

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

In re: Russell City Energy Center	)	PSD Appeal No. 10-02 (Chabot-Las Positas Community College District, Petitioner)
PSD Permit No. 15487	)	[Related to PSD Appeals No. 10-01, 10-03, 10-04, 10-05, 10-06, 10-07, 10-08, 10-09, & 10-10.]

**RESPONSE TO PETITION FOR REVIEW**

Brian C. Bunger, Esq.  
District Counsel  
Alexander G. Crockett, Esq.  
Assistant Counsel  
Bay Area Air Quality Management District  
939 Ellis Street,  
San Francisco, CA 94109

April 23, 2010

**TABLE OF CONTENTS**

**INTRODUCTION AND SUMMARY OF ARGUMENT ..... 3**

**FACTUAL AND PROCEDURAL BACKGROUND ..... 5**

**STANDARD OF REVIEW ..... 9**

**ARGUMENT..... 10**

    I. The 24-Hour PM<sub>2.5</sub> NAAQS Standard Is Not Applicable For This PSD Permit..... 10

    II. Even If A PSD Analysis Was Required For The 24-Hour Standard, the District Did Not Commit Clear Error In Concluding That The Facility Will Not Cause or Contribute To A Violation of the 24-Hour Standard ..... 15

        A. The District Provided A Thorough And Well-Documented 24-Hour PM<sub>2.5</sub> NAAQS Analysis, Even Though It Was Not Legally Required..... 16

        B. The District Did Not Abuse Its Discretion In Using The 7.5 lb/hr Maximum Emissions Rate in Modeling the Impacts from the Combustion Turbines ..... 18

        C. The District Did Not Commit Clear Error In Declining to Model Roadways That Would Not Cause A Significant Impact ..... 24

    III. The District Did Not Commit Clear Error in Not Requiring An Auxiliary Boiler as BACT for Startup Emissions..... 33

        A. The District Carefully Considered The Costs And Benefits Of Using An Auxiliary Boiler And Documented Its Cost-Effectiveness Calculation On The Record..... 33

        B. The District Did Not Err In Estimating The Emission Reductions That Would Be Achieved With An Auxiliary Boiler..... 37

        C. The District Did Not Err In Calculating The Costs That Would Be Involved In Using An Auxiliary Boiler..... 39

    IV. The District Did Not Abuse Its Discretion In Concluding That There Would Not Be Any Significant Impacts To An Environmental Justice Community ..... 43

**CONCLUSION ..... 47**

## **INTRODUCTION AND SUMMARY OF ARGUMENT**

Pursuant to the Clerk's March 25, 2010, letter, Respondent the Bay Area Air Quality Management District ("District") submits this Response to Petition for Review 10-02 filed by Petitioner Citizens Against Pollution ("Petitioner" or "CLP") in this proceeding.

In this Petition, CLP seeks review of the PSD Permit the District issued for the Russell City Energy Center on three grounds. First, Petitioner claims that the District erred in concluding that the facility will not cause or contribute to a violation of the 1-hour National Ambient Air Quality Standard ("NAAQS") for PM<sub>2.5</sub>. Second, Petitioner claims that the District erred in determining that it would not require the facility to use an auxiliary boiler as the Best Available Control Technology ("BACT") to control emissions from turbine startups. Third, Petitioner claims that the District's environmental justice was based on a "faulty foundation" because of the alleged errors in concluding that the facility will not cause or contribute to a violation of the 24-hour PM<sub>2.5</sub> NAAQS.

For the reasons detailed in this Response, the District submits that all three of these arguments lack merit and respectfully requests that the Petition be denied in its entirety.

First, the Petitioner's claims that the facility will cause or contribute to a violation of the 1-hour PM<sub>2.5</sub> NAAQS must fail because, as a matter of law, the District was not required to evaluate compliance with this standard in issuing the PSD permit here. The San Francisco Bay Area is designated as non-attainment for this standard, meaning that this standard is addressed through Non-Attainment New Source Review ("Non-Attainment NSR") permitting under 40 C.F.R. Part 51, Appendix S, and not through PSD permitting under 40 C.F.R. Section 52.21. Consideration of this standard is therefore not part of the review required for a PSD permit; and the facility complies with the requirements of Non-Attainment NSR review under Appendix S.

Moreover, even if an analysis were required for the 24-hour standard as part of a PSD review, the District did in fact conduct such an analysis here and found that the facility would not cause or contribute to a violation in any event. Petitioner now claims that the District should

have assumed in this analysis that the facility will emit more PM<sub>2.5</sub> than it will legally be allowed to emit. But the District used the actual maximum emissions rate allowed by the facility's permit – 7.5 lbs/hr – as required by EPA requirements, which reflects actual worst-case emissions.

Petitioner also claims that the District should have included the emissions from two additional roadways in its modeling analysis. But the District properly declined to include them because it found that they will not cause a significant concentration gradient in any area where the facility will have a significant impact, which is consistent with EPA guidance on conducting such an analysis. For both of these reasons, even if the District had been legally required to conduct an analysis for the 1-hour PM<sub>2.5</sub> standard, its analysis properly found that the facility would not cause or contribute to a violation of that standard.

Second, the Petitioner's claims that the District should have required an auxiliary boiler as BACT for startup emissions must fail because the District properly concluded that an auxiliary boiler would not be sufficiently cost-effective. The District properly considered what level of emissions reductions could be achieved by using an auxiliary boiler and concluded that these emission reductions would not be justified by the additional costs that would be involved. Petitioner's claims that the District clearly erred in evaluating the potential emissions reductions and associated costs involved have no merit.

Third, the Petitioner's claims that the District's environmental justice analysis was based on a "faulty foundation" must be dismissed because, as noted with respect to the first argument, the District did not commit any error in its 24-hour PM<sub>2.5</sub> NAAQS analysis. That analysis is not part of the PSD permitting review under 40 C.F.R. Section 52.21, and so it is not an issue that the District is to consider in ensuring that environmental justice is promoted in PSD permitting under Section 52.21. And even if the District were required to consider 24-hour PM<sub>2.5</sub> impacts in the environmental justice analysis, it found that there would be no significant 24-hour PM<sub>2.5</sub> impacts to any community, and therefore no such impacts to any environmental justice community.

For all of these reasons, the Petition provides no grounds for review and should be denied.

## **FACTUAL AND PROCEDURAL BACKGROUND**

This Petition for Review seeks to appeal a Prevention of Significant Deterioration (“PSD”) Permit issued by the District for the Russell City Energy Center. This PSD Permit was issued in response to a Remand Order issued by the Environmental Appeals Board in PSD Appeal No. 08-01, which remanded an earlier version of the permit to the District to provide additional public notice and comment opportunities. (*See* Remand Order, *In re Russell City Energy Center*, 14 E.A.D. \_\_\_, PSD Appeal No. 08-01 (EAB July 29, 2008) (hereinafter, “Remand Order”).)

In response to the Remand Order, the District re-issued a draft PSD permit and conducted a great deal of public outreach notifying the public of the draft PSD permit and inviting public comment. The District initially published its draft PSD permit, along with a Statement of Basis explaining the District’s basis for the draft permit, on December 8, 2008. The District accepted written comments on the draft permit until February 6, 2009. The District also held a public hearing during this time period to receive verbal comment, on January 21, 2009. The District then reviewed and considered the public comments it received, and based on the public comments (and other new information) it revised and re-issued the draft permit for a further round of public review and comment. The District issued the revised draft, along with an Additional Statement of Basis, on August 3, 2009, and accepted written comments until September 16, 2009. The District also held a second public hearing, on September 2, 2009. The District then issued the Final PSD Permit that is the subject of this Petition for Review on February 3, 2010, along with comprehensive responses to all public comments it received. The District is providing copies of the relevant record documents that it published in this process as Exhibits to the Declaration of Alexander G. Crockett, Esq., (“Crockett Decl.”), accompanying this Response. The Exhibits include the Final PSD Permit (Exh. 1), the Notice the District issued with the Final PSD Permit (Exh. 2), the Responses to Public Comments that the District published to accompany the Final PSD Permit (Exh. 3), and the Additional Statement of Basis

(Exh. 4) and Statement of Basis (Exh. 5) that the District provided for the two public notice periods (which contained the draft permit conditions the District was proposing).

Of particular importance to this Petition to Review, the District conducted an evaluation to ensure that the facility will not cause or contribute to any violation of the National Ambient Air Quality Standards for fine particulate matter (“PM<sub>2.5</sub>”) as required under 40 C.F.R. Section 52.21(k). The District initially evaluated both the 24-hour average PM<sub>2.5</sub> standard and the annual-average PM<sub>2.5</sub> standard, because at the beginning of the permitting process the San Francisco Bay Area was designated as “attainment/unclassified” for both of these standards and PSD permitting therefore applied for both. During the permitting process, however, EPA re-designated the San Francisco Bay Area as non-attainment of the 24-hour PM<sub>2.5</sub> standard. As a result PSD permitting no longer applies for this standard; PM<sub>2.5</sub> issues are governed by non-attainment New Source Review (“Non-Attainment NSR”) permitting under 40 C.F.R. part 51, Appendix S. The District was therefore no longer required to conduct an NAAQS analysis for the 24-hour standard. The District nevertheless went ahead and completed the analysis anyway, in part because it had already conducted a good deal of work to address the issue, and also because there had been significant public concern addressed about it. For these reasons, the District therefore completed its PM<sub>2.5</sub> 24-hour NAAQS analysis, and found that the facility would not cause or contribute to any violation of the 24-hour standard, if that standard were still applicable in the Bay Area for PSD permits. The District’s analysis on this issue is summarized in Section XIII.B. of the Responses to Public Comments.

Petitioner has now appealed the permit challenging the District’s 24-hour PM<sub>2.5</sub> NAAQS analysis. The District contends that this challenge must fail because an analysis with respect to the 24-hour standard is not legally required anymore because the Bay Area is now a non-attainment area, not an attainment/unclassified area for that standard. The District also contends, for the reasons outlined in the Responses to Public Comments and as explained in the relevant sections in the following argument, the District disagrees that it has erred in any way in its analysis. As set forth in the Responses to Public Comments and elsewhere, the District’s

analysis was based on an accurate factual basis and was consistent with all regulatory requirements that would apply to such an analysis if it were legally required here.

In addition to considering these air quality impact issues, the District also conducted a BACT analysis for emissions from startups of the combustion turbines that the facility will use. The District considered three specific control technologies that could potentially be used to reduce emission from startups, in addition to best work practices to ensure that startups are accomplished as quickly as possible and with as little emissions as possible. One alternative is an emerging technology that uses an integrated once-through steam boiler process, known as “Fast-Start” technology. The District considered this technology, and found that one manufacturer – Siemens – offers an application called “Flex-Plant 10”, which is a “Fast-Start” system that uses a single-pressure steam boiler. The District rejected this technology because a single-pressure steam boiler is less efficient than the triple-pressure design that the Russell City facility will use. The District therefore concluded that “Flex-Plant 10” should not be required as BACT because the additional emissions and energy penalty from using the less-efficient system would not offset the additional startup emissions reductions it could achieve. The District’s analysis on this issue is summarized in Section VIII.C.1. of the Responses to Public Comments.

The District also considered whether the facility could use an auxiliary boiler to keep the equipment warm during shutdowns, which allows for a quicker startup with fewer emissions. The District evaluated the costs that would be involved in installing and operating an auxiliary boiler, and concluded that the additional emission reductions that could be achieved would not justify the additional expense. The District therefore rejected the use of an auxiliary boiler on cost-effectiveness grounds. The District’s analysis with respect to the auxiliary boiler is summarized in Section VIII.C.2. of the Responses to Public Comments.

