

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

| | | |
|----------------------------------|---|----------------|
| In re Russell City Energy Center |) | PSD Appeal No. |
| |) | |
| Russell City Energy Company, LLC |) | |
| PSD Permit Application No. 15487 |) | |
| _____ |) | |

PETITION FOR REVIEW
OF PREVENTION OF SIGNIFICANT DETERIORATION PERMIT
AND REQUEST FOR ORAL ARGUMENT
BY CHABOT-LAS POSITAS COMMUNITY COLLEGE DISTRICT

Also Accompanying Appendix With Exhibits

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I. INTRODUCTION AND REQUEST FOR ORAL ARGUMENT

Chabot Las-Positas Community College District (the “College District”) petitions for review of the Prevention of Significant Deterioration Permit issued from the Bay Area Air Quality Management District (BAAQMD) to Russell City Energy Center, LLC. (RCEC) authorized to administer the Prevention of Significant Deterioration permit program under the Clean Air Act pursuant to a delegation of authority by the United States Environmental Protection Agency. The permit authorizes construction of a new 600-megawatt natural gas-fired thermal power plant in the City of Hayward and County of Alameda, California. BAAQMD committed numerous procedural and substantive violations of the Clean Air Act in issuing the permit. The Board should remand the permit and require the District to correct these violations and re-circulate a corrected draft to the public.

The College District requests oral argument in this matter to assist the Board in its deliberations on the issues. The issues are a source of significant public interest and oral argument would materially assist in their resolution.

II. PROCEDURAL STANDING AVAILABILITY OF DOCUMENTS ON BAAQMD WEB AND REQUEST FOR OFFICIAL NOTICE

Petitioner College District participated in all of the following public comment periods satisfying standing requirements to petition for review under 40 C.F.R.

§ 124.19(a):

- *Statement of Basis for Draft Amended Federal ‘Prevention of Significant Deterioration’ Permit* issued by BAAQMD on December 8, 2008, as corrected on December 12, 2008, referred to as “SOB”
- *Additional Statement of Basis, Draft Federal “Prevention of Significant Deterioration Permit* for the RCEC, which the District issued on August 3, 2009, referred to as “ASOB”
- *“Responses to Public Comments, Federal “Prevention of Significant Deterioration” Permit* for the RCEC, which the District issued on February 3, 2010 at the time it issued the final PSD permit, referred to as “Response.”

The proposed permit, the statement of basis and additional statement of basis, public comments, additional communications between the College District and BAAQMD, and responses to comments are available on BAAQMD's website, www.baaqmd.gov, as well as the College District's Comments on the SOB and ASOB submitted in February 2009 and September 2009 are available at

<http://www.baaqmd.gov/Home/Divisions/Engineering/Public%20Notices%20on%20Permits/2009/080309%2015487/Russell%20City%20Energy%20Center.aspx>.¹:

The issues set forth in this petition were raised during the public comment period or are new issues arising from the Air District's responses to comments after the comment period closed, and therefore could not reasonably be raised before now. *See* 40 C.F.R. § 124.13.

BAAQMD issued its notice of the final PSD permit on February 4, 2010 and set the Permit's effective date and time to appeal as March 22, 2010, as authorized by 40 C.F.R. § 124.15(b). The College District now petitions for review as authorized under 40 C.F.R. §§ 124.15(b) and 124.19(a).

The College District also respectfully requests that the Board take official notice of the non-record government documents cited in this Petition. *See, e.g., In re Matter of City of Denison*, 4 E.A.D. 414, 419 n. 8 (EAB 1992) (taking official notice of administrative order not part of proceeding before Board); *In re Hawaiian Commercial & Sugar Co.*, 4 E.A.D. 95, 102 n.13 (EAB 1992) (taking official notice of EPA guidance document).

¹ The College District refers to the documents that are available on the web, with a few exceptions where it attaches for the convenience of the Board particularly relevant pages.

III. ISSUES PRESENTED FOR REVIEW

1. BAAQMD clearly erred by not disclosing, plotting out and circulating for public review the modeling results for 24-hour PM_{2.5} at the achievable emissions rate of 9 lbs/hour which results in a higher concentration level of 6.33 ug/m³, a level which BAAQMD admits would cause or contribute to the violation of the NAAQS under the Clean Air Act.
2. BAAQMD clearly erred by excluding from its modeling *all roadway emissions but one* as those excluded nearby roadway emissions already have been identified as causing significant concentration gradients within the acknowledged significantly impacted area, and generally are recognized by BAAQMD as a contributing factor for the cause of the increased health problems experienced in the community.
3. BAAQMD clearly erred in rejecting an auxiliary boiler as BACT based on a cost effectiveness analysis provided by Calpine that relies on cost for an auxiliary boiler eight times the size/capacity of that needed for RCEC, as established by the records of both Caithness which has the same size turbines as those contemplated by RCEC.
4. BAAQMD's clearly erred in its environmental justice analysis by failing to consider or weigh the environmental and social costs imposed on the community and the impacts on a community already suffering from disproportionate health risks and problems caused by pollution should bear the cost of RCEC's additional pollution.

Although the College District appreciates the fifteen day extension of time provided by BAAQMD to submit petitions for review, the underlying record is voluminous as exemplified by BAAQMD's Response consisting of 244 single spaced pages. Therefore, the College District brings to the Board's attention that if the Board agrees that review is appropriate, that the parties have the opportunity to supplement their arguments.

IV. BACKGROUND

A. Procedural History

This most recent permit for PSD before the Board arises from the remand by the EAB, before Judges Edward E. Reich, Charles J. Sheehan, and Anna L. Wolgast, decided and filed on July 29, 2008, *In re: Russell City Energy Center*, (EPA Environmental Appeals Board), PSD Appeal No. 08-01 (July 29, 2008), 13 E.A.D. WL 3047431 (EPA). PSD Appeal No. 08-01. In response, BAAQMD issued a new draft Amended PSD permit December 8, 2008, as corrected on December 12, 2008 (SOB). Incorporated into the December 2008 Draft Amended PSD was the June 19, 2007 Statement of Basis issued in conjunction with the remanded Amended November 1, 2007 permit.

The BAAQMD's December 2008 Amended Draft Permit described the permitting history for RCEC as follows:

The proposed Russell City facility was initially licensed in 2002, but it was relocated and so its permits had to be updated. **The CEC [California Energy Commission] and the Air District therefore reinitiated the permitting process outlined above to amend the initial [2002] permits** to reflect the new location. **The District prepared a Determination of Compliance addressing air quality issues raised (as well as a few minor changes in the operating conditions) by the permit amendment and submitted it to the Energy Commission** for use in the licensing proceeding. The Energy Commission completed its CEQA-equivalent review of environmental impacts (including air quality issues) and ultimately approved the amendment on September 26, 2007. On November 1, 2007, the Air District issued . . . the amended Federal PSD Permit

A number of parties then sought review of these permitting actions. On the state-law side, a group of interested organizations attempted to seek reconsideration of the Energy Commission's decision to license the project, but the Energy Commission declined to hear their request. The group then appealed the denial to the California Supreme Court, but the Supreme Court dismissed their petition. . . .

With respect to the Federal PSD Permit, one person appealed the permit to the Environmental Appeals Board raising issues concerning the public notice and comment process (among other, substantive issues). *The Environmental Appeals Board ruled that the Air District had not mailed notice of the proposed amended Federal PSD Permit to several parties that were entitled to it, and so it remanded the permit to the District to re-notice the proposed permit* and provide the public with a further opportunity to comment. (See Remand Order, *In re Russell City Energy Center*, PSD Appeal No. 08-01 (EAB Jul. 29, 2008) (“Remand Order”)[fn]) The Air District is re-noticing the proposed amended Federal PSD Permit at this time in response to the Remand Order.

