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

In re:	)	
Russell City Energy Center	)	PSD Appeal No. 10-04
PSD Permit No. 15487	)	

RUSSELL CITY ENERGY COMPANY, LLC'S RESPONSE TO PETITION FOR REVIEW FILED BY ROBERT SARVEY

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I. INTRODUCTION

Permittee Russell City Energy Company, LLC ("RCEC") hereby submits its Response to the Petition for Review Filed by Robert Sarvey ("Petitioner") (PSD Appeal No. 10-04) ("Petition"). The petition for review challenges the decision by the Bay Area Air Quality Management District (the "Air District") to issue a Prevention of Significant Deterioration ("PSD") permit to RCEC to construct a new natural gas-fired combined-cycle power plant in Hayward, California.

RCEC respectfully requests that the Environmental Appeals Board (the "Board") dismiss the Petition in its entirety. As an initial matter, the Petition was filed after the March 22, 2010 filing deadline. If the Board determines in its ongoing investigation that there was no problem with the CDX portal on the evening of March 22, 2010, prior to the 11:59 PM ET filing deadline, the Board should deny the Petition in its entirety for this reason alone.

Petitioner raises five issues related to RCEC's PSD permit. All of these arguments fail for multiple reasons.

First, Petitioner contends that the Air District should have adopted lower limits for startups and shutdowns, specifically for nitrogen dioxide ("NO_2") emissions during hot and cold startups. This argument has no merit. The Air District had a rational basis in setting all of the Best Available Control Technology ("BACT") limits for startups and shutdowns, and Petitioner falls far short of establishing clear error in the Air District's decisions.

Second, Petitioner argues that the Air District's BACT determination for NO_2 is defective because it fails to account for the collateral impact of ammonia slip from the use of Selective Catalytic Reduction ("SCR"). Petitioner also alleges that the Air District failed to adequately account for the impacts associated with emissions of precursors of particulate matter ("PM") in its air quality impacts analysis. Petitioner's contentions are without merit. The Air District's NO_2 BACT analysis clearly accounted for the collateral impacts associated with secondary particulate formation from ammonia slip. The Air District's conclusions were firmly rooted in its determination that the project site is nitric-acid limited. Further, the Air District expressly

considered the potential that the project's emissions of secondary particulate matter could cause a violation of the fine particulate standards and found that it would not.

Third, Petitioner claims that the Air District's BACT analysis for the cooling tower PM emissions fails to consider alternative technologies, work practices, and alternative sources of water to limit the impacts from PM emissions. This argument is baseless. Not only does Petitioner fail to demonstrate that the three specific arguments he makes were previously raised during the public comment period; two of the three were never raised and, thus, were not preserved for appeal. Even if Petitioner had met the requisite threshold pleading requirements, his arguments fail because the Air District performed a proper BACT analysis for cooling tower PM and adequately addressed all comments received on the subject.

Fourth, Petitioner contends that the Air District should have considered the new federal NO_2 standard when setting emission limits. Again, Petitioner fails to show that this issue was either raised during the public comment period or was not reasonably ascertainable at that time. In fact, the issue was not previously raised, and it was reasonably ascertainable. Thus, this issue was not preserved for appeal. Moreover, the Air District's application of the standard that was in effect at the time it issued the final PSD permit is firmly grounded in both law and policy.

Fifth, Petitioner requests that the Board remand RCEC's PSD permit back to the Air District to include specific penalties for non compliance with permit conditions. This issue was not preserved for appeal and fails on the merits because RCEC's PSD permit contains enforceable permit conditions.

Therefore, even if the Board does not deny the Petition based on its untimeliness, it should deny review because Petitioner falls far short of establishing that any of the Air District's permitting decisions were clearly erroneous or otherwise warrant Board review.

II. BACKGROUND

The Russell City Energy Center will be a 600-MW natural gas-fired, combined-cycle power plant in Hayward, California (the "Project"). The Project cannot commence construction without obtaining a federal PSD permit from the Air District, which issues PSD permits in its

jurisdiction pursuant to a delegation agreement with the U.S. Environmental Protection Agency ("EPA"), Region 9. *See* U.S. EPA - Bay Area Air Quality Management District Agreement for Delegation of Authority to Issue and Modify Prevention of Significant Deterioration Permits Subject to 40 CFR 52.21 (Feb. 4, 2008). The factual and procedural history of the Project up through mid-2008 is well known to the Board because the PSD proceedings were subject to two prior petitions for review (PSD Appeal Nos. 08-01 and 08-07). *See In re Russell City Energy Center*, PSD Appeal No. 08-01 (EAB, July 29, 2008); *In re Russell City Energy Center*, PSD Appeal No. 08-07 (EAB, Nov. 25, 2008) (Order Denying Review).

In the approximately 18 months since the Board remanded the Project's PSD permit to the Air District, the Air District completed PSD permit proceedings pursuant to 40 C.F.R. part 124 and the Board's July 29, 2008 Order. On December 8, 2008, the Air District issued a Draft PSD Permit for the Project. Exhibit 1, Statement of Basis for Draft Amended Federal "Prevention of Significant Deterioration" Permit (Dec. 8, 2008) ("Statement of Basis"). The Air District solicited public comments on the Draft PSD Permit and accompanying Statement of Basis and accepted written comments for nine weeks, until February 6, 2009. Exhibit 2, Letter from Brian Bateman, Director of Engineering, Bay Area Air Quality Management District, to Rick Thomas, Vice President of Development (Feb. 4, 2010) at 1 ("February 4, 2010 Letter"). The Air District also held a public hearing at the Hayward City Hall on January 21, 2009. *Id*. Based on the comments received during this first comment period and the Air District's additional review and analysis, the Air District issued a revised Draft PSD Permit and Additional Statement of Basis on August 3, 2009. Exhibit 3, Additional Statement of Basis, Draft Federal "Prevention of Significant Deterioration" Permit (Aug. 3, 2009) ("Additional Statement of Basis"). The Air District solicited public comments on the revised Draft PSD Permit and accompanying Additional Statement of Basis and accepted written comments for more than six weeks, until September 16, 2009. Exhibit 2, February 4, 2010 Letter, at 2. The Air District held a second public hearing at the Hayward City Hall on September 2, 2009. *Id*. Altogether, since the Board remanded the permit to the Air District, the Air District accepted additional public

comments on the Draft PSD Permit for more than 15 weeks during two public comment periods, each with a public hearing conducted pursuant to EPA requirements.

On February 3, 2010, the Air District issued the Final PSD Permit for the Project. Exhibit 4, Prevention of Significant Deterioration Permit Issued Pursuant to the Requirements of 40 CFR § 52.21 (Feb. 3, 2010) ("Final PSD Permit"). It also issued a 235-page Responses to Public Comments that responds to comments received during both public comment periods. Exhibit 5, Responses to Public Comments, Federal "Prevention of Significant Deterioration" Permit (Feb. 2010) ("Responses to Public Comments"). The Air District served notice of the Final PSD Permit by electronic mail ("email") and regular mail on February 4, 2010. Exhibit 6, Email from Barry Young, Subject: Russell City Energy Center – Notice of Issuance of Final PSD Permit (Feb. 4, 2010) ("Email Notice"); Exhibit 7, Email from Alexander Crockett to Kevin Poloncarz (Apr. 6, 2010), attaching Notice of Issuance of Final Prevention of Significant Deterioration (PSD) Permit for the Russell City Energy Center ("Mail Notice").

The Final PSD Permit specifies that "Petitions for Review must be received by the EAB no later than March 22, 2010." Exhibit 4, Final PSD Permit at 2. Similarly, the Responses to Public Comments provides that "[p]ermit appeals must be actually received and filed with the Environmental Appeals Board no later than March 22, 2010, to be considered timely." Exhibit 5, Responses to Public Comments at i. Both the Email Notice and Mail Notice provide that "[a]ny such members of the public must file any appeal no later than March 22, 2010. Appeals must be received by the EAB by this date to be timely." Exhibit 6, Email Notice at 1; Exhibit 7, Mail Notice at 1.

Petitions for review of the Final PSD Permit were filed by the following ten parties: (1) CalPilots (PSD Appeal No. 10-01); (2) Chabot-Las Positas Community College District (PSD Appeal No. 10-02); (3) Citizens Against Pollution (PSD Appeal No. 10-03); (4) Robert Sarvey (PSD Appeal No. 10-04); (5) CARE/Simpson (PSD Appeal No. 10-05); Juanita Gutierrez (PSD Appeal No. 10-06); (7) Karen D. Kramer (PSD Appeal No. 10-07); (8) Hayward Area Recreation and Park District (PSD Appeal No. 10-08); (9) Minane Jameson (PSD Appeal No.

10-09); and (10) Idojine J. Miller (PSD Appeal No. 10-10). For the reasons discussed below, the Petition should be denied in its entirety.

III. STANDARD OF REVIEW

The Board will grant review of a PSD permitting decision only if it involves a "finding of fact or conclusion of law which is clearly erroneous," or "an exercise of discretion or an important policy consideration which the [Board] should, in its discretion, review." 40 C.F.R. § 124.19(a)(1)-(2). The Board has noted repeatedly that its "power of review should be only sparingly exercised" and that "most permit conditions should be finally determined at the [permitting authority] level." *In re Knauf Fiber Glass, GmbH*, 9 E.A.D. 1, 6-7 (EAB 2000) ("*Knauf II*") (quoting 45 Fed. Reg. 33,290, 33,412 (May 19, 1980)).

In determining whether to grant review of a petition, the Board "first looks to whether the petition meets the threshold procedural requirements of the permit appeal regulations." *Knauf II*, 9 E.A.D. at 5 (citing 40 C.F.R. § 124.19; *In re Sutter Power Plant*, 8 E.A.D. 680, 685 (EAB 1999)). The threshold procedural requirements include timeliness, standing, and preservation of an issue for review. *Knauf II*, 9 E.A.D. at 5. The Board "strictly construes threshold procedural requirements, like the filing of a thorough, adequate, and timely petition." *In re Town of Marshfield, Massachusetts,* NPDES Appeal No. 07-03, slip op. at 4 (EAB, Mar. 27, 2007) (Order Denying Review). Petitions for review "must meet a minimum standard of specificity." U.S. Environmental Protection Agency, The Environmental Appeals Board Practice Manual 33 (June 2004) ("EAB Practice Manual"). Petitioners "must not only state their objections to a permit but must also explain why the permitting authority's response to those objections (for example in a response to comments document) is clearly erroneous or otherwise warrants review." *In re Indeck-Elwood, LLC*, PSD Appeal No. 03-04, slip op. at 87-88 (EAB, Sept. 27, 2006). To do so, "the petitioner must address the permit issuer's responses to relevant comments made during the process of permit development; the petitioner may not simply reiterate comments made during the public comment period, but must substantively confront the permit issuer's subsequent explanations." *Id*. at 88. Failure by a petitioner to do so will result in a denial of review. *In re*

Zion Energy, L.L.C., 9 E.A.D. 701, 705 (EAB 2001). Although the Board "tries to construe petitions filed by persons unrepresented by legal counsel broadly," such petitions must still "provide sufficient specificity such that the Board can ascertain what issue is being raised" and "articulate some supportable reason as to why the permitting authority erred or why review is otherwise warranted." *In re Knauf Fiber Glass, GmbH*, 8 E.A.D. 121, 127 (EAB 1999) ("*Knauf I*").

The Board will also assess whether the issues raised in petitions for review are subject to the Board's jurisdiction. *Zion Energy,* 9 E.A.D. at 706; *Sutter*, 8 E.A.D. at 688. The Board's jurisdiction to review PSD permits extends only to those issues relating to permit conditions that implement the federal PSD program. *In re Hawaii Elec. Light Co.*, 10 E.A.D. 219, 238 (EAB 2001). As the Board has explained, "[t]he PSD review process is not an open forum for consideration of every environmental aspect of a proposed project, or even every issue that bears on air quality. In fact, certain issues are expressly excluded from the PSD permitting process." *Knauf I*, 8 E.A.D. at 127. If an issue is not governed by the PSD regulations, the Board lacks jurisdiction over them and will deny review. *Id.*

For every issue raised, the petitioner bears the burden of demonstrating that review is warranted. *See* 40 C.F.R. § 124.19(a); *accord In re Steel Dynamics, Inc.*, 9 E.A.D. 740, 744 (EAB 2001). A petitioner seeking review of a technical issue bears an especially "heavy burden." *In re Three Mountain Power,* 10 E.A.D. 39, 50 (EAB 2001) ("[w]e generally accord deference to permitting agencies when technical issues are in play. As such, we assign a heavy burden to persons seeking review of issues that are quintessentially technical.") (citations omitted).

IV. THE PETITION WAS UNTIMELY

Petitioner filed his petition for review on March 23, 2010.[1] To be considered timely,

[1] Although the Petition states that it "is being filed on March 22, 2010" (Petition at 4), it was not filed with the Board until March 23, 2010. *See* Docket No. 1.

petitions for review needed to be actually received and filed with the Board no later than March 22, 2010. Due to assertions of several participants in this proceeding that they experienced filing problems with the Central Data Exchange ("CDX") portal on the evening of March 22, 2010, prior to the 11:59PM ET filing deadline, the Board is currently investigating whether there was indeed a problem with the CDX portal that evening. *See* Order Denying Request for Summary Dismissal of CARE Petition and Requesting Response on the Merits, PSD Appeal No. 10-05 (Apr. 14, 2010), at 2. For the reasons discussed below, if the Board determines that Petitioner's untimeliness was not "solely attributable to a CDX malfunction," the Board should deny the Petition in its entirety based on its untimeliness.

As the Board recently explained in these proceedings, petitions for review must be received by the Board by the date specified by the permitting agency:

> With respect to timeliness, the Agency's permit regulations generally require petitions for review to be filed "[w]ithin 30 days after" a final permit decision has been issued. The regulations alternatively allow a permit issuer to specify a later deadline for the filing of a petition for review. As the Board has consistently held, petitions are considered "filed" when they are *received* by the Board, not when they are mailed. Failure to submit a petition within the time provided will ordinarily result in the dismissal of the petition.

Order To Show Cause Why Petition Should Not be Dismissed, PSD Appeal No. 10-06 (EAB, Apr. 14, 2010) at 2 (citations omitted) ("April 14, 2010 Order"); *see also* Order To Show Cause Why Petition Should Not be Dismissed, PSD Appeal No. 10-07 (EAB, Apr. 14, 2010) (same). In this case, the Air District specified that "[p]ermit appeals must be actually received and filed with the Environmental Appeals Board no later than March 22, 2010, to be considered timely." Exhibit 5, Responses to Public Comments at i; *see also* Exhibit 4, Final PSD Permit at 2; Exhibit 6, Email Notice at 1; Exhibit 7, Mail Notice at 1. Thus, the Air District provided more than two weeks beyond the minimum amount of time required by law.

As the Board has emphasized, "[i]t is a petitioner's responsibility to ensure that filing deadlines are met, and the Board will generally dismiss petitions for review that are received

after a filing deadline."[2] *In re AES Puerto Rico L.P.*, 8 E.A.D. 324, 329 (EAB 1999), *aff'd sub nom., Sur Contra La Contaminacion v. EPA*, 202 F.3d 443 (1st Cir. 2000); *see also In re Puna Geothermal Venture*, 9 E.A.D. 243, 273 (EAB 2000) ("failure to ensure that a petition for review is received by the filing deadline will generally lead to dismissal of the petition on timeliness grounds."). The Board "strictly construes threshold procedural requirements, like the filing of a thorough, adequate, and timely petition." *Town of Marshfield,* slip op. at 4. With respect to electronic filing in particular, "[a]t all times, a litigant filing electronically assumes the risk of all errors *not solely attributable* to a CDX malfunction that may result in the inability to complete an electronic transmission." Environmental Appeals Board, Electronic Submission; *available at*: http://yosemite.epa.gov/oa/EAB_Web_Docket.nsf/General+Information/Electronic+Submission?OpenDocument (emphasis added).

Petitioner filed his petition for review after the Air District's March 22, 2010 filing deadline. If the Board determines in its ongoing investigation that Petitioner's untimeliness was not "solely attributable to a CDX malfunction," the Board should deny the Petition in its entirety for this reason alone.

V. RESPONSE TO PETITIONER'S SPECIFIC ISSUES

A. The Air District Properly Established Startup and Shutdown Limits

Petitioner begins his appeal by asserting that "[t]he District failed to provide PSD BACT limits for start up and shut down emissions and the Board should remand the permit back to the District." Petition at 4. As the petition itself makes clear, however, RCEC's PSD permit does contain startup and shutdown emissions limits. *Id.* at 8-13. Petitioner concludes the section on

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[2] As RCEC discussed in its Response Seeking Summary Disposition filed on April 8, 2008, the Board will consider untimely petitions in only rare cases with special circumstances. *See* Russell City Energy Company, LLC's Response Seeking Summary Disposition, PSD Appeal Nos. 10-01, 10-05, 10-06 & 10-07 (Apr. 8, 2010) at 13 (citing *AES Puerto Rico*, 8 E.A.D. at 328-29; *In re Avon Custom Mixing Services, Inc.*, 10 E.A.D. 700, 703 n.6 (EAB 2002); *In re Kawaihae Cogeneration Project*, 7 E.A.D. 107, 123-24 (EAB 1997); *In re Hillman Power Co., L.L.C.*, 10 E.A.D. 673, 680 n.4 (EAB 2002)). RCEC is unaware of any alleged special circumstances alleged by Petitioner other than CDX filing problems.

startup and shutdown limits by stating that "[c]onsidering all the facts before it, the EAB must remand the permit back to the District again so that the District can provide a BACT limit for start ups and shut downs that meets PSD BACT requirements." *Id.* at 13. This conclusion, however, does not specify which BACT limit is at issue.

RCEC's Final PSD Permit provides that "[t]he owner/operator shall ensure that the regulated air pollutant mass emission rates from each of the Gas Turbines (S-1 & S-3) during a start-up or shutdown do not exceed the limits established below." Exhibit 4, Final PSD Permit at 10 (Permit Condition 20). These limits are as follows:

Pollutant	**Cold Start-Up Combustor Tuning**	**Hot Start-Up**	**Warm Start-Up**	**Shutdown**
	lb/start-up	**lb/start-up**	**lb/start-up**	**lb/shutdown**
NO_x (as NO_2)	480.0	95	125	40
CO	2514	891	2514	100

Id. The Final PSD Permit also limits startup and shutdown duration to six hours for cold startups, three hours for hot and warm startups, and 30 minutes for shutdowns.[3] *See id.* at 4-5 (definitions of "Gas Turbine Cold Start-up," "Gas Turbine Warm Start-up," "Gas Turbine Hot Start-up," and "Gas Turbine Shutdown Mode," respectively.)