Finally, the District also considered an emerging technology known as low-load “turn-down” technology. The District found that this technology has been used at only one facility, and that the data from this facility have not demonstrated that it will be able to achieve emissions rates that are any lower than the District had proposed. The District therefore concluded that this

technology would not have to be required as BACT, because it had not been demonstrated to achieve any additional emission reductions over what this facility will be required to achieve in any event. The District's analysis of low-load "turn-down" technology is summarized in Section VIII.C.3. of the Responses to Public Comments.

The District therefore eliminated these additional control technologies from its BACT review, and determined that BACT would be implemented through best work practices. The District then went on to develop specific emissions limits for different startup scenarios, based on permit limits from a recently-permitted similar facility, and also based on actual operating data from other similar facilities that showed that emissions rates could be achieved at levels somewhat lower than were specified in the most recent permit. The District's evaluation and determination of the appropriate BACT limits is set forth in Section VIII.B. of the Responses to Public Comments.

Petitioner now appeals the District's BACT limits for startups, claiming that the District's BACT determination was erroneous. Based on the permitting record summarized above, and on the more specific factual information provided at relevant points in the following argument, the District disagrees that it has erred in any way.

Finally, the District also considered the potential for any significant and disproportionate impact to environmental justice communities. The District evaluated the potential health impacts that could result from the facility and found them to be less than significant. The District therefore concluded that there would not be any significant impacts to any community, and therefore that there would not be any significant impacts to any environmental justice community. The District's evaluation of this issue is summarized in Section XV. of the Responses to Comments document. Petitioner has appealed on environmental justice grounds as well, but the District contends that, based on the evaluation and analysis it has provided, that the Petition presents no grounds for review on this issue either.



## STANDARD OF REVIEW

Petitions for Review of PSD permits are under 40 C.F.R. Section 124.19(a). Pursuant to Section 124.19(a), the Board may grant review only if the permitting authority's decision to issue the permit was based on a clearly erroneous finding of fact or conclusion of law, or if it involves an important matter of policy or exercise of discretion that warrants review. *See In re Zion Energy, LLC*, 9 E.A.D. 701, 705 (EAB 2001); *In re Knauf Fiber Glass, GmbH*, 8 E.A.D. 121, 126-27 (EAB 1999). The Board's power of review should be only sparingly exercised, and most permit conditions should be finally determined at the permit issuer's level, absent exceptional circumstances. *See In re Kawaihae Cogeneration Project*, 7 E.A.D. 107, 114 (EAB 1997).

The burden of demonstrating that review is warranted rests with the petitioner challenging the permit decision. *Kawaihae Cogeneration*, 7 E.A.D. at 114; *In re EcoElectrica L.P.*, 7 E.A.D. 56, 61 (EAB 1997). In order to establish that review of a permit is warranted, section 124.19(a) requires a petitioner both to state the objections to the permit that are being raised and explain why the agency's previous response to those objections – that is, the agency's basis for the decision – is clearly erroneous or otherwise warrants review. *See Kawaihae Cogeneration*, 7 E.A.D. at 114; *see also In re P.R. Elec. Power Auth.*, 6 E.A.D. 253, 255 (EAB 1995); *In re Genesee Power Station L.P.*, 4 E.A.D. 832, 866-67 (EAB 1993). Petitioners must explain how the agency's PSD analysis constituted clear error or an abuse of discretion, and it is not enough simply to repeat objections made during the comment period.

## ARGUMENT

Nothing in this Petition provides any reason to conclude that the District committed clear error in issuing this PSD permit, that it abused its discretion in any way, or that it otherwise acted in a manner that could warrant review. The District addresses each of Petitioner's arguments in turn below.

### **I. The 24-Hour PM<sub>2.5</sub> NAAQS Standard Is Not Applicable For This PSD Permit**

Petitioner's first claim is that the facility violates applicable PSD requirements based on a theory that the facility will cause or contribute to a violation of the 24-hour PM<sub>2.5</sub> NAAQS. This claim must fail for both legal reasons, which the District explains in this section, as well as for factual reasons, which the District explains in the next section.

Petitioner's claim fails for the legal reason that PSD review is not applicable to the 24-hour PM<sub>2.5</sub> NAAQS. The Bay Area has been designated as "non-attainment" of the 24-hour PM<sub>2.5</sub> NAAQS,<sup>1</sup> and now that the region is "non-attainment", Non-Attainment NSR requirements apply instead under the Clean Air Implementation Rule, 40 C.F.R. Part 51, Appendix S ("Appendix S"). This is because the Clean Air Act has two separate permitting mechanisms, one that applies in areas that are "non-attainment" of the NAAQS (Non-Attainment NSR permitting) and one that applies in areas that are "attainment" (PSD permitting). In a region that is designated "non-attainment", as the Bay Area is for the 24-hour PM<sub>2.5</sub> standard, the Non-attainment NSR requirements apply; the PSD requirements are no longer applicable. *See, e.g., In re Prairie State Generating Co.*, 13 E.A.D. \_\_\_, PSD Appeal No. 05-05 (EAB Aug. 24, 2006), *aff'd sub nom., Sierra Club v. EPA*, 499 F.3d 653 (7th Cir. 2007), slip op. at 6 ("The PSD permitting program regulates air pollution in 'attainment' areas, where air quality meets or is cleaner than the [NAAQS], as well as areas that cannot be classified as 'attainment' or 'non-

---

<sup>1</sup> *See* Air Quality Designations for the 2006 24-Hour Fine Particle (PM<sub>2.5</sub>) National Ambient Air Quality Standards; Final Rule, 74 Fed. Reg. 58699, 58709-10 (Nov. 13, 1999) (to be codified at 40 C.F.R. § 81.305). The designation was initially published on November 14, 2008, but did not become effective until December 14, 2009. *See id.* at 58688.

attainment' (*i.e.*, 'unclassifiable' areas.)); *In re Northern Michigan University*, 14 E.A.D. \_\_\_, PSD Appeal No. 08-02 (EAB Feb. 18, 2009), slip op. at 5 ("The PSD program is not applicable, however, in nonattainment areas."). Furthermore, as the Board has explained, a single region may be designated as "attainment" for some standards and "non-attainment" for others; where that is the case, as here, a facility will be subject to PSD requirements only for the pollutants for which the region is in "attainment". See *In re Sutter Power Plant*, 8 E.A.D. 680, 682 & n.2. (EAB 1999). That is the case with Clean Air Act permitting in the Bay Area. Facilities are subject to PSD permitting under 40 C.F.R. Section 52.21 only where the region is designated "attainment" (or "unclassifiable") of a particular NAAQS.<sup>2</sup> Where the region is designated as "non-attainment" of a particular NAAQS, as the Bay Area is for the 24-hour PM<sub>2.5</sub> NAAQS, Non-Attainment NSR permitting applies instead.

The District clearly explained this situation in the Additional Statement of Basis, which was issued when it appeared that the Bay Area would most likely become "non-attainment" for the 24-hour PM<sub>2.5</sub> NAAQS in the near future. See Additional Statement of Basis at 52-55. The District proposed that, in the event that the "non-attainment" designation was finalized before permit issuance, it would treat requirements related to the 24-hour PM<sub>2.5</sub> standard as subject to Non-Attainment NSR permitting under Appendix S, whereas requirements related to the annual PM<sub>2.5</sub> standard would remain subject to PSD permitting. See Additional Statement of Basis at pp. 54-55, § VI.B.2. The District did not receive any comments claiming that this approach was incorrect under the applicable PSD and Non-Attainment NSR permitting authorities. The District therefore went ahead and finalized the permit as a PSD permit for the annual PM<sub>2.5</sub> standard only; it did not issue the PSD permit as a permit for the 24-hour PM<sub>2.5</sub> standard, which is subject to the Non-Attainment NSR permit requirements of Appendix S. See Responses to Public Comments at 76-79 (Comment VI.1 (Applicability of PSD Permitting Requirements for Fine Particulate Matter (PM<sub>2.5</sub>)). (Note that the District also reviewed the requirements of

---

<sup>2</sup> These are the pollutants that the District addressed in its PSD permitting analysis: NO<sub>2</sub>, carbon monoxide, SO<sub>2</sub>, *etc.*

Appendix S, and found that they facility would comply with them because it is below the threshold at which substantive requirements become applicable. *See id.* at 78 and n.158; Additional Statement of Basis at 55. The Air District incorporated its PSD air quality impact analysis showing that the facility would not cause or contribute to a violation of the annual PM<sub>2.5</sub> NAAQS, as is required for PSD permitting. *See Responses to Public Comments* at 141-69. The District did not incorporate the analysis it had performed regarding the 24-hour PM<sub>2.5</sub> NAAQS into its PSD permit decision, however, as the 24-hour NAAQS was no longer part of the PSD air quality impact review now that the Bay Area is non-attainment of that Standard. The District did provide the results of that analysis – and responded to concerns expressed from the public on these issues – because it was clear that they were a matter of public interest, but explained that they were not being incorporated into the PSD permitting analysis because the Bay Area is “non-attainment” of the 24-hour PM<sub>2.5</sub> NAAQS. *See Responses to Public Comments* at 142.

Petitioner has not provided any argument to counter this analysis, either during the comment period or in its Petition for review. Petitioner’s only attempt to claim that a PSD analysis is still legally required for the 24-hour PM<sub>2.5</sub> NAAQS is to allude to regulatory requirements applicable where a source in an area that is “attainment” for a particular pollutant (and thus properly subject to PSD permitting for that pollutant) may cause an impact above a PSD “Significant Impact Level” in an *adjacent* area that is “non-attainment” for that pollutant. *See* 40 C.F.R. § 51.165(b). Section 51.165(b)(4) makes clear that this requirement does not apply in a “non-attainment” area; and Section 51.165(b)(2) makes clear that the requirement is triggered only where the facility would cause an ambient air impact above the SIL in a “non-attainment” area.<sup>3</sup> But neither of these elements is present here with respect to the 24-hour PM<sub>2.5</sub>

---

<sup>3</sup> The language from the proposed SIL regulation cited in the Petition (at pp. 31-32) further supports this reading of the regulations:

[T]he provisions of 40 CFR 51.165(b) are actually applicable to sources *located in attainment and unclassifiable areas*. *See* 40 C.F.R. 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

standard. First, the Russell City Energy Center will not be located in “attainment” or “unclassifiable” area for the 24-hour PM<sub>2.5</sub> NAAQS, it will be located in a “non-attainment” area and thus is expressly exempt under 51.165(b)(4) (requirements do not apply in an area designated as non-attainment). Second, Petitioner has not shown that the facility will have any impacts above any SIL in any adjacent Non-Attainment area. The District found that the farthest point with an impact above the 24-hour PM<sub>2.5</sub> SIL of 1.2 µg/m<sup>3</sup> was 6 miles from the facility. *See Responses to Public Comments at 143.* Petitioner disagrees and contends that the farthest point would be 7.1 miles from the facility. Petition 10-02 at 15, 26. But even assuming that Petitioner’s number is correct (which it is not), and even assuming that 51.165(b) applied here (which it does not), Petitioner would still not be able to show an exceedance of the SIL in an adjacent Non-Attainment area because the nearest such area is much farther than 7.1 miles from the facility.<sup>4</sup> CLP has not alleged that impacts from the facility would exceed the 24-hour PM<sub>2.5</sub> SIL in any adjacent non-attainment area, and there is no such evidence in the record. To the contrary, the record clearly shows that this is a not a PSD source for the 24-hour PM<sub>2.5</sub> standard, as it is located in an area that is “non-attainment” for that standard; and that in any event there

---

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 emission reductions to compensate for its impact. 40 CFR 51.165(b)(2)-(3).