(SOB, pp. 6-7, emphasis and italics added.) Not disclosed by this recitation is that although the CEC approved the “amendment” application, it was over its staff’s recommendation for denial. See October 3, 2007 Final Commission Decision on Amendment, *Russell City Energy Center Amendment Proceeding*, Docket Number: 01-AFC-7C (Application For Certification) at <http://www.energy.ca.gov/2007publications/CEC-800-2007-003/CEC-800-2007-003-CMF.PDF>.

The College District, one of the parties which was not mailed any notice of any CEC or PSD amendment, together with the County of Alameda, San Lorenzo Village Homeowners Association, the California Pilots Association, and the Hayward Area Planning Association, petitioned to intervene in the CEC 2007 amendment proceedings, but were informed by the CEC that their petitions were “too late.” November 7, 2007 Order Denying Petition for Intervention and Denying Petitions for Reconsideration, *Russell City Energy Center Amendment Proceeding*, Docket Number: 01-AFC-7C. In its summary denial, two Supreme Court Justices recused themselves and one was unavailable. *Chabot-Las Positas Community College District V. State Energy Resources & Conservation* (Jan. 3, 2008), California Supreme Court Docket No. S158851

(Werdegar, J., was absent and did not participate, Chin and Corrigan, JJ., were recused and did not participate).

After receiving over 136 comments in opposition and seven in support of the permit, almost six months later, on August 3, 2008, the BAAQMD issued a new second Draft PSD Permit and Additional Statement of Basis or ASOB. This time, however, BAAQMD did not “amend” anything. Instead, BAAQMD acknowledged, that upon additional investigation *no earlier* PSD permit had *ever* been issued to RCEC. This August 2009 issuance would constitute a “new” PSD Permit:

The Air District evaluated all of the equipment at the project from scratch to ensure that it meets current BACT standards as is required for a new permit application. The District similarly conducted an Air Quality Impacts Analysis (and related analyses) from scratch for the entire project, using the most current information and modeling techniques, as is required for a new project. Those analyses, along with the additional review and analysis described in this document, fully support the issuance of a new Federal PSD Permit as the District is now proposing to do.

(ASOB at 4-5.) After holding a second public hearing based on this “new” August 2009 ASOB, BAAQMD received another fifty-two comments opposing the permit and seven supporting the issuance, not including the additional 18 comments received after the close of public comment.

B. The Community In Which RCEC Would Be Located And Identified By The BAAQMD Air Risk Evaluation (CARE) Program As A Community “At Risk.”

The Chabot campus is one of two community college campuses of the Chabot-Las Positas Community College District located approximately 1.35 miles southeast of the proposed RCEC 600 megawatt gas fired thermal power plant. The Chabot campus is located on the west side of the arterial Hesperian Boulevard, a six to eight lane

thoroughfare running north south and parallel to Interstate 880, a State arterial carrying significant vehicle and truck traffic located less than one mile east of the Chabot campus and identified by the State as a “hot spot.”² South of the Chabot campus is Highway 92.

The Chabot campus consists of over 15,000 students, faculty and Staff, and its campus community includes a childcare facility. In 2009, the Chabot campus qualified for designation as a Hispanic-Serving Institution, or HSI under federal law with its Latino students making up 32 percent of all new students on campus, and 26 percent of total enrollment. February 2009 Comments.

Enclosed within a two mile radius of RCEC, in addition to the Chabot campus and the surrounding residential neighborhoods, is Eden Gardens Elementary School, Anthony W. Ochoa Elementary, both public kindergarten through sixth elementary schools. Also within that radius is Lea Montessori private school, Life Chiropractic College, ITT (Heald) Technical Institute. Nearby are Eden West Convalescent Hospital , Kaiser Medical Center and Hospital, and further south is St. Rose Hospital.

Approximately a mile and one half north of RCEC is the Hayward Executive Airport and ten to twelve miles north is the Oakland International Airport. Exhibit 1.³

² Attached as part of Exhibit 3 are copies of the Alameda County Congestion Management Maps for 2008 of the overall area falling within the significantly impacted area as identified within six miles. RCEC is located east and north of the toll gate for the Highway 92 bridge. This reflects that Interstate 880 generally operates at a LOS “F” (worst level of traffic – [gridlock?]) in the morning commute while Hesperian operates at varying LOS from “F” to “C.” These can be located at <http://accma.ca.gov/pages/RptLOSMonitoring.aspx>, specifically for 2008 http://accma.ca.gov/pdf/reoccurring_reports/los_monitoring_report/2008_LosMonitoringReport.pdf. See Sept. 16, 2009 Comments at 9-11 & fn. 10.

³ Attached to the College District’s February 6, 2009 Comments to the SOB is a copy of the California Energy Commission staff’s February 4, 2008 Memorandum entitled “Final Distances Table” submitted as part of the Evidentiary Record for the *Eastshore Energy*

To place the volume of traffic surrounding both RCEC and Chabot to the south and east in context, according to the Alameda County records, the average daily traffic volume for Highway 92 in 2008 was 214,000,⁴ while at the freeway intersection of Winton and 880, the average daily traffic volume in 2008 was 498,000.⁵

In addition to the BAAQMD's designation as non-attainment for 8 hour ozone, it recently was designated non-attainment for PM2.5 under the Clean Air Act. According to the Environmental Protection Agency, Alameda County has the highest ground level ozone concentration of the nine Bay Area Counties, 81 parts per billion, which has been linked to health problems and premature death. Exhibit 2 (*Compare, the Counties of San Francisco, Marin and San Mateo: 47, 50 and 54 ppb respectively.*) In December 2009, BAAQMD's Community Air Risk Evaluation (CARE) Program identified Western Alameda County, where the Chabot is located and next to where RCEC would be located, as one of the communities as "likely to face the highest health risks from toxic air contaminants (TAC)." (Exhibit 2.)

Many of the students who attend Chabot lack medical insurance coverage. The Chabot campus has served historically disenfranchised populations, with the majority of

Center, Application No. 06-AFC-6, in which the College District, Alameda County, the California Pilots Association, San Lorenzo Village Homeowners Association and Hayward Area Planning were "not too late" to participate as intervenors. The application to construct the proposed 115 megawatt Eastshore thermal gas fired plant to be located down the street from RCEC was denied by the CEC. This CEC Staff memo lays out the multiple uses and activities in this metropolitan area bordered by highways Interstate 880 and 92, the San Mateo Hayward Bridge, as well as the close-by Hayward General Aviation and Oakland International Airports.

⁴ <http://www.dot.ca.gov/hq/traffops/saferesr/trafdata/2008all/2008AADT.xls>

⁵ <http://www.dot.ca.gov/hq/traffops/saferesr/trafdata/2008all/r505980i.htm>. Also see Exhibit 3.

students from race-ethnicity groups consisting of African American, Asian American, Filipino, Latino, as well as socio-economically disadvantaged Caucasian students. According to Dr. Sandra Witt of Alameda County's Public Health Department, the community in which both the Chabot campus and RCEC are located suffer from chronic health issues not present in other nearby Bay Area communities. February 2009 Comments. Dr. Witt's testimony specifically refers to the County's recent publication entitled "*Race, Class, and the Patterns of Disease Distribution in Hayward; Decision – Making that Reinforces Health Inequality.*"⁶ (Compare BAAQMD Dec. 2009 CARE Memo: "identifying areas that (1) are close to or within areas of high emissions of toxic air contaminants, (2) have sensitive populations, defined as youth and seniors, with significant TAC exposures, and (3) have significant poverty." Exhibit 2.)

RCEC would be BAAQMD's sixth biggest polluter of CO₂ in the nine Bay Area Counties, the second biggest fossil fuel power plant polluter of CO₂, emitting 1,928,182 million tons of CO₂, behind its "sister" plant Delta Energy Center, located in Pittsburg, Contra Costa County, also owned and operated by RCEC's owner Calpine. (Exhibit 2.) Attached for the benefit of the Board are the resolutions passed by the Chabot-Las Positas Faculty and the Board of Trustees of the College District setting forth the background of the Chabot campus, student body and faculty and objecting to the February 2010 PSD Permit. (Exhibit 2.)

