EPA's erroneous determination regarding Desert Rock's ozone impacts undermines the fundamental purpose of the PSD permitting provisions of the Clean Air Act: the maintenance of attainment of the NAAQS. *See In re Indeck-Elwood*, PSD Appeal No. 03-04, slip op. at 6 (EAB, Sept. 27, 2006). The Board recognizes that the "requirements of preventing violations of the NAAQS...are the core of the PSD regulations." *In re Sumas Energy 2 Generation Facility*, PSD Appeal No. 05-03, slip op. at 2 (EAB, May 27, 2005). Under the Act, EPA cannot allow construction of a new major source unless the proponent of that source sufficiently "demonstrates that emissions from...such facility will not cause, or contribute to, air pollution in excess of any...national ambient air quality standard." 42 U.S.C. § 7475(a)(3). Moreover, "[t]he PSD regulations...require the permit issuer to review new major stationary sources prior to construction to ensure that emissions from such facilities will not cause or contribute to an exceedance of either the NAAQS or any applicable PSD ambient air quality 'increments.'" *In re: Christian County Generation, LLC*, PSD Appeal No. 07-01, slip op. at n. 13 (EAB, January 28, 2008); *and see* 40 CFR 52.21 § (k).

EPA's issuance of this Permit ignored the unavoidable fact that, based on its own estimation of Desert Rock's contributions to ozone levels, Desert Rock will "cause or contribute" to a violation of the ozone NAAQS. This Permit must therefore be remanded to EPA for reconsideration of Desert Rock's ozone impacts.

B. EPA's Reliance on Deficient Modeling Constitutes Clear Error.

Before a new source can be built, there must be "an analysis of any air quality impacts projected for the area as a result of the growth associated with the facility." 42 U.S.C. § 7475(a)(6). This analysis is the "central means for preconstruction determination of whether the source will cause an exceedance of the NAAQS." *In re: Christian County Generation, LLC*, slip

op. at n. 13.[19] In this case, EPA provided no real discussion or analysis of Desert Rock's ozone impacts until it issued the final Permit on July 31, 2008. At that time, EPA made clear that its determination regarding Desert Rock's ozone impacts was based predominantly on 2004 modeling prepared by the New Mexico Environment Department ("NMED"). AR 120, at 124-26 (RTC), and AR 121, at 7 (RTLFC). EPA determined, based on the 2004 NMED modeling that the "overall modeled maximum" for background ozone concentrations would be 69 parts per billion. AR 120 at 125 (RTC). EPA further determined, based on the 2004 modeling, that the estimated maximum impact from Desert Rock would be 4 ppb. AR 120, at 125 (RTC), AR 121, at 7 (RTLFC). EPA therefore concluded that "the result [of 73 ppb] would still be well below the 75 ppb level of the 8-hour ozone NAAQS." AR 120, at 125 (RTC).

EPA erred when it based its determination about Desert Rock's ozone impact on the 2004 modeling. The 2004 modeling does not serve as an adequate substitute for the required collection of actual data. Moreover, the duration of the ozone episode analyzed in the modeling failed to meet EPA's own standards. Finally, the modeling was based on a gross underestimation of the ozone contributions by the oil and gas industry.

1. EPA erred by using the 2004 modeling as a substitute for current data collection.

The Act specifies that the analysis of air quality impacts "shall include [at least one year's worth of] continuous air quality monitoring data gathered for purposes of determining whether emissions from such facility will exceed the [PSD increments or the NAAQS]." 42 U.S.C. § 7475(e)(2)(emphasis added). As to ozone, "any net emissions increase of 100 tons per year or more of volatile organic compounds or nitrogen oxides subject to PSD would be required

[19] *See also,* 42 U.S.C. § 7470(5) (the stated purpose of PSD is to "assure that any decision to permit increased air pollution in any area to which this section applies is made only after careful evaluation of all the consequences of such a decision.")

to perform an ambient impact analysis, *including the gathering of ambient air quality data.*" 40 C.F.R. § 52.21(8)(i) (note 1)(emphasis added). Desert Rock vastly exceeds this threshold, with estimated emissions of 3,325 tons per year of nitrogen oxides and 166 tons per year of volatile organic compounds. AR 46, at 5 (AAQIR). *See also* EPA's *NSR Manual* at C.17 ("applicants with a net emissions increase of 100 tons/year or more of VOC's subject to PSD would be required to perform an ambient impact analysis, *including pre-application monitoring data.*")

EPA did not require—nor did the Permittee undertake—the collection of actual monitoring data in order to analyze ambient impacts on ozone levels. Instead, the Permittee's entire ozone impact analysis consisted of a half-page discussion in its May 2004 amended permit application. AR 12, at 6-50 (May 2004 Permit Application). That half-page discussion contained no independent analysis or ambient air quality data for ozone. Instead, it merely referenced ozone modeling performed by NMED in 2004 as part of New Mexico's efforts as a member of the Early Action Compact for ozone in the Four Corners Region.

Contrary to the PSD requirements, the 2004 NMED modeling did not include the collection of at least one year's worth of current ozone data "for purposes of determining whether emissions from [Desert Rock] will exceed" the NAAQS. 42 U.S.C. § 7475(e)(2). Instead that modeling used a limited set of data from a two-month period in 2002 as the basis for its background ozone projections. See Ex. A ("Air Quality Modeling Analysis for the San Juan Early Action Ozone Compact: Maintenance for Growth and Control Strategy Modeling" February 26, 2004, hereinafter "2004 modeling" or "NMED modeling.")[20]

[20] The 2004 ozone modeling upon which the EPA relied is set forth in two companion reports, Air Quality Modeling Analysis for the San Juan Early Action Ozone Compact: Maintenance for Growth and Control Strategy Modeling" February 26, 2004, attached hereto as Ex. A, and the January 29, 2004 report, subtitled, "Base Case and Future Case Modeling"), attached hereto as Ex. C.

Even if the EPA could use existing data instead of collecting new data, it failed to determine that the existing data would be representative of the project area. The NSR Manual allows the use of existing data instead of newly collected data if the existing data are "judged by the permitting agency to be representative of the air quality for the area in which the proposed project would construct and operate." *NSR Manual* at C.18. The NSR Manual notes, however, that "[a]lthough a State or local agency may have monitored air quality for several years, the data collected by such efforts may not necessarily be adequate for the preconstruction analysis required under the PSD." *Id.* at C.18-19. The permitting authority must determine the representativeness of any existing data based on three "critical items...: monitor location; quality of the data; and currentness of the data." *Id.* at C.19.

Here, EPA failed to meet its obligations when it accepted a limited set of 2002 data (as incorporated in the 2004 modeling) rather than requiring more complete and current data. This error is more pronounced when, as is set forth below, current data published by EPA conflicted with the indications in the modeling.

2. EPA improperly relied on the 2004 modeling because it only considered ozone impacts for a single four-day ozone episode.

EPA must, in its ultimate review of the ambient air quality analysis for Desert Rock, "determine whether the applicant selected the appropriate model(s), used appropriate input data, and followed recommended procedures to complete the air quality analysis." NSR Manual at C.25. In other words, the analysis must bear the indicia of accuracy to serve as the appropriate basis for a determination regarding the air impacts of a new major source. Here EPA improperly relied on ozone modeling that considered impacts during only four days of a single ozone

episode.[21] Precisely because of what EPA refers to as the "photochemistry involved in ozone formation," and the fact that ozone "is intrinsically associated with the interaction of multiple pollution sources on a regional scale," it is essential to consider ozone impacts from a new major source under a broad variety of conditions that give rise to elevated ozone levels. AR 120, at 124 (RTC).

In its April 2007 "Guidance on the Use of Models and Other Analyses for Demonstrating Attainment of Air Quality Goals for Ozone, $PM_{2.5}$, and Regional Haze," ("Modeling Guidance") EPA requires the use of comprehensive data for the purposes of modeling ozone impacts. The Modeling Guidance states the following:

> Ozone based research has shown that model performance evaluations and the response to emissions controls need to consider modeling results from relatively long time periods, in particular, full synoptic cycles or even full ozone seasons. In order to examine the response to ozone control strategies, it may not be necessary to model a full ozone season (or seasons), but, at a minimum, we recommend modeling 'longer' episodes that encompass full synoptic cycles. Time periods which include a ramp-up to a high ozone period and a ramp-down to cleaner conditions allow for a more complete evaluation of model performance under a variety of meteorological conditions.

Modeling Guidance, at 140. The synoptic cycles (or regional meteorological cycles) affecting San Juan County typically last 10-12 days, or two-to-three times longer than the four-day modeling period (from June 5-8, 2002) relied upon by EPA in this instance. *See* AR 54(b) at 5 (Milford Report). Thus, contrary to the directive in its own guidance, EPA did not examine an

[21] Other aspects of the modeling indicated its unsuitability for assessing Desert Rock's ozone impacts. As EPA acknowledges, the 2004 modeling—designed only to assist in long-range planning by providing a look at weighted relative impacts of various source categories—has "input errors" and discrepancies when used to assess source-specific impacts from Desert Rock. AR 120, at 125 (RTC). The modeling, which predates the Desert Rock application, considered impacts from a new coal-fired power plant with less than half the actual NO_x emissions of Desert Rock (1,569 tons per year versus permitted levels of 3,325 tons per year). EPA addresses this by simply doubling the modeled ozone impacts from 2 ppb to 4 ppb. AR 120, at 125 (RTC). Moreover, the modeling considered a new source that was in a location different than Desert Rock's, and had stack parameters (height, velocity, temperature) that substantially differed from Desert Rock's. AR 54(a) (AMI report, Comment No. 11). EPA dismissed these differences as not "significant" because wind dispersion of emissions would offset the location error, and, EPA explains, the "large modeling grid cell" would accommodate any variation that might otherwise be caused by the different stack parameters. AR 120, at 125 (RTC).

entire synoptic cycle, but instead used a period of time that constituted less than half of a synoptic cycle. Moreover, as historical ozone data for the region clearly indicates, the ozone season spans five months, from May to September, during which the region experiences "ozone episodes," or periods of time with elevated levels of ozone. Yet the four-day modeling period relied upon by EPA looked only at one ozone episode in June of 2002. The model therefore completely fails to capture the varying meteorological circumstances that account for ozone episodes during ozone episodes at other times in the season.