Prevention of Significant Deterioration (PSD) for Particulate Matter Less Than 2.5 Micrometers (PM<sub>2.5</sub>)—Increments, Significant Impact Levels (SILs) and Significant Monitoring Concentrations (SMC); Proposed Rule, 72 Fed. Reg. 54112, 54138 (Sept. 21, 2007) (quoted in CLP Petition at 31-32) (emphasis added). This requirement applies where a PSD source in an area that is “attainment” or “unclassifiable” for a pollutant may have an impact above the SIL in an adjacent area that is “non-attainment” for that pollutant.

<sup>4</sup> Petitioner has not provide any evidence as to how far away the nearest adjacent non-attainment area is, as would be its burden if it wanted to appeal based on potential impacts in an adjacent non-attainment area. But a quick glance at a map will show that the proposed facility, which is located near the San Francisco Bay, is sited near the center of the San Francisco Bay Area and not close to any adjacent air districts.

would be no impacts above the  $1.2 \mu\text{g}/\text{m}^3$  24-hour  $\text{PM}_{2.5}$  SIL in any adjacent non-attainment area. 40 C.F.R. Section 51.165(b) is simply inapplicable here.

The District responded to Petitioner's comments on this issue as well and explained why Section 51.165(b) is inapplicable here. *See Responses to Public Comments at 167, Comment XIII.B.12. (Potential For Impacts Above the SIL in Adjacent Non-Attainment Areas).*<sup>5</sup> Petitioner has not provided any reason as to how the District's analysis in its response was inadequate. To the contrary, the Petition simply quotes at length from Petitioner's September 16, 2009, comment letter. *See Prairie State, supra*, slip. op. at 145 (collecting cases) ("It is not sufficient simply to repeat objections made during the comment period; instead, a petitioner must demonstrate why the permit issuer's response to those objections (the permit issuer's basis for its decision) is clearly erroneous or otherwise warrants review.") (citations and internal quotation marks omitted).

For all of these reasons, Petitioner's claim that the facility is not eligible for a PSD permit because it will cause or contribute to a violation of the 24-hour  $\text{PM}_{2.5}$  NAAQS is legally irrelevant and should be dismissed. New and modified sources in the Bay Area are subject to Non-Attainment NSR permitting under Appendix S with respect to the 24-hour  $\text{PM}_{2.5}$  NAAQS, not PSD permitting. The District clearly explained this analysis in its Additional Statement of Basis and in its Responses to Public Comments, and the Petitioner has not provided any valid reason to conclude otherwise, either in its comments or in its Petition. The Board should therefore dismiss the Petition with respect to claims of violation of the 24-hour  $\text{PM}_{2.5}$  NAAQS, as 24-hour  $\text{PM}_{2.5}$  issues are not part of the PSD permitting program and are therefore not within

---

<sup>5</sup> Note that the second paragraph of the District's response to Comment XIII.B.12. was written before the re-designation as "non-attainment" for the 24-hour  $\text{PM}_{2.5}$  standard became effective. The District updated the substance of its analysis when the re-designation became effective (*see, e.g., Responses to Public Comments at 76-79 (Comment VI.1 – Applicability of PSD Permitting Requirements for Fine Particulate Matter ( $\text{PM}_{2.5}$ ) and 141-69 (Section XIII.B. (Air Quality Impact Modeling and Analysis Issues Related to  $\text{PM}_{2.5}$ ))*), but inadvertently omitted to update the language in the response to Comment XIII.B.12. The substance of the response is correct, however: once the Bay Area becomes "non-attainment" for the 24-hour  $\text{PM}_{2.5}$  standard, PSD no longer applies for that pollutant and 40 C.F.R. Section 51.166(b) is not implicated.

the Board's jurisdiction to review under 40 C.F.R. Section 124.19(a). See *In re South Shore Power, L.L.C.*, PSD Appeal No. 03-02, Slip. Op. at 10 (EAB June 4, 2003) ("the Board's jurisdiction, and thus review power, is limited, extending only to those issues which are directly related to permit conditions that implement the federal PSD program or that are otherwise linked to the PSD program in the context of a particular case.") (citing *In re Knauf Fiber Glass, GmbH*, 8 E.A.D. 121, 127, 161 (EAB 1999)).

**II. Even If A PSD Analysis Was Required For The 24-Hour Standard, the District Did Not Commit Clear Error In Concluding That The Facility Will Not Cause or Contribute To A Violation of the 24-Hour Standard**

On the substance of the District's air quality impact analysis for the 24-hour standard, Petitioner contends that the District clearly erred in concluding that the facility will not cause or contribute to a violation of the 24-hour NAAQS for PM<sub>2.5</sub> (to the extent that the standard is still applicable for PSD permitting in the San Francisco Bay Area, which it is not as explained above). The conclusion that Petitioner objects to was the result of the District's air quality impact analysis that the District conducted to determine the potential impact of the facility's emissions on the 24-hour PM<sub>2.5</sub> NAAQS. The District provided this analysis and responded to comments on it in the Responses to Public Comment, even though it was not legally required because at the time of final permit issuance the San Francisco Bay Area had been designated as non-attainment of the 24-hour PM<sub>2.5</sub> standard and so PM<sub>2.5</sub> issues were subject to Appendix S non-attainment permitting and not PSD permitting (at least with respect to 24-hour average PM<sub>2.5</sub> issues), as explained above. The District nevertheless provided the analysis and responded to comments on it because the issues had been a subject of public interest during the public comment periods. As the discussion below will show, this analysis would have satisfied all air quality impact analysis requirements for the 24-hour PM<sub>2.5</sub> standards had such an analysis been required. Accordingly, to the extent that Petitioner's claim is legally relevant, it would fail in any event because it makes no showing that the facility would cause or contribute to a 24-hour PM<sub>2.5</sub> NAAQS violation as a factual matter.

**A. The District Provided A Thorough And Well-Documented 24-Hour PM<sub>2.5</sub> NAAQS Analysis, Even Though It Was Not Legally Required.**

In its PM<sub>2.5</sub> air quality impact analysis, the District analyzed the potential impact from the PM<sub>2.5</sub> emissions from the facility's turbine/HRSG power generation trains,<sup>6</sup> which will be permitted to emit up to 7.5 pounds per hour of PM<sub>2.5</sub> each. *See* Final PSD Permit, Condition ¶ 19(a). The District conservatively assumed that the turbines will emit PM<sub>2.5</sub> at their maximum permitted rate of 7.5 pounds per hour. Using this 7.5 lb/hr turbine emissions rate (which corresponds to a rate of 0.945 grams per second (“g/s”)), the District conducted AERMOD modeling and found that the maximum ambient 24-hour-average PM<sub>2.5</sub> concentration resulting from the facility would exceed the PSD Significant Impact Level (“SIL”).<sup>7</sup> The District therefore concluded that – if an analysis were still required for 24-hour impacts when the permit was issued, which it was not – a full impact analysis would need to be undertaken to address 24-hour impacts, which takes into account background PM<sub>2.5</sub> concentrations as well as the facility's contribution to ambient concentrations and contributions from other nearby sources.

The District therefore went ahead and conducted a full impact analysis in accordance with the requirements set forth in EPA's Draft NSR Workshop Manual and related guidance.<sup>8</sup> The AERMOD modeling showed that the farthest point from the facility where the facility's ambient impact would be above the SIL was located at 8.1 km from the facility, and so the District established its “impact area” for the full impact analysis as a circle with a radius of 8.1 km around the facility. The District then evaluated the cumulative impact of the facility's

---

<sup>6</sup> For simplicity, the combustion turbine/HRSG trains will be referred to collectively in this discussion simply as the “turbines”. Note, however, that the 7.5 lb/hr emissions limit applies to emissions from the turbines and HRSGs combined. *See* Final PSD Permit, Condition 19.

<sup>7</sup> The District used a 24-hour SIL of 1.2 µg/m<sup>3</sup> in its PM<sub>2.5</sub> analysis, as described in detail in Response to Comment XIII.B.2, “Basis for PM<sub>2.5</sub> ‘Significant Impact Levels’ ”. *See* Responses to Public Comments at 146-49. None of the Petitions for Review has questioned the District's analysis on this issue or challenged the use of the 1.2 µg/m<sup>3</sup> SIL.

<sup>8</sup> Again, the District made clear that this 24-hour impacts analysis was no longer required because the Bay Area had been designated as non-attainment for the 24-hour standard, but the District provided the analysis anyway because the public comments the District received indicated that the public was interested in this issue. *See* Responses to Public Comments at 142.



emissions, background ambient air concentrations, and emissions from other nearby sources on receptors located within this impact area. Consistent with EPA guidance, the District identified 29 nearby stationary sources and one nearby roadway that could potentially cause a significant concentration gradient at any location where the facility could cause an impact above the SIL. The District then modeled the emissions from these 30 nearby sources in conjunction with the facility's emission for each receptor location within the impact area where the facility's impact was above the SIL. This modeling analysis showed that there were no locations where the facility would have an impact above the SIL where total cumulative concentration from the facility, the 30 modeled nearby sources, and background levels would exceed the 24-hour NAAQS for PM<sub>2.5</sub>. *See generally* Additional Statement of Basis at 87-88; Responses to Public Comments at 141-45. Based on this analysis, the District found that “even if the 24-hour standard were still applicable as part of the PSD analysis – which it is not anymore – the District would conclude that the project satisfies the Section 52.21(k) NAAQS compliance requirements for the 24-hour PM<sub>2.5</sub> standard.” Responses to Public Comments at 144.<sup>9</sup>

Petitioner now presents two objections to the District's analysis. First, Petitioner claims that the District clearly erred in using the 7.5 lb/hr maximum permitted PM<sub>2.5</sub> emissions rate as the basis for its analysis, contending instead that the District should have used a 9.0 lb/hr rate that is higher than what the facility will be allowed to emit. Second, Petitioner claims that the District clearly erred in its determination not to include certain additional roadway segments from its multi-source modeling exercise it conducted for the PSD full impact analysis. But as

---

<sup>9</sup> The District provides this general overview of its comprehensive and detailed PM<sub>2.5</sub> analysis as background for addressing the issues raised in the Petition. The District's full analysis is presented in much greater detail in Section XIII.B. of the Responses to Comments (“Air Quality Impact Modeling and Analysis Issues Related to PM<sub>2.5</sub>”) and in Section XI.B. of the Additional Statement of Basis (“Air Quality Impact Analysis for PM<sub>2.5</sub>”) as well as in the modeling reports and analyses cited therein, and the District invites the Board to review those documents further if it is interested in additional details on any of these issues. This Response focuses on the specific issues raised by the Petition in order to show how the District's analysis was fully justified and consistent with the documented evidence and with EPA guidance on how to conduct such analyses, and therefore does not constitute clear error.

explained below, the District's analysis was fully justified by the facts and by the regulatory requirements for conducting PSD air quality analyses, and Petitioner's arguments do not have any merit. The District properly used the 7.5 lb/hr emissions rate because this is the maximum emissions rate that the facility will be allowed to have under its permit, which is the emissions rate that EPA requires to be used in the air quality impact analysis. The District also properly determined not to include these additional roadway segments identified by Petitioner because it found that they will not cause any significant concentration gradient at any point where the facility's impacts will be above the SIL. Any such locations where the facility will not have an impact above the SIL are irrelevant to the PSD NAAQS analysis, because if the facility's impact is below the SIL then its contribution to any NAAQS violation would be at most *de minimis* and therefore "[not] worthy of further investigation and analysis." *Prairie State, supra*, slip op. at 144.