As discussed below, the only specific issues that Petitioner raises concern the Air District's decision not to require "OpFlex" technology, the nitrogen oxides ("NO_x")[4] limit for hot

[3] A "gas-turbine hot start-up" is defined as "[a] gas turbine start-up that occurs within 8 hours of a gas turbine shutdown;" a "gas turbine warm start-up" is defined as "[a] gas turbine start-up that occurs between 8 hours and 48 hours of a gas turbine shutdown;" and a "gas turbine cold start-up" is defined as "[a] gas turbine start-up that occurs more than 48 hours after a gas turbine shutdown." Exhibit 4, Final PSD Permit at 5.

[4] While PSD requirements apply to nitrogen dioxide ("NO_2"), the Air District has treated NO_2 and NO_x interchangeably. *See* Exhibit 1, Statement of Basis at 21 ("[i]n the context of ozone precursor regulation, NO_2 and NO [nitric oxide] emissions are generally referred to collectively as 'NO_x'. As the NO portion of NO_x eventually converts to NO_2, and as permit limits for NO_x are normally expressed in terms of NO_2, the Air District refers to NO_x and NO_2 interchangeably in this analysis."). Hereinafter, NO_2 and NO_x are used interchangeably.

startups, and the NO_x limit for cold startups. Petitioner, however, falls far short of establishing clear error in the Air District's permitting decision with respect to these issues. Moreover, even if Petitioner had raised a specific issue with respect to the other startup and shutdown limits, it would also fail.

1. The Air District Had a Rational Basis for Not Requiring "OpFlex" Technology

General Electric Company ("GE"), which has a commercially available turn-down technology[5] called "OpFlex," recently developed a variant aimed at controlling startup emissions: the "OpFlex™ Start-up NOx Start-up Fuel Heating" package. Exhibit 1, Statement of Basis at 41. Petitioner discusses startup OpFlex technology in three contexts. First, he summarizes the District's BACT technology review and conclusion that OpFlex technology was not feasible. Petition at 6-8. Second, Petitioner alleges that the California Energy Commission ("CEC") "agrees that a more stringent BACT limit on start up and shut down emissions is appropriate" and cites to a CEC staff letter that mentions OpFlex. *Id.* at 13 (citing Letter from Paul C. Richins, Jr. to Jack P. Broadbent (May 29, 2007) at 3; *available at* http://www.energy.ca.gov/sitingcases/russellcity_amendment/documents/2007-05-31_LTR_BROADBENT.PDF) ("CEC Staff Letter"). Third, Petitioner alleges that "[t]he EPA has just required the OpFlex technology at the Gateway Project in Antioch as a Supplemental Environmental Mitigation Program." *Id.* Although Petitioner never expressly claims that the Air District's BACT technology review was clearly erroneous or otherwise warrants review, the allegations about the CEC Staff Letter and Gateway Generating Station pertain to the Air District's elimination of OpFlex technology. Thus, we address these points below.

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[5] Low-load "turn-down" technology was developed "to allow facilities to cut back to lower loads when their power is not needed (typically at night) and still maintain compliance with emissions limits." Exhibit 1, Statement of Basis at 40. Only recently have attempts been made to adapt this technology to reducing startup emissions (as opposed to using it to allow low-load operation). *Id.* at 41.

a. The Air District's Elimination of OpFlex at Step 2 of the BACT Analysis Was Sound and Well-Reasoned

In its Statement of Basis, the Air District identified and evaluated three potential strategies to reduce startup and shutdown emissions: work practices, once-through steam boiler technology, and low-load "turn-down" technology. Exhibit 1, Statement of Basis at 39-44. At Step 2 of the BACT analysis, the Air District eliminated low-load "turn-down" technology as infeasible. *Id.* at 42. The only commercially available low-load "turn-down" technology identified by the Air District was GE's startup OpFlex system. *Id.* at 41-42.

The Air District discussed three reasons for eliminating OpFlex technology at Step 2 of the BACT analysis. First, "GE is not prepared to guarantee these [startup] numbers, or any specific level of emissions reductions, for the product at this time." *Id.* at 41. As a consequence, "the Air District cannot conclude with any certainty that this technology will obtain the predicted reductions." *Id.* Second, data from the single facility that uses OpFlex was limited. According to the Air District, "[t]o make up for the lack of a manufacturer's guarantee, [it] attempted to develop independent objective support for the technology's feasibility as a startup control alternative" by looking for actual operating data from facilities using startup OpFlex technology. *Id.* It identified only one facility: the Palomar Energy Center ("Palomar facility") in San Diego County. *Id.* The Palomar facility was required to implement drastic startup emissions reductions under a variance proceeding, including installing an OpFlex system and adjusting its ammonia injection procedures to inject ammonia earlier. *Id.* According to the Air District, "[t]he facility has reported encouraging results from the first few months of operating with these new techniques. It is not possible, however, to determine based on this limited data what reductions, if any, are attributable to OpFlex and what reductions are attributable to the operational changes." *Id.* at 41-42. Moreover, Palomar "has operated only for a relatively limited period of time with [OpFlex and early ammonia injection], and so it is difficult to determine from the limited data available so far what improvements can reliably be achieved throughout the life of the facility." *Id.* at 42. Third, the Air District "looked for other BACT determinations for similar facilities to see whether any other permitting agencies have required OpFlex or similar

turn-down technologies to reduce startup emissions" and did not find any. *Id.* The Air District found only that EPA Region 9 had recently considered whether OpFlex should be required as BACT but concluded it should not. *Id.* The Air District concluded that "[f]or all these reasons . . . OpFlex and similar low-load turn-down technologies are not technically feasible for use in reducing startup emissions at this time." *Id.*

During the first public comment period, the Air District received several comments asserting that it should require Op-Flex as BACT for reducing startup emissions, including comments that discussed the Palomar facility. Exhibit 3, Additional Statement of Basis at 71. Petitioner, in particular, submitted several quarterly reports from San Diego Gas and Electric to the San Diego County Air Pollution Control District concerning the Palomar facility.[6] *See* Exhibit 19, Letter from Robert Sarvey to Weyman Lee, P.E. (Feb. 6, 2009) (attaching April 11, 2007, July 11, 2007, Oct. 11, 2007, and January 13, 2008 letters from Daniel Baerman to Kellie Kellogg, Clerk of the Hearing Board) ("Sarvey Comments 2/6/2009"). Based on these reports, Petitioner concluded that "[b]y utilizing earlier ammonia injection and utilizing the OP flex system, the Russell City Power Projects [sic] start up emissions can be reduced drastically. It must be required as BACT since it has been proved in operation for over a year . . . ." *Id.* at 4.

In the Additional Statement of Basis, the Air District responded to these comments as follows:

> The Air District reviewed its assessment of Op-Flex in light of these comments. The Air District notes at the outset that the Federal PSD BACT requirement is ultimately an emissions limit, not a control technology *per se* (although, obviously, it must be based on the performance of the best available technology taking into account all relevant factors). Based on the data that the Air District has reviewed from the Palomar facility that uses Op-Flex and early ammonia injection, *the District has concluded that the Russell City facility will have startup emissions that are the same as or lower than the startup emissions achieved at Palomar. The Air District therefore agrees with the comments stating that the Air District should require the same level of startup emissions reductions achieved at facilities that have installed OpFlex. The Air District disagrees, however, with*

[6] For a discussion of the Air District's evaluation of these data, see *infra* sections V.A.2.a & V.A.3.a.

> *the commenters who claimed that the Air District should specifically require the use of Op-Flex as a technology.*
>
> Moreover, the Air District does not find any reason to alter its BACT analysis of Op-Flex as not yet "available" for BACT purposes as an effective technology for reducing startup emissions. *The Air District's conclusion was based upon a lack of a manufacturer's guarantee; the limited nature of the data from the only facility using Op-Flex, which is not sufficient to allow a determination that Op-Flex really is achieving any significant reductions in emissions beyond what is already achievable using other approaches; and the fact that no other permitting agencies have ever found Op-Flex to be an achievable technology for reducing startup emissions. None of the commenters has provided any reason to reconsider any of these rationales.*
>
> The Air District therefore continues to conclude that Op-Flex as [sic] not yet an available technology, and is appropriately eliminated in Step 2 of the Top-Down BACT analysis. Moreover, based on the additional analysis referred to above, even if the Air District were to address Op-Flex as an available technology in Step 3 of the Top-Down analysis, there is no indication based on the available data that it should be ranked higher than the alternative the District ultimately selected, best work practices. For all these reasons, the Air District disagrees that Op-Flex should be required as BACT technology for this facility.

Exhibit 3, Additional Statement of Basis at 71-72 (footnotes and citation omitted) (emphases added).

During the second public comment period,[7] the Air District received additional comments on OpFlex, including comments that "objected to the District's observation that without a manufacturer's guarantee the District cannot be certain that OpFlex will be able to achieve any particular level of emissions reductions, and claimed that the District should use operational data as an alternative." Exhibit 5, Responses to Public Comments at 117. In addition, "[t]hese comments further stated that the data from Palomar provide a precise assessment of exactly what emissions reductions can be achieved using OpFlex, and show that low-load turndown technologies are technologically feasible to reduce startup emissions."[8] *Id.* The Air District

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[7] In his second comment letter, Petitioner focused on "Fast-Start" technology and did not mention OpFlex or the Palomar facility. *See* Exhibit 22, Letter from Robert Sarvey to Weyman Lee, P.E. (Sept. 16, 2009) at 5-6 ("Sarvey Comments 9/16/2009").

[8] Although Petitioner includes a table showing startup data from Palomar that indicates "Reduction Attributable to Early NH3 Inj." and "Reduction Attributable to OpFlex" (Petition at 10), he has taken this table out of context. The report that contained the table stated that "OpFlex and the final adjustment to the enhanced ammonia injection setpoint were implemented at approximately the same time in mid

(Footnote Continued on Next Page.)

responded to the comments on OpFlex as follows:

> The Air District disagrees with these characterizations of the information from Palomar. The data is limited and preliminary at best, and it provides no firm indication of what reductions may have come from the use of Op-Flex, what reductions may have resulted from starting to inject ammonia earlier during the startup process, and what reductions may have come from other changes such as improved work practices.

Id. The Air District reiterated that, even if it were to address OpFlex as an available technology in Step 3, "there is no indication based on the available data that it should be ranked higher than the alternative the District ultimately selected, best work practices." *Id.*

Thus, the Air District's decision to eliminate OpFlex technology at Step 2 of its BACT analysis was solid and well-reasoned. The Air District clearly articulated three grounds for its determination that OpFlex was infeasible. *See* Exhibit 1, Statement of Basis at 41-42; Exhibit 3, Additional Statement of Basis at 71; Exhibit 5, Responses to Public Comments at 117. Petitioner merely summarizes the Air District's analysis and does not allege, let alone show, that the Air District's response to comments was clearly erroneous or otherwise warrants review. *See Indeck-Elwood, LLC*, slip op. at 87-88 (petitioners "must not only state their objections to a permit but must also explain why the permitting authority's response to those objections (for example in a response to comments document) is clearly erroneous or otherwise warrants review.").

b. Petitioner Misinterprets the Letter from CEC Staff

Petitioner alleges that the CEC "agrees that a more stringent BACT limit on start up and shut down emissions is appropriate." Petition at 13. He then cites a May 29, 2007 letter from CEC staff to the Air District:

(Footnote Continued from Previous Page.)

October, so the emissions improvements attributable to each are *somewhat difficult to assign*. However, this analysis endeavors to separate the projects and summarize the success of each." Exhibit 19, Sarvey Comments 2/6/2009 (attaching "OpFlex and Early Ammonia Injection Effects on Startup Emissions, Palomar Energy Center at 1-2.) (emphasis added). Nothing in this report changed the Air District's conclusions.

> *Alternatively the 600 MW combined cycle Palomar Project in Escondido has installed a proprietary control system, Opflex form* [sic] *General Electric, and injects ammonia earlier to shorten start up times and reduce start-up emissions at the facility, Preliminary non optimized results form* [sic] *their March 7, 2007 Petition for Variance 4703 indicated that they have reduced NOx emissions form* [sic] *120 lbs to 28 lbs for hto* [sic] *or warm startup events.*

Id. (citing CEC Staff Letter at 3). Petitioner fails to mention, however, that the letter reflects the opinion of CEC staff, and not a CEC decision, and that OpFlex was only one alternative technology mentioned.

The CEC Staff Letter was a comment letter from CEC staff to the Air District on the Amended Preliminary Determination of Compliance for the Project. Exhibit 20, CEC Staff Letter at 1. As the letter shows, the mention of OpFlex was part of a broader discussion of options for reducing startup and shutdown emissions that it recommended that the Air District *consider* as part of its BACT analysis: "Energy Commission staff recommends that the district consider requiring, as part of their BACT analysis, hardware and software modifications to the project that can shorten start-up and shutdown events and optimize emission control systems." *Id.* at 2. It first discussed the potential use of Fast Start technology and then noted that "[a]lternatively, the 600 MW combined cycle Palomar Project in Escondido has installed a proprietary control system, OpFlex from General Electric." *Id.*

Thus, the CEC Staff Letter reflects a staff recommendation of alternative technologies to consider. It does not reflect a CEC decision. It does not recommend any particular technology. It does not predict the outcome of a BACT analysis. It recommends only the consideration of various technologies *that the Air District subsequently evaluated in detail in its Statement of Basis and Amended Statement of Basis*. Thus, Petitioner's conclusion that the CEC "agrees that a more stringent BACT limit on start up and shut down emissions is appropriate" is false and misleading. His argument falls far short of establishing clear error in the Air District's decision to eliminate OpFlex technology in its BACT analysis.

c. A Proposed Consent Decree for a Different Facility Does Not Affect the Air District's BACT Analysis

With respect to the use of OpFlex technology at the Gateway Project in Antioch,

Petitioner alleges that "[t]he Supplemental Environmental Mitigation Program was the result of a consent decree stemming from a violation of the Clean Air Act for lack of a PSD permit further eroding BAAQMD's arguments about commercial availability and performance. The BAAQMD is fully aware of this fact as it was their responsibility to ensure that the Gateway Facility had a valid PSD permit." Petition at 13 (footnote omitted). The inclusion of OpFlex technology in a proposed consent decree as a Supplemental Environmental Mitigation Program does not affect the Air District's BACT analysis.

As a remedy for failure to obtain a PSD permit, the proposed consent decree would impose injunctive relief, including the requirement for Gateway to achieve lower limits for both NOx and CO during normal operations to meet current "BACT" limits. *See* Exhibit 21, Consent Decree, *United States v. Pacific Gas and Electric Co.*, Civil Action No. 09–4503 (N.D. Cal.) at 5, ¶ 6. However, the proposed consent decree reflects no similar determination that would require Gateway to install OpFlex to meet BACT. Indeed, the very fact that OpFlex is required by the proposed consent decree as an "Environmental Mitigation Project" demonstrates that it was not required to meet BACT because, if it had been, then its installation could not have qualified for consideration as a supplemental environmental project, according to EPA policy and guidance.[9] Further, the proposed consent decree in *United States v. Pacific Gas and Electric Co.,* Civil Action No. 09–4503 (N.D. Cal.), was lodged with the United States District Court for the Northern District of California on September 24, 2009 and open for public comment until January 8, 2010;[10] it has not been finalized at this time. Petitioner's reference to Gateway falls far short of establishing clear error in the Air District's decision to eliminate OpFlex technology

[9] Supplemental environmental projects ("SEP") are defined as "environmentally beneficial projects which a defendant/respondent agrees to undertake in settlement of an enforcement action, but which the defendant/respondent is not otherwise legally required to perform." U.S. EPA Office of Enforcement and Compliance Assurance, Final Supplemental Environmental Projects Policy ("SEP Policy") (Apr. 10, 1998) at 6. "Not otherwise legally required to perform means" the project or activity is not required by any federal, state or local law or regulation.

[10] *See* 74 Fed. Reg. 51,170 (Oct. 5, 2009), 74 Fed. Reg. 57,703 (Nov. 9, 2009).

in its BACT analysis.

d. Conclusion

In sum, to the extent that Petitioner even raises an issue about the Air District's decision to eliminate OpFlex technology from its BACT analysis, he falls far short of showing that the Air District's decision was clearly erroneous. To the contrary, the record shows that the Air District thoroughly reviewed OpFlex technology and ultimately rejected it as BACT in a well-reasoned and supported manner.

2. The NO_x Limit for Hot Startups Is BACT

With respect to the NO_x limit for hot startups, Petitioner argues that because the highest hot startup emissions at the Palomar facility were 75 pounds, which represents a 20% compliance margin over the 95-pound permit limit, the Air District should have adopted a lower limit. Petition at 11. As shown below, the Air District had a rational basis for the NO_x limit for hot startups, and Petitioner has not shown clear error in the Air District's decision.

a. The Air District Had a Rational Basis in Setting the NO_x Limit for Hot Startups

The basis for the NO_x limits that the Air District proposed in the Draft PSD Permit were "the permit limits that were established for the Metcalf Energy Center, the most recent similar facility that the Air District has permitted." Exhibit 1, Statement of Basis at 44. The Air District "began with those limits as a starting point, and then examined data and permit conditions from other facilities to determine if lower limits could reasonably be achieved by this facility." *Id.* For hot startups, the Air District "concluded that the proposed Russell City facility would be able to achieve emissions limitations substantially below those imposed at Metcalf." *Id.* at 46.