⁶ Dr. Witt's testimony is attached as Exhibit 6 to the February 2006 comments by the Environmental Law Clinic of Golden Gate Law School on behalf of Citizens Against Pollution.

C. The Air Quality Analysis – And The Two Different 24 Hour Only PM2.5 Modeling Runs – Only One Of Which Was Publicly Disclosed.

The SOB's Summary of Air Quality Impact Analysis identified RCEC as emitting 134.6 tons/year of NO₂, 584.2 tons/year of CO, 86.8 tons/year of PM₁₀, and 12.2 tons/year of SO₂. SOB at 88. PM₁₀ maximum 24-hour was modeled for both turbines at an emissions rate of 1.134. SOB at 90, table II. Although not reflected on a grid as otherwise required in BAAQMD's June 2007 Permit Modeling Guidance at 2, sec. B (application) & 5, sec. D.2.(e) (full impact study), the location of the "project maximum impacts for "max 24-hour PM₁₀" was identified at coordinates 576349.3, 4165626.5, approximately one mile southeast next to Highway 92. SOB at 92, figure 1.

The June 19, 2007 "Amended Final Determination of Compliance" attached to the SOB as Appendix D, on the other hand, identified a different location of the "project maximum impacts" for "Max 24-hour PM 10" as coordinates 578653, 4165364. June 19, 2007 Amended Final DOC, figure 1 at 162 of the SOB. Based on this information provided by BAAQMD, these two maximum impact locations for PM₁₀ in the December 2008 SOB again is over one mile away from RCEC.

The August 2009 ASOB revisited BAAQMD's air modeling analysis concerning PM_{2.5} since the decision by the U.S. Court of Appeals in *Sierra Club v. EPA* invalidated the PM₁₀ "surrogate" approach intended to address PM_{2.5} compliance issues pursuant to 40 C.F.R. 52.21(i)(1)(xi), as utilized under RCEC's earlier proposed permits. (The application of the invalidated surrogate approach also was stayed by the EPA Administrator pending reconsideration.) Rather than waiting for the resolution of the stay, BAAQMD and RCEC chose to abandon the surrogate results and perform a new air

quality impact analysis for PM_{2.5} with which the College District agreed, as long as the draft was publicly circulated and a public hearing held.

Under the ASOB's Class I Analysis, the "District used the previously-conducted AERMOD analysis for PM₁₀ impacts, and conservatively assumed that all of the PM₁₀ from the Project is PM_{2.5}." ASOB, at 88-89. In response, the College District pointed out that this constituted no Class I analysis at all because AERMOD could not extend out to the distance of the nearest Class I location, Point Reyes National Park. Sept. 16, 2009 Comment at 5 ("USEPA Modeling Guideline or Appendix W recommends the use of the model CALPUFF for applications beyond 50 km.[fn]").

Unlike with the December 2008 SOB which found no significant impact level caused by RCEC for PM₁₀, under the August 2009 SOB the Air District found that RCEC would clearly exceed the significant threshold and that a "full impact analysis must be conducted utilizing multi-source modeling." ASOB, at 84 & fn. 147, relying on fn. 141 & Table III. Due to the proximity of the Chabot campus to RCEC, counsel for the College District retained an air modeling expert and obtained the Air District's air modeling file to examine the 24-hour project only PM_{2.5} run. ASOB at 159.

In examining the background concentration relied on by the Air District to compare with the ambient air quality standard (AAQS), the College District also noted that the background concentration of 33.3 ug/m³, which was the 98th percentile and most recent measured level, should be utilized as recommended by the District's Guidelines, rather than the average of three years, 29 ug/m³, which understated present background levels. Sept. 16, 2009 at 12-13. By applying the 98th percentile, the AAQS of 35 ug/m³ was exceeded by all peak concentrations, even utilizing Calpine's 24 hour project only

maximum impact of 4.9 ug/m3, which the College District’s modeling revealed also was understated. Given the yet to be published designation of the Bay Area as non-attainment for PM2.5 establishing exceeding concentrations, the College District contended that application of the 98th percentile would be more appropriate. Sept. 16, 2009 Comment at 13.

Applying the exact same inputs as the modeling run provided in the files obtained from BAAQMD,⁷ the College District’s run revealed the project contributing 6.33ug/m3, a much higher concentration level than 4.9 ug/m3, than that disclosed by the Air District:

Comparison of 24-Hour PM2.5 Impacts against the NAAQS

| Concentration Rank | Concentration (ug/m3) | Background (ug/m3) 98th%Chabot/ 3 yr aver. BAAQMD | Total Conc. (ug/m3) | AAQS (ug/m3) | Violation |
|---------------------------|------------------------------|---|----------------------------|---------------------|------------------|
| Max Highest | 6.33 | 33.3/ 29 | 39.63/35.33 | 35 | Yes/Yes |
| High 2 nd High | 5.53 | 33.3/29 | 38.83/34.53 | 35 | Yes/? |
| High 8 th High | 3.75 | 33.3/29 | 37.05/32.75 | 35 | Yes/No |

In addition to arriving at higher maximum concentration levels for a 24 hour analysis, the College District also pointed out that its modeling results arrived at a larger impact area, utilizing the maximum concentration point, the location of the east turbine as the center,⁸ and applying the SIL of 1.2 ug/m3, resulting in a radius of 11,430 meters,

⁷ Specifically noted by the College District was that it utilized the emissions rate of _____ reflected on the modeling file received from BAAQMD on September 1, 2009, not _____, which was identified on the July 2009 Summary of Impact Analysis which RCEC’s counsel forwarded.

11.43 km or 7.1 miles, rather than 8.1 km or six miles identified by the August 2009 ASOB. Sept. 16, 2009 Comment, at 11.

Further, the College District pointed out that rather than arriving at 6,019 sensitive receptors with a concentration of 1.2 ug/m³ or greater as plotted by Calpine, “where the RCEC “first high” impacts (i.e., the maximum predicted concentration) exceeded 1.2 µg/m³ on a 24-hour basis,” the College District arrived at **over 2,400 more receptors, 8,424 receptors with concentration of 1.2 ug/m³ or greater.** Sept. 16, 2009 Comment, at 12, relying on July 30, 2009 Source Impact Analysis, p. 11 (“the modeling receptor grid of 31,000 receptors was reduced to 6,019 receptors”; *compare with*, Glen Long’s July 27, 2009 Memo to you on Air Quality Impact Analysis, pp.5-6, stating there were “approximately 18,400 receptors” within 1.26 km for the 24 hour average impact.)

The only reason attributable to the difference in results, based on the College District’s investigation, was that the air files relied on by BAAQMD identified that a private commercial modeling program was used, stating AERMOD software from BEE-Line. Sept. 16, 2009 Comments 6.⁹ Presuming that absent denial of the permit which clearly would have an ambient impact in a non-attainment area that would exceed the SIL, BAAQMD would recirculate a corrected air analysis disclosing this information, the College District also asked that these additional 2,405 receptors generated by the official EPA version of AERMOD utilized by the College District be plotted out and identified. Sept. 16, 2009 Comments at 8.

⁹ Specifically reflected on the modeling file was the following: “**BEE-Line Software: BEEST for Windows (Version 9.78a) data input file** Model: AERMOD.EXE Input File Creation Date: 4/30/2009 Time: 11:37:47 AM.” Sept. 16, 2009 Comments at 6.