For all of these reasons, Petitioner's arguments do not show that the District clearly erred in concluding that the facility would not cause or contribute to a violation of the 24-hour PM<sub>2.5</sub> NAAQS, which is an analysis that the District was not even required to undertake in the first place. The Petition therefore provides no substantive grounds for granting review based on the District's 24-hour PM<sub>2.5</sub> analysis, even if the EAB somehow had jurisdiction to review such non-PSD issues in the first place.

**B. The District Did Not Abuse Its Discretion In Using The 7.5 lb/hr Maximum Emissions Rate in Modeling the Impacts from the Combustion Turbines**

Petitioner's first challenge to the District's 24-hour PM<sub>2.5</sub> analysis is based on a contention that the District erred in analyzing the potential impacts of the facility's emissions of 7.5 pounds per hour of PM<sub>2.5</sub> from the turbines. Petitioner claims that this analysis was flawed based on a contention that the District should have used a PM<sub>2.5</sub> emissions rate of 9.0 lb/hr from the turbines instead of the 7.5 lb/hr emissions rate specified in Condition 19(h) of the facility's permit limit. *See* Petition 10-03 at 26-35. Petitioner claims that the District's allegedly-erroneous use of the 7.5 lb/hr permitted emissions rate led to further cascading errors in the

analysis that was based on this emissions rate, including an underestimation of the project's maximum 24-hour ambient PM<sub>2.5</sub> concentration; an underestimation of the size of the impact area; and an underestimation of the number of sensitive receptors at which the project could cause an impact over the 24-hour PM<sub>2.5</sub> SIL. *See id.* at 27-30. Petitioner claims that using the higher rate of 9.0 lb/hr (which corresponds to a rate of 1.134 g/s), the project's maximum 24-hour ambient PM<sub>2.5</sub> concentration would be 6.33 µg/m<sup>3</sup>, not 4.9 µg/m<sup>3</sup> as the District calculated using the 7.5 lb/hr permitted rate (0.945 g/s). *See id.* at 30. It claims that using the higher rate of 9.0 lb/hr, the radius of the impact area would be 7.1 miles, not the 6.0 miles as the District calculated using the 7.5 lb/hr permitted rate. *See id.* at 14-15. And it claims that using the higher rate of 9.0 lb/hr, the number of sensitive receptors where the project's maximum concentration would exceed the 1.2 µg/m<sup>3</sup> SIL would be 8,424, not the 6,019 receptors the District calculated using the 7.5 lb/hr permitted rate. *See id.* at 15. Petitioner claims that using a 9.0 lb/hr emissions rate, the results of the air quality impact analysis would show that the facility would cause or contribute to a violation of the 24-hour PM<sub>2.5</sub> NAAQS, which – if the 24-hour standard was applicable to the PSD analysis, which it is not – would not be permissible under 40 C.F.R. Section 52.21(k). *See id.* at 30-31.

Petitioner's contention that the District should have used a higher 9.0 lb/hr emissions rate instead of the 7.5 lb/hr permit limit is based on communications that the District received from power plant owner/operators after the close of the comment period questioning the District's conclusion that a 7.5 lb/hr limit should be considered "achievable" for this facility for purposes of a BACT determination. These communications, which Petitioner references in its Petition, noted that equipment manufacturers will not guarantee an emissions performance below 9.0 lb/hr; and also noted that the PM emissions data that the District reviewed from performance tests on similar equipment showed a wide range of reported emissions, some of which exceeded 7.5 lb/hr. *See id.* at 28-29. Petitioner also cites the District's analysis of that data, which the District explained ranged from 4.58 lb/hr to 10.65 lb/hr (as well as the District's observation that the higher test results may be attributed to anomalies in the testing and analytical methods that

were used, the influence of which may be mitigated by more rigorous quality assurance/quality control procedures). *See id.* at 27. Based on these points, Petitioner contends that the District should have used an emissions rate of 9.0 lb/hr (or potentially even 10.65 lb/hr) as the basis for its air quality impact analysis for the facility. *See id.* at 32-33.

But these arguments do not provide any basis for concluding that the turbines will have PM<sub>2.5</sub> emissions above 7.5 pounds per hour, and thus no basis for concluding that an air quality impact analysis should use a rate above 7.5 pounds per hour to give an accurate assessment of facility impacts. First and foremost, 7.5 pounds per hour is the maximum emissions rate allowed under the PSD permit, and therefore the maximum rate that the facility will be legally authorized to emit. If the facility emits more than this amount, it will be required to curtail its operations or take other appropriate measures to ensure that emissions remain within that limit.<sup>10</sup> With respect to the lack of a vendor guarantee of emissions at 7.5 pounds per hour, the fact that manufacturers are not willing to sign up to legal liability for emissions below 9.0 lb/hr through the provision of a guarantee does not mean that the equipment will be unable to meet the 7.5 lb/hr limit in practice. As the District noted in the Response to Public Comments, although a vendor guarantee can be an important indicator of what emissions performance should be considered “achievable” for purposes of a BACT determination, the lack of a guarantee is not by itself proof that a lower level of emissions cannot be achieved. *See Responses to Public Comments at 86* (citing Draft New Source Review Workshop Manual, Prevention of Significant Deterioration and Nonattainment Area Permitting (EPA, October 1990) (hereinafter, “NSR Workshop Manual”) at p. B.20). Furthermore, the lack of a vendor guarantee does not mean that emissions will exceed 7.5 pounds/hour where the emissions will be explicitly limited to that level by an enforceable permit condition. And with respect to the data from other similar facilities showing a few test results that came in above 7.5 lb/hr, this evidence also does not mean that emissions will be

---

<sup>10</sup> Note also that PSD permits are federal permits that are enforceable through citizen suits under Section 304(a) of the Clean Air Act, so that to the extent that a petitioner may claim to distrust governmental enforcement agencies in ensuring that this limit will be met, it may take enforcement into its own hands if the government fails to take appropriate action.

allowed to exceed 7.5 lb/hr from these turbines as the District explained in its Responses to Comments. *See* Responses to Public Comments at 86 (noting that higher test results may be because of uncertainties in the test method or because a facility was experiencing upset conditions during a test). For all of these reasons, Petitioner has not provided any factual basis for concluding that PM<sub>2.5</sub> emissions will be above 7.5 lb/hr here, or that the District somehow clearly erred in basing its 24-hour PM<sub>2.5</sub> air quality impact analysis on the 7.5 lb/hr emissions rate.

Furthermore, EPA guidance and EAB caselaw are clear that the air quality impact analysis must use the maximum permitted level of emissions in conducting the PSD review – which is the 7.5 lb/hr limit specified in Condition 19(h) of the permit. One need look no further than the passages from the NSR Workshop Manual that Petitioner itself quotes to confirm this reality. As Petitioner explains, according to the NSR Workshop Manual “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.” Petition 10-03 at 30 (quoting NSR Workshop Manual at C.45 (emphasis in original). That is exactly what the District did here in using the 7.5 lb/hr emissions limit in the permit: it used the maximum allowable emissions as expressed in the federally enforceable emissions limit in Condition 19(h) of the permit.<sup>11</sup> Failure to do so would have contravened the express direction of the NSR Workshop Manual, as Petitioner’s quoted passage acknowledges. And beyond the NSR Workshop Manual, all other relevant authorities also confirm this requirement. For example, EPA’s Guideline on Air Quality Models in Appendix W to 40 C.F.R. Part 51, which sets forth the detailed requirements for PSD air quality modeling that permitting agencies must follow under 40 C.F.R. Section 52.21(l), also

---

<sup>11</sup> Note that there was no issue regarding “operating level” or “operating factor” for this facility. As explained at p. C-45 of the NSR workshop manual, “operating level” takes into account operation at less than 100% capacity and “operating factor” takes into account less than continuous year-round operation. Neither was a factor here, and neither has been raised in the Petition.

explicitly requires use of the maximum emissions rate as specified in the permit limit. *See* 40 C.F.R. Part 51, Appendix W, Table 8-2, *Point Source Model Emission Input Data for NAAQS Compliance in PSD Demonstrations* (emissions limit to be used in modeling is “[m]aximum allowable emissions limit or federally enforceable permit limit.”). And the EAB has consistently applied this approach as well. For example, in *Prairie State*, the Board dismissed arguments similar to Petitioner’s here that the permitting agency had used the wrong emissions rate in its modeling analysis. The Board dismissed those arguments because, as the District did here, the agency had used the maximum permitted emissions rate as required by Appendix W. As the Board noted, this approach was consistent with Appendix W’s direction to use the “[m]aximum allowable emission limit or federally enforceable permit limit.” *Prairie State, supra*, slip. op. at 132 (citing 40 C.F.R. pt. 51, App. W, tbl. 9-2).<sup>12</sup>) As the Board stated, “Petitioners cannot argue that the Permit’s NO<sub>x</sub> BACT limit of 0.07 lb/MMBtu is not a federally enforceable limit.” *Id.* This case presents the exact same situation: Petitioner simply has no argument that the 7.5 lb/hr emission rate the District used is not a federally enforceable limit, nor any argument that the District committed clear error in basing its air quality impact analysis on that emission rate.<sup>13</sup>

---

<sup>12</sup> Note that the *Prairie State* opinion cited section 9 of Appendix W in referring to the guidance on Model Input Data. Appendix W appears to have been renumbered, so that this information is now Section 8 and the referenced table is table 8-2. Note also that the issue in that case was what federally-enforceable limit to use, with Petitioners claiming that the short-term limit should be used instead of a longer-term limit. There is no such issue in this case, as the District used the shortest-term 7.5 lb/hr emissions rate in its modeling.

<sup>13</sup> Petitioner also cites this Board’s recent decision in *In re Northern Michigan University Ripley Heating Plant*, 14 E.A.B. \_\_\_, PSD Appeal No. 08-02 (EAB Feb. 18, 2009), for the proposition that “worst case” emissions need to be used in the air quality impact analysis. Petition 10-03 at 29. But that case fully supports the District’s position that the “worst case” emissions should be based on maximum permitted emission rates. The question in that case was simply whether the enforceable emissions limits in the permit – which were based on long-term averages – were adequate to reflect the actual maximum short-term emissions that could occur, as there were no short-term limits in the permit. *See Northern Michigan University*, slip. op. at 48-55. There is no such issue here, as the Permit does include short-term emission limits – 7.5 lb/hr – and the District used them in its analysis. There is no question that 7.5 lb/hr is the maximum “worst case” emissions from the combustion turbines that will be allowed under a federally enforceable permit limit.

For all of these reasons, Petitioner is simply wrong that the District erred in using the 7.5 lb/hr emissions rate set forth in Permit Condition 19(h) as the basis for its air quality impact analysis. The PSD regulations would not only have authorized the District to use this permitted emissions rate as the basis of its analysis (if such an analysis had even been required here for the 24-hour standard in the first place), they would have required that the District use it for such an analysis. Petitioner has presented no basis on which the Board could grant review on this issue, even assuming the 24-hour standard was part of the PSD permitting process at this point. Nor has Petitioner provided any basis to grant review based on the other aspects of the District's analysis that Petitioner criticizes that were based on the use of the 7.5 lb/hr emissions rate, such as the maximum ambient impact from the project, the size of the impact area, and the number of sensitive receptors within the impact area.