Although EPA's determinations on such matters must be "adequately justified in the record," EPA provides only a conclusory justification for its reliance on this severely limited data set. *In re Knauf Fiber Glass, GMBH*, 8 E.A.D. 121, 147(EAB 1999). EPA explains that the "episodes are selected based on the basis of ozone maximum, spatial extent of high ozone, data availability, and for their representativeness for meteorological conditions that lead to high ozone." AR 120, at 126 (RTC). But the EPA provides no substantive justification for why this four-day period during a five-month ozone season adequately represents the wide-ranging meteorological conditions that give rise to ozone episodes. In addition, EPA's suggestion that it is limited by "data availability" ignores its obligation to require either the collection of appropriate data or the submission of sufficient existing data.

The truncated four-day span of the ozone modeling also negates EPA's argument that the maximum source-related modeled impact of 4 ppb "did not occur at the same time and place as the overall modeled maximum" background level. AR 120, at 125 (RTC). Because the modeling looked only at four days' worth of data, EPA lacks any basis to determine the correlation between Desert Rock's maximum levels and the highest background ozone levels. The end result of EPA's acceptance of a four-day modeling period is that the modeled maximum ozone

impact for Desert Rock of four parts per billion is unreliable and understates the true ozone impacts of Desert Rock. It was clearly erroneous for EPA to rely on such limited data in order to assess Desert Rock's ozone impacts.

3. EPA erroneously relied on 2004 modeling despite severe inaccuracies in the estimation of ozone contributions from the oil and gas industry.

EPA relied on a projected background maximum ozone level in the 2004 modeling (69 ppb) that was based on a gross underestimation of the ozone impacts from the oil and gas industry. This background level is crucial; it provided the basis for EPA's determination that Desert Rock's contribution of up to four parts per billion to ambient ozone levels would not result in a violation of the ozone NAAQS of 75 parts per billion. This background level, however, was based on a fundamentally flawed projection of ozone impacts from the oil and gas industry.

The 2004 modeling projected 2007 emissions from the oil and gas industry of volatile organic compounds (VOCs) to be 41,614 tons per year. Ex. A, (2004 modeling), at 4-1, 4.1.2. As the administrative record for this permit reflects, however, the NMED indicated that based on an "abundance of recent research and work...by the Western Regional Air Partnership and the New Mexico Environment Department," a revised inventory of oil and gas emissions indicated that VOC emissions from this sector would exceed 100,000 tons per year. AR 57.9, at 2. Thus, the 2004 modeling upon which EPA relied was off by more than 150%.

Despite the presence of this information in the record, EPA provides no explanation or justification for relying on 2004 modeling that substantially underpredicts background ozone levels based on the oil and gas industry's VOC emissions. EPA's reliance on the 2004 modeling in the face of this contradictory information constitutes clear error.

C. EPA Disregarded Actual Ozone Data that Conflicted with the 2004 Modeling.

Actual ozone data collected and published by EPA during the 4-year permitting process demonstrated severe deficiencies in the 2004 modeling. EPA's determination regarding Desert Rock's ozone impact must be "adequately justified in the record." *In re Knauf Fiber Glass, GMBH*, 8 E.A.D. 121, 147(EAB 1999). Here, however, EPA provided no justification for disregarding repeated indications that actual ozone levels were significantly higher than what the 2004 modeling projected.

1. EPA had actual ozone data showing levels higher than those in the model.

EPA had actual ozone data showing levels substantially higher than what the 2004 modeling projected. To determine compliance with the ozone NAAQS, EPA requires states to determine the 3-year average of the 4th highest 8-hour ozone levels. *See, e.g.* 73 Fed. Reg. 16483 (specifying formula for demonstrating attainment with ozone NAAQS). Based on the ozone data compiled and published by EPA throughout this permitting process (attached hereto as Ex. B),[23] the three-year average for 2001-2003--the average available at the time EPA received the Desert Rock application--was 75 ppb. From 2002-2004 and 2003-2004, the three-year average was 73 ppb. From 2004-2006, the three-year average was 74 ppb. From 2005-2007, the three-year average was 77 ppb. Regardless of the timeframe considered, the actual ozone levels in San Juan

[23] EPA compiles and publishes New Mexico's quarterly ozone data on its website. (EPA compiles hourly ozone data on a separate website.) According to the EPA's published data, during the pendency of the Desert Rock permitting process, the actual 4th highest 8-hour levels in San Juan County were 74 ppb (2001), 76 ppb (2002), 75 ppb (2003), 69 ppb (2004), 75 ppb (2005), and 79 ppb (2007). Ex. B (*http://www.epa.gov/oar/data/monvals.html?st~NM~New%20Mexico;* (print-outs of EPA Monitor Values Reports from 2001-2007 from www.epa.gov.)

County during the Desert Rock permitting process substantially exceeded the projected level of 69 ppb in the 2004 modeling.

As but one indication of how severely the 2004 modeling underestimated ozone levels, it predicted that the 8-hour maximum ozone level for 2007 would be between 60-65 ppb in the grid cell that encompasses the Navajo Lake monitor. Ex. C (January 29, 2004 NMED 2004 modeling report "Base Case and Future Case Modeling") at 4-5.[24] Using the ozone data from the EPA website, however, the actual 8-hour maximum for 2007 recorded by the Navajo Lake monitor for the same cell was 79 ppb. *See* Ex. B.[26]

NMED gave the EPA ample warning that its 2004 modeling was not adequate to predict ozone impacts from Desert Rock. On October 12, 2006, Petitioner informed EPA that "[a]ir quality in the region is very close to exceeding the 8-hour ozone national ambient air quality standard."AR 67. At the time, the ozone NAAQS was 80 ppb. On July 26, 2007, NMED again warned that the actual data demonstrates that "[a]ir quality in the San Juan Basin is close to violating" the 80 ppb ozone NAAQS. AR 57.9. That letter also attached data demonstrating actual ozone levels that were substantially higher than the 2004 modeling had projected. AR 57.9. Finally, on July 18, 2008, NMED reiterated its warning that New Mexico "was likely to exceed the ozone standard in San Juan County by the end of the ozone season." AR 105.[27]

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[24] Although the raw data was not included in the 2004 reports, that data predicted a 2007 ozone level of 62 ppb in the Navajo Lake grid cell.

[26] EPA did not require such warning, because since 2004, it has worked closely with New Mexico for many years to monitor and address elevated ozone levels in the Four Corners region, including San Juan County.

[27] This meeting followed New Mexico's presentation of ozone information on July 10 and 11, 2008, in connection with the lawsuit brought by the permittee to force EPA to issue this permit. *Desert Rock Energy Company, LLC et al v. EPA*, No. 08-872 (S.D. TX). Petitioner's intervention motion stated that "recent data...shows ozone concentrations of 0.075 ppm at the 4th highest 8-hour average per year." Similarly, Petitioner's comment letter to the EPA regarding the Consent Decree repeated the warning that the most recent data from the Navajo Lake monitor put ozone levels right at the NAAQS.

EPA's failure to consider these data is particularly serious because even without Desert Rock's emissions, ozone levels in the Four Corners region already equal the maximum level allowable for attainment of the 8-hour ozone NAAQS. Current data from the new Navajo Lake monitor indicate that the most recent three-year average ozone level in San Juan County is 75 ppb. Ex. D (NMEDsummary of 2006-2008 ozone data). Using the current monitored 75 ppb baseline, EPA's determination that Desert Rock would impact ozone levels by a maximum of 4 ppb means that Desert Rock would certainly "cause or contribute" to a violation of the 8-hour ozone NAAQS.[28]

2. EPA erred when it provided no justification for disregarding indications of elevated actual ozone levels.

EPA made a clear error when it chose to ignore repeated indications of higher measured ozone levels in favor of outdated and inherently flawed modeling data from 2004 that projected lower levels. EPA provided no justification in the record for its decision to disregard actual ozone data in favor of outdated modeling. The only mention of elevated actual ozone levels came in EPA's Response to Late Comments, where it notes (with a mistaken reference to Blanco, New Mexico instead of Navajo Lake) that:

> EPA has received a preliminary indication from the New Mexico Environment Department (NMED) that if a relatively new monitor in San Juan County (specifically, the one located in Blanco, NM) yields elevated ozone data in 2008, San Juan County will have the three years of data that are necessary to re-classify the area to non-attainment status.

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[28] Even if the fact of EPA's actual collection and publication of these data does not justify consideration of these data in this appeal, prior rulings by the Board indicate that consideration of these data may be appropriate, or even necessary, in the evaluation of a Petition for Review. *See, e.g, In re Marine Shale Processors, Inc.*, 5 E.A.D. 751, 797 n. 65 (EAB 1995)(granting petitioner's requests to add exhibits to the record on appeal and considering those exhibits prior to ruling); *In re Campo Landfill Project*, 6 E.A.D. 505, 518-19 (EAB 1996)(allowing consideration of issues not reasonably ascertainable during comment period); *In re Dominion Energy Brayton Point*, NPDES Appeal No. 07-01, slip op. at 15-16 (EAB, September 27, 2007)(allowing consideration of new materials that address issue or explanation presented for first time at issuance of permit); *and see In re Marine Shale Processors, Inc.* 5 E.A.D. 751, 763 n.11 (EAB 1995) *citing American Farm Lines v. Black Ball Freight Services*, 397 U.S. 532, 539 (1970)("[a]gency may relax procedural rules if the ends of justice so require."); *and see In re Campo Landfill Project*, 6 E.A.D. 505, 519 n.19 (EAB 1996)(Board has discretion to consider particularly important issue notwithstanding failure to preserve that issue during the comment period.)