As Petitioner acknowledges, the NO_x limit of 125 pounds in the Draft PSD Permit "represented a reduction of nearly half from the corresponding Metcalf startup limit, which is 240 pounds." Petition at 9. Calpine "committed to this substantial reduction based upon its assessment of its record controlling NO_x emissions during start-up events, as demonstrated by data from its other facilities." Exhibit 1, Statement of Basis at 46. Moreover, "although there is

normally a trade-off between decreased NO_x emissions and increased CO emissions . . . Calpine . . . committed to achieving the proposed NO_x reductions while maintaining CO emissions at the same level adopted for the Metcalf facility (2,514 pound per event)." *Id.*

In response to comments received during the first comment period, the Air District reviewed additional information and concluded "that the BACT limit for hot startups should be lowered from 125 lbs. to 95 lbs. based on further review of the emissions performance achieved by other facilities, including the Palomar Energy Center."[11] Exhibit 3, Additional Statement of Basis at 59. For the Palomar facility, the Air District reviewed additional emissions data covering all NO_x emissions data for the facility from October 2006 through the end of 2007. -- during which the facility implemented "the full complement of efforts it has made to reduce startup emissions under a variance from the [San Diego Air Pollution Control District] Hearing Board.[12] *Id.* at 60-61. The Air District took the raw, minute-by-minute continuous emissions monitoring data and estimated when startups began and ended based on changes in O_2 concentrations. *Id.* The emissions rates it arrived at were lower than the emissions rates calculated by the San Diego Air Pollution Control District ("SDAPCD") for the four startups for

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[11] In addition to the Palomar data, the Air District reviewed information from the other two facilities that commenters cited: the Lake Side Power Plant and Caithness Long Island Energy Center. Exhibit 3, Additional Statement of Basis at 63. The Air District found that "[t]he only way to compare the Lake Side and Caithness facilities is based on their startup permit limits, as there is no published data from either facility because they are only just coming online." *Id.* For Lake Side, the Air District found that the facility's permit has no limits whatsoever on startup emissions and concluded that it "does not believe that it would be appropriate to issue a permit for the Russell City Energy Center without limits on startup emissions." *Id.* at 63-64. For Caithness, the Air District evaluated the permit limits without use of an auxiliary boiler and found that "the Caithness startup limits are all higher than the limits the Air District initially proposed for the Russell City permit here." *Id.* at 64. The Air District concluded that "Caithness further supports the reasonableness of these NO_2 startup limits as the lowest achievable BACT limits." *Id.*

[12] As the Air District explained, it excluded data from October 13, 2006 and before for turbine 1 and October 12, 2006 for turbine 2 because "the commenters who urged the Air District to consider the Palomar data asserted that it is the period after implementation of these efforts that evidences the best achievable startup emissions performance." *Id.* at 61. "Since the excluded data consist of, for the most part, data showing high emissions . . ., the District's approach is, again, conservative." *Id.*

which SDAPCD calculations were available, suggesting that the Air District's method was a conservative assessment of actual emissions performance. *Id.* The Air District then broke the data out into cold, warm, and hot startups. *Id.* at 61.

After removing a high apparent outlier of 145 pounds, the Air District found that the Palomar startup data show an average of 30.3 pounds and a maximum of 75 pounds of NO_x emissions per startup. *Id.* at 62. Compared to the Delta Energy Center, which the Air District considered in setting the initial limit, "Palomar is actually experiencing *higher* average hot startup emissions," and "the data from Palomar show a high similar to the highest high at Delta [82.2 lbs.], although a little lower." *Id.* The Air District concluded that for hot startups "the Palomar facility is not achieving an overall startup emissions performance any better than the other comparable facilities the Air District evaluated in establishing the proposed BACT limits." *Id.*

The Air District also concluded, however, that "a somewhat more stringent compliance margin would probably be achievable here for hot startups" because "[a]t the 125 pounds hot-start limit initially proposed, the compliance margin would be 43 pounds more than the highest data point found at Delta and 50 pounds more than the highest data point from Palomar." *Id.* Thus, the Air District proposed to lower the NO_x limit for hot startups from 125 pounds to 95 pounds per startup. The Air District provided the following rationale:

> [t]his lower limit would bring the permit limit more in line with the high-emissions startups that have been seen at other similar facilities, *while still providing an appropriate margin of compliance to take into account the fact that startups are by their nature highly variable and the highest startup emissions seen in the data collected to date may not necessarily reflect the highest emissions that would reasonably be expected under all circumstances over the life of the facility*.

Id. (emphasis added).

During the second comment period, the Air District received comments criticizing the proposed NO_x limits for hot startups. The comments stated "that the Air District should base the permit limit on the average emissions performance of other similar facilities, which they claimed was 25 to 29.8 pounds, and that it was improper to look to the maximum emissions associated

with startups instead of the average." Exhibit 5, Responses to Public Comments at 100. The comments "further stated that the Air District has not adequately explained the basis for the compliance margin provided in these limits." *Id.* The Air District addressed these comments as follows:

> In response to these comments, the Air District disagrees that the BACT limits should be based on the average startup emissions performance observed at other similar facilities. *The BACT limits will be enforceable, not-to-exceed permit limits that the facility will be required to comply with at all times and under all foreseeable operating conditions, not just during average startups. The limits therefore need to allow for a sufficient compliance margin to accommodate all reasonably foreseeable startups, not just the average case.* The Air District took this requirement into account in deriving the startup limits, as explained in the Statement of Basis, Additional Statement of Basis, and the further analysis described above. . . . [T]he 95-pound hot-startup limit was based on the Palomar data showing hot startup emissions of up to 75 pounds (excluding the 145-pound data point as an apparent outlier) with a reasonable compliance margin. The Air District believes that this is a reasonable and appropriate approach to implementing *not-to-exceed BACT limits that are the lowest achievable under all operating situations*. The Air District disagrees with the comments that this approach is unreasonable for the reasons stated above. The Air District also disagrees with the comments that it has not adequately explained how it came up with these limits, as the District's analysis was clearly set forth in the Statement of Basis (pp. 38-47) and Additional Statement of Basis (pp. 58-74), and has been further clarified in this [Responses to Public Comments].

Id. at 100-01 (emphases added). Thus, in the Final PSD Permit, the Air District imposed a 95 pound NO_x emissions limit on hot startups. *See* Exhibit 4, Final PSD Permit at 10 (Permit Condition 20).

b. Petitioner Fails To Establish Clear Error in the Air District's NO_x Limit for Hot Startups

Petitioner contends that because the highest hot startup emissions were 82.2 pounds at the Delta Energy Center and 75 pounds at the Palomar facility (the latter of which represents a 20% compliance margin relative to the 95-pound permit limit), the Air District should have adopted a lower limit. Petition at 11. Petitioner does not identify what he thinks this "lower limit" should be. The Board should reject this argument because Petitioner has not shown clear error in the Air District's decision. To the contrary, Petitioner's argument ignores prior Board decisions involving BACT determinations and does not come close to meeting the heavy burden assigned to petitioners seeking review of technical issues.

The Board has long recognized a "distinction between, on the one hand, measured 'emissions rates,' which are necessarily data obtained from a particular facility at a specific time, and on the other hand, the 'emissions limitation' determined to be BACT and set forth in the permit, which the facility is required to continuously meet throughout the facility's life." *In re Newmont Nevada Energy Investment, LLC, TS Power Plant*, 12 E.A.D. 429, 442 (EAB 2005). "[B]ecause the 'emissions limitation' is applicable for the facility's life, it is wholly appropriate for the permit issuer to consider, as part of the BACT analysis, the extent to which the available data demonstrate whether the emissions rate at issue has been achieved by other facilities over the long term." *Id.* Moreover, the permit issuer can use a "safety factor to take into account variability and fluctuation in the expected performance of the pollution control methods . . . ." *In re Prairie State Generating Co.*, PSD Appeal No. 05-05, slip op. at 72 (EAB, Aug. 24, 2006). Indeed, when emissions are highly variable, "'setting the emissions limitation to reflect the highest control efficiency would make violations of the permit unavoidable.'" *Id.* (citing *In re Masonite Corp.*, 5 E.A.D. 551, 560 (EAB 1994)). Thus, permitting agencies "retain discretion to set BACT levels that 'do not necessarily reflect the highest possible control efficiencies but, rather, will allow permittees to achieve compliance on a consistent basis.'" *Id.* (citing *In re Steel Dynamics, Inc.*, 9 E.A.D. 165, 188 (EAB 2000); *accord In re Three Mountain Power, L.L.C.*, 10 E.A.D. 39, 53 (EAB 2001)).

The Air District followed this guidance precisely in setting the NO_x limit for hot startups at Russell City. The Air District initially set a limit of 125 pounds -- just over half the limit at the Metcalf Energy Center -- based on the startup emissions rates Calpine had been able to achieve at its other facilities. Exhibit 1, Statement of Basis at 46. In response to comments received during the first comment period, the Air District carefully reviewed additional data from the Palomar facility, which uses OpFlex technology and early ammonia injection to control startup emissions. Exhibit 3, Additional Statement of Basis at 59-63. After finding that Palomar had a maximum of 75 pounds of NO_x emissions per startup (given the exclusion of an apparent outlier of 145 pounds), and considering the Delta Energy Center's maximum of 82.2 pounds, the

Air District lowered the limit to 95 pounds to "bring the permit limit more in line with the high-emissions startups that have been seen at other similar facilities . . . ." *Id.* at 62. As the Air District explained, this lower limit "still provid[es] an appropriate margin of compliance to take into account the fact that *startups are by their nature highly variable* and *the highest startup emissions seen in the data collected to date may not necessarily reflect the highest emissions that would reasonably be expected under all circumstances over the life of the facility*." *Id.* (emphases added). Thus, the Air District clearly articulated a rational basis for its permitting decision.

Petitioner cannot gain Board review of this permit limit just by pointing to the highest highs for two facilities. *Cf. Three Mountain Power*, 10 E.A.D. at 50 ("[a]ccordingly, Petitioner cannot gain review of the Permit merely by pointing to data like the Federal Facility data."). Instead, when the Board is presented with conflicting expert opinions or data, it "look[s] to see if the record demonstrates that the permitting agency duly considered the issues raised in the comments and if the approach ultimately selected is rational in light of all the information in the record, including the conflicting opinions and data." *Id.* (citing *Steel Dynamics I*, 9 E.A.D. at 180 n.16 (quoting *In re NE Hub Partners, L.P.*, 7 E.A.D. 561, 568 (EAB 1998), *review denied sub nom. Penn Fuel Gas, Inc. v. U.S. EPA*, 185 F.3d 862 (3d Cir. 1999)). In this case, the record shows that the Air District carefully considered the issues raised in the comments and, in fact, lowered the permit limit in response. The limit it ultimately selected is rational in light of emissions data from other facilities, the variable nature of startup emissions, and the Air District's recognition that the permit limit is a "not-to-exceed BACT limit[] that [is] the lowest achievable under all operating situations." Exhibit 5, Responses to Public Comments at 101. *See Prairie State*, slip op. at 72 ("permitting agencies "retain discretion to set BACT levels that 'do not necessarily reflect the highest possible control efficiencies but, rather, will allow permittees to achieve compliance on a consistent basis'") (citing *Steel Dynamics,* 9 E.A.D. at 188; *accord Three Mountain Power,* 10 E.A.D. at 53); *Newmont*, 12 E.A.D. at 442 ("because the 'emissions limitation' is applicable for the facility's life, it is wholly appropriate for the permit

issuer to consider, as part of the BACT analysis, the extent to which the available data demonstrate whether the emissions rate at issue has been achieved by other facilities over the long term.").

Moreover, Petitioner falls far short of meeting the "heavy burden" that the Board assigns to petitioners seeking review of technical issues. *See Three Mountain Power,* 10 E.A.D. at 50 ("[w]e generally accord deference to permitting agencies when technical issues are in play. As such, we assign a heavy burden to persons seeking review of issues that are quintessentially technical.") (citations omitted). Petitioner goes no further than asserting that "the District still failed to adopt a lower limit." Petition at 11. He does not state what he thinks the "lower limit" should be or what the technical justification for that limit would be.

In sum, Petitioners' reference to maximum emissions rates from two facilities does not support a conclusion that the Air District committed clear error in setting the NO_x limit for hot startups.

3. The NO_x Limit for Cold Startups Is BACT

Petitioner alleges error by the Air District when it established the NO_x limit for cold startups in the Draft PSD Permit and when it left that limit unchanged in the revised Draft PSD Permit. With respect to the Draft PSD Permit, Petitioner alleges that "[t]he District erroneously concluded that data from other similar facilities (Delta and Metcalf) showed that if the Air District were to impose limits substantially below the Metcalf limits, the proposed facility could face difficulty in complying with them." Petition at 9. In particular, "[e]ven though the Delta Energy Center data demonstrated that its maximum cold start emissions were 281 pounds which provided a 40% compliance margin, the District still failed to adopt lower NO_2 startup emission limits." *Id.* With respect to the revised Draft PSD Permit, Petitioner alleges that "the District should have chosen either the Delta limit of 281 pounds the Metcalf limit of 335 pounds or the Palomar limit of 375 pounds as BACT for NO_2 startup emissions." *Id.* at 11 (noting that the 480-pound limit is 42%, 30%, and 22% higher, respectively, than these emissions rates). Instead, according to Petitioner, "the District completely ignored the results of its BACT analysis and

chose the 480 pound cold start limit." *Id.* In addition, Petitioner alleges that "[i]f the District was concerned about the limited amount of data from Palomar it could have obtained all of the 2008 data and the 2009 data to validate its results since its evaluation only included the October 2006 to December 2007 time period." *Id.* As shown below, none of these allegations has merit or meets Petitioner's burden of establishing that the Air District clearly erred in setting the NO_x limit for cold startups.

a. The Air District Had a Rational Basis in Setting the NO_x Limit for Cold Startups

As discussed above, the basis for the NO_2 limits that the Air District proposed in the Draft PSD Permit were "the permit limits that were established for the Metcalf Energy Center, the most recent similar facility that the Air District has permitted." Exhibit 1, Statement of Basis at 44. The Air District "began with those limits as a starting point, and then examined data and permit conditions from other facilities to determine if lower limits could reasonably be achieved by this facility." *Id.* The Metcalf permit limit for cold startups was 480 pounds of NO_2 emissions. *Id.*

The Air District then considered startup data from the Sutter Energy Center, the Delta Energy Center, the Metcalf Energy Center, and the Los Medanos Energy Center. *Id.* at 44-46. At two facilities, startup NO_x emissions were below the proposed 480-pound limit (Delta Energy Center and Metcalf Energy Center). *Id.* at 45. At the other two facilities, a number of startups had NO_x emissions at or even above the proposed 480 pound limit (Sutter Energy Center and Los Medanos Energy Center). *Id.* at 45-46. The Air District declined to lower the 480-pound limit, based on the following reasoning:

> The data the Air District has evaluated suggest that it would not be appropriate to reduce the emissions limits for the proposed Russell City Energy Center below the limits adopted for the Metcalf facility as a mandatory BACT limit. Although some turbines on some occasions have achieved lower emissions rates, *the BACT limit must be achievable at all times throughout the facility's operational life. A reasonable safety margin must be included so that the facility will be able to comply with its limits during every startup, even if emissions for specific startups or as an average for startups as a whole may be less.* The data from other similar facilities shows that if the Air District were to impose limits substantially below the Metcalf limits, the proposed facility could face difficulty in complying with

them.

Id. at 46 (emphasis added).

In response to comments received during the first comment period, the Air District reviewed additional information, including from the Palomar, Lake Side, and Caithness facilities,[13] and concluded that it "continues to believe that the NO_2 emissions limits it initially proposed are appropriate because the additional information it has reviewed supports [this] limit[] as the lowest that can reasonably be achieved over time." Exhibit 3, Additional Statement of Basis at 59. For the Palomar facility, the Air District found that the average NO_2 emissions for cold startups was 182.8 pounds, and that the maximum NO_2 emissions for cold startups was 375 pounds according to its calculations, or 437 pounds according to the SDAPCD's calculations. *Id.* at 61. Based on this assessment, the Air District concluded that the Palomar facility is performing "at or near the level of the other similar facilities that the Air District considered in the Statement of Basis [*i.e.*, Delta Energy Center with average and maximum NO_2 emissions of 193 and 281 pounds, respectively; Metcalf Energy Center with average and maximum NO_2 emissions of 185 and 335 pounds, respectively], but certainly not any better than that." *Id.* Thus, "the Palomar data serve to confirm [the Air District's] earlier assessment of the appropriate cold startup limits for Russell City, and certainly do not suggest that the initial analysis was inaccurate." *Id.*

As Petitioner quotes in part (*see* Petition at 11), the Air District offered additional discussion with respect to the maximum NO_x emissions at Palomar:

> The Air District did observe that the Palomar data showed a maximum startup emissions event of 375 or 437 pounds (depending on which calculation is used), which is somewhat below the proposed Russell City cold startup limit of 480 pounds, *but the Air District does not consider this level of compliance margin – which is 9%-22% of the permit limit, depending on whose calculation is used – to be unreasonable for several reasons*. First, the data from Palomar includes only five available data points for cold starts, which does not generate a great deal of statistical confidence

[13] For a discussion of the Air District's review of information from the Lake Side and Caithness facilities, see *supra* note 9.

> that the maximum seen in this data set is representative of the maximum that can be expected *over the entire life of the facility*. Moreover, the wide variability in the data that is available highlights the *variability in individual startups*, underscoring the need to provide a sufficient compliance margin to allow the facility to be able to comply during all reasonably foreseeable startup scenarios. For both of these reasons, the Air District has concluded that a cold startup limit of 480 pounds of NO_2 is a reasonable BACT limit that is consistent with the startup emissions performance seen at the Palomar facility.

Exhibit 3, Additional Statement of Basis at 61 (emphases added).

During the second comment period, the Air District received comments criticizing the proposed NO_x limits for cold startups. *See* Exhibit 5, Responses to Public Comments at 100. These comments "criticized the proposed limit of 480 lbs/startup and stated that the other similar facilities that the District evaluated show average startup emissions in the range of 183 to 193 pounds." *Id.* The comments "further stated that the Air District has not adequately explained the basis for the compliance margin provided in these limits." *Id.* The Air District addressed these comments as follows:

> In response to these comments, the Air District disagrees that the BACT limits should be based on the average startup emissions performance observed at other similar facilities. *The BACT limits will be enforceable, not-to-exceed permit limits that the facility will be required to comply with at all times and under all foreseeable operating conditions, not just during average startups. The limits therefore need to allow for a sufficient compliance margin to accommodate all reasonably foreseeable startups, not just the average case.* The Air District took this requirement into account in deriving the startup limits, as explained in the Statement of Basis, Additional Statement of Basis, and the further analysis described above. . . . *[T]he 480-pound cold-startup limit was based on early data from the Palomar facility showing emissions could be as much as 375-437 pounds for a cold startup, with a reasonable additional compliance margin to allow for the fact that startups are highly variable in nature and that the 375-437 pound startup emissions seen in the Palomar data may not necessarily be the highest startups the facility will experience over its lifetime*. . . . The Air District believes that this is a reasonable and appropriate approach to implementing *not-to-exceed BACT limits that are the lowest achievable under all operating situations*. The Air District disagrees with the comments that this approach is unreasonable for the reasons stated above. The Air District also disagrees with the comments that it has not adequately explained how it came up with these limits, as the District's analysis was clearly set forth in the Statement of Basis (pp. 38-47) and Additional Statement of Basis (pp. 58-74), and has been further clarified in this [Responses to Public Comments].

Exhibit 5, Responses to Public Comments at 100-01 (emphases added). Thus, in the Final PSD Permit, the Air District imposed a 480.0 pound NO_2 emissions limit on cold startups. *See* Exhibit 4, Final PSD Permit at 10 (Condition 20).

b. Petitioner Fails To Establish Clear Error in the Air District's NO_x Limit for Cold Startups

Petitioner contends that "the District should have chosen either the Delta limit of 281 pounds the Metcalf limit of 335 pounds or the Palomar limit of 375 pounds as BACT for NO_2 startup emissions." Petition at 11. The Board should reject this argument because Petitioner has not shown clear error in the Air District's decision. As with Petitioner's argument addressing the NO_x limit for hot starts, Petitioner's argument ignores prior Board decisions involving BACT determinations and does not come close to meeting the heavy burden assigned to petitioners seeking review of technical issues. In addition, Petitioner misinterprets Board precedent on safety factors.

