5.
[20] In the Matter of Arizona Public Service Company's Resource Plan. Docket No. E-01345A-09-0037 (January 29, 2009). Resource Plan Report at 6.
[21] Application at 3.

Q. Has APS addressed how the proposed transaction is consistent with the 2009 Resource Plan's consideration of resource self-sufficiency?

A. Yes. "In the context of resource planning, self-sufficiency can be defined as the degree of long-term control that APS has over a specific energy source."[22] The proposed transaction contemplates a known, although increasing, price for coal, a long-term land lease with the Navajo Nation, a steady, well-trained job force, and APS' continued ownership and operational control of Four Corners, providing APS resource self-sufficiency in regards to the Four Corners Power Plant.

Q. Has APS addressed how the proposed transaction is consistent with the 2009 Resource Plan's consideration of positioning for climate change policy?

A. Yes. The 2009 Resource Plan addresses the potential for climate change initiatives and states that "it is reasonable to assume that utilities will be faced with future regulations controlling emissions of greenhouse gases ("GHG"), such as CO_2." Future regulation is anticipated to impose additional costs on utility operations. Moreover, the 2009 Resource Plan states that "APS' Resource Plan does not include new coal-fired generation resources." Despite some economic advantages, at that time, APS believed that the risk of future climate change legislation and the resulting potential for significant increases in cost made coal-fired generation an unattractive resource choice.[23]

While the 2009 Resource Plan did not include "new" coal resources given the potential for GHG regulation, that plan also did not include the loss of Four Corners Units 1-3. Shutting down Four Corners Units 1-3 and acquiring SCE's interest in Four Corners Units 4-5 will slightly increase the amount of coal in APS' overall projected energy mix by 0.73

[22] In the Matter of Arizona Public Service Company's Resource Plan. Docket No. E-01345A-09-0037 (January 29, 2009). Resource Plan Report at 6.
[23] In the Matter of Arizona Public Service Company's Resource Plan Application at 2. Docket No. E-01345A-09-0037 (January 29, 2009). Resource Plan Report at 2.

percent as a percentage of total resources. Additionally, the proposed transaction "significantly reduces Four Corners' regional CO_2 and other pollutant emissions by retiring three less efficient coal units and installing environmental upgrades on more efficient ones."[24]

Q. Has APS addressed how the proposed transaction is consistent with the 2009 Resource Plan's consideration of long-term planning for resource needs?

A. Yes. Although the Company did not anticipate acquiring new coal, the proposed transaction will help maintain the resources APS had included in its 2009 Resource Plan. Acquiring SCE's share of Four Corners Units 4-5 maintains APS' mix of reliable baseload energy. By providing a marginal 179 MW baseload capacity increase, it hedges the Company's energy mix against the possibility that output from other coal units also at risk could be retired and helps further defer the need for future baseload resources.[25] "APS has sufficient existing resources (owned generation plus purchases) to meet forecasted customer needs through 2013. Load growth will create a need for additional resources in 2014 and beyond."[26] APS' Loads and Resources table shows that, even with the proposed transaction, APS will require 545 MW of additional resources to meet its 2017 load requirements, even when taking into account the addition of over 1,400 MW of renewable resources and energy efficiency programs.[27] The 2009 Resource Plan speaks to future resource needs to meet customer growth; while peaking resources will be needed in addition to increased investment in renewable sources and energy efficiency, the proposed transaction could potentially delay the need for baseload resources until after 2025.[28]

---

[24] Application at 3.
[25] Application at 4.
[26] In the Matter of Arizona Public Service Company's Resource Plan. Docket No. E-01345A-09-0037 (January 29, 2009). Resource Plan Report at 10.
[27] Application at 24.
[28] APS Response to Staff DR 3.5.

Q. Has APS addressed how the proposed transaction is consistent with the 2009 Resource Plan's consideration of high reliability?

A. No. The 2009 Resource Plan includes "continued expansion of APS' electric resources and transmission infrastructure, and avoiding over-reliance on external short-term markets" as necessary elements to assuring highly reliable service for APS' customers.[29] While the proposed transaction would slightly expand APS' coal resources by 179 MW, it is unclear whether the proposed transaction would help APS avoid over-reliance on external short-term markets.

Q. Does the fact that APS has not addressed how the proposed transaction is consistent with the 2009 Resource Plan's consideration of high reliability change Staff's recommendation?

A. No. The fact that this one key consideration was not addressed does not persuade Staff that APS has not considered how the proposed transaction is consistent with the 2009 Resource Plan in order to satisfy Paragraph 75(d) of the modified Settlement Agreement approved in Decision No. 67744.

Q. Has APS addressed how the proposed transaction is consistent with the 2009 Resource Plan's need for flexibility?

A. Yes. The 2009 Resource Plan states that flexibility is one of the most important elements of a successful resource planning process with the long-term success of the resource planning process depending more upon the ability to respond to and accommodate changes in key planning variables than upon the ability to precisely forecast these key

[29] In the Matter of Arizona Public Service Company's Resource Plan. Docket No. E-01345A-09-0037 (January 29, 2009). Resource Plan Report at 7.

variables.[30] The nature of the proposed transaction speaks to the importance of flexibility and the ability of the Company to accommodate such a change in resource planning needs.

V. CONSISTENCY WITH COMPETITIVE PROCUREMENT RULES

Q. How is the Four Corners transaction consistent with the Competitive Resource Acquisition Rules?

A. Decision No. 67744 ordered Commission Staff to schedule workshops on resource planning issues.[31] The resource planning workshops resulted in amending Title 14, Chapter 2, Article 7 of the Arizona Administrative Code regarding Resource Planning and Procurement.

According to Arizona Administrative Code R14-2-705(A), except as provided in subsection (B), a load-serving entity may use a number of procurement methods for the wholesale acquisition of energy, capacity, and physical power hedge transactions. One of those methods is a bilateral contract with a non-affiliated entity (A.A.C. R14-2-705(A)(4)), such as the proposed transaction between APS and SCE.

A.A.C. R14-2-705(B) limits the use of various procurement methods, stating that "[a] load-serving entity shall use an RFP process as its primary acquisition process for the wholesale acquisition of energy and capacity," unless one of a number of specified exceptions applies. One of those specified exceptions is A.A.C. R-14-2-705(B)(5) which would allow a utility to use a procurement method other than an RFP if "the transaction presents the load-serving entity a genuine, unanticipated opportunity to acquire a power supply resource at a clear and significant discount, compared to the cost of acquiring new

---

[30] In the Matter of Arizona Public Service Company's Resource Plan Application at 2. Docket No. E-01345A-09-0037 (January 29, 2009). Resource Plan Report at 7.

[31] Decision No. 67744, paragraph 79.

generating facilities, and will provide unique value to the load-serving entity's customers[.]"[32]

Given the current circumstances, APS believes that this "transaction presents the load-serving entity a genuine, unanticipated opportunity to acquire a power supply resource at a clear and significant discount, compared to the cost of acquiring new generating facilities, and will provide unique value to the load-serving entity's customers" according to A.A.C. R14-2-705(B)(5).