AR 121, at 7 (RTLFC). EPA disregards this fact, noting that if New Mexico obtains data sufficient for redesignation, "EPA must go through the full rulemaking process to re-designate the area." *Id.* Unless and until that process is completed, EPA's response indicates that it will treat the area as attainment for ozone. *Id.* In EPA's view, a new redesignation based on current ozone levels, if one were to occur in San Juan County based on these new data, has no relevance to this permit decision.

Regardless of the merits of EPA's position on that issue, however, EPA completely ignores a separate and highly relevant issue raised by the data: what implications the data have for EPA's determination in this permitting process as to whether Desert Rock's emissions will cause or contribute to a violation of the ozone NAAQS pursuant to 42 U.S.C. § 7475(a)(3). Even setting aside the question of whether the new ozone data would result in a redesignation of San Juan County, these data still provide crucial information about the existing background levels against which Desert Rock's impacts must currently be measured. EPA does not take this into account. EPA's acknowledgement that the data show at least two years' worth of nonattainment levels of ozone is wholly incommensurate with its simultaneous adherence to the purported background "maximum" of 69 ppb. AR 121, at 7 (RTLFC). EPA cannot simply ignore the implications of these actual data in favor of the 2004 modeling. *See* 43 Fed. Reg. 26382 (June 19, 1978)("EPA does not intend that there be no 'real world' checks on the accuracy of modeling.") EPA's refusal to consider data that refute the modeling constitutes clear error and warrants a remand of this permit for proper consideration of Desert Rock's ozone impacts.

3. EPA must base its assessment of ozone impacts on the current NAAQS.

As EPA's analysis and Petitioner's arguments suggest, the determination of whether Desert Rock will cause or contribute to a NAAQS violation must be made based on the currently

effective 0.075 parts per million NAAQS for ozone. On March 27, 2008, EPA published a final rule, effective that same date, establishing a new 8-hour standard of 0.075 parts per million for ozone. 73 Fed. Reg. 16436 (March 27, 2008). This occurred four months before EPA issued the Desert Rock Permit on July 31, 2008. In so doing, the EPA determined that the new standard was necessary to protect the public, especially children and other "at-risk" populations, from ozone-related health effects. *Id. and see* 42 U.S.C. § 7409(b)(1). The March 27, 2008 rule requires that New Mexico now apply the 0.075 ppm standard to determine whether areas within the State are in attainment, a determination New Mexico must complete by March 12, 2009. *Id.* at 16503. It would defy the public interest and the fundamental purpose of the Act for EPA to base its determination of whether Desert Rock would "cause or contribute" to an ozone NAAQS violation on the old, substantially less stringent standard while New Mexico must now measure attainment by the new standard.

EPA's response to comments concedes the applicability of the 2008 standard. For example, EPA notes that Desert Rock's potential addition of 4 parts per billion (ppb) would result in a 73 ppb maximum, a level that EPA says "would still be well below the 75 ppb level of the 8-hour ozone NAAQS." AR 120, at 125 (RTC). In its Response to Late Filed Comments, EPA revisits the issue, again analyzing whether "the Desert Rock facility would cause or contribute to an ozone NAAQS violation" using the "new standard of 75 ppb." AR 121, at 7 (RTLFC).

In *In re Prairie State Generating Co.*, the Board considered the applicability of a newly promulgated 8-hour ozone standard to a pending PSD permitting decision. *In re Prairie State Generating Co.*, PSD Appeal No. 05-05, slip op. at 74-5 (EAB August 24, 2006), 13 E.A.D. ___. In *Prairie State*, the permit applicant submitted its application on October 19, 2002. *Id.* at 7. On

January 27, 2003, the EPA promulgated the 8-hour NAAQS in a final response to a judicial remand. *Id.* at 74. The final PSD permit was issued in January of 2005. *Id.* at 8. The Board determined that the permit had been properly issued partly because the analysis of ozone impacts "did" include a sufficient "analysis of whether the proposed facility will cause or contribute to a violation of the 8-hour ozone NAAQS." The PSD permitting authority was therefore governed by the NAAQS that had been promulgated after the submission of the permit application but before the issuance of the permit.

The Board has closely examined this question under the Clean Water Act and has made clear, in that context, that regulatory changes made prior to the issuance of a NPDES permit apply to the issuance of that permit. In *In re Phelps Dodge Corp.*, the Board stated that "the Region's obligation, as the permit issuer, is to apply the CWA statute and implementing regulations in effect at the time the final permit decision is made." 10 E.A.D. 640, 478 n.10 (EAB 2002). The Board provides extensive analysis of this issue in *In re Dominion Energy Brayton Point, LLC*, drawing upon a Fifth Circuit ruling that affirmed the EPA's position "that the appropriate limitations to be applied to the permit were those in effect at the time of initial permit issuance." 12 E.A.D. 490, 615 (EAB 2006) citing *Alabama ex rel. Baxley v. EPA*, 557 F.2d 1101, 1110 (5th Cir. 1977). Indeed, while rule changes prior to permit issuance are controlling, even rule changes promulgated while an administrative appeal is pending, "s*hould be considered* when examining the issues raised on appeal," though doing so is subject to the Board's discretion. *Id.* at 615, citing *In re Liquid Air P.R. Corp.*, 5 E.A.D. 247, 254 n. 14 (EAB 1994).

D. EPA's Alternative Basis for its Ozone Determination Cannot be Supported.

Faced with data undermining the accuracy of the 2004 modeling, EPA relies on the "VOC/NOx Point Source Screening Tables" to justify its conclusion that Desert Rock will not have a significant impact on ozone in the Four Corners region:

> In the absence of other accepted techniques, a method that is sometimes used in PSD permit applications to assess ozone impacts is the "VOC/NOx Point Source Screening Tables" (Richard D. Scheffe, September 1988). This is a simple look-up table which, given a source's VOC emissions and its ration of VOC to NOx emissions provides a conservative estimate of ozone impacts as estimated from a series of ozone modeling runs. For DREF, this method gives an estimate of 17 ppb, to be compared to the one-hour ozone standard at 120 ppb. There are no regulatory criteria for interpreting this result, but when this estimate is added to the maximum ozone concentration from the modeling described below, it does not show any violation of the ozone NAAQS.

AR 120 at 124. EPA's reliance on the Sheffe tables is clearly erroneous.

EPA's use of the Scheffe tables to justify its ozone determination is erroneous for two reasons. First, EPA itself has directed the states not to use of the Scheffe tables because they are inherently unreliable. For example, in an EPA presentation dated May 18, 2005 regarding "Single Source Ozone/PM2.5 Impacts in Regional Scale Modeling & Alternative Methods," EPA stated that "[a]s science shifts that NOx is the pollutant to control, Scheffe tables based on VOC limited chemistry become inappropriate to use for most areas." Ex. E, at 3.[29]

Even if the EPA were able to defend using the Scheffe tables to project a source's ozone impacts, it cannot use the projection of a 17 ppb impact in conjunction with the maximum [8-hour] ozone concentration from the 2004 NMED modeling "to show [a] violation of the [8-hour]

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[29] *See supra* at fn. 28. The Board may consider this exhibit because the EPA's use of the Scheffe tables was first disclosed when the final permit was issued on July 31, 2008. *In re Dominion Energy Brayton Point*, NPDES Appeal No. 07-01, slip op. at 15-16 (EAB, September 27, 2007)(the Board may consider new materials when the appeal was the "first time that [petitioner] has had the opportunity to comment on the Region's rationale for, or to challenge the validity of documents relied upon in support of" its determination.).

ozone NAAQS." EPA does not identify any accurate method, and Petitioner is not aware of any such method, for converting one-hour ozone data to eight-hour ozone data.

For the reasons set forth above, EPA's determination regarding Desert Rock's ozone impacts was clearly erroneous. This permit must be remanded so that EPA can appropriately consider this issue.

VI. THE PERMIT MUST BE REMANDED TO REQUIRE EPA TO CONDUCT AN AMBIENT AIR QUALITY ANALYSIS FOR PM2.5 AND TO IMPOSE A BACT LIMIT IN THE PERMIT.

The Act requires EPA to conduct modeling and a BACT analysis for $PM_{2.5}$ before issuing the PSD permit. EPA's failure to conduct this modeling and impose a limit constitutes a clear legal error. It also raises an important policy question of whether EPA should allow a source to use PM_{10} modeling as a surrogate for $PM_{2.5}$ even though EPA has found that such modeling is inaccurate. Petitioner preserved this issue at AR 57.9 (NMED Letter to BIA, July 26, 2007).

A. $PM_{2.5}$ NAAQS Requirement

EPA promulgated a NAAQS for $PM_{2.5}$ in 1997 and tightened the standard in 2006. Ex. P, 62 Fed. Reg. 38,652 (July 18, 1997); Ex. Q, 71 Fed. Reg. 61,143 (Oct. 17, 2006). Section 7475(a)(4) of the Act requires a BACT analysis for each pollutant that is subject to regulation and is emitted by the facility, and the PSD regulations require new major stationary sources to apply BACT for "each regulated NSR pollutant" that may be emitted in significant amounts. 40 CFR §52.21(j).

EPA acknowledges that a major stationary source emitting 100 tons per year of "any pollutant regulated under the Clean Air Act" if listed in Section 169(1), or 250 tons per year if not so listed, must satisfy the BACT requirements in the Act and regulations. AR 46 at 4. Referring to the Permittee's 2006 updated modeling report, the BIA stated that $PM_{2.5}$ would

comprise approximately 78 percent of total PM_{10} emissions modeled for the facility. Ex. R (*Desert Rock Energy Project, Draft Environmental Impact Statement*, May 2007 – Chapter 4: Environmental Consequences), at 4-10. The NMED also estimated that Desert Rock has the potential to emit over 800 tons per year of $PM_{2.5}$. AR 57.9.

B. Challenged Permit Conditions and EPA's Response to Comments

The Permit contains no emission limits or control measures for $PM_{2.5}$. Although the Permit does list at Section IX.B.2.c - *Special Conditions – Emission Units and Air Pollution Control Measures and Equipment* - a baghouse for the control of PM and PM_{10} emissions, there is no evidence that the baghouse will have any appreciable effect on $PM_{2.5}$ emissions.[30] Technologies are available to reduce PM2.5 emissions, although the most effective means appears to be the reduction of PM2.5 precursors. In any event, a BACT analysis would be required to make this determination on a facility-design basis. *In re Newmont Nevada Energy Investment, LLC*, 12 E.A.D. 429, 440 (EAB 2005).