As discussed above, see *supra* section V.A.2.b, the Board has long recognized a "distinction between, on the one hand, measured 'emissions rates,' which are necessarily data obtained from a particular facility at a specific time, and on the other hand, the 'emissions limitation' determined to be BACT and set forth in the permit, which the facility is required to continuously meet throughout the facility's life." *Newmont,* 12 E.A.D. at 442. Petitioner fails to recognize this distinction. Indeed, he uses the terms interchangeably:

> At that point the District should have chosen either the Delta *limit* of 281 pounds the Metcalf *limit* of 335 pounds or the Palomar *limit* of 375 pounds as BACT for NO_2 startup emissions. . . . The 480 pound limit chosen by the District is 195 pounds higher or 42% higher than the Delta Energy Centers *highest startup emissions*. The 480 pound limit is 135 pounds higher or 30% higher than the Metcalf *highest emissions* for a cold start. The *highest startup emissions* from the Palomar project of 375 pounds is 22% higher than the 480 pound limit . . . .

Petition at 11 (emphases added). Similarly, Petitioner fails to recognize that the permit limits at the Palomar facility are higher than the observed maximum startup emissions. As the Air District noted, "the startup limits in the permit for the Palomar facility are far higher than anything the Air District has considered for Russell City: 400 lbs/hr NO_x and 2,000 lbs/hr CO (and note that these limits are *hourly* limits, meaning that total emissions for an entire startup can be several times these hourly rates). Exhibit 5, Responses to Public Comments at 94-95 n.191. Thus, in conflating "emissions rates" and "emissions limitations," Petitioner misinterprets both Board and permitting agency precedent.

The Air District relied on well-established BACT principles in setting the 480-pound NO_x cold startup limit. First, the Air District found that "data from other similar facilities shows that if the Air District were to impose limits substantially below the Metcalf limits, the proposed facility could face difficulty in complying with them." Exhibit 1, Statement of Basis at 46. *See Prairie State*, slip op. at 72 (permitting agencies "retain discretion to set BACT levels that 'do not necessarily reflect the highest possible control efficiencies but, rather, will allow permittees to achieve compliance on a consistent basis'") (citing *Steel Dynamics,* 9 E.A.D. at 188; *accord Three Mountain Power,* 10 E.A.D. at 53). Second, the Air District took into account the fact that "startups are highly variable in nature." Exhibit 5, Responses to Public Comments at 100. *Cf. Prairie State*, slip op. at 72 ("where the technology's efficiency at controlling pollutant emissions is known to fluctuate, 'setting the emissions limitation to reflect the highest control efficiency would make violations of the permit unavoidable'") (citing *Masonite*, 5 E.A.D. at 560). Third, the Air District recognized that "early data" from the Palomar facility "may not necessarily be the highest startups the facility will experience over its lifetime."[14] Exhibit 5, Responses to Public Comments at 100. *See Newmont*, 12 E.A.D. at 442 ("because the 'emissions limitation' is applicable for the facility's life, it is wholly appropriate for the permit issuer to consider, as part of the BACT analysis, the extent to which the available data demonstrate whether the emissions rate at issue has been achieved by other facilities over the long term."). Overall, "[t]he Air District believes that this is a reasonable and appropriate approach to implementing not-to-exceed BACT limits that are the lowest achievable under all operating situations." Exhibit 5, Responses to Public Comments at 100-01. Not only is this approach

[14] Although Petitioner asserts that the Air District could have obtained 2008-2009 data from the Palomar facility, it still would have been "early data" that may not reflect startup emissions over the life of the facility. Moreover, Petitioner's specific contention about these additional data was not preserved for appeal. *See infra* section V.A.3.c. Petitioner also contends that the Delta data "spanned from May of 2004 to June of 2008" and the Metcalf data "spanned a period from April of 2006 till November of 2008." Petition at 12. With the lifespan of facilities like the Project at least 30 years, four years of data is still "early data" and does not even span a facility's first major maintenance cycle.

reasonable and appropriate, it is consistent with Board precedent.

Petitioner also contends that the compliance margin used by the Air District was "arbitrary" and that "[w]hile [other] cases involved disputes over a 0.4-1.4% or 2-4% discrepancy, the District gave RCEC a 9 to 22% compliance margin." Petition at 12 n.13. According to Petitioner, "[i]t is one thing to employ a small safety factors [sic] justified evidence [sic], such as the one in [*Prairie State*], but it is entirely another when that safety factor is so large as to make the most stringent limit unrecognizable." Petition at 12 n.13 (citing "CAP Appeal GGU").

As an initial matter, Petitioner is making an incorrect comparison. The safety factors at issue in *Prairie State* and *Masonite* both involved control efficiency limits. *See Prairie State*, slip op. 73-76 (SO_2 control efficiency); *Masonite*, 5 E.A.D. at 559-63 (VOC removal efficiency). This case does not involve control efficiency limits. In this case, Petitioner cites to percentage differences between observed emissions rates at the Delta, Metcalf, and Palomar facilities and the emissions limitation in Russell City's PSD permit. *See* Petition at 9, 11-12. There is no legitimate basis for this "apples-to-oranges" comparison. The "apples-to-apples" comparison would have been the percentage differences between observed emissions rates at the Delta, Metcalf, and Palomar facilities and NO_x cold startup limits found in other PSD permits, but Petitioner does not make this comparison.

Moreover, even if Petitioner had made a legitimate comparison, it would not mean that the Air District's BACT analysis was incorrect: as Petitioner recognizes, BACT is determined by the permitting authority "on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs." Petition at 12; *see* 42 U.S.C. § 7479(3); 40 C.F.R. § 52.21(b)(12). In addition, "appropriate application of a safety factor in setting an emission limit is inherently fact-specific and unique to the particular circumstances of the selected technology." *Prairie State*, slip op. at 73. As discussed above, the Air District clearly articulated its rationale for including a sufficient compliance margin in RCEC's PSD permit, based on data from other facilities and the highly variable nature of startups. *See* Exhibit 5,

Responses to Public Comments at 100 ("[t]he limits therefore need to allow for a sufficient compliance margin to accommodate all reasonably foreseeable startups, not just the average case.").

In sum, Petitioner falls far short of meeting the "heavy burden" that the Board assigns to petitioners seeking review of technical issues. *See Three Mountain Power,* 10 E.A.D. at 50 ("[w]e generally accord deference to permitting agencies when technical issues are in play. As such, we assign a heavy burden to persons seeking review of issues that are quintessentially technical.") (citations omitted). Petitioner argues that an appropriate permit limit would have been 281, 335, or 375 pounds, but fails to differentiate between them or offer a technical justification for any of them. Petition at 11. In contrast, as discussed above, the Air District clearly articulated a rational basis for the 480-pound limit. Petitioner's arguments do not support a conclusion that the Air District committed clear error in its decision.

c. The Palomar Data Issue Was Not Preserved for Appeal

Petitioner attempts to raise an issue with respect to the data that the Air District analyzed for the Palomar Energy Center: "[i]f the District was concerned about the limited amount of data from Palomar it could have obtained all of the 2008 data and the 2009 data to validate its results since its evaluation only included the October 2006 to December 2007 time period." Petition at 11. In particular, Petitioner alleges that "[t]he District's claim that it could not procure the data are [sic] baseless as the data is available through the California Energy Commission Compliance Division." *Id.* This argument fails because it was not preserved for appeal.

As discussed above, the Air District reviewed additional emissions data covering all NO_x emissions data for the Palomar facility from October 2006 through the end of 2007. Exhibit 3, Additional Statement of Basis at 60. The Air District "sought additional data since the end of 2007, but the facility has not reported any to the SDAPCD." *Id.* at 60 n.110. In addition, the Air District "contacted the Palomar facility directly and requested review of additional data, but the facility declined and the Air District had no way to compel release of the data." *Id.* The Air District noted that "the applicable permit limits for Palomar are of little help in evaluating the

appropriate BACT permit conditions here, as they are much higher than those proposed for Russell City and the Air District does not consider them to represent BACT limits." *Id.*

Petitioner's argument that the Air District could have obtained additional data from the CEC Compliance Division was not preserved for appeal. According to EPA's regulations concerning permit appeals, "[a]ll persons, including applicants, who believe any condition of a draft permit is inappropriate . . . must raise all reasonably ascertainable issues and submit all reasonably available arguments supporting their position by the close of the public comment period (including any public hearing) under § 124.10." 40 C.F.R. § 124.13. Further, to meet the minimum pleading requirements of the Board, "[t]he petition shall include a statement of the reasons supporting that review, including a demonstration that any issues being raised were raised during the public comment period (including any public hearing) to the extent required by these regulations . . . ." 40 C.F.R. § 124.19(a). The reason is clear: "[t]he effective, efficient and predictable administration of the permitting process demands that the permit issuer be given the opportunity to address potential problems with draft permits before they become final." *In re Encogen Cogeneration Facility*, 8 E.A.D. 244, 250 (EAB 1999).

Petitioner does not demonstrate that he or anyone else raised the issue during the public comment period of obtaining additional data from the CEC Compliance Division. To RCEC's knowledge, no one did so. Nor has Petitioner alleged that this issue was not reasonably ascertainable during the public comment period. Thus, this issue was not preserved for appeal and should not be considered by the Board.

4. Petitioner Does Not Raise Any Other Specific Startup or Shutdown Issues

In addition to the NO_x limits for hot and cold startups, the Final PSD Permit contains NO_x limits for warm startups, CO limits for hot, warm, and cold startups, NO_x and CO limits for shutdowns, and limits on startup and shutdown duration. Petitioner does not raise any specific issues with respect to any of these limits. Even if he had, any arguments would fail on the merits.

Petitions for review "must meet a minimum standard of specificity." EAB Practice Manual at 33. Petitioners "must not only state their objections to a permit but must also explain why the permitting authority's response to those objections (for example in a response to comments document) is clearly erroneous or otherwise warrants review." *Indeck-Elwood,* slip op. at 87-88. In this case, Petitioner does not state any specific objections to the NO_x limits for warm startups,[15] CO limits for hot, warm, and cold startups,[16] NO_x and CO limits for shutdowns,[17] and limits on startup and shutdown duration,[18] let alone explain why the Air District's response to any comments related to these issues is clearly erroneous or otherwise warrants review. Petitioner's general allegations that "[t]he District failed to provide PSD BACT limits for start up and shut down emissions" (Petition at 4), that "the Air District has failed to adopt lower permit limits for start ups and shut downs that have been demonstrated in practice as PSD BACT for the RCEC" (*id.* at 12-13), and that "the EAB must remand the permit back to the

[15] With respect to the NO_x limit for warm startups, Petitioner discusses the limit's basis in the Metcalf Energy Center permit limits, then states that "[f]or hot and warm startups, the Air District concluded that the proposed RCEC would be able to achieve emissions limitations substantially below those imposed at Metcalf. Calpine had refined its hot and warm startup operations based on its experience with other facilities, and has committed to keeping hot and warm startup emissions below 125 pounds of NO_2. This emissions level represented a reduction of nearly half from the corresponding Metcalf startup limit, which is 240 pounds." Petition at 9.

[16] With respect to the CO limits, Petitioner discusses the limits' bases in the Metcalf Energy Center permit limits, then states that "[t]he district first analyzed Metcalf startup and shutdown emissions and concluded the data showed that maximum . . . CO emissions were up to 95% of the proposed limit." *Id.* at 8. The Air District found that the Delta Energy Center's CO emissions "were higher than the 5028 pound [cold startup] limit being considered for Russell City . . . [and] ultimately adopted a CO emission limit from the Caithness Project as CO BACT." *Id.* at 9.

[17] With respect to the NO_2 and CO limits for shutdowns, Petitioner states only that "[s]hutdowns were to be limited to 30 minutes in duration with 40 pounds of NO_2 emissions and 90 pounds of CO emissions" and that "[t]he district first analyzed Metcalf startup and shutdown emissions and concluded the data showed that maximum NO_2 emissions were up to 70% of the proposed limit and CO emissions were up to 95% of the proposed limit." *Id.* at 8.

[18] With respect to startup and shutdown duration, Petitioner describes the limits (6 hours for cold startups, 3 hours for warm and hot startups, and 30 minutes for shutdowns). *Id.* at 8. Although he alleges that "[l]ater the district decided start up times were irrelevant to the Federal PSD BACT determination" (*id.* at 9 n.7) (citing Additional Statement of Basis August 3, 2009 page 64), Petitioner does not state any specific objections to the permit limits on startup and shutdown duration.

District again so the District can provide a BACT limit for start ups and shut downs that meets PSD BACT requirements" (*id.* at 13) do not meet the Board's "minimum standard of specificity." EAB Practice Manual at 33. Even a petition filed *pro se* must "provide sufficient specificity such that the Board can ascertain what issue is being raised" and "articulate some supportable reason as to why the permitting authority erred or why review is otherwise warranted." *Knauf I*, 8 E.A.D. at 127. Petitioner does not do so.

Even if Petitioner had raised a specific objection to any of these permit limits, he would not be able to establish clear error in any of the Air District's decisions. With respect to the NO_x limit for warm startups (125 pounds/startup), it is only 14 pounds (or 10 pounds according to SDAPCD) above the highest NO_x emissions observed in the limited data from Palomar. Exhibit 3, Additional Statement of Basis at 62. With respect to the CO limits, the Air District lowered the cold startup limit from 5028 pounds to 2514 pounds and the hot startup limit from 2514 pounds to 891 pounds, based on lower permit limits at the Caithness and Sutter facilities. Exhibit 3, Additional Statement of Basis at 64. The limit of 2514 pounds for warm startups "initially proposed is the appropriate BACT limit." *Id.* at 59. With respect to the NO_x and CO limits for shutdowns, the Air District initially based these limits on the Metcalf Energy Center permit limits. Exhibit 1, Statement of Basis at 44. It then found that "[t]he proposed Russell City facility should be able to achieve significantly reduced shutdown emissions" and Calpine "refined its shutdown procedures and has committed to maintaining NO_2 emissions below 40 pounds per shutdown, half the emissions limit imposed at Metcalf, while not increasing its CO emissions." *Id.* at 46. With respect to startup and shutdown duration, the Air District had a solid basis for the permit limits and fully responded to related comments. *See* Exhibit 5, Responses to Public Comments at 101-04.

5. Conclusion

To the extent that Petitioner even raises an issue about the District's decision to eliminate OpFlex technology from its BACT analysis, he falls far short of showing that the Air District's decision was clearly erroneous. To the contrary, the record shows that the Air District

thoroughly reviewed OpFlex technology and ultimately rejected it as BACT in a well-reasoned and supported manner. The only specific issues that Petitioner raises with respect to permit limits are the NO_x limits for hot and cold startups. Petitioner, however, falls far short of establishing clear error in the Air District's permitting decision with respect to these issues. Moreover, even if Petitioner had raised a specific issue with respect to the NO_x limits for warm startups, CO limits for hot, warm, and cold startups, NO_x and CO limits for shutdowns, and limits on startup and shutdown duration, it would also fail.

B. BACT Analysis for NO_2/Ammonia Slip

Petitioner asks the Board to "remand the permit back to the Districts [sic] to provide a proper BACT analysis which demonstrates that, in fact, [Selective Catalytic Reduction (SCR)] is the proper technology to control NO_x emission [sic] from the RCEC and that no significant environmental impacts will occur." Petition at 15. In particular, Petitioner asks the EAB to "take under consideration whether the additional PM precursor, ammonia, from the project's SCR will prevent or interfere with the attainment or maintenance of the Federal PM10 and PM2.5 Standards." *Id.* To justify these requests, Petitioner alleges (1) that the Air District's contention "that the increase in ammonia emissions from the RCEC would not cause any increase in PM10/PM2.5 emission impacts is not supported by the District memorandum or any other evidence in this permitting record" (*id.* at 14-15), (2) that the Air District "provides no evidence in the permit that the Hayward area is nitric limited and that additional ammonia emission will not form significant secondary particulate." *Id.* at 15. These contentions are without merit and should be rejected by the Board.

1. The Air District Conducted a Proper BACT Analysis for NO_2 Emissions

Petitioner's contention that the Air District failed to conduct an appropriate BACT analysis for NO_2 emissions is unfounded. The Air District properly applied EPA's top-down BACT methodology in selecting SCR as the appropriate post combustion BACT control technology. *See generally* U.S. EPA Office of Air Quality Planning and Standards, Draft New Source Review Workshop Manual (Draft Oct. 1990) ("Draft NSR Workshop Manual"), at Chapter B. In Step 3 of the analysis, the Air District concluded that both SCR and EM_x^{TM} were

equally effective at controlling NO_x and therefore both technologies shared the top ranking. Exhibit 1, Statement of Basis at 25. In Step 4, the Air District concluded that neither alternative should be eliminated as an appropriate BACT alternative because after evaluating both technologies, the Air District "found that both technologies would involve certain economic, environmental, and energy impacts . . . ." *Id*. at 25.

One such environmental impact identified in Step 4 was the potential for secondary particulate formation to occur from the ammonia slip associated with the SCR technology. The Air District squarely addressed the issue and stated in full,

> The Air District also evaluated the potential for ammonia slip emissions to form secondary particular matter such as ammonium nitrate. Because of the complex nature of the chemical reactions and dynamics involved in the formation of secondary particulates, it is difficult to estimate the amount of secondary particulate matter that will be formed from the emission of a given amount of ammonia. Moreover, the Air District has found that the formation of ammonium nitrate in the Bay Area basin appears to be constrained by the amount of nitric acid in the atmosphere and not driven by the amount of ammonia in the atmosphere, a condition known as being "nitric acid limited." Where an area is nitric acid limited, emissions of additional ammonia will not contribute to secondary particulate matter formation because there is not enough nitric acid for it to react with. *Therefore, ammonia emissions from the SCR system are not expected to contribute significantly to the formation of secondary particulate matter*. Any potential for secondary particulate matter formation is at most speculative, and would not provide a reason to eliminate SCR as a control alternative.

Id. at 26-27 (footnote omitted) (emphasis added).

As noted, however, environmental impacts were not the only issues considered in Step 4 of the BACT analysis. The Air District also analyzed the cost and energy impacts of the two identified technologies. *Id.* at 27. EM_x^{TM} had higher cost and energy projections than those of SCR. *Id.* However, after assessing all of these ancillary impacts, the Air District concluded that although "[b]oth would have the potential for adverse economic, environmental or energy impacts," "none of these impacts would be significant enough to eliminate either of the technologies as BACT." *Id.* As a result, based upon the applicant's proposal to use SCR as the post-combustion control, the Air District adopted SCR as the appropriate technology for NO_2 emissions. *Id.* at 28.