Q. Has APS addressed how this transaction is a genuine, unanticipated opportunity to acquire a power supply resource?

A. Yes. In 2010, SCE, for reasons unique to California utilities, stated that it would no longer make "life extending" capital investments in the Four Corners Power Plant and would divest or otherwise terminate its 48 percent ownership share (739 MW) of Units 4 and 5 by 2016. If no one assumes SCE's share, the remaining owners of Units 4 and 5 may elect to close those units, rather than assume the risk of a multimillion dollar expenditure for which there may be no subsequent recovery.[33]

California Senate Bill ("SB") 1368 established a minimum performance requirement, concluding that greenhouse gas ("GHG") emissions rates for baseload generation sources must be no higher than the GHG emissions rate of a combined-cycle gas turbine power plant.[34] California SB 1368 was approved by the Governor of California and filed with the Secretary of State on September 29, 2006, almost four years prior to the current Application being filed with the Commission.

---

[32] A.A.C. R14-2-705(B)(5).
[33] Application at 2-3.
[34] CPUC Decision No. 07-01-039 at 2-3.

In accordance with California SB 1368, the California Public Utilities Commission ("CPUC") established an emissions performance standard ("EPS") on January 25, 2007, in Decision 07-01-039. The EPS applies to "baseload generation," but the requirement to comply with it is only triggered if there is a "long-term financial commitment" by a load-serving entity ("LSE").[35] California SB 1368 explicitly prohibits the CPUC from approving a long-term financial commitment, and any LSE, such as SCE, from entering into such a commitment, unless the baseload generation supplied under that long-term financial commitment complies with the EPS.[36]

On January 28, 2008, SCE petitioned the CPUC for a modification of Decision 07-01-039 such that Four Corners would be exempted from the requirements of the EPS. The CPUC filed a proposed decision on September 2, 2008.[37] After SCE made full copies of the Four Corners co-tenancy agreements available to CPUC Energy Division Staff, however, the CPUC questioned whether the new information required a change in the proposed decision's conclusion, whether SCE should be allowed to recover any of the requested capital expenditures for Four Corners, and whether an evidentiary hearing was necessary.[38]

The CPUC issued Decision 10-10-016 on October 14, 2010, denying SCE's request for a wholesale exemption from the EPS for Four Corners. Decision 10-10-016 explicitly

---

[35] Decision No. 07-01-039 at 4. The statute defines baseload generation as "electricity generation from a power plant that is designed and intended to provide electricity at an annualized plant capacity factor of at least 60%." For LSE-owned baseload generation, a long-term financial commitment occurs when there is a "new ownership investment." For baseload generation procured under contract, there is a long-term commitment when the LSE enters into "a new or renewed contract with a term of five or more years." Decision No. 07-01-039 at 4 (citing to Public Utilities Code § 8340 (a) and (j)).

[36] CPUC Decision No. 10-10-016 at 5.

[37] CPUC Decision No. 10-10-016 at 8 (citing to SCE Petition at 5 where SCE argued that Decision 07-01-039 could be construed to prevent SCE from fulfilling its financial obligations as a co-owner of Four Corners and that if SCE did not pay its share of such expenditures, it would not receive power from Four Corners but would remain liable for unpaid costs. SCE proposed that the CPUC revise Decision 07-01-039 to find that financial contributions required under preexisting contractual obligations for generating units owned jointly with third parties are not "covered procurements" under the EPS.).

[38] CPUC Decision No. 10-10-016 at 11.

denied recovery in rates of capital expenditures for Units 4 and 5 of the Four Corners Generating Station forecasted to be incurred beginning January 1, 2012 and beyond.

Although the applicable rules have been in place in California since 2006, it was unknown until October 2010 to what extent SCE would be allowed under California SB 1368 and the EPS to make continued investments in Four Corners Units 4 and 5. Given the timing of CPUC Decision 10-10-016, Staff believes that the proposed acquisition represents an unanticipated opportunity for APS.

Q. Has APS addressed whether the power supply resource is being offered at a clear and significant discount when compared to the cost of acquiring new generating facilities?

A. Yes. There are a few ways to evaluate and compare the costs of the proposed transaction and the alternatives: the capital cost of the resource itself on a per MW basis; the levelized cost, for the resource itself, over the life of the investment; and the resource's total impact on system-wide revenue requirements over the life of the investment. The impacts on revenue requirement will be discussed later in this testimony.

The capital costs associated with the purchase of SCE's interest in Four Corners Units 4 and 5 consist of the $294 million purchase price (plus or minus $7.5 million per month for each month the closing date is delayed or accelerated), approximately $300 million in environmental upgrades, and approximately $32 million for the assumption of certain decommissioning and mine reclamation liabilities for SCE's 739 MW (this amount does not include the amount APS will have to pay for environmental upgrades or decommission/reclamation for its current share of Units 4 and 5). The capital costs associated with the purchase of SCE's 48 percent interest in Four Corners Units 4 and 5 total approximately $626 million, or about $847/kW. Over the life of the plant, the proposed transaction would cost about $85/MWh.[39]

According to APS, baseload power is not available in the market and the timeframes, costs, and environmental issues associated with constructing a new coal-fired power plant make such construction prohibitive under the current circumstances. APS has proposed that the next best alternative to the proposed transaction is replacing all of APS' current interest in Four Corners (791 MW) with combined-cycle natural gas. The equipment and necessary construction of this alternative comes with a capital cost of approximately $680 million (not including necessary transmission) or $1,253/kW. Once estimated transmission costs are included, the total cost of the natural gas alternative is about $798 million or about $1,357/kW. Over the life of the investment, once transmission is taken into account, this alternative would cost about $100/MWh.[40]

The other alternative proposed by APS, to continue operating Four Corners Units 1-3, making the necessary environmental upgrades, does not include immediately acquiring new generation facilities to replace the lost generation from 4-5. A cost comparison with this alternative, however, helps demonstrate the cost savings associated with the proposed transaction. Four Corners Units 1-3 would require $235 million emissions controls to comply with EPA mercury rules as early as 2014 and $351 million in proposed Best Available Retrofit Technology ("BART") to comply with EPA visibility requirements as

---

[39] The levelized cost of $85/MWh includes the cost of compliance with anticipated carbon dioxide emissions legislation. Without this compliance cost, the proposed transaction would result in a levelized cost of about $62/MWh. The proposed transaction costs include an assumed carbon price of $20/ton beginning in 2010 with credit allocation according to Waxman-Markey and estimated coal costs which increase annually. The $294 million purchase price is based on what SCE would have paid for its share of electricity from Four Corners between the acquisition date and 2016.

[40] The levelized cost of $100/MWh includes the cost of compliance with anticipated carbon dioxide emissions legislation. Without this compliance cost, the proposed transaction would result in a levelized cost of about $89/MWh.

early as 2016.[41] Including compliance with anticipated ash rules, the environmental upgrades for Units 1-3 are anticipated to cost up to $616 million or up to $1,100/kW.[42] Over the life of the plant, this alternative is anticipated to cost about $116/MWh.[43] This option would also require APS to invest in natural gas combined-cycle facilities sooner than anticipated and at a higher level than in the proposed transaction.

When these alternatives are compared on a dollars per kW basis, the proposed transaction, at $847/kW, comes at a significantly lower cost than the other two alternatives. Moreover, over the life of the investment, the costs of the proposed transaction, at $85/MWh, are lower than the costs associated with the other alternatives.

