

BEFORE THE ENVIRONMENTAL APPEALS BOARD
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C.

In re:)
)
)
Arizona Public Service Company) Appeal No. PSD 16-01
Ocotillo Power Plant)
)
Maricopa County Air Quality Department)
PSD Permit No. 16-01)

BRIEF OF THE OFFICE OF AIR AND RADIATION AND REGION 9

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INTRODUCTION

U.S. Environmental Protection Agency's (EPA) Office of Air and Radiation (OAR) and Region 9 submit this brief¹ in response to the EPA Environmental Appeals Board's (EAB or Board) May 13, 2016 "Order Requesting EPA's Office of General Counsel, Office of Air and Radiation, and Region 9 to File a Joint Brief" (May 13, 2016 Order). See EAB Appeal No. PSD 16-01 (Ocotillo) Docket #8.²

The federal Clean Air Act (CAA or Act) Prevention of Significant Deterioration (PSD) permit that the Maricopa County Air Quality Department (MCAQD) issued on March 22, 2016, pursuant to a delegation from EPA Region 9, to the Arizona Public Service Company (APS) for the Ocotillo Power Plant (Ocotillo) is the subject of the instant proceeding before the Board. The Board's May 13, 2016 Order requested that OAR and Region 9 provide their views regarding MCAQD's decision to eliminate the option of pairing energy storage with combustion turbines from further review after Step 1 of its Best Available Control Technology (BACT) analysis for Ocotillo on the grounds that this option would "redefine the source" proposed by the permit applicant in this case. May 13, 2016 Order at 2.

DISCUSSION

The recent evolution of energy storage technology is a promising development in the electrical power supply sector. EPA has observed that utility scale energy storage may be used to facilitate greater use of renewable energy. For example, this technology may be used to store renewable energy generation that would otherwise be shed in times of excess generating capacity. 80 Fed. Reg. at 64901.

¹ This brief is submitted jointly by the Office of General Counsel (OGC) and Region 9's Office of Regional Counsel (ORC) on behalf of these two client offices.

² Docket numbers cited hereinafter refer to items docketed by the EAB in the instant proceeding.

Considering its potential for reducing air pollutant emissions in some applications, energy storage technology may warrant consideration when evaluating options to be listed at Step 1 of a BACT analysis in the PSD permitting program. However, since a BACT analysis is a case-by-case review, the emissions-reduction potential of energy storage technology should be considered in the context of individual permit applications and their associated records, as appropriate. In response to the Board's request in this particular case, OAR and Region 9 believe that the record supports MCAQD's decision to consider, but ultimately eliminate at Step 1 of its BACT analysis for Ocotillo, the pairing of energy storage with combustion turbines as a potentially available and applicable control technology for this facility. Information in the administrative record for MCAQD's final PSD permit decision for Ocotillo is sufficient to support a finding that the option of pairing energy storage with combustion turbines at Ocotillo, as raised in comments by Sierra Club in this case, would not achieve the Ocotillo project's fundamental business purpose. As such, the record for the permit decision supports MCAQD's conclusion that this option would "redefine" the source proposed by the applicant in this case to meet particular business objectives.

EPA Has Recognized That A PSD Permitting Authority Has the Discretion to Eliminate Options in Step 1 of the BACT Analysis That Would "Redefine the Source"

State and local air permitting authorities should follow EPA policies and interpretations when implementing the PSD program through a delegation agreement with a regional office. PSD and Title V Permitting Guidance for Greenhouse Gases, EPA-457/B-11-001, at 19 (2011) (GHG Guidance). This means that delegated permitting authorities, including MCAQD, should follow EPA's suggested top-down analysis to determine BACT when issuing a PSD permit.

Under EPA’s guidance, at Step 1, a permitting authority must identify all “available” control options that have the potential for practical application for the regulated pollutant under evaluation, including inherently lower-emitting processes, practices, and designs. GHG Guidance at 24. However, EPA has recognized that permitting authorities implementing the top-down BACT process have the discretion not to list at Step 1 control options that would “fundamentally redefine the nature of the source proposed by the permit applicant.” *Id.* at 26; *see In re Prairie State Generating Company*, 13 E.A.D. 1, 23 (EAB 2006) (*In re Prairie State*). Therefore, a permitting authority does not err in its application of the top-down BACT process when it eliminates a control option at Step 1 that would fundamentally redefine the source proposed by the permit applicant to meet specific business objectives, even if that control option is generally “available” to sources in the relevant industry sector.