2. The Air District Fully and Adequately Addressed Comments Regarding Its Determination That Ammonia Slip Would Not Significantly Contribute to Secondary Particulate Formation

After publishing its NO_2 BACT analysis, the Air District "received comments questioning its analysis in the Statement of Basis that ammonia slip from the facility would not contribute to the formation of secondary particulate matter." Exhibit 3, Additional Statement of Basis at 55. In particular, "[t]he comments suggested that the memorandum the District cited in support of its conclusion that the Bay Area is nitric-acid limited was specific only to the San Jose/Livermore area and cannot be used to support a determination for the Hayward area." *Id.*; *see* Exhibit 1, Statement of Basis at 27 (citing to "BAAQMD Office Memorandum from David Fairly to Tom Perardi and Rob DeMandel, "A First Look at NOx/Ammonium Nitrate Tradeoffs, dated September 8, 1997") ("Fairly Memorandum")). In response, the Air District explained that "there is no indication that the same atmospheric conditions do not exist in Hayward" as exist in San Jose and Livermore, "which are south and east to the proposed project location, respectively . . . .". Exhibit 3, Additional Statement of Basis at 56. The Air District went on to explain that all three areas "are part of the same general airshed . . . and the Air District is not aware of any data or other information to suggest that conditions may be materially different." *Id.* Therefore, the Air District reiterated that it "continues to believe that the evidence before it supports the conclusion that the air in the region of the proposed facility is nitric-acid limited, and that additional ammonia emissions in the form of ammonia slip are not likely to have any significant contribution to secondary particulate matter formation." *Id.*

The Air District then invited "members of the public [that] have data or information that the location of the proposed facility is in fact not nitric-acid limited" to submit it "during the additional comment period so the District can consider it." *Id.* Neither Petitioner, nor any other commenter, however, answered this call. Moreover, Petitioner did not even address the Air District's responses reconfirming its conclusions that the Hayward area is nitric-acid limited and, as a result, any secondary particulate matter formation would be insignificant. *See* Exhibit 22, Sarvey Comments 9/16/2009.

3. Petitioner Fails to Demonstrate That the Air District's Conclusion That the Hayward Area is Nitric-Acid Limited Is Erroneous or Otherwise Warrants Review

In his petition, Petitioner fails to provide any specific information or data to show that the

Hayward area is nitric-acid limited. In fact, Petitioner does little more than reiterate his and others comments from the first comment period. *Compare* Petition at 14-15 *with* Exhibit 22, Sarvey Comments 9/16/2009, at 3; Exhibit 23, Letter from CARE and Rob Simpson to Weyman Lee, P.E. (Feb. 5, 2009) at 16 ("CARE/Simpson Comments 2/5/2009"). Petitioner submits only one additional substantive statement, which says, "[t]he RCEC is located next to a major freeway, Highway 82 [*sic*] and the toll booth for the San Mateo Bridge where NO_2 concentrations would be considerably higher than other parts of the BAAQMD." Petition at 14.

This additional statement not only falls short of proving that Hayward is nitric-acid limited; it fails to show any error in the Air District's conclusion that the Hayward area is nitric-acid limited. Against the Air District's clear, reasoned determination that the Hayward area is, in fact, nitric-acid limited, Petitioner's assertion amounts to no more than speculation. *See Three Mountain Power*, 10 E.A.D. at 57-58 (rejecting as purely speculative claims that ammonia slip would result in secondary particulate formation where EPA Region IX provided rationale that rural areas, such as where proposed plant would be located, were "ammonia-rich" and therefore nitric-acid limited with respect to secondary particulate formation); *see also Sutter*, 8 E.A.D. at 693-94, 693-94 n.13 (EAB 1999). For this reason, Petitioner's claims should be dismissed and the Board should deny review.

4. The Fairly Memorandum and Recent Preliminary Modeling Efforts Provide a Sound Basis for the Air District's Conclusion That the Project's Emissions of Ammonia Slip Will Not Result in Significant Secondary Particulate Formation

Despite receiving no specific information from the public as to why there may be more available nitric acid in the Hayward area than in San Jose or Livermore, the Air District nonetheless continued to consider "the comments critical of the District's [Fairly] memorandum concluding that the Bay Area is nitric-acid limited." Exhibit 5, Responses to Public Comments at 81. "The focus of the Air District's further evaluation has been a computer modeling exercise designed to predict what $PM_{2.5}$ levels will be around the Bay Area, given certain assumptions about emissions of $PM_{2.5}$ and its precursors, about regional atmospheric chemistry, and about prevailing meteorological conditions." *Id.* at 82. This information was used to predict regional $PM_{2.5}$ formation in the Bay Area from which "predictions can be drawn about how emissions of $PM_{2.5}$ precursors will impact regional ambient $PM_{2.5}$ concentrations." *Id.*

The preliminary results of the Air District's modeling exercise support the "general

conclusion from the 1997 'first look' [Fairly] memorandum that the Bay Area is nitric-acid limited." *Id.* at 82. Although the draft model results show "that the amount of available nitric acid is not uniform but varies in different locations around the Bay Area," the model did predict that the "Hayward area, like the Livermore and San Jose areas, has among the lowest levels of available nitric acid in the entire region, in the vicinity of 0.25 ppb or less." *Id.* (footnote omitted).

Petitioner does not challenge these model results; nor does he explain how the Air District's responses regarding the results are inadequate. Instead, Petitioner quotes the Air District's explanation of the modeling results out of context to suggest that it erred in its determination that the Project would not cause any significant increase in PM10/PM2.5. Petitioner states,

> The District admits that its new DRAFT report "does find that the amount of available nitric acid is not uniform but varies indifferent [*sic*] locations around the Bay Area, and consequently the potential for ammonia emissions to impact $PM_{2.5}$ formation varies around the Bay Area." Therefore, the Districts [*sic*] contention that the increase in ammonia emissions from the RCEC would not cause any increase in PM10/PM2.5 emission impacts is not supported by the District memorandum or any other evidence in this permitting record.

Petition at 14-15 (footnote omitted). What Petitioner fails to mention is that the model also predicted that the Hayward area is, in fact, nitric-acid limited. *Id.* at 82. If Petitioner can accept the model's conclusion that available nitric acid is not uniform across the Bay Area, then logically he should also accept its confirmation that the Hayward area is, in fact, nitric-acid limited.

5. The Air District Conducted Site Specific Particulate Matter Modeling To Confirm That the Project's Emissions of Secondary Particulate Would Not Cause or Contribute to a Violation of the PM10 or PM2.5 Standards

To demonstrate that the Project's emissions would not result in any significant secondary particulate matter formation impacts, the Air District took its regional modeling effort one step further. The Air District used the model to "attempt to estimate what the secondary particulate matter impacts would be from the Russell City facility." *Id.* "[T]he computer model predicted that emissions of all secondary particulate precursors from the facility will have a maximum additional impact on ambient $PM_{2.5}$ levels of 0.11 $\mu g/m^3$." *Id.* Accordingly, the Air District

concluded that this would not be a "significant additional impact given the relative size of the direct $PM_{2.5}$ impact and background levels in the area." *Id.*

Petitioner asked the Air District for exactly this kind of site-specific analysis in his comments during the second comment period. *See* Exhibit 22, Sarvey Comments 9/16/2009, at 8. Petitioner stated, "a site specific analysis of secondary particulate from ammonia slip is warranted." *Id.* Given his request, it is surprising that Petitioner fails to acknowledge neither the Air District's performance of just such a site-specific analysis nor its results. *See* Petition at 13-15. Based on these results, it is also difficult to understand how Petitioner can continue to argue that the Air District's conclusions regarding RCEC's contribution to secondary particulate matter formation are "not supported by . . . any other evidence in this permitting record." Petition at 15 (footnote omitted).

Petitioner also alleges that "[t]he EAB must take under consideration whether the additional PM precursor, ammonia, from the project's SCR will prevent or interfere with the attainment or maintenance of the Federal PM10 and PM2.5 standards." *Id*. However, Petitioner fails to identify any error in the Air District's analysis that clearly demonstrated that the Project's secondary particulate impacts would not cause or contribute to any violation of the NAAQS:

> Per the comments' suggestion, the Air District used the Community Multiscale Air Quality (CMAQ) model to estimate the secondary $PM_{2.5}$ impacts from the proposed project's emissions of all $PM_{2.5}$ precursors, including NO_x and ammonia. The CMAQ model is a photochemical grid model with state-of-the-art-science capabilities for modeling multiple pollutants including fine particles. . . .
>
> The Air District chose a particular period for analysis when the Bay Area experienced an historically high $PM_{2.5}$ event between December 2, 2006 and February 2, 2007. The CMAQ model was run for this base case period, once without the proposed project's emissions and then again, adding the proposed facility's emissions of NOx, reactive organic compounds (ROG), sulfur dioxide (SO_2), and ammonia (NH_3). To reflect the potential "6x16" operating profile of the proposed facility (six days a week, sixteen hours a day at baseload), it was assumed that the proposed facility did not operate on Sundays. The model was run for the entire 63-day period. [Footnote: Selection of a discrete period of historic maximum $PM_{2.5}$ concentrations for purposes of the NAAQS compliance demonstration is consistent with EPA guidance on application of more sophisticated regional models. (*See, e.g.*, Guideline on Air Quality Models, 40 C.F.R. Part 51, App. W, § 5.2.2.1 ("Control agencies with jurisdiction over areas with secondary PM-2.5 problems are encouraged to use models which integrate chemical and physical processes important to the formation, decay and transport of these species (*e.g.*, Models-3/CMAQ or REMSAD) . . . . Suitability of a modeling approach or mix of modeling approaches for a given application requires technical judgment, as well as professional experience in choice of models, use of the model(s) in an attainment test, development of emissions and meteorological inputs to the model and selection of days to model.") (internal

> references omitted).)] Daily average surface concentrations of $PM_{2.5}$ were computed for each of the 185 x 185 surface grid cells for each run. The cell-by-cell concentration differences (deltas) were then calculated.
>
> The greatest difference in modeled concentrations between the scenarios with and without the proposed facility's emissions of precursors occurred in the grid cell in which the proposed facility is located. The difference in a 24-hour concentration in that grid cell is 0.11 $\mu g/m^3$. Assuming that this 24-hour difference extended over the course of a full year (a highly conservative assumption), the facility would still not cause or contribute to an exceedance of the annual $PM_{2.5}$ NAAQS. As described in the Additional Statement of Basis, the maximum impact from direct $PM_{2.5}$ (including background and other nearby sources) was found to be 10.56 μg/m3. Even assuming an additional impact of 0.11 μg/m3 from secondary $PM_{2.5}$ formation, that would still make a total impact of only 10.67 μg/m3, which is still well below the annual NAAQS of 15 μg/m3. (Note that the 24-hour standard is no longer applicable for PSD purposes, now that the region has been designated as non-attainment for that standard. But even if it were still applicable, a 0.11 μg/m3 additional impact from secondary particulate formation would not cause or contribute to any modeled violation of the standard. The Air District and applicant have confirmed that, adding the maximum secondary particulate impacts (0.11 μg/m3) would not result in the exceedance or violation of any $PM_{2.5}$ significance level or standard at any point where the facility's impact would be above the SIL.) Based on this computer modeling, the Air District continues to conclude, based on the best available information, that the facility would not have any significant secondary $PM_{2.5}$ impacts and would not cause or contribute to a violation of the $PM_{2.5}$ NAAQS, even if precursors had to be included in the PSD source impact analysis.

Exhibit 5, Responses to Public Comments at 153-54 (footnotes omitted except as indicated).

Here, although it was under no obligation to do so, the Air District undertook complex regional modeling to further confirm the conclusions of its air quality impacts analysis: that the facility would not cause or contribute to any exceedance of the $PM_{2.5}$ NAAQS. It then added the secondary particulate formation predicted by its regional model to result from the Project, to the results predicted by its air modeling of the Project's direct $PM_{2.5}$ emissions, and concluded that, together, the predicted concentration from the facility's emissions of both direct $PM_{2.5}$ and all $PM_{2.5}$ precursors (including both ammonia and NO_x) would not, when added to existing background concentrations, result in any exceedance of the $PM_{2.5}$ NAAQS. Petitioner identifies no error in the Air District's analysis or its conclusions. Instead, he completely ignores this analysis. As a consequence, his allegations fall far short of the heavy burden assigned to a petitioner in seeking to challenge a permitting agency's determinations of issues that are quintessentially technical in nature. *See, e.g., Three Mountain Power,* 10 E.A.D. at 50 ("[w]e generally accord deference to permitting agencies when technical issues are in play. As such, we assign a heavy burden to persons seeking review of issues that are quintessentially technical.")

(citations omitted).

Throughout the permitting process, the Air District has consistently maintained that the amount of secondary particulate formation from the estimated ammonia slip at the RCEC facility will not be significant. At the beginning of the process, the Fairly memorandum provided the basis for this conclusion, but the Air District subsequently confirmed the memorandum's general conclusion with a regional and site specific modeling effort. Furthermore, the Air District never received any specific information or data to suggest that the Hayward area is not, in fact, nitric-acid limited. Moreover, as detailed in response to other petitions, the Air District has also provided ample evidence to demonstrate the RCEC's attainment with Federal PM_{10} and $PM_{2.5}$ federal standards.

Against this body of evidence, Petitioner's contentions concerning secondary particulate formation impacts from the project amount to nothing more than speculation. *See Three Mountain Power*, 10 E.A.D. at 57-58 (rejecting as purely speculative claims that ammonia slip would result in secondary particulate formation where evidence indicated that location was nitric-acid limited with respect to secondary particulate formation). For this reason, Petitioner's contentions regarding deficiencies in the Air District's NO_2 BACT analysis for failure to adequately consider the ancillary impacts associated with emissions of ammonia slip and/or its air quality impacts analysis with respect to either PM_{10} or $PM_{2.5}$ are without any merit. In sum, Petitioner fails to demonstrate any clear error in the Air District's factual findings on this issue or any inadequacies in the Air District's responses to comments on this issue. As a result, the Board should dismiss Petitioner's contentions and deny review of this issue.

C. The Air District's BACT Analysis for Cooling Tower PM Emissions Was Proper

Petitioner alleges generally that "[t]he BACT analysis fails to comply with PSD regulations and the Board should remand the permit back to the District for a complete BACT evaluation of BACT for cooling tower emissions." Petition at 16. Petitioner raises three specific issues related to the Air District's cooling tower BACT analysis. First, Petitioner alleges that the Air District "failed in its BACT analysis to consider technologies, work practices, or other sources of water that would reduce the impact from the projects cooling tower emissions." *Id.* Second, although Petitioner acknowledges that the Air District "does have a discussion of why it

would have eliminated dry cooling even though it didn't include it in its BACT analysis" (*id.*), he contends that the Air District "does not even defend its failure to examine . . . dry cooling in its BACT analysis." *Id.* Third, Petitioner argues that the Air District "never provided any analysis of what level and what technology or work practices could provide a lower level of TDS to lower PM-10 emissions from the cooling tower." *Id.*

The Board should deny review of all of these issues. Not only has Petitioner failed to demonstrate that any of these issues was previously raised during the public comment period, an examination of the public record shows that the first (alternative technologies, work practices, and other sources of water) and third (TDS limits) issues were never raised. Thus, these issues were not preserved for appeal and should not be considered by the Board. Although the second issue (dry cooling) was raised during the public comment period, Petitioner fails to demonstrate any deficiency in the Air District's responses to comments -- let alone clear error. Even if Petitioner had satisfied the requisite threshold procedural requirements, the Board should deny review of these issues because the Air District performed a proper BACT analysis for cooling tower PM and fully and adequately addressed all comments received on the subject.

1. The Air District's Cooling Tower BACT Analysis Was Sound and Well-Reasoned

The Project design includes a 9-cell cooling tower equipped with high-efficiency mist eliminators to minimize drift losses. Exhibit 4, Final PSD Permit at 3 (Equipment S-5) & 16 (Condition No. 44). The source of the Project's cooling water is the City of Hayward's Waste Water Treatment Plant, which is adjacent to the Project. Exhibit 5, Responses to Public Comments at 86. An on-site Title 22 Recycled Water Facility will treat the City's wastewater to enable it to be used for cooling purposes. *Id.* at 87 n.178.

As the Air District explained in the Statement of Basis, cooling towers "can cause small amounts of [PM] emissions from solids, commonly referred to as Total Dissolved Solids (TDS), in the cooling water." Exhibit 1, Statement of Basis at 50. "As the cooling water is circulated through the tower, water droplets known as 'drift' can become entrained in the air stream and

leave the cooling tower into the atmosphere." *Id.* These solids in the drift droplets can become PM emissions. *Id.*

The Air District conducted a top-down BACT analysis to select a control technology for these PM emissions. At Step 1 of the BACT analysis, the Air District identified high-efficiency drift eliminators, which collect drift droplets contained in the air exiting the cooling tower and return them to the water in the tower, as a commonly used technology to control PM in cooling towers. *Id.* The Air District did not identify any other control technologies for reducing cooling tower drift. *Id.* At Step 2, the Air District found that "[h]igh-efficiency eliminators have been demonstrated on many power plant installations" and, thus, "[t]he technology is technically feasible and available for the cooling tower proposed for the [Project]." *Id.* At Step 3, the Air District ranked high-efficiency eliminators as the No. 1 (and only) control technology for cooling tower emissions. *Id.* at 51. The Air District found "no collateral environmental, economic, or energy impacts that would suggest that this is not an appropriate control technology, and so it has determined that the use of high-efficiency drift eliminators is BACT control technology." *Id.* Since the Air District selected the top control technology, no further top-down analysis was required. *Id.*

The Air District then determined a BACT emissions limit for cooling tower emissions as follows:

> It is not feasible to implement a limit on cooling tower Particulate Matter emissions directly, as the solids that form the Particulate Matter are contained within the water droplets emitted in the drift. Instead, the Air District proposes a limit on the amount of drift itself as a surrogate for Particulate Matter emissions. The amount Particulate Matter emitted from the cooling tower will be proportional to the amount of drift, and so limiting drift is an appropriate means of limiting Particulate Matter.
>
> High-efficiency drift eliminators can reliability achieve a drift rate of less than 0.0005%. *The Air District has examined permit limits from 13 other similar facilities using high-efficiency drift eliminators on wet cooling towers, and found that they all have limits of 0.0005%. The Air District is therefore proposing 0.0005% cooling tower drift as the BACT limitation for Particulate Matter for this source.*

Id. (footnotes omitted) (emphasis added).