Over four months later, during which the College District provided BAAQMD its modeling results, BAAQMD produced a 244 single space page response to comments intended to address both the December 2008 SOB and August 2009 ASOB. Without addressing or disclosing the College District's increased concentration level revealed of 6.33ug/m³, in response, BAAQMD asserted that its use of a private modeling program was to simply "front load" the data¹⁰ and the differences attributable to the two runs was that the College District had used the "wrong" emissions rate, 9 lbs/hour or 1.134 grams/second, the rate which the District modeled was 7.5 lbs/hour or 0.945 g/s:

Based upon the Air District's analysis, the discrepancy between the commenter's modeled results and those of the applicant and Air District appears to have resulted from the commenter's use of the **wrong emission rate for the gas turbines**. *The commenters stated that they used an emission rate of 1.134 grams per second (g/s), which they note is higher than the rate of 0.945 g/s specified by the applicant's Source Impact Analysis. Apparently, the commenters selected the wrong emissions rate because the commenters had relied upon an outdated modeling report generated by the Air District, which used the combustion turbine/HRSG emissions rate proposed in the December 2008 Draft Permit (9 lbs/hr), rather than the reduced emissions rate (7.5 lb/hr)*

¹⁰ Response at 160. Without any reference to the underlying administrative record, the Response contends that Calpine did not use any third party programs, while providing the following explanation for BAAQMD's reliance on the private program:

[T]he Air District disagrees that it used a proprietary commercial version of the AERMOD software. To the contrary, the Air District used the same publicly available AERMOD program that the commenters apparently did. The reference to the proprietary "BEE-Line Software" relates to graphical user interface software that makes it easier to input the modeling data that will be used in the AERMOD analysis. This software takes the input information and then organizes it into a format that can be used in the AERMOD program. The actual dispersion model itself that the Air District used, along with the AEMOD input and output files, are based upon the publicly available software. The only additional software that the Air District used was the graphical user interface on the front end to help streamline data inputting.

Response at 160-161.

proposed in the August 2009 Draft Permit and in the modeling reports referenced in the Additional Statement of Basis. (The higher emission rate of 9 lb/hr equals 1.134 g/s.) According to the Air District's assessment, the differences which the commenter modeled resulted from its use of the wrong emissions rate, and not from any other difference in the modeling inputs or methods.

Feb. 2010 Response & PSD at 160-16, emphasis and italics added.

As to the larger significantly impacted area identified by the College District's run, BAAQMD dismissed this relevance contending that the project only 24-hour analysis was out the window and irrelevant because the Air District was presently was designated as non-attainment for PM2.5:

The issue of **exactly how far out to extend the 24-hour impact area is now moot, as 24-hour impacts are no longer part of the PSD permit review now that the Bay Area has been designated as non-attainment** of the 24-hour NAAQS. The Air District therefore disagrees that anything in this comment provides a reason to revisit its permitting analysis. The comment does not contend that use of an 8.1 km impact area for the annual standard was inappropriate, and the Air District observes that an 8.1 km impact area was actually very highly conservative for the annual analysis given that annual impacts above the SIL were not found more than approximately 450 meters from the project site.

Feb. 2010 Responses at 160, emphasis added.

The College District's September 16, 2009 Comments, however, pointed out that based on the modeling results, even applying the understated 29 ug/m3 AAQS, "the concentrations from the project by itself are three to five times the Significant Impact Level and clearly fall within the provisions discussed above that 'the source is considered to cause or contribute to a violation of the NAAQS and may not be issued a PSD permit without obtaining emissions reductions.' (*Op cit.*, 54113738.) As a nonattainment region, this is where the analysis starts and stops." Sept. 16, 2009 Comments at 8, relying on and quoting 72 Fed. Reg. 54112, 541137-38.

The response from BAAQMD was that because the Bay Area was non-attainment for 24-hour PM_{2.5}, it did not even intend to consider these results because there were no PSD requirements to apply for 24 hour PM_{2.5} and because the project would contribute less than 100 tons/year, Appendix S's NSR requirements were likewise irrelevant:

...in the event that the non-attainment designation became effective before final decision on permit issuance, the facility would cease to be subject to PSD requirements for PM_{2.5} (at least as they relate to the 24-hour standard) and would instead become subject to EPA's non-attainment NSR permitting requirements in 40 C.F.R. Part 51, Appendix S. **In that case, the Air District would leave the issue of PM_{2.5} permitting to Appendix S, at least as it relates to the 24-hour standard. (But note that the Appendix S requirements would not be applicable to this facility in any event because its PM_{2.5} emissions are below the Appendix S threshold of 100 tons per year.[fn])**

Feb. 2010 Response at 78, emphasis added. In effect, under BAAQMD's analysis, as long as a polluter in a non-attainment air district keeps its non-attainment pollution below the 100 tons/year threshold, the polluter may freely contribute to the violation of the 24 PM 2.5 hour standards.

D. The Disclosure Of The Mistaken Roadway Segments Leaving The *Only* Mobile PM Sources Modeled In A Six Mile Radius The Less Traveled Highway 92 Which Disclosed A Significant Impact.

Also raised by the College District was that the NAAQS dispersion modeling inputs were unrepresentative and incomplete. Although the July 30, 2009 Summary of Air Quality Impact Analysis for PM_{2.5} (SIA) referred to the NAAQS dispersion modeling inputs as including emissions of PM_{2.5} from Highway 92, which were added to the source emissions data from RCEC, the July 30, 2009 SIA also stated that "[t]he Air District provided the emissions of PM_{2.5} from mobile sources that were based on model

year 2007 car/truck vehicle mix and emission factor data, specific to Alameda County.”¹¹

The SIA stated that traffic count data based on average daily east and westbound traffic were provided” for six different roadways and freeway intersections along Highway 580, although most if not all fell outside of the six mile significantly impacted area. Sept. 16, 2009 Comment at 9.

In response to the College District’s inquiry as to whether the identification of “Junction 238” concerned nearby Highway 880 (closer to RCEC and known for its heavy truck traffic) or Highway 580 (located east of 880 and on which trucks were prohibited), and why was BAAQMD including other highway segments falling outside of the six mile radius which experienced far less traffic than roadways within the six mile radius, such as Highway 880, BAAQMD stated that identification of these additional roadway segments was all a “typographical error”

The applicant’s consultant did in fact model the correct highway segments’ emissions in the analysis, but the consultant mistakenly cited the names of the highway segments from another spreadsheet included within the Excel workbook when completing the report. **Once this error was identified, the applicant’s consultant submitted a correction to the Source Impact Analysis.[fn] The Air District disagrees that this typographical error changes the substance of the analysis. To the contrary, the substance of the analysis was based on the correct segments, even if they were misidentified in the report.** The segments’ identification has now been corrected for the record. . . .

Feb. 2010 Response at 159. Footnoted is a September 28, 2009 Memorandum from Calpine’s air modeler to BAAQMD which is suppose to represent the “correction,” although not disclosed by the Response is just what other highway segments in this

¹¹ When Commentators requested copies of the SIA, counsel for Calpine made a point to announce it had been recently modified as to the “identification of the impact area and nearby sources for the cumulative impacts analysis and NAAQS compliance demonstration.” Sept. 16, 2009 Comments at 9.

metropolitan area were included in the modeling other than Highway 92. Response at 158.

What the February 2010 Response makes clear is that **nearby Interstate 880, “Interstate 580, Highway 238, Highway 185, and additional arterial roads [were] excluded.”** Response at 158; *Compare* Exhibit 4. The rationale was that BAAQMD “properly included all roadway emissions that could cause a significant concentration gradient in the areas where the facility’s impacts would be above the SIL.” Response at 158.

