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Arizona Corporation Commission
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AUG 29 2014
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August 28, 2014

Re: Post-Hearing Brief of Sierra Club -
Arizona Corporation Commission Docket Number E-01345A-11-0224

To Whom It May Concern:

Please find enclosed an original and four (4) copies of the Post-Hearing Brief of Sierra Club.

Please let me know if you have any questions.

Sincerely,

/s/ David Abell

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Before the Arizona Corporation Commission

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IN THE MATTER OF THE APPLICATION OF ARIZONA PUBLIC SERVICE COMPANY FOR A HEARING TO DETERMINE THE FAIR VALUE OF THE UTILITY PROPERTY OF THE COMPANY FOR RATEMAKING PURPOSES, TO FIX A JUST AND REASONABLE RATE OF RETURN THEREON, TO APPROVE RATE SCHEDULES DESIGNED TO DEVELOP SUCH RETURN.	Docket No. E-01345A-11-0224 **SIERRA CLUB POST-HEARING BRIEF**

In accordance with the direction of the Administrative Law Judge at the July 30, 2014 pre-hearing conference, Sierra Club hereby submits the following post-hearing brief addressing the net present value of the Four Corners acquisition in the above-captioned proceeding. Sierra Club filed direct testimony in this proceeding on June 18, 2014 and filed surrebuttal testimony in this proceeding on July 21, 2014. In its filings and testimony, the Company failed to provide the Commission with a full and complete analysis to support its decision as being prudent to acquire

Units 4 and 5 of Four Corners Power Plant. Sierra Club recommends the Commission: 1) Reject the Company's request to rate base the costs associated with the acquisition of Units 4 and 5; 2) Condition future approval of rate base adjustments on revised and robust analysis that provides a full explanation for the numerous changes in the Company's assumptions made by the Company since the purchase was initially proposed; and 3) Put the Company on notice that a fully updated analysis will be required if the Company intends to rate base any future costs associated with the Company assuming the 7% shortfall obligation associated with El Paso Electric's decision to not sign the 2016 coal supply agreement.

I. The Company Does Not Provide a Full and Complete Analysis of its Natural Gas Price Assumptions and Relies on Open Trade Prices Resulting in Abnormally High Gas Price Trajectories Favoring the Company's Decision to Purchase Units 4 and 5.

The Company has not provided sufficient detail for the Commission to evaluate the natural gas price assumptions made by the Company when determining the Net Present Value (NPV) of the transaction. The Company claims a NPV benefit exists to support its decision to purchase Units 4 and 5 of Four Corners Power Plant, but it fails to provide adequate support for its critical assumptions related to natural gas prices. Instead the Company relies on unsupported projections provided by the Company's proprietary database DataMart, and does not explain how the projections are calculated or why the calculation approach is reasonable. The company's claim that DataMart is based on the New York Mercantile Exchange ("NYMEX") is inconsistent with the nature, quality, and availability of NYMEX data to support such forecasts.

The Company readily acknowledges it did not look at NYMEX source data and only those numbers that are a result of its own proprietary database, DataMart.[1] The Company also acknowledges the volume of NYMEX trades are a helpful indicator in determining natural gas

[1] Transcript, Volume III, Aug. 6, 2014, hereinafter ("Transcript"), at p. 492, lines 15 - 18.

prices,[2] but claims a decrease in the volume of trades does not make the source less reliable.[3] This inherent contradiction reveals a basic deficiency in the company's approach: NYMEX data serve as a reasonable basis for forecasts only to the extent that they reflect a high volume of settled trades, not open trades.

Open trades are the price at which one side (seller or buyer) was willing to transact but did not find a taker on the other side. This information may be useful for traders who want to see what other market participants are doing, but it has little to no value for forecasting purposes--because meaningful prices are only formed if there are two sides that agree on a price. Without the information on the nature and quality of the data, it would be extremely risky (and misleading) to use the data for any purpose, including as a price forecast.