In addition to imposing this BACT emissions limit, the District imposed a limit on TDS concentrations in the cooling water. The amount of PM emitted by the cooling tower is a function not only of the use of high-efficiency drift eliminators, but also the quality of the water source, the number of times the water can be cycled through the system without damaging the equipment, and the manner in which the cooling water is managed after it has been used in the system. *See* Exhibit 24, Email from Kevin Poloncarz to Alexander Crockett (June 18, 2009) ("TDS Email"). In light of these considerations, the Air District proposed in the Draft PSD Permit a condition limiting the amount of TDS in the facility's cooling water to 8,000 parts per million by weight ("ppmw") (milligrams per liter ("mg/l"). Exhibit 1, Statement of Basis at 78 (proposed Condition No. 44); *see also* Exhibit 24, TDS Email.

Not a single comment was received during the first public comment period on the District's BACT analysis for PM from the cooling towers. Exhibit 5, Responses to Public Comments at 86. The Air District, however, conducted its own further analysis of TDS data from the source of the Project's cooling water, the City of Hayward's Waste Water Treatment Plant, and concluded that RCEC "should be able to keep the TDS of the cooling water at 6,200 ppm or below."[19] Exhibit 3, Additional Statement of Basis at 52. Thus, the Air District revised the proposed BACT limit for TDS from 8,000 ppm to 6,200 ppm. *Id.; see* Exhibit 24, TDS Email.

During the second comment period, not a single comment was received on the revised TDS limit. Exhibit 5, Responses to Public Comments at 87. The only comments received on

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[19] During the first public comment period, the Air District received comments stating that it should use the highest modeled PM_{10} value to compare with the ambient air quality impact significance threshold, not the sixth-highest value as used in the Statement of Basis. Exhibit 3, Additional Statement of Basis at 80. As a consequence, the Air District found that using the assumption that the cooling tower water could have up to 8,000 ppmw TDS, the highest modeled value would exceed the PM_{10} Significant Impact Level of 5 $\mu g/m^3$. *Id.* The Air District then "explored with [RCEC] whether it could keep TDS levels within a lower limit." *Id.* RCEC found that it could keep TDS within a limit of 6,2000 ppmw, and so the Air District lowered the TDS limit in the permit to that level." *Id.*

cooling tower issues addressed dry cooling, the environmental benefits of using recycled cooling water,[20] and the potential for the wet cooling to cause outbreaks of Legionnaire's disease.[21] Citizens Against Pollution (CAP) submitted the only comment on dry cooling:

> Nowhere does the District analyze whether dry cooling should be considered BACT. The District simply states that the applicant is proposing to use a wet cooling tower system and does not evaluate alternative technologies As the District's Air Pollution Control Officer has stated, however, either dry cooling or wet/dry cooling would be technically feasible. *See* letter from Jack P. Broadbent to Bruce Wolfe, Executive Officer, San Francisco Bay Regional Water Quality Control Board, dated September 25, 2006 (attached). "[U]nlike dry cooling, wet/dry cooling uses an evaporative cooling process that vents vapor containing fine particulate matter (PM10) to the atmosphere." *Id.* The draft permit fails to meet BACT requirements without the required analysis of alternatives to wet cooling.

See Exhibit 18, Letter from Helen Kang, Eric Kaplan, John Harrington & Shufan Sung to Weyman Lee, P.E. (Sept. 16, 2009) at 8 ("CAP Comments 9/16/2009"). The Air District acknowledged this comment, stating that it received "comments suggesting that it should be requiring the facility to use a dry cooling system instead of a wet cooling system as the BACT technology choice." Exhibit 5, Responses to Public Comments at 87. The Air District noted that these comments "cited statements by the District in other contexts where the District noted that wet cooling involves fine particulate matter impacts and that dry cooling is preferable in this regard." *Id.* The Air District squarely and thoroughly addressed CAP's comment by explaining that a dry cooling system would "disrupt one of the basic objectives of the proposed facility:"

> The Air District agrees that dry cooling systems are preferable in general from a criteria air pollution perspective because they do not have the particulate

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[20] The Air District received some comments that were skeptical that using recycled cooling water from the City's wastewater treatment plant would actually provide environmental benefits. Exhibit 5, Responses to Public Comments at 88 n.182.

[21] The Air District responded that "[t]hese comments were not specifically directed to the issue of whether dry cooling should be required instead of wet cooling, but the Air District considered this issue as a potential ancillary impact associated with wet cooling." *Id.* at 89 n.184. The Air District assessed potential health risks and found "that there would not be any significant risk of Legionnaire's disease from the wet cooling system" and, thus, "concluded that this concern would not rule out wet cooling as a BACT control technology." *Id.*

> emissions that can result from wet cooling. In reviewing these comments about requiring a dry cooling system here, however, the Air District has been mindful that *it cannot require an applicant to redesign its facility in a manner that alters inherent design elements or changes a fundamental purpose of the facility*. Here, this facility was *specifically designed from the very beginning* to make use of recycled water from the City of Hayward wastewater treatment plant. A *central element of the project design* is a tertiary treatment plant that will utilize the City's wastewater effluent and clean it further to enable it to be used for cooling purposes. The benefit of being able to recycle the City's wastewater was also *one of the reasons the City cited in agreeing to a property exchange that allowed the applicant to go forward with the project at its current location*. And the Energy Commission explicitly found that the ability to use recycled wastewater was an *objective of the project* when it initially approved the facility. *The use of a wet cooling system taking advantage of the City's wastewater is thus clearly an integral design element of the project.* Moreover, it has clear environmental benefits and does not appear to be a design choice the applicant has made for reasons independent of air permitting. *Under these circumstances, the Air District would be hesitant to conclude that it could require the applicant to redesign this source to use dry cooling in this case, as it would disrupt one of the basic objectives of the proposed facility which is recycling the wastewater from the City's treatment plant.*

Responses to Public Comments at 87-88 (footnotes omitted) (emphases added).

Moreover, the Air District explained that it would decline to require dry cooling as BACT in this case due to the ancillary environmental benefits that would be gained through use of the City of Hayward's waste water in the cooling tower and elimination of its discharge through use of a Zero Liquid Discharge plant:

> [R]egardless of whether the Air District could require the applicant here to change from a wet cooling system to a dry cooling system – the Air District would decline to require dry cooling as BACT in this particular case because of the ancillary environmental benefits from using a wet cooling system here. If the Air District were to undertake a BACT analysis and compare wet cooling and dry cooling as alternative feasible control technologies, it would select wet cooling for this facility in "Step 4" of the top-down BACT analysis because of the benefits associated with recycling the City of Hayward's wastewater, which would otherwise be discharged into the Bay. The facility's "Zero Liquid Discharge" plant will minimize potential harm to water quality in the vicinity of the Water Pollution Control Facility's outfall, where wastewater that has undergone secondary treatment would otherwise be discharged into the bay. Although the City's wastewater is treated before discharge, it still contains minor amounts of water pollutants that contribute to the overall pollution levels in the Bay. Elimination of such water pollution, even in relatively small amounts, contributes to the health of the Bay and is therefore a beneficial environmental effect. This conclusion is supported by the State Water Resources Control Board, which encourages power plants wherever possible to draw cooling wat*er from wastewater that is already being discharged into surface water bodies. The Air District has concluded that this net environmental benefit would support the choice of wet cooling over dry cooling for this particular facility, to the extent that the BACT analysis can even consider a redesign of the facility to change the*

cooling system.

In addition, beyond these important water quality issues, there are other ancillary environmental and energy impacts associated with dry cooling that further support the Air District's conclusion on this issue. An air-cooled condenser would constitute a significant heat sink in the proposed facility's Rankine cycle, requiring 48 fans that would consume 7,250 kilowatts of electrical power. In contrast, the wet cooling tower requires nine fans, requiring only 1,314 kilowatts. While the use of an air cooled condenser would reduce the load required by the tertiary water treatment and Zero Liquid Discharge by approximately 2,850 kilowatts, the net result would still be a reduction in plant output of approximately 3,086 kilowatts, or slightly more then 3 MW, which would represent a net reduction in overall plant efficiency of about 0.3%. This additional 3,086 kilowatts of parasitic load would require approximately 21 MMBtu/hr to produce the same electric load to the grid, which would represent nearly an additional 2,500 pounds per hour of CO2 (with a proportionate impact on criteria pollutants as well). An air-cooled condenser would also be taller and bulkier – 144 feet tall at its apex (compared to just under 58 feet for the cooling tower) and with a footprint of 88,440 square feet (compared to 61,133 square feet for the cooling tower) – and thus have a greater visual impact as well as a greater "downwash" impact. An air cooled condenser would have greater noise impacts due to its greater height and surface area, which would result in greater acoustic radiation of noise from the proposed facility to the nearby shoreline. These additional ancillary impacts would further support the choice of wet cooling over dry cooling for this particular facility.

Id. at 88-89 (footnotes omitted) (emphases added).

In the Final PSD Permit, the Air District required RCEC to equip the cooling tower with high-efficiency mist eliminators with a maximum guaranteed drift rate of 0.0005% and to keep TDS concentrations below 6,2000 ppmw (mg/l). Exhibit 4, Final PSD Permit at 16 (Condition No. 44).

2. Petitioner Fails To Comply with Minimal Pleading Standards

As an initial matter, Petitioner wholly fails to identify any comments regarding BACT for cooling tower emissions made during the public comment periods. Although the Board broadly construes petitions filed without the apparent aid of legal counsel, "the burden of demonstrating that review is warranted nonetheless inevitably rests with the petitioner challenging the permit decision." *In re Encogen Cogeneration Facility*, 8 E.A.D. 244, 249 (Mar. 26, 1999). Petitioner has not met his burden, and review should be denied on this basis alone.

A petition "must contain 'a demonstration that any issues being raised were raised during the public comment period.'"[22] *Id.* (citing 40 C.F.R. §§ 124.13, 124.19(a); *accord In re Puerto Rico Elec. Power Auth.*, 6 E.A.D. 253, 255 (EAB 1995)). As the Board has noted, "[t]he effective, efficient and predictable administration of the permitting process demands that the permit issuer be given the opportunity to address potential problems with the draft permits before they become final. *Id.* at 250. It is not the Board's obligation "to scour the record to determine whether an issue was properly raised below: this burden rests with [a petitioner]." *Id.* at 250 n.10.

The Petition contains a general statement that the "issues set forth in this petition were raised during the public comment period." Petition at 3. In the argument on BACT for cooling tower emissions, however, Petitioner does not cite a single previous comment or provide any other evidence that any of the issues were raised during the public comment period. His argument contains a lone reference to the Air District's Responses to Public Comments. *Id.* at 15 n.23. That citation, however, refers to the Air District's response to comments stating that it should use the highest modeled PM_{10} value to compare with the ambient air quality impact significance threshold, not the sixth-highest value as used in the Statement of Basis. *See* Exhibit 5, Responses to Public Comments at 133; *see supra* note 18. Those comments did not address any of the BACT issues for cooling tower emissions that Petitioner now seeks to raise. Petitioner also cites to his own comments submitted during the two public comment periods (Petition at 3), but neither of his submissions contains any comments regarding the BACT for cooling tower emissions. *See* Exhibit 19, Sarvey Comments 2/6/2009; Exhibit 22, Sarvey Comments 9/16/2009. As a result, Petitioner has failed to satisfy the threshold pleading standard

[22] Alternatively, a petitioner may demonstrate that the issue over which review is sought was not reasonably ascertainable during the public comment period. *Id.* Petitioner has not argued -- nor could he -- that any cooling tower BACT issues were not reasonably ascertainable during the public comment period.

of demonstrating that the cooling tower BACT issues were previously raised during the public comment period, and the Board should deny review.

As discussed below, had Petitioner scoured the record, he would have found that two of his three issues (alternative technologies, work practices and other sources of water; TDS limits) were not preserved for appeal, which provides additional grounds for dismissing these arguments.

3. Petitioner's Argument Regarding Alternative Technologies, Work Practices, and Alternative Sources of Water Fails

Petitioner's first argument is that the Air District "failed in its BACT analysis to consider technologies, work practices, or other sources of water that would reduce the impact from the projects [sic] cooling tower emissions." Petition at 16. The Board should deny review of this issue because it was not preserved for appeal. Moreover, even if it had been preserved, Petitioner fails to demonstrate any error in the Air District's analysis.

a. The Issue of Alternative Technologies, Work Practices, and Alternative Sources of Water Was Not Preserved for Appeal

A petition "must contain 'a demonstration that any issues being raised were raised during the public comment period.'"[23] *Encogen*, 8 E.A.D. at 249 (citing 40 C.F.R. §§ 124.13, 124.19(a); *accord In re Puerto Rico Elec. Power Auth.*, 6 E.A.D. 253, 255 (EAB 1995)). As the Board has noted, "[t]he effective, efficient and predictable administration of the permitting process demands that the permit issuer be given the opportunity to address potential problems with the draft permits before they become final. *Id.* at 250.

Petitioner wholly fails to identify any comments made during the public comment periods regarding "technologies, work practices, or other sources of water that would reduce the impact

[23] Alternatively, a petitioner may demonstrate that the issue over which review is sought was not reasonably ascertainable during the public comment period. *Id.* Petitioner has not argued -- nor could he -- that any cooling tower BACT issues were not reasonably ascertainable during the public comment period.

from the projects [sic] cooling tower emissions". *See* Petition at 15-16. He does not cite a single previous comment or provide any other evidence that any of the issues were raised during the public comment period.[24] *Id.* Had Petitioner scoured the record, he would have found that there was no comment on this issue. Indeed, in its Responses to Public Comments, the Air District states that it "did not receive any comments on the cooling tower limits during the initial comment period." Exhibit 5, Responses to Public Comments at 86. After the Air District revised the proposed permit limit for TDS in the Additional Statement of Basis and invited further public comment, it received comments "suggesting that it should be requiring the facility to use a dry cooling system instead of a wet cooling system as the BACT technology choice." *Id.* at 87. This comment from CAP was confined to dry cooling and not other alternative technologies:

> Nowhere does the District analyze whether dry cooling should be considered BACT. The District simply states that the applicant is proposing to use a wet cooling tower system and does not evaluate alternative technologies As the District's Air Pollution Control Officer has stated, however, either dry cooling or wet/dry cooling would be technically feasible. *See* letter from Jack P. Broadbent to Bruce Wolfe, Executive Officer, San Francisco Bay Regional Water Quality Control Board, dated September 25, 2006 (attached). "[U]nlike dry cooling, wet/dry cooling uses an evaporative cooling process that vents vapor containing fine particulate matter (PM10) to the atmosphere." *Id.* The draft permit fails to meet BACT requirements without the required analysis of alternatives to wet cooling.

See Exhibit 18, CAP Comments 9/16/2009 at 8. Thus, the only alternative technology issue that was preserved for appeal was dry cooling, as discussed below.

The Air District also received a comment stating that "[d]iscontinuance of water deliveries to the bay may cause an undisclosed negative effect that should be studied and disclosed. . . . There has been no disclosure of the energy usage or pollutants associated with this water treatment for the facility." Exhibit 25, Letter from Rob Simpson to Weyman Lee, P.E.

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[24] As discussed above, *supra* section V.C.2, Petitioner's argument on cooling tower BACT issues contains a single reference to the Air District's Responses to Public Comments, which is not related to this issue. Petition at 15 n.23.

(Sept. 16, 2009) at 5-6 ("CARE/Simpson Comments 9/16/2009"). The Air District responded as follows:

> The Air District disagrees that there would be a net environmental harm from using recycled water. The elimination of the wastewater discharge into the Bay will not have any detectible impact on overall water levels in the Bay. The amount of wastewater at issue is on the order of 4 million gallons per day, which will not even amount to a 'drop in the bucket' compared to the total volume of water in the San Francisco Bay. Regarding treatment of the water, even if the facility were to use water from some other source, it would still have to be treated to remove any impurities. There are no natural sources of water near the project location that are sufficiently clean to be able to be used without further purification.

Exhibit 5, Responses to Public Comments at 88 n.182. This comment addressed potential negative effects of discontinuing water discharges to the Bay and energy usage by the water treatment facility and not any "technologies," "work practices," or "other sources of water." It was not nearly specific enough to preserve the issue that Petitioner now raises. *See, e.g., In re ConoccoPhillips Co.*, PSD Appeal No. 07-02, slip op. at 46 n.27 (EAB, June 2, 2007) (extensive comments concerning greenhouse gas emissions did not reflect requisite level of specificity required to properly preserve issue of whether BACT for carbon dioxide and methane was required).

Thus, Petitioner's arguments related to "technologies" other than dry cooling, to "work practices" and to "other sources of water" "that reduce the impact from the projects [*sic*] cooling tower emissions" (Petition at 16) were not preserved for appeal. As the Board has emphasized, the regulatory requirement that petitioners raise issues during the public comment period "is not an arbitrary hurdle, placed in the path of potential petitioners simply to make the process of review more difficult; rather it serves an important function related to the efficiency and integrity of the overall administrative scheme." *In re BP Cherry Point*, 12 E.A.D. 209, 219 (EAB 2005). Thus, the Board should deny review. *See, e.g., Encogen*, 8 E.A.D. at 250 (denying review of all issues not described in agency's response to comments as having been raised during the public comment period).

b. The Air District Had a Rational Basis for Selecting High-Efficiency Drift Eliminators

Even if the issue of alternative technologies, work practices, or other sources of water had been preserved, Petitioner identifies no clear error in the Air District's analysis, and his argument fails on the merits. To the extent that "alternative technologies" encompass alternatives to the high-efficiency drift eliminators required by the Final PSD Permit, Petitioner does not identify a single error in the Air District's BACT analysis. He states only that "[t]he District's BACT analysis for the most significant piece of equipment in terms of PM-10 air quality, the cooling tower, consisted of reviewing one technology, which was drift eliminators." Petition at 16. As the Air District explained, "[h]igh-efficiency drift eliminators are commonly used in cooling towers to control the [PM] emissions. . . . The Air District has not identified any other control technologies for reducing cooling tower drift." Exhibit 1, Statement of Basis at 50. The Air District then examined permit limits from thirteen other similar facilities using high-efficiency drift eliminators on wet cooling towers and found that they all have permit limits of 0.0005%. *Id.* at 51. Thus, the Air District had a well-reasoned, rational basis in setting the permit limit at 0.0005%. Petitioner does not identify any other technologies or any other permit limits that he contends the Air District should have considered. He does not come close to meeting the "heavy burden" faced by petitioners seeking review of a technical issue. *Three Mountain Power,* 10 E.A.D. at 50 ("[w]e generally accord deference to permitting agencies when technical issues are in play. As such, we assign a heavy burden to persons seeking review of issues that are quintessentially technical.") (citations omitted).