EPA defends its decision not to require a PM2.5 analysis by referring to a 1997 EPA memorandum that allowed it to use PM10 as a surrogate for PM2.5. AR 120 at 77 (Attachment 23, Memorandum from John S. Seitz (Seitz Memorandum)). EPA provides no explanation in the response to comments as to how the Seitz Memorandum applies to Desert Rock. EPA notes that the Seitz Memorandum acknowledges that EPA interprets Part C of the Act to require PSD permits for PM2.5 upon the effective date of the NAAQS, however technical difficulties existed

[30] EPA implies that the emission limit for "total PM10" includes both filterable and condensable PM10 and that the condensable PM10 includes PM2.5. AR 120 at 83. It appears, however, that EPA only set an emission limit for filterable PM10 in the final permit, and that EPA considers both condensable PM10 and PM2.5 to be subject to a transition period under the PM2.5 implementation rule. 40 CFR Section 52.21(i)(1)(x). Therefore, the emission limit and BACT analysis in the Desert Rock permit only apply to filterable PM10. This interpretation is supported by EPA's AAQIR which states that the emission limit for PM10 of 0.020 lb/MMBTU and the use of fabric filters for PM control are BACT for "front-half filterable) particulate matter only." AR 46 at 24-25. Moreover, neither the AAQIR or EPA's Response to Comments discusses the technologies available for condensable PM control.

at that time with implementing PSD for PM2.5. *Id.* As discussed below, PM10 is not an adequate surrogate for PM2.5, and the technical difficulties that existed in 1997 no longer exist. EPA also defended its decision not to require a PM2.5 analysis by stating that it would continue to apply the PM10 surrogate policy consistent with 40 C.F.R. 52.21(i)(1)(x), which grandfathers sources that completed permit applications prior to May 8, 2008. *Id.* EPA, however, indicates that it included PM10 condensables in the Desert Rock permit, therefore, it is not clear whether EPA actually chose to include Desert Rock in the grandfathered sources or not. *Id.* at 83. Regardless, as described below, allowing sources, such as Desert Rock, that have the capability of conducting a BACT analysis for PM2.5 to avoid that obligation is bad public policy that will result in adverse health and environmental impacts.

C. PM2.5 Poses a Serious Health Risk and Causes Visibility Degradation.

PM2.5 poses a serious health and environmental risk in the Four Corners region. There are numerous other sources of $PM_{2.5}$ in the area surrounding Desert Rock. San Juan Generating Station emitted 1,286 tons of $PM_{2.5}$ in 2006. *NMED 2006 Emissions Inventory, available at:* http://www.nmenv.state.nm.us/aqb/modeling/modelingemissions.html. Four Corners Power Plant emitted 3,421 tons in 2002. *EPA 2002 National Emissions Inventory, available at:* http://www.epa.gov/ttn/chief/net/2002inventory.html. Both plants emit tremendous quantities of $PM_{2.5}$ precursors such as NOx and SO2.[31] Additionally, the San Juan Basin contains thousands of sources that emit NOx and PM, including oil and gas wells, refineries, diesel engines, and heavy industries. When combined with the increasing transport of PMs from surrounding states, a cumulative analysis for $PM_{2.5}$ should be conducted to determine whether Desert Rock will cause or contribute to a NAAQS violation.

[31] Four Corners Power plant emitted 44,648 tpy NOx and 15,192 tpy SO2 in 2006. San Juan Generating Station emitted 27,503 tpy NOx and 14,980 tpy SO2 in 2006. Source, *EPA National Emission Inventory.*

It is not sufficient to conduct an analysis of PM10 compliance; PM10 is *not* a surrogate for PM2.5. More than ten years ago, EPA determined that there are "fundamental physical and chemical differences between fine and coarse fraction particles" and that a separate standard for $PM_{2.5}$ would provide more "effective and efficient protection" than tightening the PM_{10} standard. 62 FR 38,665 and 38,667 (July 18, 1997); 71 FR 61,146 (October 17, 2006). The EPA Staff Paper on the 1997 $PM_{2.5}$ standard stated:

> Consideration of comparisons between fine and coarse fraction suggests that *fine fraction particles are a better surrogate for those particle components linked to mortality and morbidity effects* at levels below the current [PM_{10}] standards.

Id. (emphasis added). EPA noted that any delay in the adoption of a $PM_{2.5}$ standard would "result in potentially significant numbers of additional premature deaths and even larger numbers of children and individuals with air pollution-related illness and symptoms." *Id.* at 38,666. Further, in the new PM2.5 implementation rule, EPA stated that it does not believe that "generalized factors to convert PM_{10} concentrations to $PM_{2.5}$ concentrations sufficiently reflect important industry-specific and spatially-related characteristics of $PM_{2.5}$." 73 Fed. Reg. 28337.

Controlling PM2.5 is important to protecting visibility in Class I areas in the Four Corners region. In promulgating the 1997 $PM_{2.5}$ standard, EPA found that "impairment of visibility is an important effect of PM on public welfare", and that "in the western United States, visibility is more sensitive to an additional 1-2μm/m3 of $PM_{2.5}$ in the atmosphere than in the Eastern United States." *Id.* at 38,680.[32] As with health effects, there are significant differences between $PM_{2.5}$ and PM_{10}'s effects on visibility. For instance, $PM_{2.5}$ is transported greater distances and scatters more light than coarse particles. *Id.* and at 71 Fed. Reg. 61,146. To

[32] EPA found that "the current level of annual average light extinction in several western locations, such as the Colorado Plateau, is about equal to the level of background light extinction...in the East" and that visibility impairment occurs at small concentrations of $PM_{2.5}$. *Id.* and at 38,682.

address the Act's regional haze goal of no manmade visibility impairment in Class I areas, EPA determined that, in addition to effective regional haze programs, it was "essential to establish secondary standards for $PM_{2.5}$ equivalent to the primary standards".[33] *Id.* at 38,682.

D. EPA's Position Regarding PM2.5 Should be Reversed.

1. PM10 modeling is not an adequate surrogate for PM2.5.

PM10 modeling is not an adequate surrogate for PM2.5. As explained above, PM2.5 and PM10 differ significantly, and as a result, their modeling is not interchangeable. Although EPA has agreed with this conclusion on several occasions, it asserts that the PM10 modeling for Desert Rock obviates the need for PM2.5 modeling. In support of this position, EPA cites an EPA memorandum from 1997, commonly known as the Seitz Memorandum.

First, EPA asserts that the Seitz Memorandum "referenced provisions of Part C of the Act which EPA interprets to require PSD permits for $PM_{2.5}$ upon the effective date of the $PM_{2.5}$ NAAQS." AR 120 at 77. EPA never explains, however, how it reconciles this statement with the fact that the PM2.5 NAAQS was effective before the Permit was issued. Second, EPA observes that the Seitz Memorandum "identified significant technical difficulties with implementing PSD for $PM_{2.5}$." Apparently, EPA overlooks that the Seitz Memorandum was written eleven years ago, and EPA never demonstrates that these technical difficulties still exist. In sum, EPA never explains how an eleven year-old memorandum can justify its decision to excuse the Permittee from conducting a modeling analysis for PM2.5 or to impose a PM2.5 limit in the Permit. Finally, 40 C.F.R. 52.21(i)(1)(xi) requires that the Administrator determine that the application is complete with respect to the PM2.5 requirements in 1997. EPA does not demonstrate that the Administrator made such a determination for Desert Rock.

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[33] 42 U.S.C. §7491 declares a national goal of preventing "any future, and remedying any existing, impairment of visibility in mandatory class I Federal areas which impairment results from manmade air pollution."

Moreover, the EPA's failure to include any explanation in its response to comments for not requiring a PM2.5 BACT analysis does not comport with the EAB's decision in the *Prairie State* case. *In re Prairie State Generating Co.*, PSD Appeal No. 05-05, slip op. at 74-5 (EAB August 24, 2006), 13 E.A.D. ___. In *Prairie State*, the EAB upheld the Illinois EPA's ("IEPA") use of PM_{10} as a surrogate because (1) IEPA discussed $PM_{2.5}$ formation in its response to comments and explained that no guidance for implementation of the $PM_{2.5}$ standard existed at that time; and (2) IEPA used PM_{10} as a surrogate "supported by additional analysis directed at the new [$PM_{2.5}$] standard", including modeling of $PM_{2.5}$ precursors and analysis of $PM_{2.5}$ emissions from surrounding sources. *Id.* at 75 and 76. The EAB agreed that no formal regulatory requirement governing $PM_{2.5}$ analysis existed *at that time*, but found it significant that IEPA "went beyond the surrogate approach and provided additional reasons why it concluded that the Facility would not cause or contribute to a violation of the...$PM_{2.5}$ NAAQS." *Id.* at 77-8. EAB also held that:

> Determinations such as these regarding the adequacy of the permit issuer's analysis of a particular pollutant in the absence of an applicable pollutant-specific model approved by the Agency, must necessarily be solidly grounded on the record of the case and, consequently, *may not be applicable in subsequent permit proceedings if the Agency has in the intervening time developed additional methods or techniques for analyzing the particular pollutant.*

(emphasis added).

Desert Rock falls well short of the analysis performed in *Prairie State*. EPA provided no explanation for using PM_{10} as a surrogate for $PM_{2.5}$ for this permit. Nor did EPA conduct any additional analysis of $PM_{2.5}$ as part of the permitting process. Moreover, *at this time* there methods for analyzing $PM_{2.5}$. In May of 2008, EPA promulgated an implementation rule for $PM_{2.5}$ NAAQS. 73 Fed. Reg. 28,321. In August 2008, EPA approved Other Test Method 28

("OTM 28") to measure $PM_{2.5}$ in fossil-fueled steam generating units.[34] Indeed, $PM_{2.5}$ monitoring devices have been operating at several locations in New Mexico.