To determine whether a control option would fundamentally redefine the proposed source, and can therefore be eliminated from further consideration at Step 1 of the top-down BACT process, “a permitting authority should look first at the administrative record to see how the applicant defined its goal, objectives, purpose or basic design.” GHG Guidance at 26. The permitting authority must take a “hard look” and determine “which design elements are inherent to [the] purpose [of the facility], articulated for reasons independent of air quality permitting, and which design elements may be changed to achieve pollutant emission reductions.” *Id.*; *In re Prairie State*, 13 E.A.D. at 23, 26-27. The administrative record is an essential component of the permitting authority’s analysis and the determination that a control option would fundamentally redefine a source is a case-by-case determination based on the record before the permitting authority. GHG Guidance at 26; *see e.g., In re Desert Rock Energy Company*, 14 E.A.D. 484, 538 (EAB 2009). Therefore, while previous permitting decisions may have determined that a

particular control option would redefine a similar source, the decision by the permitting authority should focus on the facts in the administrative record for the permit application in front of it.

When analyzing how the applicant has defined the proposed source, the permitting authority should consider the reasons why a particular configuration is necessary to achieve the fundamental business purpose or objective of the source. GHG Guidance at 27. EPA has recognized that this may include consideration of the manner in which an electric generating facility is intended to provide energy to the grid by, for example, considering the different business purposes of base load and peaking units. *Id.*; *In re Prairie State*, 13 E.A.D. at 25. Only those control options that would fail to meet the fundamental business purpose or objective of the proposed source may properly be eliminated as redefining the source at Step 1 of the top-down BACT process. GHG Guidance at 27.

MCAQD Did Not Err By Failing to List the Pairing of Energy Storage with Combustion Turbines as a Potentially Available and Applicable Control Technology for Ocotillo

Based on a review of the information in the administrative record for MCAQD's PSD permit decision for Ocotillo, OAR and Region 9 believe that the record supports a decision not to list the pairing of energy storage with combustion turbines as a potentially available and applicable control technology for Ocotillo in Step 1 of its BACT analysis. APS, the PSD permit applicant, demonstrated through information provided in its PSD permit application submittals that the fundamental business purpose of Ocotillo is to serve as a peaking and load-shaping plant designed to provide 25 to 500 MW of power very quickly, with the flexibility to ramp up immediately when renewable or other power sources are unavailable, to meet several peaks per day and as necessary to meet a sustained load, in order to meet the demand created in large part by the use of renewable energy in the area. There is sufficient evidence in the record to indicate that these purposes are inherent design elements, determined independently of any air quality

permitting concerns. The information provided by the applicant is sufficient to support the conclusion that the paired energy storage option as proposed in Sierra Club's comments and Petition would be inconsistent with these inherent design elements of Ocotillo, and that therefore the proposed paired energy storage option would not meet the fundamental business purpose of the project and would "redefine the source."³

Information in the Administrative Record Concerning the Fundamental Project Purpose for Ocotillo

The January 23, 2015 PSD permit application from APS for Ocotillo discussed generally that the purpose of Ocotillo is to meet the need for firm electric capacity that can be quickly and reliably dispatched when renewable or other power sources are unavailable, to meet multiple peak times of demand throughout the day. Sierra Club Pet. (Docket #1) Exhibit (SC Ex.) 7 at 2.

The January 2015 permit application explained that the five General Electric Model LMS100 100 MW simple-cycle gas turbine generators (GTs) that Ocotillo would utilize would:

have the quick start and power escalation capability that is necessary to meet changing power demands and mitigate grid instability caused by the intermittency of renewable energy generation. The new units need the ability to start quickly, change load quickly, and idle at low load. This capability is very important for normal grid stability, but absolutely necessary to integrate with and fully realize the benefits of distributed energy such as solar power and other renewable resources. To achieve these requirements, these GTs will be designed to meet the proposed air emission limits at steady state loads as low as 25% of the maximum output capability of the turbines.

Id. (emphasis added).

Sierra Club's April 19, 2015 comments on MCAQD's proposed PSD permit for Ocotillo asserted that MCAQD failed to consider numerous other options that would result in lower greenhouse gas (GHG) emissions from Ocotillo, including the use of energy storage options. SC

³ We also note that that MCAQD's responses to comments explained why it believed that various energy storage options could be eliminated as BACT at Steps 2 and 4 as well as Step 1 of the five-step top-down BACT analysis. See Maricopa County Response to Comments (RTC), SC Ex. 2, at 8-10. See also September 2015 permit application, SC Ex. 5 at 48-50; MCAQD December 2015 Technical Support Document (TSD), SC Ex. 6 at 39.