As the Air District explained in response to comments on dry cooling, the Project "was specifically designed from the very beginning to make use of recycled water from the City of Hayward wastewater treatment plant. A central element of the project design is a tertiary treatment plant that will utilize the City's wastewater effluent and clean it further to enable it to be used for cooling purposes." Exhibit 5, Responses to Public Comments at 87 (footnotes omitted). Moreover, "[t]he benefit of being able to recycle the City's wastewater was also one of the reasons the City cited *in agreeing to a property exchange that allowed [RCEC] to go forward*

with the project at its current location." *Id.* (footnote omitted) (emphasis added). Thus, the Air District concluded that "[t]he use of a wet cooling system taking advantage of the City's wastewater is clearly an integral design element of the project." *Id.* For the same reasons that dry cooling would "disrupt one of the basic objectives of the proposed facility which is recycling the wastewater from the City's treatment plant" (*id*. at 88), so, too, would the use of other sources of water. Further, with respect to Petitioner's allegation that the Air District failed to investigate "different technologies" or "work practices" (Petition at 16) that would impact cooling tower PM emissions, Petitioner identifies no such technologies or practices for consideration. Accordingly, even if his argument had been preserved for appeal, Petitioner identifies no error in the Air District's BACT determination for the cooling tower.

In sum, the Board should deny review of Petitioner's argument concerning different technologies, work practices, or other sources of water for the Project's cooling towers.

4. Petitioner's Argument Regarding Dry Cooling Fails

Petitioner acknowledges that the Response to Public Comments "does have a discussion of why it would have eliminated dry cooling even though it didn't include it in its BACT analysis" (*id.*). Petitioner nevertheless contends that the Air District "does not even defend its failure to examine . . . dry cooling in its BACT analysis." Petition at 16. This argument has no merit. Petitioner fails to identify any error in the Air District's extensive response to comments on dry cooling. Moreover, the Air District had a rational basis in finding that requiring a dry cooling system would frustrate one of the Project's fundamental objectives and, in any case, would not have been selected as BACT due to the ancillary benefits associated with use of the City's waste water and elimination of a significant discharge of pollutants to the San Francisco Bay.

a. Petitioner Fails To Demonstrate that Air District's Response to Comments on Dry Cooling Was Clearly Erroneous

The sum total of Petitioner's allegations about dry cooling consist of the following:

> The Air District does not even defend its failure to examine different technologies, sources of water, operating practices or dry cooling in its BACT

> analysis. The District does have a discussion of why it would have eliminated dry cooling even though it didn't include it in its BACT analysis. In that discussion the District agrees that dry cooling systems are preferable in general from a criteria air pollution perspective because they do not have the particulate emissions that can result from wet cooling. The BACT analysis fails to comply with PSD regulations and the Board should remand the permit back to the District for a complete BACT evaluation of BACT for cooling tower emissions.

Petition at 16. Indeed, in Petitioner's summary of issues presented for review, he does not even mention dry cooling. *Id.* at 4.

As discussed below, the Air District provided an extensive discussion of why "[u]nder these circumstances, [it] would be hesitant to conclude that it could require the applicant to redesign this source to use dry cooling in this case, as it would disrupt one of the basic objectives of the proposed facility which is recycling the wastewater from the City's treatment plant." Exhibit 5, Responses to Public Comments at 87-88. Moreover, the Air District went further and explained in detail why "regardless of whether the Air District could require the applicant here to change from a wet cooling system to a dry cooling system -- the Air District would decline to require dry cooling as BACT in this particular case because of the ancillary environmental benefits from using a wet cooling system here." *Id.* at 88.

Not only does Petitioner identify no errors in the Air District's analyses; he fails to even mention them. *See* Petition at 15-16. Petitioners "must not only state their objections to a permit but must also explain why the permitting authority's response to those objections (for example in a response to comments document) is clearly erroneous or otherwise warrants review." *Indeck-Elwood, LLC*, slip op. at 87-88. To do so, "the petitioner must address the permit issuer's responses to relevant comments made during the process of permit development; the petitioner may not simply reiterate comments made during the public comment period, but must substantively confront the permit issuer's subsequent explanations." *Id*. at 88. Petitioner fails completely to confront the Air District's reasoning on why it would not require dry cooling and, in so doing, falls far short of meeting this standard. Consequently, the Board should deny review. *See, e.g., Zion Energy,* 9 E.A.D. at 705.

b. A Wet Cooling System that Uses the City's Wastewater Is an Integral Design Element of the Project

The Air District's response to comments regarding dry cooling was not only adequate, it was sound and well-reasoned. As the Air District explained, a wet cooling system that uses the City's wastewater has been an "integral design element" of the Project since the beginning:

> Here, this facility was *specifically designed from the very beginning* to make use of recycled water from the City of Hayward wastewater treatment plant. A *central element of the project design* is a tertiary treatment plant that will utilize the City's wastewater effluent and clean it further to enable it to be used for cooling purposes. The benefit of being able to recycle the City's wastewater was also *one of the reasons the City cited in agreeing to a property exchange that allowed the applicant to go forward with the project at its current location*. And the Energy Commission explicitly found that the ability to use recycled wastewater was an *objective of the project* when it initially approved the facility. *The use of a wet cooling system taking advantage of the City's wastewater is thus clearly an integral design element of the project.* Moreover, it has clear environmental benefits and does not appear to be a design choice the applicant has made for reasons independent of air permitting. *Under these circumstances, the Air District would be hesitant to conclude that it could require the applicant to redesign this source to use dry cooling in this case, as it would disrupt one of the basic objectives of the proposed facility which is recycling the wastewater from the City's treatment plant.*

Id. at 87-88 (footnotes omitted) (emphases added).

A permit applicant has the "prerogative to define certain aspects of the proposed facility that may not be redesigned through application of BACT . . . ." *Prairie State,* slip op. at 26. The permit applicant often defines the proposed facility's objective or purpose (i.e. the basic design), in the applicant's schematic design for the proposed facility. *Id.* at 29. The permit issuer must then discern which design elements "are inherent to that purpose, articulated for reasons independent of air quality permitting, and which design elements may be changed to achieve pollutant emissions reductions without disrupting the applicant's [basic design] for the proposed facility." *Id.* at 30; *see also In re Desert Rock Energy Co., LLC*, PSD Appeal Nos. 08-03 through 08-06, slip op. at 64 (EAB, Sept. 24, 2009) (confirming that once the applicant defines the basic design the permit issuer must take a "hard look" at the applicant's determination to decide which elements are inherent and which can be changed). The permit issuer has broad discretion in making this determination, but must keep in mind that "BACT, in most cases, should not be applied to regulate the applicant's purpose or objective for the proposed facility." *Desert Rock,*

slip op. at 65; *see also* Draft NSR Workshop Manual B.13.

Here, the Air District took a "hard look" at the facility's basic design, and concluded that "[u]nder these circumstances, the Air District would be hesitant to conclude that it could require the applicant to redesign this source to use dry cooling in this case, as it would disrupt one of the basic objectives of the proposed facility which is recycling the wastewater from the City's treatment plant." Exhibit 5, Responses to Public Comments at 87-88. Moreover, the Air District went on to explain that even if it had the authority to require RCEC to use dry cooling, it would have selected wet cooling in Step 4 of the BACT analysis due to its ancillary environmental and energy benefits:

> If the Air District were to undertake a BACT analysis and compare wet cooling and dry cooling as alternative feasible control technologies, it would select wet cooling for this facility in "Step 4" of the top-down BACT analysis because of the benefits associated with recycling the City of Hayward's wastewater, which would otherwise be discharged into the Bay. The facility's "Zero Liquid Discharge" plant will minimize potential harm to water quality in the vicinity of the Water Pollution Control Facility's outfall, where wastewater that has undergone secondary treatment would otherwise be discharged into the bay. Although the City's wastewater is treated before discharge, it still contains minor amounts of water pollutants that contribute to the overall pollution levels in the Bay. Elimination of such water pollution, even in relatively small amounts, contributes to the health of the Bay and is therefore a beneficial environmental effect. This conclusion is supported by the State Water Resources Control Board, which encourages power plants wherever possible to draw cooling wat*er from wastewater that is already being discharged into surface water bodies. The Air District has concluded that this net environmental benefit would support the choice of wet cooling over dry cooling for this particular facility, to the extent that the BACT analysis can even consider a redesign of the facility to change the cooling system.*
>
> *In addition, beyond these important water quality issues, there are other ancillary environmental and energy impacts associated with dry cooling that further support the Air District's conclusion on this issue.* An air-cooled condenser would constitute a significant heat sink in the proposed facility's Rankine cycle, requiring 48 fans that would consume 7,250 kilowatts of electrical power. In contrast, the wet cooling tower requires nine fans, requiring only 1,314 kilowatts. While the use of an air cooled condenser would reduce the load required by the tertiary water treatment and Zero Liquid Discharge by approximately 2,850 kilowatts, the net result would still be a reduction in plant output of approximately 3,086 kilowatts, or slightly more then 3 MW, which would represent a net reduction in overall plant efficiency of about 0.3%. This additional 3,086 kilowatts of parasitic load would require approximately 21 MMBtu/hr to produce the same electric load to the grid, which would represent nearly an additional 2,500 pounds per hour of CO2 (with a proportionate impact on criteria pollutants as well). An air-cooled condenser would also be taller and bulkier – 144 feet tall

> at its apex (compared to just under 58 feet for the cooling tower) and with a footprint of 88,440 square feet (compared to 61,133 square feet for the cooling tower) – and thus have a greater visual impact as well as a greater "downwash" impact. An air cooled condenser would have greater noise impacts due to its greater height and surface area, which would result in greater acoustic radiation of noise from the proposed facility to the nearby shoreline. These additional ancillary impacts would further support the choice of wet cooling over dry cooling for this particular facility.

Id. at 88-89 (footnotes omitted) (emphases added).

Thus, the Air District had a sound, well-articulated, and rational basis for not requiring the Project to switch to a dry cooling system.

5. Petitioner's Argument Regarding TDS Limits Fails Both Procedurally and Substantively

Petitioner's third argument is that the Air District "never provided any analysis of what level and what technology or work practices could provide a lower level of TDS to lower PM-10 emissions from the cooling tower." Petition at 16. The Board should deny review of this issue because it was not preserved for appeal. Moreover, even if it had been preserved, Petitioner fails to demonstrate any error in the Air District's analysis.

a. Petitioner's Claim That the Air District Failed to Explain Why It Was Not Imposing a Lower TDS Limits Was Not Preserved for Appeal

A petition "must contain 'a demonstration that any issues being raised were raised during the public comment period.'"[25] *Encogen*, 8 E.A.D. at 249 (citing 40 C.F.R. §§ 124.13, 124.19(a); *accord In re Puerto Rico Elec. Power Auth.*, 6 E.A.D. 253, 255 (EAB 1995)). As the Board has noted, "[t]he effective, efficient and predictable administration of the permitting process demands that the permit issuer be given the opportunity to address potential problems with the draft permits before they become final. *Id.* at 250.

Petitioner wholly fails to identify any comments regarding the appropriateness of 6,200

[25] Alternatively, a petitioner may demonstrate that the issue over which review is sought was not reasonably ascertainable during the public comment period. *Id.* Petitioner has not argued -- nor could he -- that any cooling tower BACT issues were not reasonably ascertainable during the public comment period.

ppmw TDS limitations as meeting BACT for cooling tower emissions. *See* Petition at 15-16. He does not cite a single previous comment or provide any other evidence that any of the issues were raised during the public comment period. *Id.* Petitioner's argument contains a single reference to the Air District's Responses to Public Comments. Petition at 15 n.23. However, that citation refers to the Air District's response to comments stating that it should use the highest modeled PM_{10} value to compare with the ambient air quality impact significance threshold, not the sixth-highest value as had been used in the Statement of Basis. *See* Exhibit 5, Responses to Public Comments at 133; *see supra* note 19. Those comments were wholly unrelated to the allegations raised by Petitioner concerning whether a lower limit on cooling tower TDS was warranted to meet BACT.

Had Petitioner scoured the record, he would have found that no comment requested an "analysis of what level and what technology or work practices could provide a lower level of TDS to lower PM-10 emissions from the cooling tower." Petition at 16. *Indeed, in its Responses to Public Comments, the Air District states that it "did not receive any comments on the cooling tower limits during the initial comment period.*" Exhibit 5, Responses to Public Comments at 86 (emphasis added). Even after the Air District revised the proposed permit limit for TDS in the Additional Statement of Basis and invited further public comment, it "did not receive any further comments on the numerical TDS standard it proposed as the BACT limit." *Id.* at 87. Thus, this issue was not preserved for appeal, and the Board should deny review. *See, e.g., Encogen*, 8 E.A.D. at 250 (denying review of all issues not described in agency's response to comments as having been raised during the public comment period).

b. The Air District Had a Rational Basis for the TDS Limit

Even if the issue of TDS limits were preserved for appeal, Petitioner fails to demonstrate any error in the Air District's analysis and, in fact, the Air District had a rational basis for its decision to lower the TDS limit from 8,000 ppmw to 6,200 ppmw.

The amount of PM emitted by the cooling tower is a function not only of the use of high-efficiency drift eliminators, but also the quality of the water source, the number of times the

water can be cycled through the system without damaging the equipment, and the manner in which the cooling water is managed after it has been used in the system. *See* Exhibit 24, TDS Email. In light of these considerations, the Air District had initially proposed in the Draft PSD Permit a condition limiting the amount of TDS in the facility's cooling water to 8,000 ppmw. Exhibit 1, Statement of Basis at 78 (proposed Condition No. 44); *see also* Exhibit 24, TDS Email. In the Additional Statement of Basis, the Air District proposed to lower the TDS limit from 8,000 ppmw to 6,200 ppmw. Exhibit 3, Additional Statement of Basis at 52. According to the record, RCEC proposed a lower limit based on analysis of additional analytical data:

> [s]ince the time when the draft permit condition was imposed, [RCEC] has received a substantial amount of additional analytical data from the City Waste Water Treatment Plant on the quality and contents of the Treatment Plant effluent. Based upon the Applicant's analysis of these data and the design capacity of RCEC's waste water reclamation and ZLD systems, [RCEC] has concluded that it can meet a lower TDS limit, while still achieving its primary objective of using reclaimed waste water in its cooling system. As a consequence, RCEC has proposed reducing the TDS limit from 8,000 ppmw, to 6,200 ppmw.
>
> RCEC might meet a lower TDS limit and thereby reduce its potential emissions of PM10/PM2.5 if it were to use a higher-quality water source or discharge blowdown from the cooling tower to the Bay or the City's treatment plant. However, such alternatives would obstruct one of the project's core objectives.

Exhibit 24, TDS Email. Petitioner's bare assertion that "[n]ot surprisingly the applicant miraculously found that it could keep TDS within a limit of 6,200 ppmw and avoid the SIL for PM-10" (Petition at 15) falls far short of demonstrating clear error in the Air District's analysis. *See Knauf I*, 8 E.A.D. at 127 (*pro se* petitioners must "provide sufficient specificity such that the Board can ascertain what issue is being raised" and "articulate some supportable reason as to why the permitting authority erred or why review is otherwise warranted.").

The Air District received no comments on this issue, let alone any suggestions of error. The Air District justifiably relied on its analysis in finalizing the permit limit. *See Encogen*, 8 E.A.D. at 250 ("[t]he effective, efficient and predictable administration of the permitting process demands that the permit issuer be given the opportunity to address potential problems with the draft permits before they become final."). Accordingly, it was not preserved for appeal; but, even if it were, Petitioner has failed to identify any clear error on the part of the Air District in

setting the TDS limit.

D. The New Federal NO_2 Standard Should Not Be Applied Because RCEC's Final PSD Permit Complies with the Standard that Was in Effect at the Time of Permit Issuance

Petitioner's fourth issue requests the Board to "consider the new Federal NO2 Standard when considering Emission limits for the RCEC." Petition at 4. Petitioner labels this an "Important policy consideration" and would have the RCEC's permit remanded and subjected to different BACT standards, new "air quality monitoring and modeling analyses," and yet another round of public comment. *See id.* at 16-17. Petitioner, however, provides no explanation why the Board should ignore established law that the applicable regulations are those in effect at the time a permit is issued and provides no other grounds establishing clear error or the need for Board review. Consequently, this argument should be dismissed.

1. The Effective Date of the New Federal NO_2 Standard is April 12, 2009

On April 12, 2009, more than three weeks after the date when appeals had to be filed with the Board, a new National Ambient Air Quality Standard ("NAAQS") became effective for NO_2. *See* 75 Fed. Reg. 6474, Primary national Ambient Air Quality Standards for Nitrogen Dioxide, Final Rule (Feb. 9, 2010). The new NAAQS adds a 1-hour standard to the existing annual standard. *Id*. This decision was published in the Federal Register on February 9, 2010, after the final PSD permit was issued by the Air District on February 3, 2010. This new standard was proposed by EPA in July of 2009. 74 Fed. Reg. 34404, Primary National Ambient Air Quality Standard for Nitrogen Dioxide, Proposed Rule (Jul. 15, 2009). Because the new standard was not published in the Federal Register and did not become effective until after the Air District had already issued the final PSD permit, it should not apply to the Air District's decision to issue the final PSD permit. Accordingly, Petitioner's suggested important policy consideration should be dismissed.

2. Petitioner Provides No Legal Basis for Board Consideration of the New NO_2 Standard

It is well-settled that permitting and licensing decisions of a regulatory agency must

reflect the law in effect at the time the agency makes a final determination on a permit application and not thereafter. *See, e.g.*, *Alabama v. Envtl. Protection Agency*, 557 F.2d 1101, 1110 (5th Cir. 1977) ("[w]e affirm EPA's conclusion that the appropriate BPT limitations to be applied in a permit are those in effect at the time of the initial permit issuance."); *In re Dominion Energy Brayton Point, L.L.C.*, 12 E.A.D. 490, 618 (EAB 2006) (refusing to remand permit for reconsideration in light of legal requirements that changed after issuance of final permit and while Board review was pending); *In re Phelps Dodge Corp.*, 10 E.A.D. 460, 478 n.10, (EAB 2002) (noting that "[w]hile the pending [construction and development] rule may in the future play a significant role in cases such as this one, 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, not as the statute or regulations may exist at some point in the future"). *See also Ziffrin, Inc. v. United States,* 318 U.S. 73, 78 (1943) (noting that permitting body "was required to act under the law as it existed" but that a change in law that occurred between permit application and denial of permit should have been applied).

This principle of application of existing regulations has even been extended to include pending permits because "ongoing proceeding should not be interrupted when proposed regulations become final". *Alabama*, 557 F.2d at 1110. A permit applicant is also not entitled to the *benefit* of a regulatory change that was proposed at the time a permit was issued, despite the fact that the regulations in question became final at the time the case was decided on appeal. *See In re Homestake Mining Co.*, 2 E.A.D 195, 198-202 (CJO 1986) (upholding application of existing regulations to a permit decision and not proposed changes to regulations). Thus, even if RCEC's Final PSD Permit were merely pending, which it is not, the appropriate regulations would be those in effect when the permit application was filed regardless of the implications for RCEC. The fact that the RCEC's permit is final only bolsters an argument that any newly implemented regulations do not apply.