Finally, Petitioner also alleges that the District somehow failed to disclose the fact that it had used the initial 9.0 lb/hr permit limit in an earlier modeling run, which resulted in the higher maximum impact levels associated with a higher emissions rate. *See* Petition 10-03 at 26, 27. But Petitioner's own citations to the permitting record clearly show that the District did discuss the 9.0 lb/hr emissions rate that was used in the initial draft of the permit and in the District's initial modeling exercise. Petitioner admits this point in its own description of the record of these proceedings. In describing the December, 2008, Statement of Basis the District issued in connection with its initial draft of the permit, Petitioner explains that "PM<sub>10</sub> maximum 24-hour was modeled for both turbines at an emissions rate of 1.134 [g/s, which corresponds to 9.0 lb/hr]. SOB at 90, table II." *Id.* at 12. Petitioner further notes that "[w]hen the December 2008 SOB was published, BAAQMD contemplated a 9 lb/hour emission rate for PM<sub>2.5</sub>." *Id.* at 30. Petitioner also explains that the District had "earlier . . . relied on the 9.0 lb/hr emission rate that resulted in the higher concentrations, larger impact area, and additional receptors," and specifically notes that this information was "disclosed by the December 2008 Amended SOB

[sic] . . . .<sup>14</sup>” *Id.* at 27. Furthermore, Petitioner’s attorney confirmed to counsel for the District in writing that the District had in fact made publicly available the actual AERMOD output files from modeling runs the District had performed assessing 24-hour PM<sub>2.5</sub> impacts using the 1.134 g/s emissions rate corresponding to 9.0 lb/hr.<sup>15</sup> Petitioner’s own admissions therefore show that, far from hiding the ball on this issue, the District was fully up-front about the fact that it had initially modeled emissions using the higher 9.0 lb/hr emissions rate before the proposed permit limit was subsequently reduced to 7.5 lb/hr.

**C. The District Did Not Commit Clear Error In Declining to Model Roadways That Would Not Cause A Significant Impact**

Petitioner’s second challenge to the District’s 24-hour PM<sub>2.5</sub> analysis objects to the manner in which the District considered nearby roadway sources in the multi-source modeling exercise it performed in its full impact analysis for 24-hour PM<sub>2.5</sub> impacts. As referenced above, the District considered nearby roadway sources and found only one roadway – a portion of Highway 92 located approximately 1 km south of the facility – that would potentially cause a significant concentration gradient at any of the locations where the facility could have an impact above the SIL. *See* Additional Statement of Basis at 87; *see also* Responses to Public Comments at 143. The District therefore included this roadway – broken down into six specific segments for purposes of modeling – in the multi-source modeling analysis, which concluded that the facility would not cause or contribute to a violation of the 24-hour PM<sub>2.5</sub> NAAQS as described above. *See id*; *see also* PM<sub>2.5</sub> Source Impact Analysis, Atmospheric Dynamics, Inc. (June 30, 2009), at 12-16.

---

<sup>14</sup> Petitioner erroneously refers here to an “Amended” Statement of Basis of December 2008. The December 2008 Statement of Basis was the initial statement of basis document the District issued after the July 2008 Remand Order in this case, and was not an amended document.

<sup>15</sup> *See* Email message from J. Hargleroad, counsel of record for Chabot-Las Positas Community College District in this proceeding, to A. Crockett, BAAQMD assistant counsel (Feb. 19, 2010), Crockett Decl. Exh. 6. As Ms. Hargleroad states, “I would just like to clarify that on September 1, 2009 we did receive the output files for the 24-hour project only PM<sub>2.5</sub> runs with the emissions rate of 1.134 g/s.” *Id.* These output files were on the CD entitled “Russell City Modeling Files” (7/29/09) which the District made available in the record during the second comment period, which is identified in the District’s certified record index as document no. 9.10.



The District received comments during the second comment period stating that it should also have included additional roadway sources in the multi-source analysis. The District considered these comments and specifically responded in its Responses to Public Comments explaining why it disagreed that these other roadway segments should be included. *See* Responses to Public Comments at 158-59 (Comment XIII.B.5. – Selection of Nearby Non-Point Sources for Full Impact Analysis). As the District explained, the full impact analysis does not need to consider sources in the multi-source modeling exercise where the sources would not result in a significant concentration gradient in the same vicinity as the proposed sources impacts. The District further explained that this principle means that the multi-source modeling exercise does not need to include roadway sources unless such sources will cause a significant concentration gradient at the same place where the facility will cause an impact above the SIL. Accordingly, the multi-source modeling exercise does not need to include a roadway source that may cause significant concentration gradients somewhere within the impact area unless a significant concentration gradient occurs at a location where the source’s impact exceeds the SIL. The District cited the regulatory basis for this conclusion by referencing the EAB’s opinion in *Prairie State* in which the EAB went through in great detail how an agency is required to evaluate whether a facility will cause or contribute to the NAAQS in a PSD full impact analysis. *See id.* at 158-59 and n.320 (citing *Prairie State, supra*, slip. op. at 137-44). The District then explained that it disagreed that it should include any of the additional more distant roadways identified in the comments because they would not cause a significant concentration gradient at any location where the facility would cause an impact above the SIL. The District explained that PM<sub>2.5</sub> impacts fall off exponentially the farther one moves away from the roadway, and cited the technical basis for this conclusion in the applicant’s PM<sub>2.5</sub> source impact analysis which found based on modeling of Highway 92 that major roadways cause significant PM<sub>2.5</sub> concentration gradients up to approximately 1000 meters from centerline. *See id.* at 158-59 and n.321 (citing PM<sub>2.5</sub> Source Impact Analysis, Atmospheric Dynamics, Inc. (June 30, 2009), Crockett Decl. Exh. 7, at 13.)

Petitioner now objects to the District's analysis on the grounds that it did not include two additional roadways – Interstate 880 and Hesperian Boulevard – in the multi-source modeling exercise undertaken for the full impact analysis. *See* Petition 10-03 at 33-35. Petitioner does not criticize (or even address) the responses that the District provided as to why it was not including additional roadway segments, and it does not assert that either of these two roadways will cause significant concentration gradient anywhere where the facility will have a impact above the SIL. Instead, Petitioner relies on a general contention that roadways are significant sources of particulate matter emissions in the general area. The argument section of the Petition on this issue (Section V.A.3., pages 33-35) provides no argument at all that these roadways will cause a significant concentration gradient anywhere, and merely asserts that they “are recognized as posing a significant concentration gradient.” Petition 10-02 at 33.

Petitioner's argument must fail at the outset because Petitioner has not provided any reason why the District's response to the comments requesting inclusion of these additional roadways could be wrong. *See Prairie State, supra*, slip. op. at 145 (collecting cases) (“It is not sufficient simply to repeat objections made during the comment period; instead, a petitioner must demonstrate why the permit issuer's response to those objections (the permit issuer's basis for its decision) is clearly erroneous or otherwise warrants review.”) (citations and internal quotation marks omitted). Petitioner has done nothing more than repeat its earlier assertion that additional roadways should be included, without providing any reason why the District's reasoning – that these other roadways will not cause a significant concentration gradient at any location where the facility could have an impact above the SIL – is flawed. Petitioner simply asserts that other roadways must necessarily be significant contributors of PM<sub>2.5</sub>, without providing any data or analysis as to why they should be considered significant for purposes of the PSD full impact analysis modeling exercise.

But Petitioner's argument must also fail on the substance, because there is no reason why the District's decision not to model additional roadways was clearly erroneous, or an abuse of the substantial discretion it is accorded in conducting PSD air quality impact analyses. The District

did not err in evaluating only receptor locations where the facility's impacts will be above the SIL because locations with impacts below the SIL are considered *de minimis* for purposes of PSD review. The District did not err in evaluating only sources that could cause a significant concentration gradient at such receptor locations because applicable guidance is clear that the number of nearby sources needs to be limited and should focus only on those that could cause significant contributions. And the District did not abuse its discretion in making any of these determinations because the applicable guidance gives permitting agencies significant deference to exercise their professional judgment, and the District's exercise of its judgment here was well justified and squarely within the bounds of reasonableness.

With respect to evaluating only receptor locations where the facility's impacts will be above the SIL, all applicable authorities, including formal and informal EPA guidance and this Board's precedents, demonstrate that where a facility's contribution to an impact is below the SIL – *i.e.*, is *de minimis* by itself – then the facility is not considered to be “causing or contributing” to the impact for purposes of the NAAQS analysis under 40 C.F.R. Section 52.21(k). This conclusion is abundantly clear from the NSR Workshop Manual, which provides that “[t]he source will not be considered to cause or contribute to a violation if its own impact is not significant at any violating receptor at the time of each predicted violation.” NSR Workshop Manual at C.52. It is also clear from Appendix W, which provides that the NAAQS compliance demonstration should be based on whether “the source contributes *significantly*, in a temporal and spatial sense, to any modeled violation.” 40 C.F.R. pt. 51, App. W, § 10.2.3.2 (emphasis added).<sup>16</sup> And it is also clear from the EAB's precedent in *Prairie State*, which summarized these precedents, other EPA interpretive guidance, and the D.C. Circuit's decision in *Alabama*

---

<sup>16</sup> The quoted passage applies to analyses for the PM<sub>10</sub> NAAQS. For other criteria pollutants, Appendix W provides similar direction, requiring the demonstration to be based on “the *significance* of the spatial and temporal contribution to any modeled violation.” 40 C.F.R. pt. 51, App. W, § 10.2.3.2 (emphasis added). Appendix W has not yet been updated to provide language specifically for PM<sub>2.5</sub>, but there is no reason to believe that the same approach will not be used.

*Power Co. v. Costle*, 636 F.2d 323 (D.C. Cir. 1980), and concluded that a facility's contribution to any NAAQS violation that is less than the SIL is nothing more than *de minimis* and does not need to be treated as "worthy of further investigation and analysis." *Prairie State*, *supra*, slip. op. at 144. Based on all of this clear and indisputable regulatory guidance, the District determined that areas where the facility will not cause impacts above the SIL do not need to be included in the full analysis of where and when the 24-hour PM<sub>2.5</sub> NAAQS could be exceeded. The District therefore concluded that if there were any other sources that could cause significant concentration gradients only at receptor locations where the facility's impacts were below the SIL, any such sources could not make a difference in the outcome of the analysis. This is because even if nearby sources were causing a NAAQS violation at such locations, such violations would not lead to a "cause or contribute" finding under Section 52.21(k) because at that location, the facility's contribution will be less than the SIL and thus considered *de minimis*. For all of these reasons, the District's approach in narrowing down its analysis to receptors where the facility's impacts would be above the SIL was fully justified under and consistent with the applicable requirements for conducting such analyses, and Petitioner has not provided any argument to the contrary. The District was therefore justified in excluding consideration of roadway impacts in areas where the facility's impacts would not be above the SIL.

With respect to including other sources in the analysis only where they would cause a significant concentration gradient at the identified locations where the facility's impacts would be above the SIL, again, all applicable authorities support the District's approach. Both EPA's NSR Workshop Manual and Appendix W explicitly define "nearby sources" that must be included in the full impact analysis as sources "expected to cause a significant concentration gradient in the vicinity of" the source under consideration. NSR Workshop Manual at C.32; 40 C.F.R. pt. 51, App. W, § 8.2.3.b. Appendix W goes on to provide that "[t]he number of such sources is expected to be small except in unusual situations," emphasizing that this definition is intended to limit the number of sources that need to be reviewed, and should not be interpreted expansively. 40 C.F.R. pt. 51, App. W, § 8.2.3.b. Thus again, the District's approach in

considering only sources that could have a significant concentration gradient at locations where the facility would have impacts over the SIL was fully justified under and consistent with the applicable requirements for conducting such analyses; and again Petitioner has not provided any argument to the contrary.