Ex. 4. With respect to energy storage, Sierra Club’s comments appear to have focused primarily on the replacement of all or some of the turbines with energy storage; while the comments mentioned “paired energy storage,” in many instances it is unclear whether the use of the terms “paired” or “pairing” was meant to refer to the use of energy storage to replace one or more of the five simple-cycle turbines or, instead, the addition of energy storage options to the proposed Ocotillo project’s five simple-cycle turbines. *See id.* at 4-14. However, it is our understanding that the Sierra Club’s Petition for Review for Ocotillo with respect to “pairing” focuses specifically on the addition of energy storage options to the five simple-cycle turbines proposed for Ocotillo, and does not challenge MCAQD’s permit analysis with respect to the replacement of one or more of the turbines with energy storage. *See, e.g.,* SC Pet. at 3, 12.

The Sierra Club’s comments included a number of statements that provide, or may provide, information concerning the “paired” energy storage option in light of the Ocotillo project’s purpose, including the following:

Interfacing energy storage with gas turbines would eliminate the need to operate the LMS100 turbines at low loads. This configuration would improve overall Project heat rate and efficiency, thus reducing GHG and other criteria pollutant emissions. [footnote omitted] Energy storage technology is capable of starting nearly instantaneously and changing loads quickly without the need to idle. These capabilities would eliminate the need for the LMS100 units to idle or operate at 25% load when they are not called upon for more efficient capacities. The option of using energy storage to mitigate the need to operate the LMS100s was not considered in the GHG BACT analysis.

SC Ex. 4 at 6. The comments further asserted that “[e]nergy storage can also be paired with natural gas fired thermal units to provide extra peaking capacity while maintaining a lower overall emissions profile and fast response time.” *Id.* at 11. In addition, the comments explained that “[i]f paired together with a simple cycle unit, energy storage could fill the gap in generation needs during a peaking event until the LMS100 units were able to come online at 100% load, which would correspond to the LMS100’s highest efficiency,” and that any types of energy

storage units, such as batteries, can ramp in less than one second. *Id.* at 13. The comments also noted that a paired configuration of LMS100 turbines and storage would provide black start capability because both the storage components and the LMS100 components could provide such capability. *Id.* at 14.

Following an April 29, 2015 request from MCAQD for additional information to respond to comments received during the public comment period, *see* Maricopa County Response Brief (Docket #6), Ex. 2, APS provided an updated PSD permit application for Ocotillo in September 2015, which included a more detailed explanation of the project purpose for Ocotillo. *See* SC Ex. 5. The updated application stated:

The purposes for the Project are to provide peaking and load shaping electric capacity in the range of 25 to 500 MW (including quick ramping capability to backup renewable power and other distributed energy sources), to replace the 200MW of peak generation that will be retired at Ocotillo with cleaner units, and to provide an additional 300MW of peak generation to handle future growth. . . .

APS is continuing to add renewable energy, especially solar energy, to the electric power grid, with the goal of achieving a renewable portfolio equal to 15% of APS's total generating capacity by 2025 as mandated by the ACC. However, because renewable energy is an intermittent source of electricity, a balanced resource mix is essential to maintain reliable electric service. As of January 1, 2015, APS has approximately 1,200 MW of renewable generation and an additional 46 MW in development. Within Maricopa County and the Phoenix metropolitan area, APS has about 115 MW of solar power and there is an additional 300 – 400 MW of rooftop Photovoltaic (PV) solar systems.

One of the major impediments to grid integration of solar generation is the variable nature of the power provided and how that variability impacts the electric grid. According to the Electric Power Research Institute (EPRI) study on the variability of solar power generation capacity, Monitoring and Assessment of PV Plant Performance and Variability Large PV Systems, the total plant output for three large PV plants in Arizona have ramping events of up to 40% to 60% of the rated output power over 1-minute to 1-hour time intervals [footnote omitted]. Considering the solar capacity in Maricopa County, the required electric generating capacity ramp rate required to back up these types of solar systems would therefore range from 165 to 310 MW per minute. The actual renewable energy load swings experienced on the APS system have also shown rapid load changes from renewable energy sources of 25 to 300 MW in very short time periods, in agreement with the estimates found in the EPRI study.