The rationale behind the principle further weighs in favor of keeping the RCEC permit in its current and finally approved form. Any "contrary rule would create havoc in EPA's permit

development procedures." *Alabama*, 557 F.2d at 1110. Applying the regulations in effect at the time the final permit is issued provides certainty and avoids the administrative chaos that would ensue if permitting authorities like the Air District were forced to review anew every pending or final permit facing appeal. *See Dominion*, 12 E.A.D. at 615 (quoting *In re U.S. Pipe & Foundry Co.*, NPDES Appeal No. 75-4 (Adm'r 1975), *aff'd in part, rev'd in part sub nom., Alabama ex rel. Baxley v. Envtl. Protection Agency*, 557 F.2d 1101, 1108 (5th Cir. 1977)) ("to allow permit limitations and conditions to change according to a 'floating' standard or guideline during the pendency of a permit review proceeding would be highly disruptive and counterproductive"). Indeed, the Board has repeatedly emphasized that the permitting process must ensure finality, predictability, and efficiency, especially in the case of preconstruction permits. *See In re Gateway Generating Station*, PSD Appeal No. 09-02, slip op. at 13 (EAB, Sept. 15, 2009) ("[c]learly, the Board has an interest, as does the public and the regulated community, in bringing finality to the Agency's administrative proceedings, particularly in the context of preconstruction permits"); *ConocoPhillips Co.*, slip op. at 50 ("[t]o allow Petitioners to raise this issue [concerning BACT analysis] at this stage would frustrate the Agency's important policy of ensuring predictability, efficiency, and finality in the permitting process by allowing the permit issuer the opportunity to address objections to the permit in the first instance.").

Here, since the Board's July 29, 2008 Remand Order, permit proceedings have been ongoing for more than 18 months, and all parties involved have spent "significant resources and efforts in considering the permit [] application (and associated proceedings) using the existing standards." *Dominion*, 12 E.A.D. at 618. Relying on new regulations in this case would lead to indefinite, unwarranted delays in implementing the approved permit. *See id.* (noting that remanding an approved permit "would likely lead to another lengthy delay" in an already drawn out permitting process); *Alabama*, 557 F.2d at 1108 ("[t]he standards and guidelines for the preparation of NPDES permits must be fixed at some point in time so permit terms can become final" and this point is when the permitting authority "initially issues a final permit.").

Furthermore, because the regulations at issue did not come into effect until *after* the Air

District issued a final permit, any argument for discretionary remand in light of new regulations must also fail. *See, e.g.*, *In re J& L Specialty Prods. Corp.*, 5 E.A.D. 31, 66 (EAB 1994) (noting that the appropriate regulations to apply were those existing at the time of the permit issuance but that "[o]n administrative review, the Agency has the discretion to remand permit conditions for reconsideration in light of legal requirements that change before the permit becomes final agency action."); *In re Liquid Air P.R. Corp.*, 5 E.A.D. 247, 254 n.14 (EAB 1994) ("regulations adopted before a permit decision becomes final upon completion of administrative review should be considered when examining the issues raised on appeal"); *see also Dominion*, 12 E.A.D at 617 (questioning whether this "discretion [when permit is not final] to apply a new rule still exists absent circumstances where the rule specifically states that it applies retroactively"). Indeed, the facts of *J & L Specialty Products* are distinguishable from those underlying RCEC's permit. In that case, the permittee filed for a permit modification and requested that new state regulations apply. *J& L Specialty Prods.*, 5 E.A.D. at 66. These new regulations were already in the process of being implemented *before* the final permit was issued. *Id.* The Board noted that, because the regulations were not yet effective when the permit was final, there was no error in denying J & L an evidentiary hearing. *Id.* However, the Board found it within its discretion to remand for consideration while the Region also considered J & L's permit modification request. *Id.* Similarly, in *Liquid Air,* the Board, in making the distinction between the completion of administrative review and the Board appellate process, emphasized that the appropriate regulations to be considered are those that existed *prior* to the appeal. *See Liquid Air,* 5 E.A.D. at 254 n.14. In noting this timing, the Board declared that regulations that existed before an evidentiary hearing request were those that applied to the permit renewal application. *Id.*

Here, the permit process has already thoroughly vetted the NO_2 NAAQS issue. The Air District undertook an extensive BACT analysis for NO_2 control technology and established NO_2 BACT emissions limits. *See* Exhibit 1, Statement of Basis at 21-29; Exhibit 3, Additional Statement of Basis at 42-46; Exhibit 5, Response to Public Comments at 52-65, 218-19. The Air District determined that for "[f]ederal PSD purposes, the facility is required to demonstrate that it

will not cause or contribute to a violation of the Federal NAAQS for NO_2 (among other requirements). That demonstration was made in the Air Quality Impact Analysis for this project, and the Air District did not receive any comments suggesting that the NO_2 element of that analysis was incorrect." Exhibit 5, Response to Public Comments at 218.

Moreover, although commenters questioned whether the Project's emissions, in combination with background concentrations, would cause an exceedance of a new California ambient air quality standard that had become effective since the time when the Air District had first issued its state-law permit for the Project (and which, like the new federal NAAQS, imposed a 1-hr NO_2 standard for the first time), the Air District responded by confirming that "[t]he project's NO_2 impacts were analyzed in the state-law permitting process, and the analysis found that proposed facility will not cause an exceedance of the new California NO_2 standard." Exhibit 5, Responses to Public Comments at 219. Thus, although it was not relevant to the PSD permitting process, the Air District reviewed the most recent modeling results, and confirmed that the Project's emissions, together with background concentrations provided by monitoring data, would not exceed California's new 1-hr NO_2 standard.

The Air District issued the Final PSD Permit on February 3, 2010. That date is the appropriate date to cut off application of new or additional standards.[26] To proceed as Petitioner suggests would both undermine the finality of the Air District's decision-making authority and ignore the well-settled legal principle of applying existing regulations to final permit decisions.

3. Policy Considerations Weigh in the Favor of Applying Regulations in Effect at the Time of Permit Issuance

Although Petitioner labels his issue an "Important policy consideration[]" (Petition at 16), Petitioner fails to indicate any substantial policy reasons that should compel the Board to ignore

[26] While a prerequisite for *judicial review* under the Administrative Procedure Act occurs after "agency review procedures" are exhausted, which includes the denial of review by the EAB (*see* 40 C.F.R. § 124(f)), the operative date for determination of what regulations apply to the permit itself should be the date that the final permit was issued.

legal precedent and force RCEC to undergo a new NO_2 analyses. Moreover, EPA's recent clarification of its policy regarding pollutants subject to PSD permitted indicates that EPA's policy runs the other direction – in favor of applying the regulations in effect at the time of permit issuance. In its recent "Reconsideration of Interpretation of Regulations that Determine Pollutants Covered by Clean Air Permitting Programs" ("Reconsideration Decision"), EPA stated that "[a]s a general matter, permitting and licensing decisions of regulatory agencies must reflect the law in effect at the time the agency makes a final determination on a pending application." 75 Fed. Reg. 17004-01, 2010 WL 1251418 at *17021 (Apr. 2, 2010) (citations omitted). The EPA further explained that with regard to when the National Ambient Air Quality Standards ("NAAQS") apply to pending permit applications:

> EPA generally interprets a revised NAAQS that establishes either a lower level for the standard or a new averaging time for a pollutant already regulated to apply upon the effective date of the revised NAAQS. Thus, unless EPA promulgates a grandfathering provision that allows pending applications to apply standards in effect when the application is complete, a final permit decision issued *after* the effective date of a NAAQS must consider such a NAAQS.

Id. at *17018 (emphasis added).

Thus, EPA made it clear that new, more stringent NAAQS that become effective apply to permit decisions which become final *after* the regulations are effective. EPA then distinguished the application of PSD requirements to greenhouse gases ("GHGs") from other situations where it has "grandfathered" pending applications as follows:

> Second, there are presently no regulatory requirements in effect for GHGs. On the other hand, at the time EPA moved from using TSP to using PM10 as the indicator for the particulate matter NAAQS, grandfathered sources were still required to satisfy PSD requirements for particulate matter based on the TSP indicator. Likewise, when EPA later updated the PSD increment for particulate matter to use the PM10 indicator, the grandfathered sources were still required to demonstrate that they would not cause or contribute to a violation of the particulate matter increment based on TSP. In the case of adoption of the NO_2 increment, grandfathered sources were still required to demonstrate that they would not cause or contribute to a violation of the NO_2 NAAQS.

Id. at *17022.

Again, this makes the EPA's policy preference clear: The applicable standard for a permit is not the new, more stringent standard, but the standard that was in effect at the time of

the final permit decision's issuance. EPA did not provide any express "grandfathering" upon promulgating the new NO_2 standard. However, in issuing its recent Reconsideration Decision, EPA articulated that, in prior instances where it had "grandfathered" completed PSD applications against a new NO_2 standard (in that case, actually a new PSD increment), it did so because there was already an existing NO_2 NAAQS standard in place, with which the source was already required to demonstrate compliance. As discussed above, the Air District already demonstrated the Project's compliance with the existing federal annual NO_2 standard and the new California hourly NO_2 standard. Further, the Air District imposed BACT limits on NO_2. Thus, EPA reasoning strongly suggests that no rationale exists for any discretionary remand to address the new 1-hr NO_2 NAAQS.

In light of EPA's recent regulatory interpretation and in the interest of promoting predictability, efficiency, and finality in the permitting process, the Board should reject Petitioner's request to remand the PSD permit for application of the new federal NO_2 standard.

4. Petitioner Fails To Meet a Threshold Pleading Requirement

In order to obtain review of a petition condition or issue, a petitioner must show that someone raised the issue during the public comment period, provided that it was reasonably ascertainable at the time. *See* EAB Practice Manual at 34 (citing 40 C.F.R. §§ 124.13, 124.19). Petitioner fails on both fronts: he does not establish either that the new federal NO_2 standard was raised during the public comment period or that it was not "reasonably ascertainable" at that time.

The Petition contains a general statement that the "issues set forth in this petition were raised during the public comment period." Petition at 3. This is not true, however, with respect to the new federal NO_2 standard. The potential applicability of a new federal 1-hour NO_2 standard was never raised by anyone during either of the public comment periods. Consequently, in order for Petitioner's NO_2 argument to be considered by the Board, Petitioner must show that the issue was not reasonably ascertainable. *See In re Christian County Generation, LLC*, PSD Appeal No. 07-01, slip op. at 12 (EAB, Jan. 28, 2008) (the Board "has

routinely denied review where the issue 'was reasonably ascertainable but was not raised during the comment period on the draft permit[]'"). To accomplish this, Petitioner must provide evidence that the issue was not anticipated or contemplated before the end of the comment period. *See id.* at 12-13; *see also In re BP Cherry Point*, 12 E.A.D. 209, 230 (EAB 2005) (petitioner failed to demonstrate that the issue was not reasonably ascertainable during the public comment period). He did not.

Moreover, Petitioner cannot demonstrate that the issue was not reasonably ascertainable, since the new NO_2 standard was first proposed by EPA in July 2009 (*see* 74 Fed. Reg. 34,404 (July 15, 2009)), prior to the second public comment period. Petitioner was aware of NO_2 issues and involved throughout the permitting process. He cannot, therefore, claim with any authenticity that this issue was not reasonably ascertainable, such that it can be raised for the first time on appeal. For this reason, in addition to having no legal or policy basis for his position, Petitioner's argument is without merit.

E. Petitioner's Request that the Board Remand the Permit for Inclusion of Specific Penalties Was Not Preserved for Appeal and Has No Merit

Petitioner's final issue requests the Board to "remand the permit back to the District to include specific penalties for non compliance with permit conditions due to the Districts [sic] lax enforcement policies." Petition at 4. This argument should be dismissed because it was not preserved for appeal and fails on the merits.

a. The Penalty Issue Was Not Raised During the Public Comment Period

As with several other issues in his petition, Petitioner seeks to raise this issue for the first time on appeal. In order to obtain review of a petition condition or issue, a petitioner must show that someone raised the issue during the public comment period, provided that it was reasonably ascertainable at the time. *See* EAB Practice Manual at 34 (citing 40 C.F.R. §§ 124.13, 124.19). Petitioner does not establish, however, that this issue was raised during the public comment period or that it was not "reasonably ascertainable" at that time. As a result, the Board should deny review of this issue.

The Petition contains a general statement that the "issues set forth in this petition were raised during the public comment period." Petition at 3. This is not true, however, with respect to the penalty issue. No one ever requested that the permit be revised to include specific penalties for noncompliance. A number of commenters raised concerns regarding compliance at other facilities. But the closest any comment came to suggesting specific permit conditions that would impose penalties for noncompliance was a question whether the Air District would "include an enforceable permit condition that the facility will not be permitted to modify its permit or obtain a new permit to increase emissions"? Exhibit 25, Email from Rob Simpson to Weyman Lee (Sept. 16, 2009) ("Simpson Comments 9/16/2009"). The Air District responded to that question,[27] and Petitioner has demonstrated no error in the Air District's response. This comment, however, does not preserve Petitioner's issue for appeal: while the commenter asked the Air District to add a new enforceable permit condition prohibiting permit amendments, Petitioner requests the Board to remand the permit to "include specific penalties for non compliance with permit conditions." Petition at 4. Petitioner had the opportunity to raise the penalty issue during the public comment periods but did not do so, and neither did other commenters. Thus, this issue was not preserved for appeal.

In addition, Petitioner cannot make a credible argument that the issue was not reasonably ascertainable. Petitioner even acknowledges that the Air District addressed the general issue of noncompliance with permit conditions during the permit proceeding *See* Petition at 18 (quoting Draft Additional Statement of Basis at 11 (June 23, 2009); *available at*: http://www.baaqmd.gov/Divisions/Engineering/Public-Notices-on-Permits/2009/080309-15487/Russell-City-Energy-Center.aspx). However, neither Petitioner, nor anyone else, ever

[27] The Air District responded to the comment as follows: "[t]he Air District therefore disagrees that it should (or could) include a condition that the facility cannot apply for or receive modified permit conditions. To the extent that the facility requests a permit amendment in the future, the Air District will address the appropriateness of the amendment at the time based on applicable legal requirements." Exhibit 5, Responses to Public Comments at 15.

contended that the Air District include specific penalties within the permit itself.

In sum, Petitioner has not met his burden of showing that the penalty issue was preserved for appeal. *Encogen*, 8 E.A.D. at 249 ("the burden of demonstrating that review is warranted nonetheless inevitably rests with the petitioner challenging the permit decision"). Thus, the Board should deny review.

2. Petitioner's Grievances Concerning Alleged Violations at Other Facilities Provide No Basis for Board Review

To support his argument that permit penalties are needed for the RCEC, Petitioner devotes most of his argument to detailing alleged air quality violations at other facilities and perceived lax enforcement policies of the Air District. Petition at 18-21. Petitioner also expresses his dissatisfaction with the process to obtain compliance and enforcement data for facilities. *Id.* at 20-21. These grievances, however, are wholly unrelated to the RCEC facility and do not relate to RCEC's federal PSD permitting process.

Alleged problems at other facilities and with public access to data are outside the Board's scope of review. The Board's jurisdiction to review PSD permits extends only to those issues relating to permit conditions that implement the federal PSD program. *HELCO*, 10 E.A.D. at 238; *see also Knauf I*, 8 E.A.D. at 127 ("[t]he PSD review process is not an open forum for consideration of every environmental aspect of a proposed project, or even every issue that bears on air quality. In fact, certain issues are expressly excluded from the PSD permitting process."). If an issue is not governed by the PSD regulations, the Board lacks jurisdiction and will deny review. *Id.* Petitioner's allegations concerning lax enforcement of violations at other facilities does not at all pertain to a condition of the PSD permit and, accordingly, is beyond the purview of the Board's jurisdiction in this matter.

3. PSD Permit Conditions Are Enforceable and Violations are Subject to Penalties

Even if Petitioner's suggestion that the permit include specific penalties had been preserved for appeal, it would fail on the merits. Petitioner alleges that "[t]he PSD permit must include a mechanism to provide meaningful penalties for violations of permit conditions for the

[Project]." Petition at 18. This argument is baseless, however, because the Final PSD Permit does contain enforceable permit conditions, the violation of which could very well result in a penalty. The Final PSD Permit plainly states that "[f]ailure to comply with any condition or term set forth in this PSD Permit may be subject to enforcement action pursuant to Section 113 of the Clean Air Act." Exhibit 4, Final PSD Permit at 1. Under Section 113, the EPA may respond to a violation by (1) issuing an administrative penalty, (2) issuing an order requiring compliance, (3) commencing civil action, or (4) requesting criminal action by the Attorney General. *See* 42 U.S.C. § 7413(a)(3). In addition, in response to comments implying that other facilities do not have to comply with their permit conditions, the Air District explained that it "disagrees that this facility will be allowed to exceed its permit limits once they are established. Permit limits create legal obligations and EPA regularly takes action to enforce them." Exhibit 5, Responses to Public Comments at 14.

Petitioner does not mention the language in the Final PSD Permit or the Air District's responses to comments at all and, thus, fails to meet his burden. *Indeck-Elwood, LLC*, slip op. at 87-88 (petitioners "must not only state their objections to a permit but must also explain why the permitting authority's response to those objections (for example in a response to comments document) is clearly erroneous or otherwise warrants review."). Moreover, the conditions in the Final PSD Permit are indisputably enforceable. For all of these reasons, the Board should deny Petitioner's request to remand the permit back to the Air District to include specific penalties for noncompliance with permit conditions.

VI. CONCLUSION

Petitioner fails to meet threshold pleading requirements on certain issues and fails to demonstrate that any decision by the Air District related to startup/shutdown issues, the BACT analysis for NO_2, the BACT analysis for cooling tower PM emissions, the new federal NO_2 standard, or penalties was clearly erroneous or otherwise warrants Board review. Thus, RCEC respectfully requests that the Board deny review of all issues raised in the Petition.

Respectfully submitted,

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Dated: April 23, 2010

CERTIFICATE OF SERVICE

I hereby certify that on the 23rd day of April, 2010, an identical paper copy of the foregoing Russell City Energy Company, LLC's Response to Petition for Review Filed by Robert Sarvey, which was electronically filed on the same date via the Central data Exchange portal, was also sent via Federal Express to:

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I hereby certify that on the 23rd day of April, 2010, copies of the foregoing Russell City Energy Company, LLC's Response to Petition for Review Filed by Robert Sarvey were served via first-class U.S. mail, postage prepaid, to:

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