Q. Has APS addressed whether the proposed transaction will provide unique value to APS customers?

A. Yes. In comparing the three alternatives, over the life of the investment, the proposed transaction results in a system-wide revenue requirement that has a net present value that is $488 million less than the next least-expensive alternative of replacing 791 MW with combined-cycle natural gas generation and $1.08 billion less than the alternative of investing in environmental upgrades for Four Corners Units 1-3.[44] According to APS, "the proposed transaction is the best value for APS customers compared to every reasonable resource alternative."[45]

---

[41] Dinkel Testimony at 3.

[42] Four Corners Power Plant Powerpoint Presentation, January 20, 2011 Update. In June of 2010 EPA proposed a rule to regulate ash as either nonhazardous waste or hazardous waste. Either proposal will phase out the use of ash ponds for the disposal of ash. Nonhazardous cost impacts for Units 1-3 would be about $22 million. If ash is found to be hazardous, costs rise to about $30 million.

[43] The levelized cost of $116/MWh includes the cost of compliance with anticipated carbon dioxide emissions legislation. Without this compliance cost, the proposed transaction would result in a levelized cost of about $89/MWh. The proposed transaction costs include an assumed carbon price of $20/ton beginning in 2010 with credit allocation according to Waxman-Markey and estimated coal costs which increase annually.

[44] Dinkel Testimony at 7.

[45] Dinkel Testimony at 2.

Q. Is there a benefit associated with continued investment in Four Corners rather than in purchasing new or existing natural gas facilities?

A. Yes. The alternative of replacing lost capacity from Four Corners (791 MW) with natural gas would involve less certain fuel costs than under the proposed transaction. A long-term coal price will be negotiated under the proposed alternative, providing certainty to customers.[46] The proposed alternative also preserves a well-balanced resource mix, reducing the risk to APS customers that comes with dependency on a volatile fuel source.[47] Although APS would be investing in coal more than it was previously, the percent of coal included in APS' projected 2017 energy mix actually decreased from 39 percent to 33 percent by 2017.[48]

Q. Is there a benefit associated with shutting down Four Corners Units 1-3 while keeping Units 4 and 5 online?

A. Yes. Because Units 4 and 5 are approximately 10 percent more efficient than Units 1-3, they produce the same amount of energy at 10 percent lower fuel cost, producing a commensurate fuel cost savings for consumers.[49]

Q. Will APS' customers realize these benefits on their bills?

A. Yes. All proposed alternatives will cause customer bills to rise. With the proposed transaction, however, the higher costs of the new generation will be mitigated in part by the reduced operating costs for Four Corners Units 1-3.[50] Moreover, in addition to the benefits associated with the environment, the Navajo community, and lower capital costs, the Company's proposed transaction will save customers money on their electric bills.

---

[46] Dinkel Testimony at 8.
[47] Dinkel Testimony at 11.
[48] APS Response to Staff 1.25
[49] Dinkel Testimony at 3-4.
[50] Guldner Testimony at 3.

If the proposed transaction moves forward, APS states that customer bills would increase by almost 7 percent or 4 percent by 2017, with the higher increase associated with imposition of a carbon tax. If the plant owners retired Units 4 and 5 in 2016, but APS continues to operate Units 1-3, customer bills would increase by almost 9 percent or 7 percent, in the same period, again, depending on whether a carbon tax is imposed. If the plant owners chose to shut down all five units in 2016 and APS replaced the lost energy with natural gas fired generation, APS customer bills would increase by approximately 8 percent, regardless of whether a carbon tax is imposed. Compared to the potential alternatives, customers' bills will increase the least amount under the proposed transaction.

VI. OTHER ISSUES

Q. Are there any other issues that the Commission should be aware of related to APS' request?

A. Yes. On March 1, 2011, the Liberty Consulting Group filed its Final Report of the Benchmarking Study of APS' Operations, Cost, and Financial Performance in Docket No. E-01345A-08-0172. This study noted that all of the Four Corners units, particularly Unit 5, have consistently experienced equivalent forced outage rates higher than the industry's over the last ten years.[51] However, in a study done by Synapse Energy Economics, Inc. in January 2011, entitled "WECC Coal Plant Retirement Based On Forward-Going Economic Merit" and presented to the Western Grid Group, Four Corners Units 4 and 5 were found to be economic when compared to new and existing combined-cycle generation.[52] While economic viability and equivalent forced outage rates may have some

[51] Docket No. E-01345A-08-0172, The Liberty Consulting Group, Final Report, Benchmarking Study of Arizona Public Service Company's Operations, Cost, and Financial Performance, pp.10-15 (March 1, 2011).
[52] Jeremy Fisher and Bruce Biewald, Synapse Energy Economics. "WECC Coal Plant Retirement Based On Forward-Going Economic Merit" (January 10, 2011). Available at http://www.wecc.biz/committees/BOD/TEPPC/TAS/SWG/10March2011/Lists/Minutes/1/WECC%20Coal%20Retirement%20Criteria%201-10-2011%20Final.pdf

bearing on the proposed transaction, Staff believes that these issues are best addressed in the context of a rate case.

VII. SUMMARY AND CONCLUSION

Q. Please summarize Staff's recommendations related to the self-build moratorium imposed by Decision No. 67744.

A. Staff believes that APS has addressed the necessary criteria detailed in the modified Settlement Agreement approved in Decision No. 67744. As such, Staff recommends that the Commission authorize APS to pursue the acquisition of SCE's share of Four Corners Units 4 and 5 as required by Decision No. 67744, Paragraph 33. Staff is not, however, recommending approval or denial of the acquisition itself, nor is Staff recommending that APS purchase or not purchase SCE's share of Four Corners.

Q. Does this conclude your direct testimony?

A. Yes, it does.

BEFORE THE ARIZONA CORPORATION COMMISSION

GARY PIERCE
Chairman
PAUL NEWMAN
Commissioner
SANDRA D. KENNEDY
Commissioner
BOB STUMP
Commissioner
BRENDA BURNS
Commissioner

IN THE MATTER OF THE APPLICATION OF ARIZONA PUBLIC SERVICE COMPANY FOR AUTHORIZATION FOR THE PURCHASE OF GENERATING ASSETS FROM SOUTHERN CALIFORNIA EDISON AND FOR AN ACCOUNTING ORDER.	)))))))	DOCKET NO. E-01345A-10-0474

DIRECT

TESTIMONY

OF

JEFFREY M. MICHLIK

PUBLIC UTILITIES ANALYST V

UTILITIES DIVISION

ARIZONA CORPORATION COMMISSION

MAY 31, 2011

TABLE OF CONTENTS

EXECUTIVE SUMMARY
ARIZONA PUBLIC SERVICE COMPANY
DOCKET NO. E-01345A-10-0474

On November 22, 2010, Arizona Public Service Company ("APS") filed an application with the Arizona Corporation Commission ("Commission") requesting: 1) authorization to purchase Southern California Edison's ("SCE") current ownership of Four Corners Power Plant; and 2) an accounting order that would a) permit it to defer and capitalize, for later recovery through rates, all non-fuel costs of owning, operating and maintaining the acquired SCE interest in Four Corners Units 4 and 5 net of non-fuel operations and maintenance and property tax savings associated with the closure of Four Corners Units 1 through 3; b) provide it assurance of recovery of all unrecovered costs associated with Four Corners Units 1 through 3; c) provide it assurance of recovery of any additional costs incurred in connection with the closure of Four Corners Units 1 through 3; and d) grant it authority to apply, defer and recover a return on all amounts deferred in a), b) and c) above.