The Air District determined that these other roadway sections, even though they may lie within the 6-mile radius the District used to identify potential nearby sources, would not cause a significant concentration gradient at locations where the project’s impacts would be above the SIL. EPA’s guidance is clear that **the full impact analysis does not need to consider a source as a “nearby” source unless it could result in a significant concentration gradient in the same vicinity as the proposed source’s impacts.** That is, even if a particular highway segment might generate a significant concentration gradient somewhere within the impact area, but not within the same location where the source’s impacts also exceed the SIL, then its exclusion from the multi-source full impact analysis is appropriate; **so long as the facility’s predicted impacts which exceed the SIL do not coincide in both time and location with any potential violation of the NAAQS resulting from the highway segments,** then the facility cannot be found to cause or contribute to such a violation. **Identifying the location of the proposed facility’s impacts, relative to the location of such other sources, no additional sources were identified as “nearby sources” for inclusion in the full impact analysis because none of such sources could reasonably be expected to cause a significant concentration gradient in or around the same location where the proposed facility’s impacts were modeled above the SIL.** Accordingly, since most of the modeled locations that were above the SIL were in the immediate vicinity of the proposed project, it was appropriate not to model additional sources as part of the multi-source modeling analysis.

Response at 158-159, emphasis added. Based on the College District's examination of BAAQMD's files, the *only* road segments modeled within this six mile radius were six sections of Highway 92, no others. Response at 156 & fn. 312 & 159 & fn. 322.

E. The BACT And LAER Discussions Over Available Off The Shelf Control Technologies

In response to the "amended" PSD permit issued based on the December 2008 SOB, counsel for the College District retained a mechanical engineer to address the very high daily emission limits for NO_x, CO, and VOC in the proposed permit which effectively represented *no* daily limits. Feb. 6, 2009 Comments at 2-3. The College District observed that there was no credible mix of cold startup, hot startup, shutdown, and steady-state operating scenarios that would come close to generating 2.4 tons/day NO_x, 10 tons/day CO, and 0.25 tons/day of VOC. The stated suspicion was that RCEC would use frequent startups with high emissions while staying under the annual emissions cap by slightly over controlling NO_x emissions during steady-state operation. The result would be to leave the community at risk for high spikes of pollutants. Feb. 6, 2009 Comment at 3-4.

There were primarily two control technologies available which the College District identified which needed to be included in order for RCEC to satisfy BACT and which could satisfy non-attainment ozone-8 hour and PM_{2.5} LAER. One was the Flex-30 technology, which would reduce NO_x emissions by nearly 80% and reduce proposed emissions for CO by the District by approximately 90%. This technology was specifically intended for adoption by such combined turbines proposed by Calpine, to provide a high efficiency fast start plant using a high efficiency HRSG for intermediate to baseload applications. February 2009 Comment at p. 6.

A necessary corollary that the College District's research revealed was that to accompany fast start technology and, which was available as its own control technology to reduce the length of start-ups/shut downs was an auxiliary boiler, a common and available piece of equipment in use in other natural gas plants similar to that proposed RCEC and utilized as BACT. June 15, 2009 letter forwarding Lake Side in Utah's records; Response at 114; Sept. 16, 2009 at 3, forwarding vendor information on Caithness re auxiliary boiler. According to BAAQMD's records, although the fast start technology and auxiliary boiler were a matter of discussion, BAAQMD was informed by Calpine that substantive changes to Calpine's turbines, purchased several years ago when the plant was contemplated in 2002, would "kill the project." February 2009 Comment at 14. The February 2010 Response provides the additional explanation:

The Air District agrees with these comments that based on all of the available information, including the examples from these three facilities, the facility should be able to achieve lower BACT startup emissions limits than the Air District initially proposed in several areas. For NO₂ emissions, the Air District has 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. For warm and cold startups, the Air District continues to believe that the NO₂ emissions limits it initially proposed are appropriate because the additional information it has reviewed supports these limits as the lowest that can reasonably be achieved over time. For CO emissions, the Air District has concluded that the emissions limits should be reduced from 5028 lbs. to 2514 lbs. for cold startups and from 2514 pounds to 891 pounds for hot startups. For warm startups, the Air District continues to believe that the CO limit of 2514 pounds initially proposed is the appropriate BACT limit.

Response at 93-94

As for the "application for triple-pressure systems such as this one – known as 'Flex-Plant 30' – is currently under development, but it is not yet available at this time."

Response at 105. On the other hand, as the College District has repeatedly pointed out referring to manufacturer discussions, this technology has been available to order since at least 2007 and as others observed, fast start technology was specifically recommended as a condition for approval by CEC Staff. February 5, 2009 at ___ & Response at 108, fn. 213.

In its later August 2009 ASOB, the BAAQMD concluded that an auxiliary boiler would not be required as a BACT control “because the economic impacts in having to install and operate the auxiliary boiler render it inconsistent with BACT, given the relatively small additional emissions reductions it would achieve.” Further, relying on Calpine’s data from Calpine’s plant in New Mexico, BAAQMD rejected the auxiliary boiler as cost effective:

Assuming an annual operating profile containing 6 cold startups and 100 warm startups (a conservative estimate because actual startups will likely be lower), **a similar reduction at Russell City from using an auxiliary boiler would result in 0.9 tons of NOx and 12.4 tons of CO per year.** *The Air District compared these potential emissions reductions to the costs of using an auxiliary boiler, based on a cost estimate provided by Calpine and reviewed by the District. That cost estimate showed that the annualized cost would be \$1,029,521 for the installation and operation of the auxiliary boiler.* In terms of dollars-per-ton, these figures yield a **cost-effectiveness number of \$1,143,912 per ton for the NOx reductions and \$82,800 per ton for the CO reductions.**

Response at 114, emphasis and italics added. The College District forwarded to the Air District the Siemens specifications provided for Caithness in 2004 which reflected that the Air District would reduce the CO emissions *eight times*, applying BAAQMD’s most recently disclosed operating profile for RCEC.

Comparing the proposed revised limits on RCEC with the emission reductions identified by Siemen’s in the Caithness application, the College District pointed out that

the Siemen’s 2004 vendor information disclosed far better emission results than reported by BAAQMD:

Comparison of Caithness and Proposed Russell City Startup
Emissions Limits without AND with Auxiliary Boiler (at 51 degrees Fahrenheit)

| Startup Scenario | Without Boiler | With Boiler | Proposed RCEC Limit |
|------------------|------------------------------|---|------------------------------|
| Hot Startup | 127 lbs. NOx 891 lbs. CO | 96 lbs. NOx [1] 685 lbs. CO [206] | 95 lbs. NO2 891 lbs. CO |
| Warm Startup | 488 lbs. NOx 2813 lbs. CO | 125 lbs. NOx [0] 826 lbs. CO [1,688] | 125 lbs. NO2 2514 lbs. CO |
| Cold Startup | 488 lbs. NOx 2813 lbs. CO | 147 lbs. NOx [333] 833 lbs. CO [1,681] | 480 lbs. NO2 2514 lbs. CO |

Total reduction in CO emissions amounted to 3,565 lbs, and reduction in NOx emissions amounted to 334 lbs., a dramatic two-thirds reduction in the emissions of CO for warm and cold start-ups and a two-thirds reduction for NO2 for Cold Start-ups. (*Compare* Table 5, p. 65 with attached Siemen’s chart for emissions with boiler at 51 degrees.)
Sept. 16, 2009 Comments at 3.

Therefore the College District pointed out, applying the “annualized cost of \$1,029,521 for the installation and operation of the auxiliary boiler,” as provided by Calpine, ASOB, at 70, the cost effectiveness for the CO reduction as calculated by Calpine likewise falls from Calpine’s “estimate of \$83,025 per ton for CO reduction” by eight times to \$11,515 per ton for CO reduction. Sept. 16 2009 Comments at 3-4.

In response, BAAQMD referred to the information from Calpine on its Mankato Minnesota facility.