NYMEX data do not serve as an indicator of market prices if there are few or no settled trades, as is the case beyond two or three years into the future. NYMEX does not provide market price forecasts and does not represent its data as such. To the extent that the company inappropriately and erroneously uses these data as forecasts, without regard to the volume of settled trades they represent, its analysis is fundamentally flawed and the resulting investment decisions cannot be considered prudent.

The Company's reliance on the proprietary database, DataMart, and its decision to project forward based natural gas prices on open interests is faulty and costly.

II. The Company Does Not Provide a Complete Explanation for its Capital Expenditures and Provided New Information at the Hearing that Was Not Made Available to the Commission or Other Parties for Independent Review.

The Company does not provide the Commission with sufficient information regarding projected capital expenditures at Units 4 and 5 to issue a decision deeming the transaction prudent. Sierra Club made good faith efforts in pre-filed direct and surrebuttal testimony to

[2] *Id.* at p. 492, line 24.
[3] *Id.* at p. 496, lines 12 - 14.

address capital expenditures as projected by the Company. Sierra Club made numerous[4] data discovery requests and presented over five pages[5] of in-depth analysis regarding the little information provided about the Company's projected capital expenditures.

Prior to the hearing, the Company's witness, James Wilde ("Mr. Wilde"), rebutted Sierra Club's testimony with a brief response claiming Sierra Club's concerns regarding capital expenditures are unfounded and incorrect, but never provided substantive explanation for this conclusion.[6] Nonetheless, Sierra Club provided response to Mr. Wilde's rebuttal in surrebuttal testimony, but again the Company fails to provide any explanation for concerns related to capital expenditures in its rejoinder testimony. In fact, the Company makes no reference whatsoever to capital expenditures in its rejoinder testimony.

At the hearing, Mr. Wilde rebutted Sierra Club's pre-filed testimony regarding capital expenditures with new qualitative information and explanation that was not provided in the Company's pre-filed testimony. The Company's witness provided new information explaining that capital expenditures projected by the Company are a result of pollution control estimates at a number of various plants in the Company's portfolio and stated, "if you add all those up, that's about what you get."[7] These numerical factors lead to the Company's conclusion on capital expenditures and have a significant impact on the NPV of the transaction, but this information was not provided to the Commission or Intervening parties for review prior to the hearing. This information and explanation should have been pre-filed for all parties to perform independent evaluation of the Company's analysis. The Commission and intervening parties should not have to accept the Company's new proffered explanation for capital expenditure irregularities at face value. Instead, all parties should be offered opportunity to propound discovery on this new

[4] *See* Sierra Club's Second Set of Data Request to APS; (DR: SC 2-1 and SC 2-3).
[5] Direct Testimony of Ezra D. Hausman, hereinafter ("Hausman Direct"), at pp. 32-37.
[6] Rebuttal Testimony of James C. Wilde, at p. 6, line 4.
[7] Transcript, at p. 502, lines 10 - 11.

testimony. Sierra Club recommends the Commission disregard the Company's new testimony on capital expenditure irregularities and to treat capital expenditures as unsupported and unexplained due to the inability of all parties to review and provide comment.

III. The Company Does Not Adequately Incorporate Current Considerations into its Carbon Price Trajectories Despite Pending Carbon Regulation and Against the Company Consultant's Recommendations Resulting in Unrealistically Low Carbon Price Trajectories Favoring the Company's Decision to Purchase Units 4 and 5.

The Company's carbon price projections are unrealistically low. Despite pending federal carbon regulation, the Company fails to incorporate present day[8] considerations into its current carbon price trajectories and also disregards the recommendations of its consultant, Charles River Associates ("CRA"). These many failures include: 1) The Company setting carbon price trajectories that are less than half those prices recommended by CRA; 2) The Company setting a carbon price escalation rate that is half the rate recommended by CRA and accounts only for inflation; 3) The Company sets a carbon price based off a single California market trading price with full knowledge that California's market reflects a single-state program inapplicable to other states or Indian reservations, while federal carbon regulation is a certainty; and 4) The Company sees the failure of carbon legislation as a reason to revert back to 2010 stakeholder discussions when setting an escalation rate for carbon prices despite both its own consultant CRA's recommendation to assume 5% above inflation, and the certainty of federal carbon regulation. All of these factors have resulted in unrealistically low carbon price projections, and have a direct impact on the NPV of the transaction.