The direct testimony of Jeffrey M. Michlik addresses the request for an accounting order. The remaining issues contained in SCE's application are addressed in the testimony of other Staff witnesses.

<u>APS' basis for granting an account order:</u>

Reasons asserted by APS to approve the accounting order include:

(1) APS will incur additional costs (estimated at $70 million per year) to own and operate Four Corners Units 4 and 5 with no meaningful compensation until these additional costs are included in rates. The power supply adjustment mechanism ("PSA") will allow ratepayers to receive the near-term benefit of reduced fuel costs resulting from the higher efficiency of Units 4 and 5 over Units 1 through 3;
(2) APS will forever lose the opportunity to recover these additional costs and mitigate the impact of the transaction on its financial condition absent an accounting order;
(3) APS needs the accounting order to execute the proposed transaction, which will result in significant long-term cost savings to customers;
(4) Absent clear authorization by the Commission to fully recover the remaining value of Units 1 through 3, APS could be required under generally accepted accounting principles to write off those assets on its external financial statements, resulting in a weakened equity capitalization ratio and a negative effect on its projected operating results; and
(5) The Commission has, in appropriate circumstances, previously granted APS accounting orders related to the purchase/acquisition of generation assets.

<u>Staff Analysis</u>:

The proposed transaction lacks any individual, distinctive characteristic that warrants granting of special ratemaking treatment. However, Staff concludes that granting an accounting order is in the public interest considering the totality of the circumstances

Staff Recommendations:

Staff recommends adoption of an accounting order with the following provisions:

(1) That APS may defer, for future consideration of recovery through rates, all non-fuel costs of owning, operating and maintaining the acquired SCE interest in Units 4 and 5, net of non-fuel operations and maintenance and property tax savings associated with the closure of Four Corners Units 1 through 3;
(2) Denial of APS' request for assurance of recovery for all unrecovered costs associated with Four Corners Units 1 through 3; however, APS shall account for those cost under the assumption that the Commission will continue to consider these costs available for future recovery unless and until otherwise determined (i.e., these costs should not be prematurely written off);
(3) Denial of APS' request for assurance of recovery for any additional costs incurred in connection with the closure of Four Corners Units 1 through 3; however, APS shall account for those cost under the assumption that the Commission will continue to consider these costs available for future recovery unless and until otherwise determined (i.e., these costs should not be prematurely written off);
(4) Denial of APS' request to apply a cost of money, i.e., return, to any deferred amounts.
(5) That the authorization of a cost deferral not constitute a finding or determination that the deferred costs and proceeds are reasonable, appropriate, or prudent; that such authorization not be construed as providing any relief through rates with respect to the ultimate recovery of the above-authorized deferrals; and that such authorization not be construed to limit the Commission's authority to review the deferred balance and to make any disallowances thereof;
(6) That APS prepare and retain accounting records sufficient to permit detailed review, in a rate proceeding, of all deferred costs and cost benefits as authorized above;
(7) That APS prepare a separate detailed report of all costs deferred under this authorization and that APS include that report as an integral component of each of its general rate applications in which it requests recovery of those deferred costs;
(8) That APS file each January with Docket Control, as a compliance item in this docket, an annual status report for each preceeding calendar year of all matters related to the deferrals, and the cumulative costs thereof, with the first such report due no later than January 2012; and
(9) That the Decision in this matter become effective immediately.

I. INTRODUCTION

Q. Please state your name, occupation, and business address.

A. My name is Jeffrey M. Michlik. I am a Public Utilities Analyst V employed by the Arizona Corporation Commission ("Commission") in the Utilities Division ("Staff"). My business address is 1200 West Washington Street, Phoenix, Arizona 85007.

Q. Briefly describe your responsibilities as a Public Utilities Analyst V.

A. In my capacity as a Public Utilities Analyst V, I analyze and examine accounting, financial, statistical and other information and prepare reports based on my analyses that present Staff's recommendations to the Commission on utility revenue requirements, rate design and other matters. I also provide testimony on these same issues.

Q. Please describe your educational background and professional experience.

A. In 2000, I graduated from Idaho State University, receiving a Bachelor of Business Administration Degree in Accounting and Finance. I am also a Certified Public Accountant with the Arizona State Board of Accountancy. I have attended the National Association of Regulatory Utility Commissioners' ("NARUC") Utility Rate School, which presents general regulatory and business issues.

I joined the Commission as a Public Utilities Analyst in May of 2006. Prior to employment with the Commission, I worked four years for the Arizona Office of the Auditor General as a Staff Auditor, and one year in public accounting as a Senior Auditor.

Q. What is the scope of your testimony in this case?

A. I am presenting Staff's analysis and recommendations regarding Arizona Public Service Company's ("APS" or "Company") request for an accounting order. APS is seeking an accounting order authorizing it to defer for future recovery the capital and operating and maintenance ("O&M") costs associated with APS' purchase of Southern California Edison's ("SCE") share of Four Corners Units 4 and 5, and to recover all unrecovered costs associated with Four Corners Units 1 through 3. This includes any additional costs incurred in connection with the closure of Four Corners Units 1 through 3.

II. APS' REQUEST FOR AN ACCOUNTING ORDER

Q. Please provide a synopsis of the accounting order requested by APS.

A. APS' proposed accounting order would:

(1) permit it to defer and capitalize, for later recovery through rates, all non-fuel costs[1] of owning, operating and maintaining the acquired SCE interest in Four Corners Units 4 and 5 net of non-fuel operations and maintenance and property tax savings associated with the closure of Four Corners Units 1 through 3;

(2) provide it assurance of recovery of all unrecovered costs associated with Four Corners Units 1 through 3;

(3) provide it assurance of recovery of any additional costs[2] incurred in connection with the closure of Four Corners Units 1 through 3; and

(4) grant it authority to apply, defer and recover a return on all amounts deferred and/or provided assurance of recovery in (1), (2) and (3) above.

Q. Did APS provide language for the accounting order it requests?

A. Yes, the language APS provided is as follow:

> IT IS THEREFORE ORDERED that Arizona Public Service Company's request for an Accounting Order permitting it to defer and capitalize, for later recovery through rates, all non-fuel costs of owning, operating, and maintaining the acquired SCE interest in Four Corners Units 4&5 and associated facilities be, and hereby is, granted. Costs to be deferred include depreciation, amortization of the acquisition adjustment, decommissioning costs, operations and maintenance costs, property taxes, final coal reclamation

[1] Non-fuel costs included depreciation, amortization, acquisition, decommissioning and coal mine reclamation.
[2] Most notably, the additional costs include decommissioning and mine reclamation costs.