To backup the current and future renewable energy resources, the Project design requires quick start and power escalation capability to meet changing power demands and mitigate grid instability caused by the intermittency of renewable energy generation. To achieve these requirements, the project design is based on five General Electric (GE) LMS100 gas-fired simple cycle combustion turbine generators (GTs), which have the capability to meet these design needs while complying with the proposed BACT air emission limits at loads ranging from 25% to 100% of the maximum output capability of the turbines. The proposed LMS100 GTs can provide an electric power ramp rate equal to 50 MW per minute per GT which is critical for the project to meet its purpose. When all 5 proposed GTs are operating at 25% load, the entire project can provide approximately 375 MW of ramping capacity (i.e., from 125 to 500 MW) in less than 2 minutes.

SC Ex. 5 at 12; see also SC Ex. 5, App. B (Control Technology Review) at 13, 38. MCAQD's

December 2015 TSD also acknowledged this project purpose for Ocotillo. *See* SC Ex. 6 at 6-7.

Appendix B to the updated permit application further stated, in the context of a discussion of the technical feasibility of combined cycle turbines for the project:

The Ocotillo Modernization Project is being proposed to provide quick start and power escalation capability over the range of 25 MW to 500 MW to meet changing and peak power demands and mitigate grid instability caused in part by the intermittency of renewable energy generation. Electric utilities primarily use simple-cycle combustion turbines as peaking units, while combined cycle combustion turbines are installed to provide baseload capacity. The proposed LMS 100 GTs can provide an electric power ramp rate equal to 50 MW per minute per GT which is critical for the project to meet its purpose. When all 5 proposed GTs are operating at 25% load, the entire project can provide more than 375 MW of capacity in less than 2 minutes. Combined cycle units cannot provide this very fast response time over a range of 25 MW to 500 MW, which is a design requirement of this Project.

Id., App. B at 47.

MCAQD's RTC also noted that in order to assure reliability, APS must build a system that can meet not only a short peak demand, but also several short peak demands in a row, an extended peak demand, or even several extended peak demands, and that if the utility were reliant upon stored energy for some or all of its peaking power, the stored energy may run out before it can be recharged, making the solution unreliable for meeting the full demand. SC Ex. 2

at 8. MCAQD concluded that as a result, energy storage is not compatible with the purpose and design of a true peaking facility such as the Project to provide rapid, reliable power. *Id.*

Information in the Administrative Record is Sufficient to Support the Conclusion that the Paired Energy Storage Option Proposed by Sierra Club Would Not Meet the Ocotillo Project's Fundamental Business Purpose and Thus Would Redefine the Source

The permit application information discussed above, as acknowledged by MCAQD in its December 2015 TSD, makes clear that the applicant defined the fundamental business purpose of Ocotillo as a peaking and load-shaping plant designed to provide 25 to 500 MW of power very quickly, with the flexibility to ramp up by 50 MW per turbine per minute, and provide 375 MW within 2 minutes, when renewable or other power sources are unavailable, to meet several peaks per day and as necessary to meet a sustained load, in order to meet the demand largely created by the use of intermittently available renewable energy in the area. SC Ex. 7 at 2; SC Ex. 5 at 12 & App. B at 13, 47, 49; *see also* SC Ex. 6 at 6-7; SC Ex. 2 at 8. The information provided makes clear that these are design elements inherent to the purpose of the project.

Specifically, the application materials explained that the required electric generating capacity ramp rate required to back up the solar capacity in Maricopa County is expected to range from 165 to 310 MW per minute, and that the actual renewable energy load swings experienced on the APS system have also shown rapid load changes from renewable energy sources of 25 to 300 MW in very short time periods, consistent with that estimate. SC Ex. 5 at 12. The materials further explained that the five proposed LMS100 GT turbines at Ocotillo can provide an electric power ramp rate equal to 50 MW per minute per GT which is critical for the project to meet its purpose; and that when all 5 proposed GTs are operating at 25% load, the entire project can provide more than 375 MW of capacity in less than 2 minutes. The application

also stated that this very fast response time over a range of 25 MW to 500 MW is a design requirement of the Ocotillo project. *Id.* at 12 & Ex. B at 49.