In light of these regulatory and technological advances, recent decisions concerning coal-fired power plants confirm that PM10 modeling is no longer an acceptable surrogate for PM2.5. Ex. V, *Friends of the Chattahoochee, Inc, and Sierra Club v. Couch and Longleaf Energy Associates, LLC*, Docket No. 2008CV146398, at 11 (GA Sup. Ct. 2008); Ex. W, *Southern Montana Electric Generation and Transmission Cooperative-Highwood Generation Station*, Case No. BER 2007-07 AQ (May 30, 2008) at 25. Both decisions found that PM_{10} modeling significantly underestimated the impact of $PM_{2.5}$ emissions on the NAAQS.

2. Desert Rock should not be grandfathered from compliance with the PM2.5 NAAQS.

The $PM_{2.5}$ implementation rule contains a provision allowing sources in attainment areas that submitted a PSD permit application prior to July 15, 2008 to continue using PM_{10} as a surrogate for $PM_{2.5}$. 40 C.F.R. §52.21(i)(1)(xi). The rule, however, does not allow permit applications in nonattainment areas to be "grandfathered" in a similar manner due to the states' "obligations to expedite attainment." 73 Fed. Reg. 28,342. This policy makes no sense, because it could allow new sources to "push" areas into nonattainment. Such a result would be inconsistent with the Act's purposes and contradict the goal of preventing air quality degradation. Moreover, although the PM2.5 implementation rule does not require new sources to address condensable PM emissions until 2011, it does not preclude them from doing so and even encourages states to immediately identify measures for reducing condensable PM emissions

[34] EPA acknowledges on its website for Method 202 – Condensible Particulate Matter (http://www.epa.gov/ttn/emc/methods/method202.html#cond), Ex. T at 7, "that several stakeholders are using these two test methods [OTM 27 and OTM 28] to characterize their emissions and prepare for future requirements", and that OTMs may be used in federal and state programs provided they are subject to an implementation plan or permit veto with opportunity for public comment. *See* http://www.epa.gov/ttn/emc/tmethods.html, Ex. U at 2.

in major NSR permitting actions, "particularly where those emissions are expected to represent a significant portion of total PM emissions from a source." 73 Fed. Reg. 28,335. It makes little sense for EPA to take a different position than the one it advocates for the states.

The PM2.5 implementation rule has been challenged in the D.C. Circuit Court of Appeals, including EPA's waiver of compliance with the $PM_{2.5}$ standard requirements and the grandfathering of current permit applications. Ex. S, Motion for Stay, *Natural Resources Defense Council and Sierra Club v. EPA*, D.C. Circuit Ct. App. No. 08-1250. Given that Desert Rock will not begin construction for several years, and that nothing in the implementation rule prevents EPA from requiring a $PM_{2.5}$ BACT analysis, the Board on remand of this or any other issue raised herein should require the EPA to conduct such an analysis before deciding whether to reissue the Permit.

E. Conclusion

EPA's refusal to apply the PM2.5 NAAQS to Desert Rock merely delays the ability to reduce emissions of this pollutant. Throughout the $PM_{2.5}$ standard-setting process, EPA anticipated that national and regional regulations would make "major reductions in ambient $PM_{2.5}$ levels" over the next 10 to 20 years. 71 Fed. Reg. 61,149. These regulations included the Clean Air Interstate Rule, new national mobile source regulations, and the $PM_{2.5}$ implementation rule. The D.C. Circuit Court, however, has vacated the Clean Air Interstate Rule, and EPA has not promulgated new national mobile source regulations. [35] Meanwhile, the 2008 $PM_{2.5}$ implementation rule grandfathers PSD permit applications submitted prior to July 15, 2008 and allows the states 3 years or more to implement PSD requirements for $PM_{2.5}$. As a result,

[35] *North Carolina v. E.P.A.*, ___ F.3d ___, 2008 WL 2698180 (D.C. Cir.) (July 11, 2008); 73 Fed. Reg. 28,321 and 28,349.

although power plants are capable of monitoring, modeling, and complying with BACT limits for PM2.5, EPA continues to shield power plants such as Desert Rock from these requirements.

VII. THE DESERT ROCK PSD PERMIT SHOULD BE DENIED, OR IN THE ALTERNATIVE REMANDED, ON THE BASIS OF THE FLM'S FINDING OF ADVERSE VISIBILITY AND OTHER AQRV IMPACTS.

According to an October 26, 2006 letter from the National Park Service (NPS), Desert Rock will have a significant adverse impact on air quality related values (AQRVs) and visibility in twenty-four NPS units, including eight mandatory Class I areas, and 16 Class II parks.[36] AR 120.8, at 1 and 11. As described below, despite repeated requests by the FLMs for a cumulative impact analysis on visibility, Desert Rock never completed such an analysis. And despite the FLM's conclusion that the Desert Rock increment analysis was "seriously flawed," EPA never required the Permittee to provide a more comprehensive or accurate increment analysis.[37]

After two years of receiving incomplete and inaccurate information from the Permittee, the FLMs decided to support a mitigation agreement that was never finalized or formally accepted by the FLMs. Additionally, the FLMs specifically conditioned their support on inclusion of enforceable provisions in the permit, but instead the EPA included a reference to a May, 15, 2007 "Memorandum of Understanding: Between the Navajo Nation Environmental Protection Agency and Desert Rock Energy Company, LLC." ("Mitigation MOU," which has been described as "not...a binding agreement...but rather a roadmap.") AR 81.

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[36] The NPS stated that "[t]hese parks have extraordinary scenic qualities and panoramic views that are very sensitive to even small amounts of air pollution...visibility impairment has been well-documented," and that more than 30 tribes or Pueblos have an established relationship with the national parks affected by Desert Rock *Id.* at 1-2.

[37] As described more fully below, in public comments, the Petitioner also expressed concerns about the Permittee's inadequate increment analysis and failure to conduct an appropriate cumulative analysis of visibility impacts. *See* NMED Letter to EPA, October 8, 2004, AR19. The Petitioner also supported a mitigation proposal only if it were incorporated in the final permit with enforceable conditions. Transcript of EPA Public Hearing, October 4, 2006, NMED Testimony, AR 58 at 13-22.

EPA's failure to include enforceable conditions in the Permit, to explain how the Mitigation MOU complies with the Act's PSD permitting requirements, and to deny the Permit on the basis of the FLMs' adverse impact finding constitutes a clear legal error and the Permit should be denied.

A. EPA's Failure to Accept the FLM's Finding of Adverse Visibility Impacts Constitutes Clear Legal and Factual Error.

In response to comments that the permit should be denied because the FLMs made an adverse visibility impact finding, EPA asserted:

> The relevant Federal Land Managers did not present any finding of an adverse impact on visibility that would result from granting the permit. Though the FLMS expressed some general concern about impacts of this project in the absence of mitigation, this did not constitute a finding of adverse impact under EPA regulations."

AR 120 at 140.

As the administrative record shows, the Federal Land Managers did make an affirmative finding of adverse visibility impacts and EPA acknowledged that finding.

1. The FLMs found that the Permittee's modeling was inadequate and flawed.

Section 165(d)(2)(A) of the Act requires the Administrator to provide notice of the permit application to the Federal Land Manager charged with direct responsibility of management of any lands within a Class I area that may be affected by emissions from the proposed facility. 42 U.S.C. Section 7475(d)(2)(A). Several months prior to submission of the permit application, both the applicant and EPA acknowledged concerns with impacts on Class I areas and whether increment was available. AR 01. EPA concluded that the permittee "will be required to do a cumulative impact analysis and ensure that all increment consuming sources are properly accounted for." *Id.* Also prior to the applicant submitting its permit application, the National

Park Service ("NPS") contacted EPA regarding the scope of the visibility impact and increment analysis. AR 46.15.[38]

Despite continued questions about the adequacy of source inventories and reductions creditable for increment, EPA did not require that all increment consuming sources be properly accounted for before it issued a completeness determination in May 2004. This determination prompted the NPS to express concerns about the lack of adequate information to evaluate the facility's potential impacts on Class I areas. AR 15[1].V.J (NPS letter to EPA, July 6, 2004).[39] NPS also raised questions about the validity of inventory sources and about the applicant's inclusion of emission reductions at the nearby power plants as part of their calculation. *Id.* ("The visibility analysis done by Steag is inadequate because it does not examine cumulative impacts. EPA has indicated that a visibility analysis should include an assessment of cumulative impacts from existing and permitted sources in addition to the new source." *Citing* 50 Fed. Reg. 28548 (July 12, 1985).)[40]

In September 2004, NPS requested a copy of the completeness determination as it "continue[d] to believe that the application is both incomplete and inadequate." AR 81. NPS

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[38] NPS stated that it would agree to limit the impact analyses to 300 km, agree to limit Class II increment modeling to within 200 km, and propose that AQVR analyses (visibility and deposition) be conducted for selected Class II areas, including Colorado National Monument. NPS said that it was interested in the geographic extent of visibility impairment resulting from impairment. *Id.*

[39] NPS stated: "We appreciate your assurance that these issues will be addressed before a preliminary determination is made. ...Predicted SO2 concentrations exceeded SILs in 12 Class I areas, thus triggering the requirement for cumulative Class I increment analysis in those areas. Despite our repeated requests to EPA Region 9 that Steag should first determine if and when Minor Source Baseline Dates (MiSBD) were triggered for any of those Class I areas, we have received no information on this issue....MiSBDs need to be identified before any cumulative analysis is begun." *Id.*

[40] NPS noted that the Federal Land Managers Air Quality Related Values (FLAG) guidance advises that a cumulative visibility analysis should be conducted if a cumulative Class I increment analysis has been conducted, and is also recommended if the new source's impact exceeds a 5% change in extinction. *Id.* ("Steag presented visibility modeling results that showed a greater than 5% change in extinction at all 15 Class I areas analyzed using a standard CALPUFF approach.... Steag has attempted to dismiss the predicted impacts through various alternative analyses that, based on our cursory review, appear questionable.")

noted that the applicant failed to follow the FLAG and EPA guidance by not providing a cumulative visibility analysis for one or more Class I areas and that the cumulative increment analysis was seriously flawed. *Id.* at 2. NPS stated that the applicant predicted that SO2 concentrations will exceed significant impact limits (SILs) at 12 Class I areas, triggering the requirement for cumulative Class I increment analyses at those Class I areas, and described numerous problems with the application:

- The applicant and EPA Region 9 had not responded to "repeated" requests to first determine if and when the minor source baseline dates (MiSBD) were triggered for any of those Class I areas. "We believe that it is essential that the MiSBDs be identified before any cumulative analysis is begun."
- Applicant must demonstrate that the emissions reductions claimed were not required in order to alleviate a violation of an emission limit, NAAQS, or increment. "Regarding sources out of compliance with allowable emission limits, any emission reductions intended to comply with enforceable requirements also cannot expand the available increment."
- Concerns about the validity of sources contained in inventory. NPS noted that the Cholla Unit 2 SO2 emissions were significantly underestimated, increment consumption was significantly underestimated, and "the cumulative increment analysis presented by Steag/ENSR is seriously flawed."
- Emission reduction claims for San Juan Generating Station and Four Corners power plants were unsupported and seriously in error.