> costs, carrying charges, and miscellaneous other costs. The carrying charges shall be computed using the embedded cost of debt as of December 31, 2010 and the 11% cost of equity used in Arizona Public Service Company's last general rate case, at the ratio of 46.21% debt and 53.79% equity also set in that case.
>
> IT IS FURTHER ORDERED that Arizona Public Service Company shall reduce the deferral by non-fuel operations and maintenance and property tax savings associated with the closure of Four Corners Units 1-3.
>
> IT IS FURTHER ORDERED that Arizona Public Service Company shall be allowed to recover all unrecovered costs associated with Four Corners Units 1-3 and any additional costs incurred in connection with the closure of Four Corners Units 1-3.
>
> IT IS FURTHER ORDERED that Arizona Public Service Company shall be allowed to defer a return on all of the deferred costs computed using the embedded cost of debt as of December 31, 2010 and the 11% cost of equity used in Arizona Public Service Company's last general rate case, at the ratio of 46.21 % debt and 53.79% equity also set in that case until the inclusion of any such unrecovered costs in rates in Arizona Public Service Company's next rate proceeding.
>
> IT IS FURTHER ORDERED that the accumulated deferred balance, including the related deferred return, associated with all amounts deferred pursuant to this Decision will be included in cost of service and rate base for ratemaking purposes. Nothing in this Decision shall be construed to limit the Commission's authority to review such balance and to make disallowances thereof due to imprudence, errors or inappropriate application of the requirements of this Decision.

III. STAFF'S ANALYSIS OF APS' PROPOSED ACCOUNTING ORDER.

Q. What is an accounting order?

A. An accounting order is a rate-making mechanism for use by regulatory authorities that provides regulated utilities the ability to defer costs that would otherwise be expensed using generally accepted accounting principles ("GAAP") and provides for alternative rate-making treatment of capital costs and other costs via creation of regulatory assets and liabilities. Under GAAP, operations and maintenance ("O&M") costs are expensed in the period incurred. Therefore, a utility could not retroactively request recovery of these costs subsequent to closing its books for a prior period. However, with the appropriate regulatory authority, a utility can defer costs incurred in one period for consideration of recovery in a future period.

Q. Describe how the primary effects of accounting orders are recorded under the Federal Regulatory Energy Commission ("FERC") Uniform System of Accounts ("USOA")?

A. The primary accounting effect of accounting orders is the creation of regulatory assets and liabilities. Regulatory assets and liabilities are assets and liabilities that result from rate actions of regulatory agencies. Regulatory assets and liabilities arise from specific revenues, expenses, gains or losses that would have been included in determination of net income in one period under the general requirements of the USOA but for it being probable due to actions of regulatory authorities, that: 1) such items will be included in a different period(s) for purposes of developing the rates the utility is authorized to charge for its utility services, or 2) in the case of regulatory liabilities, that refunds to the customers, not provided for in other accounts, will be required.

Q. What reasons has APS provided to support its request for an accounting order?

A. APS provided multiple reasons to support its request. First, APS estimates that it will incur $70 million per year in additional costs to own and operate Four Corners Units 4 and 5 with no meaningful compensation until these additional costs are included in rates; meanwhile, under the Company's power supply adjustment mechanism ("PSA"), ratepayers will receive the near-term benefit of reduced fuel costs resulting from the higher efficiency of Four Corners Units 4 and 5 over Units 1 through 3. Second, absent an accounting order, APS will forever lose the opportunity to recover these additional costs and mitigate the impact of the transaction on its financial condition.[3] Third, APS asserts that it needs the accounting order to execute the proposed transaction, a transaction that

[3] Testimony of Jeffrey B. Guldner page 8.

will result in significant long-term cost savings to customers. Fourth, APS claims that, absent clear authorization by the Commission to fully recover the remaining value of Four Corners Units 1 through 3, APS could be required under GAAP to write off those assets on its external financial statements, resulting in a weakened equity capitalization ratio and a negative affect on its projected operating results.[4] Finally, APS notes that the Commission has, in appropriate circumstances, previously granted APS accounting orders related to the purchase/acquisition of generation assets.[5]

Q. How did Staff approach APS' accounting order request?

A. After establishing an understanding of the multiple components (deferral of Unit 4 and 5 costs net of Units 1 through 3 savings and assurance of recovery of those deferrals, assurance of recovery of otherwise unrecovered Unit 1 through 3 costs, assurance of recovery of additional costs incurred for closure of Unit 1 through 3 and application of a return to all deferrals), Staff recognized the following three fundamental criteria as an appropriate basis for determining whether the requested authorizations should be granted.

1. Would APS incur irreparable economic harm absent an accounting order? (This outcome would also have a detrimental impact on ratepayers).
2. Would APS endure a significant inequity absent an accounting order?
3. What are the relative costs and benefits to ratepayers resulting from granting an accounting order.

Staff also recognized that applying these criteria is as much a qualitative evaluation as it is a quantitative evaluation. Staff further recognized that the nature of an accounting order is to authorize a utility a variance from normal ratemaking. In this case, APS' requested accounting order would allow it the opportunity to recover revenue for which it otherwise may not be entitled.

---

[4] Testimony of Jeffrey B. Guldner page 9.
[5] Testimony of Jeffrey B. Guldner page 10.

Q. Has APS provided any information to assist in an assessment of the impact the proposed accounting order would have on its financial parameters?

A. Yes. A perspective on the relative size of APS' anticipated deferrals can be obtained from its response to Staff data request 1.14 as presented below:

> The costs deferred under the proposed accounting order equate to approximately 9% of required annual operating income, 5% of rate base, and 3% of annual revenues. Denial of the accounting order, among other effects would cause APS's return on equity to decline by 1% - a significant reduction compared to the 9% return on equity APS actually earned during the 12 months ended September 30, 2010 and a further departure from its 11% authorized return on equity.

Q. Before discussing some specific issues related to APS' requested accounting order, please provide Staff's overall assessment of the appropriateness of granting APS an accounting order related to the proposed transaction based on the applied criteria?

A. Although, none of APS' anticipated financial impacts to its financial metrics suggest irreparable financial harm, Staff considers the amounts significant. i.e., the impacts are of sufficient magnitude to affect decision-makers such as management or investors. Similarly, while the impact to ratepayers, if recovery of the anticipated deferrals is approved in some future rate case, is likely to be noticeable, that impact is certainly within the range of a typical rate adjustment, and it can be modified as deemed appropriate by the recovery method authorized. As discussed below, the proposed transaction does present some potential inequities to APS, and providing an accounting order that appropriately addresses those issues would be beneficial to APS and its ratepayers.

Q. Referring back to the reasons presented above that APS provided to support its request for an accounting order, does Staff have any comments on these issues?

A. Yes. Staff has comments regarding several issues, including: the timing mismatch between APS' incurrence of costs related to the transaction and the recovery of and/or loss of ability to recover those costs; the impact of the Power Supply Adjustor ("PSA"); and APS' assertion that an accounting order is necessary to execute the transaction and Unit 1 through 3 write-offs. Staff also has comments on APS' request to apply a return/carrying cost to amounts deferred and assured for recovery and for current authorization for recovery of authorized deferrals.

Q. Please comment on the timing mismatch between APS' incurrence of costs related to the transaction and recovery of and/or loss of ability to recover those costs.

A. The additional costs APS incurs related to the transaction, i.e., costs that it would not have incurred but for the transaction, will not be recovered through rates until rates are established in a rate case following the incurrence of those additional costs. To the extent that those additional costs represent expenses, as opposed to capital costs, the opportunity for APS to recover those costs will be permanently lost unless the Commission grants authorization to defer those costs. Similarly, the opportunity to recover any depreciation or amortization expense recognized on capital assets acquired will be lost until such time as those assets are included in rate base in a future rate case. Also lost are any additional capital costs (i.e., debt and equity) incurred.