All of these authorities unambiguously support the District's decision not to include additional roadway sources in its modeling analysis where those sources would not cause a significant concentration gradient at locations where the facility's impacts would be above the SIL. The District was therefore fully justified in excluding other roadways in addition to Highway 92 based on its finding that the PM<sub>2.5</sub> concentration gradients for high-volume roadways fall off exponentially as one moves farther from the roadway centerline. This conclusion was documented by the analysis the applicant provided, which the District pointed to in its response to the comments on this issue. *See Responses to Public Comments at 159 n.321 (citing PM<sub>2.5</sub> Source Impact Analysis, Atmospheric Dynamics, Inc. (June 30, 2009), Crockett Decl. Exh. 7, at 13).* That analysis documented the exponential fall-off in PM<sub>2.5</sub> with distance from the roadway centerline based on a modeling analysis of Highway 92, and concluded that "a significant concentration gradient exists from the center of the highway outwards to distances up to 1000 meters from the source." PM<sub>2.5</sub> Source Impact Analysis, Atmospheric Dynamics, Inc. (June 30, 2009), Crockett Decl. Exh. 7, at p13 & Figure 2. The District concluded that additional roadways that were located beyond such distances from receptors with impacts above the SIL should not be included in the multi-source analysis, as explained in the responses to comments.<sup>17</sup> Petitioner has not cited any reason why this conclusion was erroneous, and there is none as demonstrated by the applicable authorities discussed above. For all of these reasons, the District was fully justified in excluding consideration of additional roadways based on its findings that

---

<sup>17</sup> Note that the Petition alleges that I-880 and Hesperian Blvd. are located one to two miles from the facility (Petition 10-02 at 26), which is 1,609 to 3,218 meters and beyond the 1,000 meters at which the District found that roadway sources do not cause a significant concentration gradient.

they would not cause any significant concentration gradient in areas where the facility's impacts would be above the SIL.<sup>18</sup>

Furthermore, all of the authorities discussed above are clear that the requirements for conducting PSD air quality analyses – and in particular, the requirements for selecting other nearby sources to include in a multi-source modeling exercise for the PSD full impacts analysis – are not absolutes that are set in stone for each and every permitting situation. To the contrary, these authorities make clear that each modeling situation is unique, and that a permitting agency necessarily needs to have sufficient latitude in applying the requirements so that it can appropriately exercise its professional judgment and technical expertise for each specific project it review. The NSR Workshop Manual makes this point clearly in stating that:

In determining which existing point sources constitute nearby sources, the *Modeling Guideline* necessarily provides flexibility and requires judgment to be exercised by the permitting agency. Moreover, the screening method for identifying a nearby source may vary from one permitting agency to another.

NSR Workshop Manual at C.32. Appendix W similarly stresses that agencies must be given latitude to exercise their professional judgment, stating:

Owing to both the uniqueness of each modeling situation and the large number of variables involved in identifying nearby sources, no attempt is made here to comprehensively define this term. Rather, identification of nearby sources calls for the exercise of professional judgment by the appropriate reviewing authority [citation omitted]. This guidance is not intended to alter the exercise of that judgment or to comprehensively define which sources are nearby sources.

40 C.F.R. pt. 51, App. W, § 8.2.3.b. And the EAB has itself recognized the considerable deference that agencies necessarily enjoy in exercising their professional judgment in applying the PSD air quality impact modeling requirements, explaining that “Appendix W provides permit issuers broad latitude and considerable flexibility in application of air quality modeling, [58 Fed.

---

<sup>18</sup> The District does not dispute the general notion that roadways such as I-880 and Hesperian Blvd. could cause significant PM concentration gradients nearby to those roadways; the District's exclusion of these sources was based on the conclusion that they will not cause a significant concentration gradient at any location where the facility's impacts will be above the SIL. As explained, this is an appropriate basis for excluding these roadways from the PSD full impact analysis.

Reg.] at 38,820. Appendix W is replete with references to ‘recommendations,’ ‘guidelines,’ and reviewing authority discretion.” *Prairie State, supra*, slip. op. at 132 (footnote omitted). For all of these reasons, the District must be accorded substantial discretion in its determination of what nearby sources to include in its multi-source modeling exercise. The District exercised its discretion in this area in concluding – based on its best professional judgment – that it would include the six segments of Highway 92 that could cause a significant concentration gradient at locations where the facility could have impacts above the SIL, and that it would exclude other roadways that were farther away and would not cause a significant concentration gradient at locations where there facility could have impacts above the SIL. Petitioner has offered no substantial reason for reaching any other conclusion here, let alone any reason why the District’s conclusion could have been clearly erroneous or an abuse of the substantial deference the District must be given in this highly technical area. *See, e.g., id*, slip op. at 133, (collecting cases) (“We generally accord broad deference to permitting authorities with respect to issues, such as this one, requiring the exercise of technical judgment and expertise.”).

Beyond this general contention that additional roadways must be included in the multi-source modeling analysis because roadways are by their nature sources of particulate matter emissions, Petitioner also objects to the District analysis on the grounds that the District allegedly failed to point to supporting analysis and documentation to support its conclusions. *See* Petition 10-02 at 33 (“without any explanation at all nor citation to supporting documents, BAAQMD ignores the emissions contributed by these nearby roadways . . . .”); 34 (“No where [*sic*] are any supporting documents or analysis by BAAQMD cited to explain the basis for this conclusion.”). But again, a review of the District’s analysis – much of which Petitioner actually quotes in the Petition – shows that this assertion is completely false. On page 20, for example, the Petition quotes a lengthy passage from the Responses to Public Comments in which the District explains that it declined to include additional roadways because they would not cause a significant concentration gradient at locations where the project’s impacts would be above the SIL, as outlined above. *See* Petition 10-02 at 20 (quoting Responses to Public Comments at 158-

59). On pages 33-34, it quotes another lengthy passage from the Responses to Public Comments in which the District explained how the District identified and selected “nearby sources” for use in the multi-source modeling exercise, including roadways that could cause a significant concentration gradient at locations where the project’s impacts would be above the SIL, and how it then modeled all identified “nearby sources” in conducting the full impact analysis. *See id.* at 33-34 (quoting Responses to Public Comments at 143). And on page 34, the Petition again quotes at length the District’s response as to why it declined to include additional roadways where they would not cause a significant concentration gradient at locations where the project’s impacts would not be above the SIL. *See id.* at 34 (quoting Responses to Public Comments at 158-59). These passages that Petitioner itself has identified put to rest any contention that the District failed to provide the reasoning behind its determination not to include these additional roadways in its analysis. These passages, as well as the other discussions in the District’s Additional Statement of Basis and Responses to Public Comments and the supporting documentation cited therein, clearly provided a more than adequate basis for the District’s response on this issue that it disagreed with the commenters that additional roadways needed to be included in the analysis. Petitioner may disagree with the District’s conclusion on this issue, but Petitioner cannot show that the District failed to provide the basis for this conclusion nor any reason how the District could have committed clear error in reaching this conclusion.

Finally, Petitioner also claims that the District’s examination of roadway sources was flawed because the District used the facility’s maximum emissions rate of 7.5 lb/hr from the combustion turbines set forth in the permit instead of a higher rate of 9.0, which Petitioner claims resulted in an underestimation of the size of the impact area and the number of receptors with impacts above the SIL, as discussed above. *See* Petition 10-02 at 34-35. But for the same reasons explained there, the District was required to use this maximum permitted rate in its analysis, which does in fact represent the “worst case” emissions the facility will be legally authorized to emit. Petitioner provides nothing more in its arguments about additional roadway sources to add to its claims on this issue, which have no merit as discussed above.



### **III. The District Did Not Commit Clear Error in Not Requiring An Auxiliary Boiler as BACT for Startup Emissions**

Beyond Petitioner's 24-hour PM<sub>2.5</sub> arguments addressed above, the Petition also claims that the District erred in its BACT analysis for startup emissions. Specifically, the Petition claims that the District erred in determining that the use of an auxiliary boiler to reduce startup emissions was not sufficiently cost-effective to require as BACT. *See* Petition 10-02 at 35-36. As the record shows, however, the District carefully considered the evidence and information before it on this issue and correctly determined that the emission reductions that could be achieved would not be justified under a BACT analysis given the substantial costs that would be involved.

#### **A. The District Carefully Considered The Costs And Benefits Of Using An Auxiliary Boiler And Documented Its Cost-Effectiveness Calculation On The Record.**

The District determined that using an auxiliary boiler for this facility would not be sufficiently cost-effective based on a finding that that installing and operating an auxiliary boiler would cost \$1,143,912 per ton of additional NO<sub>2</sub> reduced and \$83,025 of CO reduced, which greatly exceeds with the District or any other permitting agency would require in order to achieve a similar level of reductions. *See* Additional Statement of Basis at 69-70; Responses to Public Comments at 114-16. The District's findings were based on the estimated costs of installing and operating an auxiliary boiler from the applicant's experience with its facility in Mankato, Minnesota, which uses an auxiliary boiler. *Id.*

After publishing its analysis in the Additional Statement of Basis, Petitioner submitted (through its counsel of record in this proceeding) a comment letter to the District addressing these issues (among others). *See* CLP 9/16/09 Comment Letter, Crockett Decl. 9. The letter attached two data sheets from Siemens Westinghouse Power Corporation ("Siemens") containing emissions estimates that Siemens had apparently provided for the Caithness Long Island Energy Center, a power plant in New York, for startups using the auxiliary boiler and for startups without using the auxiliary boiler. *See id.*, attachments. The letter also provided a table

purporting to compare potential startup emissions performance from the attached Siemens data sheets. The letter stated:

Below is a comparison that we compiled utilizing the proposed limits on RCEC and comparing the emission reductions identified by Siemen’s [sic] in the Caithness application with and without the auxiliary boiler, the emission reductions gained with an auxiliary boiler in pounds compared to RCEC limits are bracketed:

Comparison of Caithness and Proposed Russell City Startup Emissions Limits without AND with Auxiliary Boiler

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

*Id.* at 3. For the source of the numbers listed in this chart, Petitioner’s letter referenced Table 5 on p. 65 of the Additional Statement of Basis for the (at that time proposed) Russell City startup limits; and the “attached Siemen’s [sic] chart for emissions with boiler at 52 degrees” for what purportedly could be achieved at the Caithness facility using an auxiliary boiler. *Id.* Based on this information, Petitioner contended that with an auxiliary boiler the facility could achieve 89.9 more tons of CO emission reductions per year. *See id.* at 4. Based on this increased level of emission reductions, Petitioner contended that the cost-effectiveness of using an auxiliary boiler would fall to \$11,515 per ton of CO reduced, not \$83,025 per ton as the District had calculated in the Additional Statement of Basis. *See id.* When the District inquired further a few weeks later as to the basis of this cost-effectiveness calculation, Petitioner simply quoted passages its September 16, 2009, comment letter, and noted that due to a mathematical error the actual cost-effectiveness that Petitioner was asserting was \$11,451 per ton. *See*

Letter from J. Hargleroad, counsel for Petitioners to W. Lee, BAAQMD, (Oct. 9, 2009), Crockett Decl. Exh. 10, at 1-2.