The Company disregards the recommendation of its own consultant, CRA, by setting a carbon price of $12.73 that is less than half the price ($28.01) recommended by its consultant in

[8] "Present day" referring to what the Company knew in December 2013 when it made the final decision to purchase Units 4 and 5.

2010 and 2011.[9] In fact, the Company's set carbon price of $12.73 is based off a single California market CO2 trading price.

The Company further disregards the recommendation of its own consultant by utilizing a carbon price escalation rate that is half that recommended by CRA. CRA recommended increasing the carbon price by 5% above inflation per year after 2019[10], but the Company instead sets a fixed carbon price with an escalation rate of 2.5% to account for inflation alone. The Company claims the decision to utilize a flat 2.5% escalation rate is reasonable in light of discussions during a series of stakeholder meetings held in 2010. The Company provides no indication the rate has been updated to reflect any considerations since 2010, including federal carbon regulation certainty.

More disconcerting is the inability of the Company's expert witness to answer whether or not its carbon prices are similar to those used by a reasonable utility.[11] The Company's decision to disregard its own consultant comes at a time when federal carbon regulation is a certainty. It is during this time that the Company is choosing to reject its consultant's recommendations and instead projects carbon prices based on 2010 stakeholder meetings, failed carbon legislation and a single California market trading price. The Company justifies its carbon price projections by claiming it "did not know the details"[12] of carbon regulation. The Company's automatic reversion to outdated and limited analysis fails to take into consideration the risks posed by certain federal carbon regulation.

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[9] *See* Hausman Direct, at p. 28, Table 3. This table shows a comparison of APS' CO2 price trajectories on a levelized basis.
[10] Hausman Direct, EDH-6, at p. APP A-11.
[11] Transcript, at p. 508, lines 9 - 10.
[12] *Id.* at p. 515, line 16.

IV. The Company Does Not Adequately Assess the Risks and Associated Cost Impacts of the Forty-five Year Old Units Ceasing to Operate or to Operate at a Reduced Capacity Having a Direct Impact on the NPV of the Transaction.

The Company's NPV determination does not include a scenario for early retirement of either Unit 4 or Unit 5, or both; nor does it consider a scenario in which generation output is decreased at any time over the projected life of the resources. The Company acknowledges the uncertainties with running the plant the next twenty-five years and can provide no guarantee the plant will continue operating at the same capacity.[13] It is imprudent for the Company to assume the units will perpetually operate at the same capacity for the next twenty-five years without having performed any type of sensitivity analysis for decreased or curtailed operations or additional operating cost, all the while not knowing what the future operating environment looks like.[14] The Company is also unable to answer whether or not a reasonable utility would run a sensitivity analysis for this plant's viability to continue operating the next twenty-five years.[15] The risks associated with Units 4 and 5 ceasing to operate or generating less power have a direct impact on the NPV of the transaction and the Company has failed to incorporate this risk analysis in its NPV determination.

V. No Party to this Docket has Performed an Independent Analysis of the Transaction to Determine Whether the Company's Claimed NPV is Accurate or Reliable.