However, these lost opportunities to recover costs are a recognized and normal part of the regulatory framework. Utilities regularly make plant investments and incur incremental costs between rate cases. The regulatory framework assumes that these costs are offset by other regulatory benefits. For example, utilities often experience customer growth and collect the commensurate associated incremental revenues. Another example is the recovery of investment via depreciation expense. Further, the regulatory framework encourages utilities to find operating efficiencies. Thus, the simple existence of the lost opportunities for recovery of costs does not warrant adoption of an accounting order. Nevertheless, various factors such as the magnitude of the loss, timing of the remedy, and impact on the utility and its ratepayers can cause an inequitable circumstance that warrants regulatory relief.

As previously discussed, the financial impacts of the proposed transaction to APS are expected to be significant, but are not expected to result in irreparable financial harm absent an accounting order. However, eventualities often deviate from expectations. APS continues to receive the minimum investment grade debt ratings. APS and its ratepayers will benefit by maintaining or preferably increasing its debt rating. Staff is not suggesting that APS' current debt rating is in jeopardy; however, the consequence (reduced access to capital at higher cost) of a downgrade is potentially more costly than that of an accounting order. Accordingly, the expected financial significance of the transaction lends support to granting some regulatory relief.

The timing of the transaction is also unfavorable to APS in terms of getting recognition of the additional costs of the transaction in rates. The target date for the transaction is October 1, 2012, three months after APS anticipates rates will be authorized for the rate case it is scheduled to file on June 1, 2011. APS anticipates that it will not receive rates that include these additional costs until July 1, 2014. Thus, the timing of the transaction provides additional support for granting regulatory relief.

Q. Please comment on the impact of the PSA on the transaction.

A. The PSA includes a 90/10 sharing mechanism under which APS absorbs 10 percent of increases over the amount included in base rates and collects 10 percent of decreases from the amount included in base rates from ratepayers. Since Four Corners Units 4 and 5 are more fuel efficient than Units 1 through 3, this transaction ultimately will reduce fuel costs. Due to the 90/10 sharing provision of the PSA, 90 percent of the fuel cost savings will flow through to ratepayers. APS asserts that it is inequitable for it to absorb the incremental cost of the transaction while ratepayers receive the majority of the benefits.

Although APS did not make reference to it in its application, the situation is exacerbated by another provision of the PSA (APS' silence on this issue is consistent with its notice of intent to file a rate case application, dated February 1, 2011, which states that it will propose to remove the 90/10 provision of the PSA). Acquiring Units 4 and 5 (739 MW) and retiring Units 1 through 3 (560 MW) results in 179 MW of additional capacity. This 179 MW of additional capacity is a potential source for off-system sales. The PSA treats off-system sales as a negative component of fuel and purchased power costs. Ratepayers would receive 90 percent of the benefit of the margin on off-system sales. The PSA provides additional impetus for granting regulatory relief.

Q. Please comment on APS' assertion that an accounting order is necessary to execute the transaction.

A. APS has identified purchasing Four Corners Units 4 and 5 and retiring Units 1 through 3 as its most economical alternative for satisfying its generation capacity requirements. This action is consistent with its energy mix plan. However, APS' projections show that any other choice, including simply continuing to operate Units 1 through 3, would result in higher long-term costs. Therefore, there is no reason for APS not to execute the transaction.

Q. Please comment on APS' assertion that absent clear authorization by the Commission to fully recover the remaining value of Four Corners Units 1 through 3, APS could be required under GAAP to write-off those assets on its external financial statements, resulting in a weakened equity capitalization ratio and a negative affect on its projected operating results.

A. While Staff understands that APS may desire regulatory certainty, this request would appear to be unnecessary and overly cautious. Assuming the Commission grants APS authority to purchase SCE's portion of Four Corners Units 4 and 5, knowing that the purpose is to allow for closure of Units 1 through 3, APS' external auditor should have no reason to require APS to write-off these costs. Nevertheless, Staff concludes that a declarative statement by the Commission indicating that these costs remain eligible for recovery is appropriate.

Q. Please comment on APS' request to apply a carrying charge to its deferrals related to Four Corners Units 4 and 5 and to its unrecovered and additional costs incurred to close Units 1 through 3.

A. As previously discussed, assessing the merits of an accounting order request is as much a qualitative evaluation as it is a quantitative evaluation, and granting authorization to defer costs allows for potential recovery of revenue for which a utility otherwise may not be entitled. Applying a carrying charge suggests that these qualitative and quantitative factors can be identified and refined to a high degree; that just is not representatively accurate, and it goes beyond finding a balance of interests between the Company and its ratepayers and leans more toward providing a guarantee. In recognition that any deferral authorization represents an opportunity to recover costs that ordinarily may not be available, application of a carrying cost to the deferral is unwarranted. Moreover, caution should be used to avoid authorizing excessive deferrals. Deferrals create uncertainty for the ratepayers, the utility and investors. Until the Commission decides to allow or disallow recovery of deferred costs, these parties will continue to face uncertainty. If recovery is authorized, ratepayers will see increased costs. If recovery is denied, the utility must write-off the deferred costs. Accordingly, Staff concludes that granting APS authority to apply a carrying factor is not appropriate.

In the event that the Commission decides to grant APS a carrying factor, Staff suggests using a rate not to exceed the Company's most recently authorized rate of return in a rate case, as opposed to the Company's proposed method. APS' proposed method is static, and it is based on stale cost of equity and capital structure results from its prior rate case, which was a settlement

Q. Is the purpose of an accounting order to guarantee recovery of previously incurred and not yet recovered costs or to guarantee recovery of authorized deferrals?

A. No. In the case of an accounting order for cost deferral, the purpose is *to preserve the opportunity* to have recovery of certain costs *considered in the future*. The Commission should not predetermine the recoverability of costs; rather it should allow for post-incurrence review of costs for reasonableness, appropriateness and prudency.

Q. How are the costs authorized for deferral by an accounting order tracked?

A. The deferrals are recorded in a deferral account to maintain a running balance. Then, in a future rate case, the Commission decides whether to include none, some, or all of the costs in rates.

IV STAFF'S ACCOUNTING ORDER RECOMMENDATIONS

Q. What are Staff's recommendations regarding APS' requested accounting order?

A. Staff recommends adoption of an accounting order with the following provisions:

(1) That APS may defer, for future consideration of recovery through rates, all non-fuel costs of owning, operating and maintaining the acquired SCE interest in Four Corners Units 4 and 5 net of non-fuel operations and maintenance and property tax savings associated with the closure of Four Corners Units 1 through 3;

(2) Denial of APS' request for assurance of recovery for all unrecovered costs associated with Four Corners Units 1 through 3; however, APS shall account for those cost under the assumption that the Commission will continue to consider these costs available for future recovery unless and until otherwise determined (i.e., these costs should not be prematurely written off);

(3) Denial of APS' request for assurance of recovery for any additional costs incurred in connection with the closure of Four Corners Units 1 through 3; however, APS shall account for those cost under the assumption that the Commission will continue to consider these costs available for future recovery unless and until otherwise determined (i.e., these costs should not be prematurely written off);

(4) Denial of APS' request to apply a cost of money, i.e., return, to any deferred amounts.