To respond to Petitioner's comment on this issue, the District examined the table cited above that Petitioner provided in its September 16, 2009, comment letter that purported to compare emissions performance at the Caithness facility with and without the auxiliary boiler; as well as the two data sheets that Petitioner had submitted with the comment letter on which this table was allegedly based. The District did not find that the data sheets supported the level of emissions performance specified in petitioner's summary table. To the contrary, the emissions in the attached data sheets were completely at odds with the values listed in Petitioner's summary table. Looking at the first attached data sheet, which indicates that it shows estimated startup emissions with "No Aux. Boiler", the document provides a 51° warm startup estimate of 351 lbs. NOx and 2,157 lbs. CO.<sup>19</sup> But Petitioner's summary table for warm startups without an auxiliary boiler were 488 lbs. NOx and 2813 lbs. CO. For cold startups, the "No Aux. Boiler" data sheet shows emissions estimates (at 51°F) of 375 lbs. NOx and 2,164 lbs. CO; again, these numbers do not support the figures in Petitioner's summary table, which show 488 lbs. NOx and 2,813 lbs. CO. The District found the same situation when it examined the second data sheet attached with the comment letter, which indicates that it shows estimated startup emissions "With Aux. Boiler".<sup>20</sup> For warm startups, the attached data sheet showed emission estimates at 51°F of 253 lbs. of NOx and 1,237 lbs. of CO;

---

<sup>19</sup> Note that the Siemens data sheets provide estimates for two scenarios, emissions at 0°F and emissions at 51°F. The District looked to the 51°F estimates – the right-hand column on each data sheet – as this was the scenario Petitioner referenced in its comments (9/16/09 comments, p. 3). But even looking at the 0°F estimates, they do not match the numbers in Petitioner's summary table.

<sup>20</sup> Petitioner now claims that the second data sheet should not have been used in this comparison because it shows emissions estimates when firing fuel oil, not natural gas. The District addresses this contention in detail below. But this was the data sheet that Petitioner submitted with its comments, and which it cited as the basis for its summary table in its comment letter, so this was the data sheet that the District examined for the basis of Petitioner's cost-effectiveness calculations.

whereas Petitioner’s summary table listed 125 lbs. of NOx and 826 lbs. of CO. For cold startups, the data sheet showed 290 lbs. of NOx and 1,271 lbs. of CO; whereas Petitioner’s summary table listed 147 lbs. of NOx and 833 lbs. of CO. With no apparent basis for Petitioner’s emissions numbers presented in the summary table in its comment letter – and no further information forthcoming in response to the Districts follow-up inquiry for documentation on the basis of Petitioner’s cost-effectiveness estimates – the District has no other choice but to conclude that Petitioner’s estimates lacked a sound technical basis on which to make a BACT cost-effectiveness determination.

The District therefore undertook its own cost-effectiveness calculation for CO based on the data sheets provided with Petitioner’s comment letter.<sup>21</sup> The District noted that the actual difference in startup emissions estimates between the two data sheets that Petitioner provided (“No Aux. Boiler” and “With Aux. Boiler”) was 893 pounds of CO reduced for cold startups and 920 pounds for hot startups. *See* Responses to Public Comment at 115. The District found that even if one were to use these numbers from Petitioner’s data, the total emission reductions that could be achieved would be 48.7 tons of CO, and the cost-effectiveness calculation would come out to \$21,140 per ton of CO reduced, which is still well above the level at which the technology would be considered cost-effective for purposes of a BACT analysis.<sup>22</sup> *See id.* at 115.

But beyond looking to the underlying basis for Petitioner’s cost-effectiveness calculations, the District also noted Petitioner’s headline cost-effectiveness figure of \$11,515 cited in the

---

<sup>21</sup> CO was the only pollutant on which Petitioner’s comment letter criticized the District’s cost-effectiveness calculation (*see* 9/16/09 Comment Letter, Crockett Decl. Exh. 9, at 4), so that was the only pollutant for which the District undertook a cost-effectiveness calculation based on the data sheets provided with the comment letter.

<sup>22</sup> The District noted elsewhere in its analysis that additional controls for CO are not considered cost-effective for purposes of the BACT analysis if they cost more than a few hundred to a few thousand dollars per ton. *See, e.g.*, Responses to Public Comments at 72-74. Petitioner has not challenged the District’s use of a CO cost-effectiveness threshold in this range. Certainly, a cost-effectiveness of tens of thousands of dollars per ton – which is where both Petitioner’s calculations and the District’s calculations come out – is not sufficiently cost-effective under this threshold.

comment letter was still not sufficiently cost-effective on its face.<sup>23</sup> The District therefore concluded that even if Petitioner were correct in its contention regarding the emission reductions achievable from using an auxiliary boiler, the District would still disagree that an auxiliary boiler should be required as a BACT technology. *See id.*

Finally, the District also noted that the emissions performance estimates provided in the data sheets Petitioner submitted were just that – estimates of what could be achieved, and not maximum not-to-exceed emission limits or guaranteed performance levels that the equipment could be counted on to achieve day-in and day-out on a consistent basis. *See id.* n.238.

For all of these reasons, the District disagreed with Petitioner’s comment that an auxiliary boiler should be required as a BACT technology for startup emissions. The District explained this response, along with its analysis on which its conclusion was based as outlined above, in the Responses to Public Comments. *See id.* at 114-16.

**B. The District Did Not Err In Estimating The Emission Reductions That Would Be Achieved With An Auxiliary Boiler**

Petitioner now challenges the District’s determination that an auxiliary boiler would not be sufficiently cost-effective by claiming that the District “erroneously understates” the emissions reductions that could be achieved with an auxiliary boiler. Petitioner’s claim is that the District improperly relied upon emissions estimates from Siemens – the very estimates that Petitioner itself submitted attached to its September 16, 2009, comment letter – that are based on startup performance using fuel oil instead of natural gas. *See* Petition 10-02 at 35. The discrepancy between fuel-oil data and natural gas data apparently arose because Petitioner submitted the wrong attachments with the September 16, 2009, letter, and therefore the District relied on incorrect information. *See* Crockett Decl. ¶ 10 and Exh. 9. But Petitioner has only itself to blame for having failed to submit the incorrect information, and Petitioner cannot now argue that the District should have evaluated information that it failed to provide along with its

---

<sup>23</sup> This conclusion is not in any way altered by Petitioner’s subsequent revision of its headline number to \$11,451 in its October 9, 2009, follow-up letter, either.

comments (or in its October 9, 2009, follow-up letter responding to the District's request for more information, Crockett Decl. Exh. 10). Petitioner is barred at this point from appealing based on information that it did not bring to the District's attention during the comment period. *See* 40 C.F.R. §§ 124.13 (petitioners "must raise all . . . reasonably available arguments supporting their position by the close of the public comments period . . ."), 124.19 (petitioners must demonstrate "that any issues being raised were raised during the public comment period (including any public hearing) to the extent required by these regulations . . ."); *see also In re Diamond Wanapa I, LP*, PSD Appeal No. 05-06, slip op. at 5-6 (EAB, Feb. 9, 2006) (issue-preservation requirement "is not an arbitrary hurdle placed in the path of potential petitioners. Rather, the requirement serves an important function related to the efficiency and integrity of the overall administrative permitting scheme.") (citations omitted).

But even so, putting aside the procedural details of what was submitted and when, Petitioner's concern is moot because even using the Siemens estimates for natural gas startups with an auxiliary boiler, the cost-effectiveness calculation would still come out well above anything that could be considered sufficiently cost-effective to require as BACT. The Siemens estimates in Exhibit 4 to the Petition show cold startup emission estimates of 2,164 pounds without the auxiliary and 833 pounds with it, for a difference of 1,331 pounds of CO per cold startup. For warm startups, the Siemens estimates show emission estimates of 2,157 pounds of CO without the auxiliary boiler and 826 pounds with it, which results in a difference of 1,331 pounds of CO per warm startup as well. Using the startup scenario of 3 cold startups and 50 warm startups per year for each turbine corresponding to the "6 x 16" operating profile that this facility will have, or 6 cold startups and 100 warm startups per year for both turbines, the total emission reductions that would be achieved with an auxiliary boiler according to the Siemens estimates would be 70.54 tons per year.<sup>24</sup> Applying the annualized cost of the auxiliary boiler of \$1,029,521 per year (*see* CLP 9/16/09 comment letter at 4; Additional Statement of Basis at 70;

---

<sup>24</sup> 1,331 pounds per startup x 106 startups per year (6 cold and 100 warm) = 141,086 pounds per year. At 2,000 pounds per ton, 141,086 pounds per year = 70.543 tons per year.

Responses to Public Comments at 114), the cost-effectiveness of the auxiliary boiler would come out to be \$14,594 per ton of CO reduced. Again, this level of cost is well above what the District or any other regulatory agency the District is aware of would require as BACT for achieving a similar level of CO reductions. *See generally* Responses to Public Comments at 72-74.<sup>25</sup>

Petitioner's objection to the District's calculation of the emission reduction benefits that could be achieved with an auxiliary boiler must therefore be rejected. Petitioner's only criticism is that the District relied on emission estimates that Petitioner now claims are inappropriate for this facility. But it was Petitioner itself that submitted the data that the District relied on, and it is disingenuous for Petitioner to criticize the District when it was Petitioner's error that put the inappropriate data before the District in the first place. But even so, Petitioner has not shown any reason why the District's conclusion was incorrect, because even using the correct data sheet that the Petitioner has now submitted with its Petition, the data sheet does not show that an auxiliary boiler could achieve sufficient emissions reductions to warrant the cost of installing and operating it.

**C. The District Did Not Err In Calculating The Costs That Would Be Involved In Using An Auxiliary Boiler**

Petitioner also claims that "since the publication of the Response [to Comments]" on February 3, 2010, it has reviewed the documentation on which the District relied in making its cost-effectiveness determination. Petition 10-02 at 25. Petitioner claims that, based on this recent review, it believes that the auxiliary boiler at the Mankato, Minnesota, facility that the District used in its comparison is larger than would be needed to serve the same role at Russell City. Petitioner thus asserts (without citing any supporting evidence) that the District over-

---

<sup>25</sup> Note that the District performed a cost-effectiveness analysis for both NO<sub>2</sub> and for CO, the two pollutants that are relevant to the startup BACT analysis. For NO<sub>2</sub>, the cost was calculated at \$1,143,912 per ton of NO<sub>2</sub> reduced, which is many times higher than what could be justified as cost-effective for purposes of the BACT requirement. *See* Additional Statement of Basis at 70; Responses to Public Comments at 114. The cost-effectiveness issue has not been raised further, either in comments on the Additional Statement of Basis or in appeals of the final permit. The District therefore focuses its response on the CO cost-effectiveness issues raised in this appeal.

estimated the size of the boiler in its cost-effectiveness analysis, and therefore claims (again without citing any supporting evidence) that the District over-estimated the costs that would be involved in using an auxiliary boiler. Petitioner argues that the District's conclusion that an auxiliary boiler would not be sufficiently cost-effective is flawed as a result. *See* Petition 10-02 at 35.