The Air District reviewed the vendor estimates cited in these comments and disagrees that they support an estimated reduction of 89.9 tons per year of CO from using an auxiliary boiler. The vendor’s documents show that the estimated cold startup emissions at 51°F are 2,164 pounds of CO without the auxiliary boiler and 1,271 pounds with

the auxiliary boiler, a difference of 893 pounds. For warm startups, the documents show emissions of 2,157 pounds of CO without the auxiliary boiler and 1,237 pounds with the auxiliary boiler, a difference of 920 pounds. Using these estimates, the annual emissions reductions come to 48.7 tons of CO, not the 89.9 tons calculated by the commenters. This amount of emission reductions would lead to a cost effectiveness calculation of \$21,140 per ton of CO reduced, not the \$11,515 figure cited in the comments.

Response at 115. (The College District notes for the record that upon further investigation to determine what BAAQMD is basing this clearly erroneous statement on, the College District notes that the Siemen's vendor information provided for Caithness also includes operations for an auxiliary boiler utilizing *fuel oil*. Caithness is a plant that operates under either fuel oil or natural gas. June 15, 2009 letter enclosures.)¹² Moreover, the Response continues, even assuming the College District's estimate based on Calpine's disclosure was correct, and "doubling the number of startups per year [which] would improve the cost-effectiveness only to \$5,758 per ton," according to the Air District, this would still be "well above the level at which BACT would require this technology to be used." Response at 116 & fn. 240.

As discussed below, since the publication of the Response, the College District obtained copies of the documents upon which BAAQMD relied. Exhibit 4. These reflect that the estimated cost information provided by Calpine was based on a much larger auxiliary boiler, one with a heat input of 320 MMBtu/hr. Exhibit 4. The auxiliary boilers installed at Caithness, New York, and at the Lake Side plant in Utah, however, to which the College District referred BAAQMD are much smaller. In fact, **Lake Side is the same size combined cycle plant as RCEC and the auxiliary boiler capacity is 49**

¹² Attached for the convenience of the Board are copies of the Vendor information provided to BAAQMD and it asserts upon which it relied. Exhibit 4.

MMBtu/hr, one-sixth the size assumed by Calpine for the RCEC auxiliary boiler .

Exhibit 4 (Lakeside Air permit at 3). **Additionally, the operating scenario**

contemplated for Lakeside is identical to that the Response states is contemplated

for RCEC. Exhibit 4 (Lakeside Air Permit at 6.)

V. ARGUMENTS FOR REMAND

A. The Air Analysis For 24 hour PM2.5 Concluding There Is No Violation Of The NAAQS Is Clearly Erroneous Given The Earlier Modeling By BAAQMD Utilizing The Achievable Emissions Rate Reveals That This Project Violates The Clean Air Act.

The College District discovered three clearly erroneous prejudicial errors in the air modeling BAAQMD adopted from Calpine:

1. The modeling results disclosed was based on an emissions rate of 7.5 lbs/hour which several plant owners and operators contacted BAAQMD after the close of comments to the August 2009 ASOB and informed BAAQMD such an emissions rate was not technically achievable for these turbines.

2. BAAQMD performed earlier modeling utilizing an emission rate of 9 lbs/hour which is subject to vendor guarantee, and assuming it utilized the official EPA AERMOD version, it knew, but did not disclose to the public that:

- a. the concentration level of PM2.5 was much higher, 6.33ug/m³, not 4.9ug/m³, thereby clearly violating the NAAQS
- b. there were over 2,400 *more* receptors exceeding the minimum concentration level of 1.2 ug/m³ which existed within a 7.1 miles radius than were disclosed and mapped out for public review; and
- c. the significantly impacted area was not a six miles radius, but 7.1 mile radius in which the minimum concentration level of 1.2 ug/m³ was exceeded.

3. The modeling prejudicially excluded Hesperian Boulevard and Interstate 880, located within one to two miles east of RCEC, east from RCEC, which are both congested arterials carrying at least two to three times more vehicle and truck traffic than Highway 92; while when including Highway 92, a maximum high was disclosed. The College District asserts that BAAQMD does not retain the discretion to intentionally exclude such significant nearby non-point sources

located in communities already identified as “at risk” for significant health problems due to pollution.

1. The Air Modeling For PM2.5 Is Fundamentally Flawed By Failing To Disclose The Modeling Results Applying The *Expected Achievable Maximum Operational Emissions Rate* Revealing Multiple Violations Of The NAAQS.

Here, BAAQMD bases its conclusions on 24 hour PM2.5, as well as the annual result, on modeling utilizing 7.5 lbs/hour, or at an emission rate of 0.945, also excluding all roadway segments but one in its undersized significant impact area. However, as disclosed by the December 2008 Amended SOB, earlier BAAQMD had relied on a 9.0 lbs/hour emission rate which, as documented by the College District’s run, assuming BAAQMD utilized the official AERMOD version, resulted in higher concentrations and therefore greater project contribution, a larger impact area and more than 2,400 additional sensitive receptors.

Although the February 2010 permit conditions, specifically number 22(e) at 10, provide a “daily” limit based on 7.5 lbs/hour for each respective turbine, the reasoning for adjusting this rate downward from 9 lbs to 7.5 lbs/hour is provided under the BACT analysis on the basis of “its own volition after the first comment period ended” for the December 2008 Draft Permit. Response at 83.

This revised limit was based on a review of additional source testing data from a number of similar combined-cycle facilities, which showed average particulate emissions of 4.58 lb/hr, with a high of 10.65 lb/hr.[fn] The Air District concluded that some of the higher test results may be attributed to anomalies in the testing and analytical methods, the influence of which may be mitigated by application of more rigorous quality assurance/quality control (“QA/QC”) by the testing contractor or analytical laboratory.

Response at 83-84. Footnoted is that the summaries were provided by Calpine.

In addition to receiving several responses inquiring as to the justification for this unexplained reduction set forth in the “initial” August 2009 PSD Permit, the Response also reveals that plant owners and operators after the close of comments contacted BAAQMD questioning the validity of relying on an emissions rate which has not been achievable and is not guaranteed by the vendor, as is 9lbs/hour:

Finally, the Air District also received communications outside of the formal comment period **from power plant owner/operators who questioned whether a limit of 7.5 pounds per hour would be achievable over all operating scenarios.** These interested parties stated that **equipment manufacturers will not guarantee emissions performance at 7.5 pounds per hour. They also noted that some of the test results showed emissions above 7.5 pounds per hour, and stated that as an enforceable not-to-exceed permit condition the BACT limit needs to be set at a level that can accommodate all such test results. They stated that the Air District should not establish a BACT limit at less than 9.0 pounds per hour.** The Air District acknowledges these points and is considering them, **but ultimately does not need to make a definitive determination in response because the project applicant is willing to accept the 7.5 pound-per-hour permit limit. The Air District understands that equipment manufacturers will not guarantee emissions below 9.0 pounds per hour.** Vendor guarantees are one important indicator of what emissions performance level is achievable for a BACT analysis, although the presence or absence of a vendor guarantee is not by itself determinative.[fn] The Air District is also fully aware that some of the test results it review showed emissions above 7.5 pounds per hour, as discussed in the Additional Statement of Basis. The Air District agrees that the BACT limit needs to be established at a level that is achievable under all operating scenarios, **but does not agree that a small number of test results over 7.5 pounds per hour necessarily means that a 7.5 pound-per-hour limit cannot be found to be achievable for purposes of BACT.** The Air District is investigating these test results further to develop more information on this issue. It may be that the high test results were due to inherent uncertainties in the test method as discussed above, or because of upsets in facility operation that led to excessive particulate matter. **Alternatively, it may be that the equipment cannot in fact ensure emissions below 7.5 pounds per hour under all foreseeable circumstances.** The Air District will continue to evaluate this issue going forward. **But for purposes of the Russell City**

permit, the District does not need to make a final determination of whether BACT for this type of equipment should be 7.5 pounds per hour, 9.0 pounds per hour, or some number in between. The project applicant has agreed to accept a permit limit of 7.5 pounds per hour, and that limit meets or exceeds BACT.