We note that Sierra Club's comments did not provide much detail about how the paired energy storage option at issue in its Petition for Review would satisfy the project's business purpose, in particular the quick start and power escalation capability that the application materials explain is necessary to meet changing power demands and mitigate grid instability caused by the intermittency of renewable energy generation. While the Sierra Club's comments noted that some storage options such as batteries could start up immediately and that energy storage options could change loads quickly without the need to idle, and also noted that paired energy storage could provide black start capability, they did not address the need for Ocotillo to provide the immediate and highly flexible ramping capability that the project is designed to achieve at loads ranging from 25 to 500 MW, with a design that provides an electric power ramp rate equal to 50 MW per minute per turbine and to ramp up to provide 375 MW of power within 2 minutes.

Sierra Club's Petition for Review provides a more detailed explanation of how it believes its proposed paired energy storage option could work at Ocotillo, suggesting that the applicant could, for example, use a 25-50 MW energy storage system⁴ such as a battery along with the five LMS100 simple-cycle turbines proposed by the applicant to allow the source to avoid operating the turbines at low loads and instead use the energy storage to provide quick response power while the turbines fired-up. SC Petition at 13. Sierra Club reasons:

⁴ Sierra Club's brief indicates that APS could further increase Ocotillo's efficiency and the flexibility by pairing an energy storage unit with each specific combustion turbine, but notes that in practice, such a configuration would likely be an over-design of the project because a single energy storage unit could provide the low-load flexibility for the entire plant. SC Pet. at 13 n.10. Further Sierra Club states that APS should not be restricted to considering a particular size of energy storage. *Id.* at 13, n. 9. However, permitting authorities are not required to conduct an independent analysis of alternatives when issuing a permit. *Prairie State*, 13 E.A.D. at 30.

Energy storage paired with the five combustion turbines would not change the fundamental project purpose because all five LMS 100 natural gas simple-cycle turbines would remain a part of the project. Therefore, the Ocotillo facility would still be able to provide 25 to 500 MW of capacity with quick-ramping capability. The only difference would be that the addition of energy storage would eliminate the need to idle the combustion turbines for long periods of time at 25% load. Rather than idling the combustion turbines at 25% load (i.e. 25 MW) while waiting for a spike in load, the addition of a 25 to 50 MW [footnote deleted] energy storage system such as a battery would allow APS to keep the combustion turbines completely shut down. If a rapid change occurred that required Ocotillo to respond, the energy storage system could respond almost instantaneously while the combustion turbines fired-up. The energy storage system would then provide power for the short duration of time it took the combustion turbine to reach 25% or 50% load, during which time the combustion unit could gradually take over for the energy storage system and operate as proposed by APS.

Id. Sierra Club further explains that integrating energy storage with the combustion turbines would allow MCAQD to set an emissions limit based on the assumption that the combustion turbines would operate closer to 100% load for more of the time, which would allow for a lower CO₂ rate limit. *Id.* at 14.

The administrative record sufficiently supports the specific inherent design elements for Ocotillo that include the need to provide the immediate and highly flexible ramping capability that the project is designed to achieve at loads ranging from 25 to 500 MW, with a design that provides for a ramp up at the rate of 50 MW per minute, with the capacity to provide up to 375 MW of power in as little as 2 minutes, as well as to meet several peaks per day and a sustained demand as needed. Neither the Sierra Club's comments nor the more detailed discussion in its Petition for Review adequately dispute that these are design elements independent of air quality permitting concerns or explain how its proposed energy storage approach would be consistent with these inherent design elements. While Sierra Club is correct that energy storage options such as batteries could provide some level of power in seconds rather than minutes, SC Pet. at 23, the information in the record does not indicate that this instant capacity supplied by paired energy storage as envisioned by Sierra Club would meet these inherent design elements of the

project. In order to provide a ramp-up of 50 MW per turbine per minute and up to 375 MW of power in 2 minutes, for a total capacity of 500 MW, the units would need to idle at 25% load (125 MW). We note that because the proposed paired energy storage option would not meet these inherent design requirements for Ocotillo, the paired energy storage option would not avoid the need for this low-load idling and therefore would not reduce GHG emissions as the Sierra Club suggests. Instead, it would effectively increase the overall capacity of the unit to a level higher than this facility is intended to achieve, which would be inconsistent with its fundamental business purpose of providing peaking and load shaping electric capacity in the range of 25 to 500 MW, including very quick ramping capability to back up renewable power and other distributed energy sources.