(5) That the authorization of a cost deferral not constitute a finding or determination that the deferred costs and proceeds are reasonable, appropriate, or prudent; that such authorization not be construed as providing any relief through rates with respect to the ultimate recovery of the above-authorized deferrals; and that such authorization not be construed to limit the Commission's authority to review the deferred balance and to make any disallowances thereof;

(6) That APS prepare and retain accounting records sufficient to permit detailed review, in a rate proceeding, of all deferred costs and cost benefits as authorized above;

(7) That APS prepare a separate detailed report of all costs deferred under this authorization and that APS include that report as an integral component of each of its general rate applications in which it requests recovery of those deferred costs;

(8) That APS file each January with Docket Control, as a compliance item in this docket, an annual status report for each preceeding calendar year, of all matters related to the deferrals, and the cumulative costs thereof, with the first such report due no later than January 2012; and

(9) That the Decision in this matter become effective immediately.

Q. Does this conclude your direct testimony?

A. Yes.

BEFORE THE ARIZONA CORPORATION COMMISSION

GARY PIERCE
Chairman
BOB STUMP
Commissioner
SANDRA D. KENNEDY
Commissioner
PAUL NEWMAN
Commissioner
BRENDA BURNS
Commissioner

IN THE MATTER OF THE APPLICATION OF ARIZONA PUBLIC SERVICE COMPANY FOR AUTHORIZATION FOR THE PURCHASE OF GENERATING ASSETS FROM SOUTHERN CALIFORNIA EDISON AND FOR AN ACCOUNTING ORDER	DOCKET NO. E-01345A-10-0474

DIRECT

TESTIMONY

OF

MARGARET (TOBY) LITTLE

ELECTRIC UTILITIES ENGINEER

UTILITIES DIVISION

ARIZONA CORPORATION COMMISSION

MAY 10, 2011

TABLE OF CONTENTS

EXHIBIT

I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Margaret (Toby) Little. My business address is 1200 West Washington Street, Phoenix, Arizona 85007.

Q. By whom and in what capacity are you employed?

A. I am employed by the Arizona Corporation Commission ("Commission") as an Electric Utilities Engineer.

Q. Please describe your educational background.

A. I received both my Bachelors and Masters Degrees in Electrical Engineering from New Mexico State University. I graduated with my Bachelors Degree in July 1972, and received my Masters Degree in January 1979. My Masters Program at New Mexico State University was in Electric Utility Management. I received my Professional Engineering ("P.E.") License in the state of California in 1980.

Q. Please describe your pertinent work experience.

A. I worked at the Arizona Corporation Commission from September 2010 to February 2011 as a Utilities Consultant, and since February 2011 I have been employed at the Commission as an Electric Utilities Engineer. During this time I have performed engineering analyses for financing cases, helped coordinate the Sixth Biennial Transmission Assessment, reviewed utilities' load curtailment plans and summer preparedness plans, and conducted various other engineering analyses. From 1983 through 1987 I was the Supervisor of System Planning for Anchorage Municipal Light and Power, the second largest utility in Alaska. There I had overall responsibility for distribution, transmission and resource planning for the utility and supervised six electrical engineers. From 1979 through 1982 and 1987 through 1988 I worked for R.W. Beck and Associates, a nationally recognized engineering firm. There I performed many types of engineering analyses involving resource and transmission planning and worked on the engineer's reports for the financing of a major generation facility in northern California. Prior to that, I worked in the System Planning Sections of San Diego Gas and Electric Company and Hawaiian Electric Company, where I had responsibility for short and long range distribution planning.

Q. As part of your assigned duties at the Commission, did you perform an analysis of the application that is the subject of this proceeding?

A. Yes, I did.

Q. What is the purpose of your prefiled testimony?

A. The purpose of my testimony is to present the Utilities Division Staff's ("Staff") review of Arizona Public Service Company's ("APS") Application for authorization to purchase generating assets from Southern California Edison ("SCE"). The attached Memorandum gives the results of Staff's engineering evaluation of the alternative resource scenarios presented in the Application.

Q. As part of your analysis did you prepare the engineering memorandum attached as Exhibit MTL?

A. Yes, I did.

Q. Please summarize Staff's conclusions based on the engineering evaluation of the alternatives presented by APS in its Application.

A. Staff's conclusions are as follows:

Staff believes that all of the alternatives presented and analyzed adequately address the needs of the projected customer and load growth in APS' service territory and are not inconsistent with APS' resource plan. The proposal would replace one source of coal generation with another source of coal generation that the Company expects will be less expensive. As such, it does not represent a basic change in its resource plan for meeting baseload requirements. The proposal would increase APS' baseload generation by 179 MW which, based on projected load growth, is expected to be fully utilized by 2014. The remaining alternatives propose various combinations of baseload generation: coal, a combination of coal and combined cycle natural gas, or all combined cycle natural gas generation. From a resource planning perspective, each of the proposals would meet the baseload generation needs of the Company.

Staff believes that the alternatives presented by the Company are the most reasonable scenarios to be considered at this time to meet baseload requirements currently being served by Four Corners 1-5. The cost estimates and assumptions used by the Company in its analyses seem appropriate and reasonable. The total system revenue requirement calculations and the sensitivity analyses provided by APS show a definite, if relatively small, benefit to its customers over the 30 year life of the proposed alternative, and the proposal offers additional significant benefits that are beyond the scope of this engineering study. Staff believes that the proposed alternative is reasonable. However, this does not imply a specific treatment for future rate base or rate making purposes.

Q. Does this conclude your testimony?

A. Yes, it does.

MEMORANDUM

TO: Laura Furrey
Electricity Specialist
Telecom and Energy Division

FROM: Margaret (Toby) Little
Electric Utilities Engineer
Utilities Division

THRU: Del Smith
Engineering Supervisor
Utilities Division

DATE: May 11, 2011

SUBJECT: ARIZONA PUBLIC SERVICE COMPANY'S APPLICATION DATED NOVEMBER 22, 2010; DOCKET No. E-01345A-10-0474

Introduction

Arizona Public Service Company ("APS" or "Company") submitted an application ("Application") on November 22, 2010, to the Arizona Corporation Commission ("Commission") for authorization to acquire Southern California Edison's ("SCE") share of the Four Corners Power Plant ("Four Corners") Units 4 and 5, and for an accounting order that will allow them to defer certain costs associated with the purchase of Four Corners Units 4 and 5 and with the retirement of Four Corners Units 1 through 3. APS cannot pursue the acquisition of SCE's share of Four Corners Units 4 and 5 without authorization to do so under the terms of the "self-build moratorium" imposed in Decision No. 67744 (April 7, 2005). That decision includes the acquisition of a generating unit or interest in a generating unit from any merchant or utility generator in the definition of "self-build."

Background

Four Corners is a coal-fired generation plant located on the Navajo Nation in Fruitland, New Mexico, outside of Farmington. The plant consists of five generating units. APS owns and operates Four Corners Units 1 through 3 which are rated at a total of 560 MW and have been in operation since the early 1960s (1963-1964). Four Corners Units 4 and 5 are co-owned by APS, SCE and four other utilities, are rated at a total of 1,540 MW, and have been in operation since 1969 and 1970 respectively. APS owns 15% of Units 4-5, (231 MW), and operates the units on behalf of the other co-owners. APS has received a total of 791 MW of annual base-load generation from the five Four Corners units for more than forty years.