NPS noted that "[t]his is just a sample of issues to illustrate our concern...[w]e suspect that were we to carry this analysis further, we would find that these and other problems are so pervasive as

to further warrant rejection of Steag/ENSR's cumulative increment analysis." Based on the fact that the applicant's visibility modeling results showed that the FLAG 5% change in extinction level was exceeded in all 15 Class I areas analyzed, NPS requested a new, complete, and correct analysis with adequate explanations and justifications. *Id.* at 2.[41]

2. EPA acknowledged the inadequacy of the Permittee's modeling and that the NPS analysis showed adverse visibility impacts.

In response to the applicant's refusal to conduct a cumulative visibility analysis, NPS conducted its own modeling analysis. AR 20 (EPA/FLM Meeting Notes, January 19, 2005). In addition to noting several important flaws in the applicant's analysis of regional haze impacts, NPS stated that: "[t]he ENSR approach to calculating impairment not only violates the instantaneous nature of visibility and the intent of the Clean Air Act, but also common sense." *Id.*, Attachment - NPS *Technical Review of STEAG Visibility Impact Analysis*, at 7.

In its technical review, NPS noted that the PSD permit application indicated significant haze impacts in numerous Class I areas: fifteen Class I areas would have haze impacts greater than 5% and eight of those Class I areas would have a 10% increase, including "increased haze 27% above the natural background estimate" at San Pedro Parks. *Id.* at 1. NPS stated that the applicant's "refinements" (including sea salt contribution to natural background concentrations, "meteorological" interferences that "naturally obscure the scene", and humidity effects) contained several technical and logical flaws. *Id.* at 2. In an April 25, 2005 letter, the Forest

[41] The New Mexico Environment Department (NMED) also questioned the applicant's inclusion of certain FCPP and SJGS reductions as creditable to increment expansion. AR 19. NMED noted that the applicant had not correctly identified the MiSBDs or correctly compiled the increment inventories for the affected Class I areas. NMED also questioned the applicant's conclusion that a cumulative visibility analysis is not required, noting that the applicant's preliminary modeling predicted that Desert Rock's emissions alone will cause changes in extinction greater than 10% at Bandelier National Monument and San Pedro Parks Wilderness, both Class I areas, along with extinction greater than 10% at Chaco Culture National Historic Park. NMED noted that the applicant dismissed its own modeling results and justified its conclusion that a cumulative visibility analysis is not required on a series of questionable "refinements". *Id.*

Service concurred with the NPS comments and asked that EPA "resolve major issues and concerns regarding mitigation of potential impacts before a final permit is issued." AR 26. In May 2005, EPA affirmed that new modeling of Class I visibility impacts was needed that would supercede the previous modeling and that it would determine whether nearby power plant reductions actually expanded increment. EPA called for further BACT information, including an IGCC analysis, to satisfy the FLMs' visibility concerns. AR 28 (Attachment - Notes from May 3, 2005 meeting).

Shortly thereafter, the NPS concluded that emission reductions at FCPP and SJGS that the Permittee had included in its increment analysis were required to avoid NAAQS violations and that allowing their use as increment expansion may "re-create the NAAQS violation." AR 46.30 (Shepherd (NPS) email to Bohning (EPA), June 29, 2005). EPA specifically acknowledged that the NPS modeling showed an adverse visibility impact and that this information "should be used in the permitting decision." AR 01. EPA concluded that it could either "counter the impact" or "counter the modeling"; noting that it did not have a basis for countering NPS's modeling and countering the impact would require project or design changes or mitigation measures. *Id.*[42]

3. EPA chose to issue the proposed permit without the new modeling it had recommended and without mitigation measures.

On March 24, 2006, EPA issued a notice to NPS and the Forest Service that they were starting 30-day review period for Desert Rock PSD permit by FLMs on March 27, 2006. AR 39.

[42] By the end of 2005, EPA had not resolved whether FCPP and SJGS reductions created increment expansion. AR 35. And the NPS was still awaiting the new modeling from Desert Rock's contractors. AR 46.32 (Shaver email to McKaughan (EPA), Nov. 21, 2005). NPS stated: "We continue to anticipate that the product we receive will not address our concerns about stagnation events and aqueous-phase conversion. As previously agreed, NPS modelers will conduct some supplemental modeling once we have necessary files from DR. We sense some interest in Region 9 in more "negotiation" over the applicant's modeling---whether it should be done by the applicant or done at all. We see no purpose to continuing to debate this. Information about impacts during known meteorological conditions is essential to our decision process, and we are willing to do the analysis." *Id.*

On the deadline for responding, the Forest Service sent EPA a letter noting that it administers seven Class I Wilderness Areas and nine Class II Wilderness Areas within 300 km of the proposed facility. AR 42. The Forest Service stated: "We must ensure that new sources do not adversely impact the visibility in these Wilderness areas, or if they do, that those impacts are adequately mitigated." *Id.* The Forest Service concluded that, "[w]ith a sufficient mitigation strategy, the USDA-FS can meet its affirmative responsibility in the PSD process and avoid the need for consideration of an adverse impact determination." *Id.* The Forest Service specifically requested that the mitigation measures be included in the draft permit. *Id.* ("The USDA-FS has concluded that this commitment *provided it is Federally enforceable and is included as a PSD permit condition*, addresses our concerns and therefore we would not object to the proposed DREF permit.") (emphasis added)[43]

In sum, after two and half years of discussions with the FLMs, EPA acknowledged that there were serious problems with the Permittees' visibility and increment analyses, that it had not obtained correct information on emissions reductions in the area, that new modeling was needed, and that the NPS modeling showed an adverse impact finding for several Class I areas. The Forest Service proposed including the Permittee's mitigation proposal as an enforceable permit condition in the proposed permit. EPA chose instead to issue the proposed permit with no permit conditions addressing mitigation of adverse visibility impacts. Contradicting its own conclusions, and those of the NPS, EPA stated in its AAQIR for the proposed permit that "Sithe used appropriate modeling procedures and followed applicable guidance documents

[43] In response to comments regarding the lack of a cumulative visibility analysis, EPA claims that "[p]artly in consideration of the mitigation package agreed to by Sithe, the FLMs did not require a cumulative visibility analysis in their assessment of whether the impact was adverse." AR 120at 146. The Forest Service letter of April 26, 2006 contains no such statement. On the contrary,the administrative recordshows that the FLMs repeatedly requested a cumulative visibility analysis and considered lack of such an analysis a "major concern" with the adequacy of the Permittee's permit application. *See* NPS letter to EPA, September 14, 2004, AR 81 and Forest Service letter to EPA April 25, 2005, AR 26.

demonstrating that the proposed project will not violate any NAAQS or PSD increment, and will not have an adverse impact on any Air Quality Related Value (AQRC) at any Class I area." AR 46 at 35.

Without the new modeling that it had previously stated was needed, EPA decided that:

- there would be no exceedance of SO2 or PM NAAQS or PSD increment;
- that the proposed Facility will not have a significant impact on acid deposition at any Class I area;
- the FLMS did not find that the proposed Facility will result in an adverse impact on visibility in the Class I areas;
- that minor sources were not undercounted in State databases and that "EPA and Sithe consulted with the State air agencies of the Four Corners states...based on general knowledge of the areas, minor source permitting programs, and previous studies of the status of increment, State regulators concluded that minor source growth had a negligible impact on the PSD increment."

AR 46 at 35-45.

This last point, in addition to EPA's statement that there is "little commercial or industrial activity or growth in the areas around the proposed facility," makes little sense given that the San Juan Basin is one of the largest gas and coalbed methane production areas in the country. The areas around the proposed facility are subject to intense industrial activity and growth. Thousands of new leases are issued every year.[44] Much of this activity takes place on federal

[44] NMED stated in its comments on the Desert Rock Draft EIS that the document minimized oil and gas source emissions and that estimates showed that oil and gas area sources in San Juan and Rio Arriba counties account for over 35,000 tons/year of NOx and over 100,000 tons/year of VOC emissions from the existing 20,000 existing wells in those counties, with the BLM estimating that 10,000 to 16,000 new gas wells would be installed over the next 20 years. AR 57.9 at 2 and 4.

lands and the State of New Mexico has yet to permit most of the sources under its jurisdiction, so it is likely that these sources are undercounted in state databases. Despite a lack of permitting information, substantial evidence exists to show that these sources would have a significant impact.