Response at 86. Emphasis and italics added.

As this Board recently explained *In re Northern Michigan University Ripley Heating Plant* (“Northern Michigan”), slip op. at ___, 14 E.A.B. __ (EAB 2009), the “worst case” emissions must be modeled to determine whether there is compliance with the NAAQS. Here, the record reflects that under the proposed operating scenario purportedly “agreed to” by Calpine, attempts to achieve 7.5 lbs/hour in fact may result in *a “high of 10.65 lbs/hour.”* Response at 83. However, rather than examining the results of the worst case emissions of 10.65lbs/hour as required as a matter of law, under the permit proposed attempting to adopt 7.5 lbs/hour, *supra*, instead BAAQMD bases its air quality analysis published to the public on the “best case” emission rate, while withholding relevant information (based on the lower emission rate of 9 lbs/hour) which in fact establishes that RCEC violates the Clean Air Act.

2. The Air Analysis Understates The PM2.5 Concentration Levels, The Size of The Significantly Impact Area And Number Of Sensitive Receptors Requiring That The Permit Be Remanded Back To Have A Proper Air Analysis Performed Satisfying Federal Requirements.

By reducing the emissions rate to an emissions rate challenged by plant owners and operators as non-achievable, BAAQMD’s air analysis prejudicially results in artificially reducing the number of receptors significantly impacted which experienced a concentration level greater than 1.2 ug/m³ and understates the area significantly impacted

Under the federal EPA 1990 New Source Review Work Shop Manual for both PSD and Nonattainment Area Permitting,

For both NAAQS and PSD increment compliance demonstrations, the *emissions rate* for the proposed new source or modification must reflect the maximum allowable operating conditions as expressed by the federally **enforceable emissions limit, operating level, and operating factor** for each applicable pollutant and averaging time. The applicant should base the emissions rates on the results of the BACT analysis (see Chapter B, Part I). **Operating levels** less than 100 percent of capacity may also need to be modeled where differences in stack parameters associated with the lower operating levels could result in higher ground level concentrations. A value representing less than continuous operation (8760 hours per year) should be used for the **operating factor** only when a federally enforceable operating limitation is placed upon the proposed source. [NOTE: It is important that the applicant demonstrate that all modeled emission rates are consistent with the applicable permit conditions.]

(NSR Manual, p. C 45, original emphasis.)

Here, when the December 2008 SOB was published, BAAQMD contemplated a 9 lb/hour emission rate for PM_{2.5}. Only after concluding that it would re-circulate a new draft PSD Permit and Calpine having performed another air quality impact analysis for PM_{2.5}, purportedly “on its own volition” BAAQMD proposed a new PSD permit published in August 2009 basing its PM_{2.5} air impact analysis on a 7.5 lbs/hour emission rate disclosing a concentration level of 4.9 ug/m³ as the “project only” contribution.

In fact, however, by utilizing the EPA approved modeling program, and applying the contemplated 9lbs/hour emission rate, which the Response reveals is the rate guaranteed by vendors, and the rate that plant operators and owners have informed BAAQMD is achievable, **not** 7.5 lbs/hour, a much higher concentration level is revealed as consisting of the “project contribution,” 6.33 ug/m³. **According to BAAQMD’s Response, a concentration level “above 6.0 ug/m³ would exceed the 24-hour NAAQS of 35 ug/m³.”** Response at 144, emphasis and italics added.

The Response attempts to brush off RCEC’s violation of the 24-hour NAAQS by contending, without citation to any support, that because the Bay Area already is in

violation of the Clean Air Act for 24 hour PM_{2.5}, this fact in reviewing whether to issue a PSD permit is irrelevant. It is not. As contended by the College District, but not addressed in the Response, are the requirements in the federal guidelines which BAAQMD earlier relied on in its ASOB which establish that this application as a matter of law must be denied.

In response to the August 2009 ASOB, the College District pointed out that BAAQMD cited in support the now finalized September 21, 2007 Proposed Rule, “Prevention of Significant Deterioration (PSD) for Particulate Matter Less Than 2.5 Micrometers (PM_{2.5})—Increments, Significant Impact Levels (SILs) and Significant Monitoring Concentration (SMC)”, 72 Fed. Reg. 54112, 54138-39 (Sept. 21, 2007) (otherwise referred to as “Proposed PM_{2.5} Increment, SIL & SMC Rule”). A SOB at 85 & fn. 144. However, the Proposed PM_{2.5} Increment, SIL & SMC Rule provides the following:

Significant Impact Levels or SILs are numeric values derived by EPA that may be used to evaluate the impact a proposed major source or modification may have on the NAAQS or PSD increment. The SILs currently appear in EPA's regulations in 40 CFR 51.165(b), which are the provisions that require States to operate a preconstruction review permit program for major stationary sources that wish to locate in an attainment or unclassifiable area but would cause or contribute to a violation of the NAAQS. **The SILs in that regulation are the level of ambient impact that is considered to represent a "significant contribution" to nonattainment.**

Although 40 CFR 51.165 is the regulation that establishes the minimum requirements for nonattainment NSR programs in SIPs, **the provisions of 40 CFR 51.165(b) are actually applicable to sources located in attainment and unclassifiable areas.** See 40 CFR 51.165(b)(4). **Where a PSD source located in such areas may have an impact on an adjacent non-attainment area, the PSD source must still demonstrate that it will not cause or contribute to a violation of the NAAQS in the adjacent area. This demonstration may be made by showing that the emissions from the PSD source alone are below the significant impact**

levels set forth in 40 CFR 51.165(b)(2). However, where emissions from a proposed PSD source or modification would have an ambient impact in a non-attainment area that would exceed the SILs, the source is considered to cause or contribute to a violation of the NAAQS and may not be issued a PSD permit without obtaining emissions reductions to compensate for its impact. 40 CFR 51.165(b)(2)-(3).

Sept. 16, 2009 Comment at 8, quoting 72 Fed. Reg. 54112, 541137-38, emphasis and italics added.

Further, the College District pointed out that applying “the Proposed PM2.5 Increment, SIL & SMC Rule, the concentrations from the project by itself are three to five times the Significant Impact Level and clearly fall within the provisions discussed above that ‘the source is considered to cause or contribute to a violation of the NAAQS and may not be issued a PSD permit without obtaining emissions reductions.’” (*Op cit.*, 54113738.) ***As a nonattainment region, this is where the analysis starts and stops.***

Sept. 16, 2009 Comment at 8, original emphasis and italics.

Without providing any authority nor substantively addressing the above arguments, BAAQMD completely ignores RCEC’s violation of the NAAQS for 24-hour PM2.5, essentially contending that as long as RCEC’s yearly contribution falls below 100 tons/year, it may violate the 24-hour standard without consequence because the Bay Area already is in non-attainment. Such a construction is clearly erroneous and this permit must be remanded back to BAAQMD for it to publish and disclose the air impact results for PM2.5 24 hour utilizing the recognized achievable emissions rate of 9 lbs/hour, as well as the ***worst case*** emissions rate of 10.65 lbs/hour, and apply the results to the applicable federal regulations. *See In re Knauf Fiber Glass, GMBH*, 8 E.A.D. 121 (EAB

1999) (air quality “analysis must determine whether emissions from a proposed source will cause or contribute to a violation of NAAQS”)

3. No Cumulative Impact Analysis Has Been Performed Because BAAQMD Erroneously Excluded Emissions From All Nearby Roadways But One And There Are Over 2,400 Additional Locations Within A Seven Mile Radius Where The 1.2 ug/m³ SIL Was Exceeded Which Remains Unplotted And Not Disclosed.