Four Corners is now facing several issues that are causing its owners to evaluate how the plant will be operated in the future. The Environmental Protection Agency ("EPA") has proposed a number of regulations that could require the plant to install environmental controls on all five units in the near future. If the proposed regulations become law, post-combustion controls (Selective Catalytic Reduction ("SCR") to reduce NO_x emissions) would be required on all five units. In addition, particulate emissions controls will be required to be installed on Units 1-3. If the proposed rules become final, the equipment will have to be installed by approximately 2016, requiring that capital expenditures be made as early as 2014.

SCE has advised APS that rules established by the California Public Utilities Commission ("CPUC") prevent California utilities from making "life extending" capital expenditures at baseload power plants that do not meet certain greenhouse gas emissions standards, including Four Corners. SCE has therefore informed its co-owners that it will not pay its share of any environmental compliance or any other costs that could be deemed "life extending" and will pull out from the plant entirely by 2016. SCE owns a 48 percent share of Units 4-5, a total entitlement of 739 MW. APS has stated that if no one picks up SCE's share of Units 4-5, the other owners may opt to shut those units down.

In light of these anticipated developments at Four Corners, APS has analyzed the issues and run economic analyses of what it considers to be the alternatives for the Four Corners Units. Based on those studies, APS has come up with what it believes to be a solution to the various issues. APS proposes to retire Units 1 through 3, which will be the most expensive to retrofit, are the oldest units, and are the most inefficient units at Four Corners. APS would replace that baseload power by purchasing SCE's share of Units 4 and 5.

APS believes that this solution offers the most benefit to its customers, local communities, and the environment. APS' analyses have shown an economic benefit to its customers, mitigation of the environmental impacts, and maintenance of a diverse and reliable energy portfolio while at the same time protecting the local economy and that of the Navajo Nation.

Utility Overview

APS is the largest electric utility in Arizona and the principal subsidiary of Pinnacle West Capital Corporation. APS serves more than one million customers in 11 counties throughout most of the state, mainly concentrated in northern and central Arizona. APS system peak load in 2010 was 6,936 MW.

According to testimony presented with the application, APS projects an average annual load growth of slightly less than four percent per year for the next 15 years. Although energy efficiency, distributed energy and renewable resources are planned to meet an increasing percentage of those load requirements every year, the Company expects to need additional conventional resources as early as 2014, even if it acquires SCE's share of Units 4-5.

Review of Alternatives

Staff has reviewed the alternatives submitted by APS in its application along with all supportive documentation. In reviewing the alternatives, Staff utilized the following criteria:

- Do each of the alternatives adequately address the needs of the projected customer and load growth in APS' service territory and are they each consistent with APS' resource plan?
- Were all reasonable alternatives to the proposed plan considered?
- Are the costs and other assumptions used in the analyses of the alternatives appropriate and reasonable?

Alternatives and Assumptions

In its application, APS presented three alternatives.

- The first is the proposal in the Application. In this alternative, Four Corners Units 1-3 would be retired and the Company would purchase SCE's share of Four Corners Units 4-5. In this scenario, 560 MW of coal generation from Units 1-3 would be retired and 739 MW of coal generation would be added from Units 4-5.
- The second alternative assumes that Four Corners Units 1-3 would remain in-service and Units 4-5 would be retired in 2016. APS' share of Units 4-5, 231 MW, would be replaced by natural gas combined cycle generation[1] as necessary to serve load.
- The third alternative would be to retire all Four Corners Units and replace all of APS' Four Corners generation, 791 MW, with natural gas combined cycle generation[1] as needed.

APS has stated in its application that it believes Four Corners 4-5 will likely be shut-down if APS does not purchase SCE's share of those Units. Based on this belief, the second and third alternatives presented include the assumption that APS would replace its current share of Units 4-5 with combined cycle generation. Staff believes it is possible that a third party could purchase SCE's share of Four Corners 4-5 if APS does not. Staff asked the Company to consider that possibility, enabling Units 4-5 to remain on-line regardless of whether Units 1-3 are retired. That request resulted in two more alternatives:

- Units 1-5 would all remain in-service, with all EPA required retrofits installed.
- Units 1-3 would be retired and replaced with combined cycle generation, with Units 4-5 remaining in-service.

In its analyses, APS made various assumptions, including the costs associated with upgrading the different Four Corners units to meet the expected EPA regulations, the cost of new natural gas combined cycle generation and the transmission necessary to serve load, the future cost of natural gas, and the cost of internalized carbon. The assumptions were consistent

[1] Assumed to be located close to load and including transmission necessary to bring generation to load

amongst the alternatives and were provided to Staff for use in evaluating the Application. Because those future costs may vary from the assumptions made, the Company also provided a sensitivity analysis showing how the calculated benefits would change if the capital cost of new combined cycle generation, the cost of internalized carbon, and/or natural gas costs vary from the assumptions made in the analyses.

In determining its reasonable alternatives, APS looked at resources that might be available to replace baseload coal generation. APS determined that the alternatives either were not available, (geothermal), could not be constructed in the timeframe needed, (nuclear), or were not of sufficient size to meet the requirements and would be pursued regardless of the outcome of this decision, (biogas, biomass, energy efficiency). Natural gas combined cycle was therefore determined to be the only reasonable alternative to coal at this point in time and was used as the replacement resource in all alternatives.

Total system revenue requirements as calculated by APS for the three original alternatives and the two requested additional alternatives are summarized in the following table:

TOTAL SYSTEM REVENUE REQUIREMENTS
(Millions of Dollars, Present Worth at 7.87 percent, in 2010$)

Alternative	10 Years	20 Years	30 Years
1: Proposal	$17,282	$31,631	$42,972
2: FC 4-5 Retired & Replaced with CC; FC 1-3 In-service	$17,625	$32,459	$44,056
3: FC 1-5 Retired and replaced with CC	$17,370	$32,030	$43,460
2A: FC 1-5 On-line (Status Quo)	$17,519	$32,184	$43,720
3A: FC 4-5 On-line; FC 1-3 Retired & Replaced with CC	$17,280	$31,802	$43,188

Conclusion

Staff believes that all of the alternatives presented and analyzed adequately address the needs of the projected customer and load growth in APS' service territory and are not inconsistent with APS' resource plan. The proposal would replace one source of coal generation with another source of coal generation that the Company expects will be less expensive. As such, it does not represent a basic change in its resource plan for meeting baseload requirements. The proposal would increase APS' baseload generation by 179 MW which, based on projected load growth, is expected to be fully utilized by 2014. The remaining alternatives propose various combinations of baseload generation: coal, a combination of coal and combined cycle natural gas, or all combined cycle natural gas generation. From a resource planning perspective, each of the proposals would meet the baseload generation needs of the Company.

Staff believes that the alternatives presented by the Company are the most reasonable scenarios to be considered at this time to meet baseload requirements currently being served by Four Corners 1-5. The cost estimates and assumptions used by the Company in its analyses seem appropriate and reasonable. The total system revenue requirement calculations and the sensitivity analyses provided by APS show a definite, if relatively small, benefit to its customers over the 30 year life of the proposed alternative, and the proposal offers additional significant benefits that are beyond the scope of this engineering study. Staff believes that the proposed alternative is reasonable. However, this does not imply a specific treatment for future rate base or rate making purposes.