Sierra Club acknowledges in its brief that its proposed paired storage option would not allow Ocotillo to fully ramp up in 2 minutes, as the turbines would be expected to take at least 10 minutes to start up from shut down mode or “a black start.” SC Pet. at 16 and n.12. Sierra Club asserts that meeting the need for a 2-minute (versus 10-minute) ramp up to full load is not part of the purpose of the Ocotillo project, noting that the information about the need for a 2-minute ramp up was not included in APS’s original January 2015 PSD permit application for Ocotillo but was only added in APS’s updated September 2015 PSD permit application. SC Pet. at 19, 23-25. The response to the Petition submitted by MCAQD and the permit applicant in this case illustrate how this additional information provided greater detail to amplify the project purpose that was described in the original permit application. EPA regulations expressly permit adding new materials to the administrative record in response to new points raised during the public comment period. 40 C.F.R. 124.17(b).

OAR and Region 9 are mindful of the EPA's past observations that a permitting authority's "hard look" at whether a proposed facility may be improved to reduce its pollutant emissions should include consideration of whether the permit applicants design objectives are based on "reasons independent of air quality permitting." *In re Prairie State*, 13 E.A.D. at 26. This factor is important to prevent a permit applicant from gaming the BACT analysis by defining a project's purpose so precisely that it eliminates any potential alternative means of achieving the expressed business objectives, particularly in cases such as this where the permit applicant has provided more detail about its business objectives in response to comments. As the Board has observed, while the basic design is within the expertise and discretion of a permit applicant, a finding that a design is for reasons independent of air quality permitting "must be reasonable and supported by the record." *Id.* at 26 n.29.

While it has questioned the supplementing of the administrative record, Sierra Club has not provided grounds in its comments or its Petition to question the specific ramp up time and capacity described by the permit applicant as necessary to meet the business objectives of this project to facilitate the integration of renewable energy into the electrical system in the area served by APS. The record does not include reports or studies on electrical demand or grid operation that contradict the applicant's statements regarding the required capacity and response time for this facility. There is no indication that the specific ramp up rate was invented or introduced by the permit applicant in order to influence the air permitting decision.

Rather, all of the information in the record, including the September 2015 application, shows that business purpose of the Ocotillo project is precisely to provide the immediate and highly flexible ramping capability that the applicant's proposed project and associated design would offer. The record makes clear that the Ocotillo project is designed to provide the needed

minute-by-minute ramping capacity that is necessary to back up solar and other renewable generation in the area, and under these circumstances, Ocotillo's ability to ramp up by 50 MW per turbine per minute and up to 375 MW in 2 minutes is an inherent design element. The minimum 10-minute start-up time for the turbines that would result from the paired energy storage proposed by the Sierra Club would not meet this project's fundamental business purpose. Accordingly, the record is sufficient to support the finding that the paired energy storage option would "redefine the source" for Ocotillo. PSD permitting authorities such as MCAQD are not required to include options that would redefine the source at Step 1 of the BACT analysis. Therefore, MCAQD did not improperly fail to list this paired energy storage option at Step 1 of the BACT analysis for Ocotillo.

CONCLUSION

In sum, the administrative record for MCAQD's PSD permit decision for Ocotillo provides sufficient information to support the conclusion that the paired energy storage option proposed by Sierra Club for Ocotillo would be inconsistent with this particular project's fundamental business purpose and the inherent design elements necessary to achieve that purpose. Accordingly, the record supports a finding that this proposed option would "redefine the source" in this case, and thus the MCAQD's decision not to list paired energy storage in Step 1 of the BACT analysis for Ocotillo was not improper.

Date: May 27, 2016

Respectfully submitted,

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STATEMENT OF COMPLIANCE WITH WORD COUNT LIMITATION

I hereby certify that this **BRIEF OF THE EPA OFFICE OF AIR AND RADIATION AND REGION 9**, exclusive of the Table of Contents, Table of Authorities, this Statement of Compliance, and the attached Certificate of Service, contains less than 7,000 words, as calculated using Microsoft Word word-processing software.

/S/ John T. Krallman

John T. Krallman

CERTIFICATE OF SERVICE

I hereby certify that I caused a copy of **BRIEF OF THE EPA OFFICE OF AIR AND RADIATION AND REGION** in the matter of In Re Arizona Public Service Company, Ocotillo Power Plant, EAB Appeal No. PSD 16-01, to be served by electronic mail upon the persons listed below.

Dated: May 27, 2016

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