As reflected by BAAQMD’s own records discussed above, the communities within the significantly impacted area located near Interstate 880 and the six lane expressway, Hesperian, which is located between RCEC and Interstate 880, already suffer from a disproportionate amount of pollution. Further, the neighborhoods generally consist of socio-economically disadvantaged groups who already are at risk and suffer from disproportionate health problems due to pollution. Astoundingly, however, **without any explanation at all nor citation to any supporting documents, BAAQMD ignores the emissions contributed by these nearby roadways which already are recognized as posing a significant concentration gradient.** Response at 143. The explanation for ignoring emissions from *all but one* roadway is provided as follows:

The Air District then considered the cumulative impact of the facility’s emissions, background ambient air concentrations, and emissions from other nearby sources on receptors located within this impact area. The facility’s contribution was based on modeling using the facility’s emissions, and the background contribution was based on the Fremont-Chapel Way monitoring data as discussed above. **For the contribution from other nearby sources, the Air District undertook a search of its database of PM_{2.5} sources within a radius of 6 miles (9.7 km) around the facility location that have been permitted since January 1, 2007, and located a total of 29 such sources (including 21 backup diesel generators). The Air District also evaluated non-point sources within this area that could cause a significant concentration gradient at any of the areas where the facility’s impact was above the SIL.** The Air District identified a portion of Highway 92 that is located approximately 1 km south of the facility as such a nonpoint source, and included it in the analysis. The cumulative impact from all of these contributions (the

facility, the 29 point sources, and Highway 92) **was then modeled for each receptor location within the impact area where the facility's impact was above the SIL.**

Response at 143, emphasis and italics added.

The explanation for excluding all other roadways within an entire six mile radius, which include several carrying two to three times more vehicle and truck traffic as Highway 92, is that

The Air District determined that these other roadway sections, even though they may lie within the 6-mile radius the District used to identify potential nearby sources, would not cause a significant concentration gradient at locations where the project's impacts would be above the SIL. EPA's guidance is clear that the full impact analysis does not need to consider a source as a "nearby" source unless it could result in a significant concentration gradient in the same vicinity as the proposed source's impacts. That is, even if a particular highway segment might generate a significant concentration gradient somewhere within the impact area, but not within the same location where the source's impacts also exceed the SIL, then its exclusion from the multi-source full impact analysis is appropriate; so long as the facility's predicted impacts which exceed the SIL do not coincide in both time and location with any potential violation of the NAAQS resulting from the highway segments, then the facility cannot be found to cause or contribute to such a violation.

Response at 158-159. No where are any supporting documents or analysis by BAAQMD cited to explain the basis for this conclusion.¹³

This entire premise, however, is built on a faulty foundation since the model to make this determination, the 7.5lbs/hour, which is not the "worst case" rate, generated a lower concentration rate and fewer receptors, while the additional 2,400 receptors discovered by the College District's examination applying the achievable rate, 9 lbs/hour,

¹³ Gratuitously BAAQMD cites to Calpine's SIA report and refers to a memorandum from Barbara McBride of Calpine concerning the travel distance of PM which relates to Highway 92. No discussions at all or documentation, however, is relied on discussing the conditions of Interstate 880 or the roadway Hesperian, located between RCEC and Interstate 880.

remain unplotted and undisclosed. (*Compare*, Response at 159: “since most of the modeled locations that were above the SIL were in the immediate vicinity of the proposed project, it was appropriate not to model additional sources as part of the multi-source modeling analysis.”)

Based on BAAQMD’s own records acknowledging Interstate 880 and Hesperian as significantly contributing to the emissions detrimentally harming the health of the surrounding community and within the RCEC significantly impacted area, it was clearly erroneous for BAAQMD to exclude these important nearby roadways from its air analysis.

B. BAAQMD Clearly Erred Rejecting An Auxiliary Boiler Based On Documents Which Are Inapplicable To RCEC.

As discussed above, BAAQMD erroneously understates the emissions reduced from start-ups by utilizing an auxiliary boiler by relying on records from Caithness *which apply to oil fuel, not natural gas*, while ignoring the Caithness records applicable to natural gas cited by the College District and disclose a much higher emission reduction during start-ups. See Exhibit 4 (2004 information from vendor).

BAAQMD’s error is then magnified by erroneously relying on cost estimates to install an auxiliary boiler intended for *Minnesota*, which not surprisingly requires an auxiliary boiler eight times larger than needed for RCEC, or installed at Caithness, which operates the same turbines and has the same operating scenario as contemplated by RCEC. Exhibit 4.

Clearly, this permit must be remanded for BAAQMD to provide a proper cost analysis which is applicable to the project contemplated.

C. BAAQMD Did Not Engage In An Environmental Justice Analysis Considering The Environmental And Social Cost To A Community Already “At Risk.”

Here, BAAQMD concludes that there will be “no disproportionate adverse impacts on any environmental justice community” on the ground “that there will be no significant adverse impacts *to any community*, regardless of demographic makeup.” Response at 192, original italics. The underlying basis for this conclusion is that RCEC’s contribution to pollution is “*de minimis*.” Response at 193-194. First, as established above, the contribution of pollution by this project to a community already suffering from environmental and health degradation is not “*de minimis*.” Given it is undisputed that the project increases the community’s PM2.5 concentration levels to greater than 1.2 ug/m3, as a matter of law, such a contribution of pollution directly associated with serious health problems is not “*de minimus*.”

Additionally, the air modeling applying the expected achievable emission rate of 9 lbs/hour for PM2.5, modeling which has been in BAAQMD’s possession but it chose not to plot out and disclose to the public, again reveals that RCEC will cause and contribute to the exceedance of the NAAQS in violation of the Clean Air Act. The College District asserts that as a matter of law this is not “*de minimis*.”

Moreover, because BAAQMD excluded emissions from all roadways but one, roadways which vehicle and truck volumes are at least three times or greater than the one included roadway, Highway 92, in which these communities are located, BAAQMD does not present any evidence or authority to support its conclusion that RCEC’s pollution, in

conjunction with the emissions contributed from these nearby roadways, is “*de minimis*.”
Compare, Sept. 16, 2009 Comment at 2.¹⁴

Given BAAQMD’s environmental justice analysis is built on a faulty foundation, the Permit likewise must be remanded to require BAAQMD to prepare an environmental justice analysis considering the environmental and social cost of RCEC on this community.

VI. CONCLUSION

Based on the underlying administrative record before the Board, the issuance of the PSD Permit for RCEC by BAAQMD was clearly erroneous and as a matter of law must be remanded back for further proceedings requiring BAAQMD to perform a proper air impact analysis applying the “worst case” emission rate for PM_{2.5}; and, in preparing that air analysis, BAAQMD must include those roadways it erroneously excluded which BAAQMD’s CARE program identifies as contributing to existing health problems of the community, and to model those emissions.

Likewise, the Permit must be remanded back with instructions for BAAQMD to rely on relevant information applicable to RCEC in considering an auxiliary boiler for BACT, not records applicable to fuel oil or cost estimates for an auxiliary boiler which is

¹⁴ Sept. 16, 2009 comment, p. 2, referring BAAQMD to the now finalized Rules: Implementation of the New Source Review (NSR) Program for PM_{2.5}, amending 40 CFR Parts 51 and 52., requiring that any NSR analysis must include “An **alternative siting analysis demonstrating that the benefits of the proposed source significantly outweigh the environmental and social costs imposed as a result of its location,** construction, or modification.” Although the College District recognizes that this analysis is applicable to an application for NSR, the question posed is important and equally is relevant to a determination of whether a project disproportionately impacts an already stressed community.

oversized for RCEC. Finally, the Permit must be remanded back to require BAAQMD to apply an environmental justice analysis which recognizes the existing health problems already borne by a community which already suffers from disproportionate health risks from pollution, and the impact that RCEC's pollution will cause to a community which already bears high economic cost generated by pollution.

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Respectfully Submitted,

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