To justify its conclusion that there would be no adverse visibility impact, EPA cited the applicant's "alternative analysis", which excluded "problematic" hours when visibility is "already naturally obscured by rainy or cloudy weather." This "alternative analysis" is the Permittee's "refinement" that NPS rejected as logically and technically flawed in it March 2005 review. AR 46 at 44. EPA added "[in] addition, Sithe has agreed to perform additional mitigation that will more than offset any potential contribution to visibility impairment." *Id.* at 45. Oddly, EPA had already rejected the Forest Service's request to include Sithe's mitigation proposal as an enforceable provision in the permit, recommending that the FLMs treat the proposal as a "side agreement".[45] *Id.* at 38. EPA does not explain how a side agreement between the FLMs and the Permittee would satisfy the FLMs obligations under the Act, nor does it explain how such an agreement would "more than offset" Desert Rock's adverse impacts.

4. The Federal Land Managers did present a finding of adverse visibility impacts.

In response to the proposed permit, NPS provided a technical analysis that concluded the Desert Rock project would significantly impact Air Quality Related Values (AQRVs) in 24 NPS

[45] EPA stated: "The USFS letter indicated that Sithe's performance of the mitigation strategy would be sufficient to alleviate its concerns about visibility. The USFS letter requested EPA to include the mitigation strategy in Sithe's PSD permit so that Sithe's proposal would be federally enforceable. EPA had subsequent discussions with the FLMs to explain EPA's preference for the mitigation strategy to remain in a side agreement between Sithe and the FLMs rather than in Sithe's PSD permit. We understand that Sithe and the FLMs are continuing to discuss appropriate mechanisms other than the PSD permit to memorialize Sithe's commitment to perform the mitigation strategy. Accordingly, EPA has concluded it is appropriate to propose approval of the PSD permit while Sithe and the FLMs continue to discuss memorializing Sithe's commitment to perform the agreed upon mitigation strategy." *Id.* at 38.

units, including 8 Class I areas. AR 120.8 (NPS Letter to EPA, October 26, 2006, RTC Attachment 41, September 2006 Attachment at 1). NPS commented that "[s]everal new major industrial developments" have kept the NPS from achieving its mission of protecting visibility at Mesa Verde. *Id.* at 2. NPS found that, although the Permittee's cumulative increment analysis showed no exceedances of increments, the Permittee included "emission reductions at Four Corners and San Juan power plants that may not be valid" and emission rates at other increment-affecting sources that were too low, and did not properly consider the respective MiSBDs for each Class I area; and omitted other sources likely to affect increment. *Id.* at 7. NPS also found that the Permittee's modifications to its visibility analysis were "arbitrary" and "unacceptable for a first-level CALPUFF modeling analysis." *Id.* and at 8.[46] As a result of the Permittee's additional modeling, NPS concluded that "Desert Rock would significantly contribute to visibility impairment at Mesa Verde." *Id.* Based on its own additional modeling, NPS concluded that Desert Rock will have significant visibility impacts at the Grand Canyon. *Id.* at 9.

Due to concerns with the Permittee's conclusion that reductions at FCPP and SJGS "have more than offset the emissions increases of Desert Rock" and "there would be a net visibility improvement in the area despite the emissions increases associated with Desert Rock", NPS conducted its own modeling of both current and prospective emission reductions at these two facilities. NPS found that "[t]he visibility improvements from the proposed offsets are dwarfed due to the overwhelming amount of emissions from the two older power plants, even when they are reduced by equivalent SO2 or triple the NOx emissions produced by the proposed Desert Rock facility." *Id.* at 10. Finally, NPS concluded that "Desert Rock's contribution to sulfur and nitrogen deposition exceed both the nitrogen and sulfur DATs and, by definition, are considered

[46] NPS stated that is "does not expect permit applicants that exceed the visibility effects threshold to scrutinize the data and attempt to disregard specific days due to weather." *Id.* at 8.

to be significant" and that 19 of 27 parks would receive significant amounts of deposition from Desert Rock." *Id.* and at 12.[47]

In its response to comments, EPA states that the FLMs have not submitted any analysis that was sufficient to persuade Region 9 that there may be an adverse impact on visibility. This statement contradicts EPA's affirmative finding in August 2005 that "NPS modeling shows an adverse visibility impact" and that there was no basis for EPA to decide that the NPS modeling was inadequate. AR 01. Instead of providing a reasonable explanation for its rejection of the NPS technical analysis, EPA claims that the April 26, 2006 Forest Service letter responding to its notice for issuing the proposed permit was "untimely"[48] and contained "no analysis meeting the requirement under 40 CFR 52.21(p)(3) for an analysis that 'shows that a proposed' new source 'may have an adverse impact on visibility.'" AR 120 at 142. The letter was timely and there is no requirement in 40 CFR 52.21(p)(3) that each FLM make an individual adverse impact finding.[49] EPA fails to mention that the Forest Service participated in over two years of discussions with the NPS, EPA, and the Permittee regarding the Permittee's visibility analysis, that NPS had previously determined that the project would cause adverse impacts, and the Forest Service had

[47] At EPA's public hearing on the proposed permit in Shiprock, NMED provided testimony citing EPA's failure to include any permit conditions relating to mitigation measures for adverse visibility and deposition impacts at Class I and Class II areas as a serious flaw. NMED conditioned its support of the Permittee's mitigation proposal by stating: "This strategy...must be made federally enforceable through inclusion of related conditions in the final air quality permit for Desert Rock." AR 58 at 0013-0021. NMED also testified that an EIS analysis of visibility impairment due to proposed oil and gas exploration in the Four Corners region shows that it may be difficult for states in the area to meet the Federal Regional Haze Rule's reasonable progress goals and the proposed Desert Rock facility will be adding to this existing problem.

[48] EPA notice to the FLMs stated that it expected to hear from FLMs "by April 26, 2006." EPA notice to NPS and FS, AR 39.

[49] The NPS technical analysis and modeling, with which the Forest Service concurred, included Class I wilderness areas under the Forest Service's jurisdiction. AR 120.8 (*DOI Preliminary Technical Comments, op.cit.* at 9, Attachment to NPS Letter to EPA, October 26, 2006); and *Simulation of the Impact of the SO2 Emissions from the Proposed Sithe Power Plant on the Grand Canyon and other Class I Areas, Id.* Appendix C).

stated in a 2005 letter that it "concurs with comments submitted by NPS regarding the potential impacts the proposed facility will have on AQRVs" in Class I and Class II areas. AR 42.

Additionally, 40 CFR 52.21(p)(1) anticipates that the Administrator will provide the FLM with a permit application and other relevant information within 30 days of receiving it from the applicant; subsection (p)(3) provides the FLM 30 days from "the notification required by (p)(1)" to demonstrate that the new major stationary source "may have an adverse impact on visibility in any Federal Class I area." The regulation does not anticipate that the FLMs will be involved in discussions on the parameters of required modeling prior to submission of the permit application as happened here. Nor does the regulation anticipate that the FLMs will engage in over two years of discussions with EPA and the Permittee, conduct their own modeling (which EPA describes in detail in the response to comments at page 21), make an affirmative finding of adverse impacts, and offer a mitigation alternative prior to EPA's required (p)(1) notification, as also happened here. Nor does the regulation "require EPA to consider only an analysis provided 'within 30 days of notification' to the land managers." AR 120 at 142. So EPA's statement that "no FLM submitted an analysis to Region 9 prior to permit proposal indicating that DREF might have an impact on the visibility AQRV in a Class I area according to the procedures in 40 CFR 52.21(p)" misrepresents the process that EPA itself created for FLM review of this permit. *Id.* EPA's misinterpretation of 40 CFR 52.21(p) to justify its rejection of the FLMs' finding of adverse impacts constitutes legal error.

EPA claims that, prior to issuing the proposed permit, it "had nothing that contradicted its analysis of the modeling results or any basis to believe that there would be any adverse impacts on visibility", and that the "NPS did not submit any information to Region 9 regarding potential adverse impacts prior to our proposal to issue the PSD permit." AR 120 at 142-143. The

correspondence in the administrative record described above demonstrates that these statements are false.[50] EPA also claims that its explanation provided in its AAQIR remains valid and "is not contradicted by any other analysis in the record." *Id.* EPA's AAQIR is contradicted by NPS's technical analysis and studies, which were submitted to EPA on October 26, 2006.

EPA then states:

> Notwithstanding this conclusion, Region 9 has determined that it would nevertheless be prudent to incorporate into the permit the SO2 emissions mitigation agreed to by the Desert Rock Energy Company. Though we are confident in our analysis of the modeling, we acknowledge that there is some uncertainty. In light of these considerations and the general, unsubstantiated concerns of the FLMs, we have decided to incorporate the SO2 mitigation [agreement] into the permit to eliminate questions and protect visibility to the maximum extent possible, even though we do not necessarily consider the mitigation to be necessary to satisfy the permitting criteria. Therefore, the DREF's emissions under the permit will not pose an adverse impact to visibility in any Class I area.

If EPA truly believed that Desert Rock would not have an adverse impact on AQRVs and visibility in Class I and II areas affected by the proposed facility, it would not have suggested the need for mitigation measures.

In response to comments regarding the Permittee's mitigation proposal, EPA continues its contradictory line of reasoning, at once accepting the FLMs' findings while simultaneously rejecting them:

> EPA does not agree that there has been an analysis to show that the project may have an adverse impact on visibility so it is not necessary to show that such an impact would be remedied by the proposed mitigation.... In any case, comment letters from the National Park Service (NPS) and the U.S. Forest Service (USFS) state that with the mitigation in place, there would not be an adverse impact. ...Though these agencies have not provided any analytical work to support this

[50] EPA asserts that the information provided by the FLMs was "limited" and does not demonstrate to Region 9's satisfaction that the project will have an adverse visibility impact. *Id.* at 143. NPS submitted two technical reviews in 2005 and 2006, conducted its own modeling analysis, and commissioned peer-reviewed studies of Desert Rock's impacts in Class I and II areas. Apparently, no amount of information or analysis is sufficient to demonstrate an adverse impact finding to Region 9.

> conclusion, EPA's own analysis indicates that the project would not have an adverse impact on visibility. We have no reason to question the FLMs' conclusion that with the SO2 mitigation there will be no adverse impact. Thus, in light of EPA's own conclusion that there was no adverse impact and the FLM's conclusion that the mitigation would be sufficient to avoid an adverse impact, EPA is confident that, with the SO2 mitigation measures in place, there will be no adverse impact on AQRVs.