Commission Staff witness James Letzelter ("Mr. Letzelter") performed a probabilistic analysis of the benefits of the acquisition and found that there was a 90% probability that the benefits would be between $90 Million and $512 Million.[16] Mr. Letzelter further found there was a 99.4% chance that the benefit would exceed zero.[17] It is important to note that Mr. Letzelter has

[13] Transcript, at p. 520, lines 15 and following.
[14] *Id.* at p. 521, lines 2 - 3.
[15] *Id.* at p. 519, lines 2 and following.
[16] Liberty Report, p.13; Transcript, at p. 587, line 18.
[17] Transcript, at p. 588, line 13.

not performed an independent analysis of the transaction.[18] Mr. Letzelter claims his analysis was based on many of the basic parameters provided in the Company's own analysis and that Mr. Letzelter then performed a detailed assessment of the valuation based on his view of the key drivers only.[19] Specifically, Mr. Letzelter considered variations in the projected gas price and the projected CO2 price, but retained all other Company assumptions, including the poorly supported stream of capital costs and the future operational assumptions for the plant.

Mr. Letzelter agrees with the statement made by the Commission in decision No. 73130 that "the inherent risks remain the same or have compounded since the Company filed its original application" at least in the sense that "any power plant acquisition is fraught with risks."[20] In particular, Mr. Letzelter states, "I think it is a fact lately that CO2 regulation will drive some coal plants into early retirement", although he contends that "I just don't think that Four Corners is one of them."[21] Mr. Letzelter does not assign any probability to his contention that Four Corners will not be one of the coal plants driven into early retirement—however his analysis is predicated on the Company's numerous unsupported assumptions, including the implicit but illogical assumption of a 0% probability that the plant will retire or curtail operations prior to 2038.

Further, Mr. Letzelter's analysis accepts at face value and as invariable the Company's assumptions regarding future capital costs under both the Acquisition and Gas Alternative cases (the only "key drivers" varied in Mr. Letzelter's analysis were "the natural gas prices and carbon prices"[22]). Thus if the Company's operational or capital costs are inaccurate or biased, Mr. Letzelter's analysis is identically impacted.

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[18] Transcript, at p. 599, line 3.
[19] *Id.* at p. 599, line 4.
[20] *Id.* at p. 591, line 25.
[21] *Id.* at p. 590, line 3.
[22] *Id.* at p. 599, line 8.

Finally, Mr. Letzelter's gas price analysis uses a base case price equal to the Company's base case price in his probabilistic analysis.[23] Similarly, if the Company's base case gas price projection is inaccurate or biased, Mr. Letzelter's analysis is identically impacted.

Mr. Letzelter's probabilistic conclusions are fundamentally predicated on the Company's unsupported assumptions regarding capital costs, future plant operations, and even natural gas prices. Mr. Letzelter's claims regarding the consumer benefits of the acquisition rise and fall with the Company's assumptions in each of these areas. In fact, no one has performed an independent analysis of the transaction to determine whether the Company's claimed NPV is accurate or reliable.

VI. Conclusion: The Company Does Not Provide this Commission with the Necessary Information to Issue a Decision Deeming the Company's Purchase Prudent.

The Company has failed to provide this Commission with sufficient information explaining why the Company's decision to purchase Units 4 and 5 in December 2013 will result in a net benefit for ratepayers and is therefore a prudent decision. Sierra Club has raised significant concerns regarding changes in circumstances from when the company initially proposed to acquire the additional coal units in 2010 to December 2013 when the company made the final purchase decision. These concerns include: 1) The Company's decision to project natural gas prices based on open market interest and prices resulting from the Company's proprietary database, DataMart results in the Company's expectation that this Commission will accept the Company's natural gas price assumptions at face value; 2) The Company has not provided the Commission with a clear and complete explanation for why capital expenditures at all other plants increases by the same percentage except Four Corners; 3) The Company projects unrealistically low carbon prices while disregarding prior recommendations made by the Company's consultant and also disregarding pending federal carbon regulation; and 4) The

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[23] Liberty Report, at p. 12 (Exh. JCL-1).

Company exposes ratepayers to a costly risk by assuming the fifty year old coal units will continue to operate, and to operate at a high capacity factor, through 2039 without having performed any type of sensitivity analysis. Sierra Club's concerns with the Company's assumptions individually or cumulatively result in a negative net present value for the transaction. The Company has not substantially addressed these concerns to show the transaction results in a net benefit to customers.

Dated this 28th day of August, 2014.

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