AR 120 at 148.

In response to comments that the proposed mitigation measures should be federally enforceable by including them in the permit and there should be a demonstration (with an opportunity for public comment) that the measures remedy Desert Rock's adverse impact, EPA stated that it does not agree there will be an adverse impact "so there is no need to show that the proposed mitigation remedies such an impact." AR 120 at 149. Again, if that were the case, EPA would not have agreed to include any reference to mitigation measures in the permit, nor stated that "EPA is confident that with SO2 mitigation measures in place, there will be no adverse impact." *Id.* at 148.

Finally, in response to comments regarding the FLM's finding of adverse impacts, EPA states that "Sithe's modeling results do predict impacts over 5% extinction, but there is no set regulatory extinction level considered to be an adverse impact." AR 120 at 147. The Act and regulations establish an obligation on the FLMs to protect AQVRs in the Class I areas they manage and to determine whether a proposed source or modification will have an adverse impact on such values. 42 U.S.C. Section 7475(d)(2)(B) and 40 CFR 52.21(p)(2). The regulations contain no specific parameters for measuring adverse impacts, therefore the FLMs have created the FLAG guidance to establish such parameters. If EPA is allowed to reject the FLMs' recommendation on the basis that there is no specific regulatory provision to support that recommendation, then EPA is effectively preventing the FLMs from fulfilling their obligations

under the Act. EPA continues that Sithe's "additional analysis", conducted after it found 5% extinction in several areas, "did not indicate any adverse impacts." *Id.* EPA fails to mention that the NPS found serious flaws in Sithe's additional analysis. *See*, AR 15[1].V.J. (NPS email July 6, 2004); AR 81; AR 21 (EPA email March 2, 2005, also cited in AR 20).

B. Contested Permit Condition

After the NPS demonstrated that Desert Rock will have an adverse impact on AQRVs, particularly visibility, in Class I areas, EPA faced two choices under Section 165(d)(2)(C)(ii). It could either deny the permit, or impose enforceable mitigation measures in the permit. Here, EPA did neither. Instead, EPA included the following statement in Section IX.D(3)(*Emission Limits and Conditions for SO2)* of the Permit, EPA included the following statement: "The Permittee shall comply with the terms and conditions under the "Sulfur Dioxide Mitigation" section of Exhibit A of the [Mitigation MOU]."

EPA seems to believe that whatever a federal agency puts in a permit is automatically federally enforceable. It states that it "has included the SO2 portion of the mitigation strategy in the final PSD permit, which will make it federally enforceable." AR 120 at 148. But a permit condition is not enforceable if does not impose enforceable requirements, which the mitigation provision clearly does not. Moreover, the mitigation provision suffers numerous deficiencies, including those listed below:

1. Nothing in the Act allows EPA to negate an adverse impact finding with a mitigation proposal by the permittee.
2. The provision merely refers to an exhibit attached to an agreement between the Permittee and the Navajo Nation EPA. The Permit does not actually attach the agreement, and does not specifically incorporate any provisions of that agreement.

3. The agreement is a memorandum of agreement which by definition is not enforceable.

4. The agreement is between the Permittee and the project sponsor, and does not clearly convey the right of enforcement to third party beneficiaries.

5. The provision contains no federally enforceable permit conditions.

6. The provision is not practically enforceable because it is just a proposal that allows the Permittee to choose between two options and contains no specific offset provisions for mitigating the Permittee's SO2 emissions.

7. The provision is not effective in achieving the objective of requiring Desert Rock to obtain sufficient offsets of their SO2 emissions. The MOU allows the Permittee to chose between funding unspecified capital projects at "one or more Electrical Generating Units" within 300 km of the facility or purchasing up to $3 million of emission reduction credits from those Units. The Permit does not say what would happen if the Permittee is unable to fund a capital project at these facilities or unable to find capital projects that would provide sufficient offsets. Nor does the Permit say what would happen if the Permittee chose the second option and did not spend sufficient funds to cover the total number of credits needed to fully offset their impacts. The other EGUs may not be willing to relinquish their emission reduction credits, therefore, without specific offset provisions, there is no guarantee that the Permittee can obtain sufficient credits.

8. The footnotes in Exhibit A referring to the Permittee obtaining emission reduction credits at sources other than EGUs, upon approval of the FLMS, are unenforceable and ineffective.

9. Desert Rock will exceed the SIL for PM in Class I areas, but the agreement addressed only SO2 emissions.

10. The agreement envisions that the Permittee will reduce mercury by a minimum of 80% on an annual average and raise the control efficiency to 90% depending on costs, but the Permit does not contain any corresponding conditions.

C. Conclusion

The Petitioner concurs with the FLMs' finding of adverse visibility impacts. EPA's failure to provide a clear, rationale, legally accurate explanation for its rejection of the FLM's adverse visibility and other AQRV impacts findings constitutes legal error. EPA's insertion of a reference to a third-party memorandum of agreement in the Permit also constitutes legal error because it does not provide an effective or enforceable method of ensuring Desert Rock's adverse impacts will be adequately mitigated. Given the FLMs' finding of significant adverse impacts to AQVRs, including visibility, in 24 NPS units - including eight NPS mandatory Class I units and 16 Class II units - and at seven Class I wilderness areas, and EPA's failure to include any enforceable mitigation measures in the Permit, the Permit should be denied pursuant to Section 165(d)(1)(C)(ii) of the Act, or, in the alternative, remanded so that EPA can address the adverse impacts.

CONCLUSION

For the reasons set forth herein, Petitioner respectfully urges the Board to review and remand the Desert Rock PSD Permit.

Date: October 1, 2008

Respectfully submitted,

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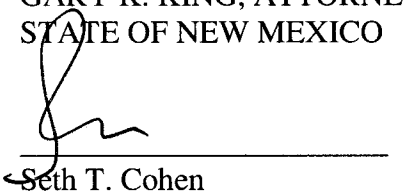

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LIST OF EXHIBITS

A Air Quality Modeling Analysis for the San Juan Early Action Ozone Compact: Maintenance for Growth and Control Strategy Modeling (February 26, 2004)

B. U.S. EPA's Monitor Values Report – Criteria Air Pollutants, Ozone in San Juan Co. N.M. for years 2001-2007

C. Air Quality Modeling Analysis for the San Juan Early Action Ozone Compact: Base Case and Future Modeling (January 29, 2004)

D. New Mexico Environment Department, Air Quality Bureau: Ozone Data Collected from the Navajo Lake Monitoring Station San Juan County, New Mexico (2006 through 2008)

E. Excerpt: U.S. EPA Presentation to R/S/L Workshop, "Single Source Ozone/PM2.5 Impacts in Regional Scale Modeling & Alternate Methods" May 18, 2005

(No exhibits were designated for F through K.)

L. Map: "Proposed Desert Rock Energy Facility and Regional Power Plants" and Map: Power Plants Near Mesa Verde NP Map

M. EPA: Regulatory Finding on the Emissions of Hazardous Air Pollutants from Electric Utility Steam Generating Units. (65 Fed. Reg. 79,825 (Dec. 20, 2000)

N. Letter from Gerardo Rios (EPA Region IX) re: Clean Air Act section 112(g)(Sept. 5, 2008)

O. Facility Emissions Map – Criteria Air Pollutants, New Mexico (July 17, 2008)

P. Environmental Protection Agency 40 CFR Part 50, National Ambient Air Quality Standards for Particulate Matter; Final Rule Part II (62 Fed. Reg. 38,652 (July 18, 1997))

Q. Environmental Protection Agency 40 CFR Part 50, National Ambient Air Quality Standards for Particulate Matter; Final Rule Part II (71 Fed. Reg. 61,144 (October 17, 2006))

R. Desert Rock Energy Project Draft EIS, Chapter 4.0 Environmental Consequences (May, 2007)

S. Environmental Petitioners' Motion for Stay Pending Review, *Natural Resources Defense Council and Sierra Club v USEPA,* D.C. Cir. No. 08-1250

T. EPA: Method 202 – Condensible Particulate Matter, EPA Technology Transfer Network Emission Measurement Center, updated August 19th, 2008

U. EPA: Test Methods, EPA Technology Transfer, Network Emission Measurement Center, updated August 7th, 2007

V. Final Order, *Friends of the Chattahoochee, Inc. and Sierra Club v. Couch and Longleaf Energy Assocs., LLC*, Docket No. 2008 cv 146398 (GA Sup. Ct. June 30, 2008)

W. Findings of Fact, Conclusions of Law and Order on Claims of Petitioners that the Department of Environmental Quality Failed to Comply with Permitting Requirements Applicable to PM2.5 and Ruling on Regulation of CO_2 for BACT Purposes, Case No. BER 2007-07 AQ, Montana Board of Environmental Review *In re Southern Montana Electric Generation and Transmission Cooperative-Highwood Generating Station Air Quality Permit No. 3423-00*, (May 30, 2008)

X. Environmental Protection Agency 40 CFR Parts 51 and 52, Implementation of the New Source Review (NSR) Program for Particulate Matter Less Than 2.5 Micrometers ($PM_{2.5}$); Final Rule (73 Fed. Reg. 28,321 (May 16, 2008))

Y. Response of Petitioner Sierra Club to EPA's Supplemental Brief, Docket No. 95, Sept. 12, 2008, *Deseret Power Electric Cooperative*, PSD Appeal No. 07-03 (EAB, October 1, 2007)

CERTIFICATE OF SERVICE

The undersigned hereby certifies that on October 1, 2008 he caused a copy of the foregoing State of New Mexico's Petition for Review and Supplemental Brief, with attachments, to be served by mail on:

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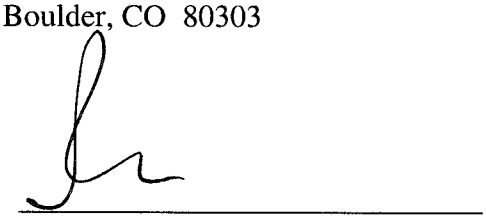

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