At the outset, the Petition must be rejected on this ground because Petitioner failed to raise this issue in its comments. Petitioner made no mention in its comments of any potential concerns with the District's cost numbers that it used in the auxiliary boiler cost-effectiveness analysis. In fact, Petitioner itself endorsed the District's cost numbers in its own cost-effectiveness calculations. Petitioner differed with the District on what emissions reductions could be achieved from the auxiliary boiler and therefore offered alternative calculations assuming greater reductions, but these calculations were based on the exact same \$1,029,521 cost number that the District used. *See* CLP 9/16/09 Comment, Crockett Decl. Exh. 9, at 4; discussed in Petition 10-02 at 24.<sup>26</sup> The Petition also concedes this point on its face, noting that Petitioner has only brought up this issue "since the publication of the Response [to Public Comments]" in February of 2010. Petition 10-02 at 25. Petitioner is thus barred from objecting on this ground now because it failed to object during the public comment period and provide the District with an opportunity to respond. *See* 40 C.F.R. §§ 124.13, 124.19, *Diamond Wanapa I*, *supra*, slip op. at 5-6.

Moreover, even if the Board were to entertain these arguments at this late stage, Petitioner's assertions regarding the District's cost analysis are incorrect as a factual matter. The Petition makes the bald claim that the District's analysis assumed an auxiliary boiler with a

---

<sup>26</sup> Petitioner also cites a June 15, 2009, letter to the District (included with Exhibit 4 to the Petition) that addressed auxiliary boiler issues. *See* Petition at 25. That letter was not a comment submitted during the comment period to which the District was required to respond, and it would not be sufficient to preserve any issues discussed therein for review because it was not submitted as a comment during the comment period. But even so, the letter makes no mention of the cost issues Petitioner is now seeking to raise on appeal.



capacity of 320 MMBtu/hr, but Petitioner does not offer any evidence to support this contention. *See* Petition 10-02 at 25.<sup>27</sup> To the contrary, the District based its calculations on the auxiliary boiler at the Mankato facility, which has a capacity of 70 MMBtu/hr. This was evident from the Mankato data spreadsheet, which shows auxiliary boiler fuel usage as well as emissions. *See* Excel Spreadsheet, “Aux Boiler start profile DJ.xls”, Crockett Decl. Exh. 11.b.1., *cited in* Additional Statement of Basis at 69 n.127 and Responses to Public Comments at 114 n.235. This information is listed in the table on the first page entitled “Mankato Energy Center Start Profile for winter months”, in the right-hand box entitled “With Auxiliary Boiler”. That box contains a column showing hourly gas usage for the auxiliary boiler (as well as total usage), under the heading “ABX Gas”. The “ABX Gas” column clearly lists the gas usage from the auxiliary boiler when it is on during startups as 70 MMBtu. *See* “Aux Boiler start profile DJ.xls”, Crockett Decl. Exh. 11.b.1. This information is also clear from the permitting documents from the Mankato facility, which list the size of the auxiliary boiler as 70 MMBtu/hr. *See* Minnesota Environmental Quality Board Docket No. 04-76-PPS CALPINE, Site Permit Application, Mankato Energy Center, Mankato, Minnesota (March 2004), Crockett Decl. Exh. 12, at 2-18.<sup>28</sup>

---

<sup>27</sup> The Petition does cite “Exhibit 4” after its reference to the 320 MMBtu/hr figure, but nothing in Exhibit 4 to Petition 10-02 makes any reference to the costs used in the cost-effectiveness calculation. To the contrary, Exhibit 4 consists of (i) a letter from Petitioner’s counsel referencing other auxiliary boiler concerns unrelated to the boiler size or cost assumptions that the District used in its cost-effectiveness calculation; (ii) data sheets from an equipment manufacturer showing estimates of what emissions a different facility could achieve, which again have no bearing on the District’s assumptions in its cost-effectiveness analysis; and (iii) the engineering review for the permit for that other facility, which similarly has no bearing on the District’s assumptions in its cost-effectiveness analysis. There is nothing in Petitioner’s Exhibit 4 that purports to establish that the District assumed that an auxiliary boiler for Russell City would need to be sized at 320 MMBtu/hr.

<sup>28</sup> The District did not obtain the Mankato permitting documents and make them part of the record prior to permit issuance because none of the comments had raised this issue as explained above. But if the comments had raised the issue, the District would most certainly have followed up further and confirmed based on these documents that the boiler at Mankato is 70 MMBtu, not 230 MMBtu as Petitioner claimed. The Board should dismiss Petitioner’s claim on this issue outright for failure to preserve it during the comment period, but even if the Board declines to do so it can look to this additional information for confirmation that the Mankato boiler was in fact 70 MMBtu in size as suggested on the Mankato emissions spreadsheet.

The District has also scoured the record on this issue and has discovered a notation on the Mankato emissions spreadsheet that may be the source of Petitioner's confusion on this issue. The auxiliary boiler cost-effectiveness analysis had to subtract out the emissions that would come from the auxiliary boiler, as the startup emissions reductions that the auxiliary boiler could achieve would be partially offset by emissions from the boiler itself. In preparing the analysis of the Mankato data, therefore, it was necessary to calculate the emissions that would come from a 70 MMBtu/hr boiler if it were to be installed at the Russell City facility under California's strict emissions-control regulations. The Mankato emissions reduction spreadsheet therefore did so, using as a basis the emissions performance of the boiler at the Los Medanos Energy Center ("LMEC"), a cogeneration facility in the San Francisco Bay Area with a large 320 MMBtu/hr boiler used to generate steam for sale to the plant's cogeneration client. Emissions from the LMEC boiler are 3.5 lbs/hr of NO<sub>x</sub> and 11.8 lbs/hr of CO, which comes to 0.0109375 lb/MMBtu of NO<sub>x</sub> and 0.036875 lb/MMBtu of CO when adjusted for boiler size. For a 70 MMBtu/hr auxiliary boiler with these emissions rates, NO<sub>x</sub> emissions would be 0.7656 lb/hr and CO emissions would be 2.581 lb/hr. As Calpine's counsel explained in transmitting the Mankato analysis to the District, the analysis was prepared "using Los Medanos Energy Center's emission profile as the basis for the small offsetting increase in emissions from the auxiliary boiler itself." Email from K. Poloncarz to A. Crockett (Apr. 2, 2009), Crockett Decl. Exh. 11, under discussion of "Auxiliary Boiler BACT Analysis". As this discussion shows, the reference to the 320 MMBtu/hr LMEC boiler – which is the only place in the record that the District has found mention of the figure "320 MMBtu/hr" – was not because the District contended that Russell City would need an auxiliary boiler of that size. To the contrary, the District's analysis was based on a much smaller boiler of 70 MMBtu/hr.

Thus, the size of the 70 MMBtu/hr auxiliary boiler the District used in its analysis was not "eight times larger" than the 49 MMBtu/hr boiler described in the Lake Side permitting documents, as Petitioner contends. *See* Petition 10-02 at 35; *see also id.* at 24-25 (stating that

Lake Side auxiliary boiler is 49 MMBtu/hr).<sup>29</sup> To the contrary, although it may be slightly larger, it is still of a comparable size. And Petitioner has not provided any reason to believe that the costs of such a boiler would be substantially different, regardless of the size difference.

Although a larger boiler would obviously take more in fuel costs to operate, it is unlikely that the construction and other related costs would increase linearly with size, given the effect of economies of scale. Without any substantive information on this point, Petitioner's contention that a smaller boiler would be sufficiently less expensive to alter the BACT cost-effectiveness analysis is mere speculation.

For all of these reasons, Petitioner has not pointed to any way in which the District could have erred in rejecting the use of an auxiliary boiler on cost-effectiveness grounds. The District properly made its BACT determination on the information and comments that had been presented to it, and it is disingenuous for Petitioner to try to raise new concerns now based on information that was available for Petitioner to review and comment on during the second comment period. And even if Petitioner were allowed to raise these new issues for the first time on appeal, it has offered no concrete indication that using a smaller auxiliary boiler would in fact be so much more inexpensive as to require it as a BACT technology.

#### **IV. The District Did Not Abuse Its Discretion In Concluding That There Would Not Be Any Significant Impacts To An Environmental Justice Community**

The Petition also includes a final argument that the District erred in concluding that the facility will not have any significant adverse on any environmental justice community. *See* Petition 10-02 at Section V.C., pp. 36-37. Petitioner's argument here is entirely derivative of its arguments regarding the District's 24-hour PM<sub>2.5</sub> NAAQS analysis addressed above. Petitioner argues that the facility will in fact cause or contribute to a violation of the 24-hour PM<sub>2.5</sub> NAAQS for the reasons set forth in its previous arguments in the Petition, and that as a result the District's "environmental justice analysis is built on a faulty foundation." *Id.* at 37.

---

<sup>29</sup> Petitioner subsequently attempted to correct its math in its "Supplemental Errata" dated March 26, 2010, and now claims that the District assumed a boiler that was only six times larger than the 49 MMBtu/hr boiler used at Lake Side.

Petitioner’s derivative claim with respect to environmental justice should be dismissed here for the same reasons that its primary claim – that the facility violates PSD requirements with respect to the 24-hour PM<sub>2.5</sub> NAAQS – must fail. First, as explained above, compliance with the 24-hour PM<sub>2.5</sub> NAAQS is not a consideration that the District was required to take into account in its PSD analysis under 40 C.F.R. Section 52.21, now that the San Francisco Bay Area has been designated as non-attainment for that standard. As a result, the District had no legal authority to condition the PSD permit on a demonstration that the facility would not cause or contribute to a 24-hour PM<sub>2.5</sub> NAAQS violation. *See generally*, Section I, *supra*. The District therefore had no authority to make a 24-hour PM<sub>2.5</sub> NAAQS analysis part of the “foundation” of its environmental justice analysis in any event. The source of the environmental justice requirement in PSD permitting is Executive Order 12898, 59 Fed. Reg. 7629 (Feb. 16, 1994), which requires agencies to take environmental justice considerations into account in permitting decisions “[t]o the greatest practical and *permitted by law* . . . .” *Id.* (emphasis added). Thus where the agency is not permitted by law condition permit issuance on an issue that is not part of the applicable regulatory requirements, it cannot condition the permit on that issue as part of the environmental justice analysis, either. *See In re Chemical Waste Management of Indiana, Inc.*, 6 E.A.D. 66, 72-73 (EAB 1995). Since the District could not have withheld the permit under 40 C.F.R. Section 52.21 because of 24-hour PM<sub>2.5</sub> NAAQS compliance concerns, it had no discretion to condition the permit on a 24-hour PM<sub>2.5</sub> NAAQS compliance as an environmental justice concern.

Moreover, even if the District did have the discretion to condition PSD permit issuance on a demonstration that the facility would not cause or contribute to a violation of the 24-hour PM<sub>2.5</sub> NAAQS, the District did in fact properly determine that it would not cause or contribute to a violation. As explained above, Petitioner is wrong that the District’s analysis was flawed by not using an emissions rate of 9.0 lb/hr in this analysis. To the contrary, the District correctly used the maximum permitted emissions rate as the basis for its evaluation, which is the rate required under EPA’s PSD requirements and accurately represents what the “worst case” legally-

allowable emissions will be from this facility. Furthermore, Petitioner is also wrong that the district improperly excluded two additional roadways from its multi-source modeling exercise. The District properly analyzed nearby sources that could potentially cause a significant concentration gradient at locations where the facility may have a significant impact, and did not err in excluding additional roadway sources where it found that they would not cause any such significant concentration gradient. The Petition has provided no legitimate reason to fault the conclusions of the District's analysis on this issue, and therefore has no basis to fault this analysis in the environmental justice context, either. *See generally* Section II, *supra*.

Petitioner is therefore incorrect that the facility will cause or contribute to a violation of the PM<sub>2.5</sub> NAAQS as a factual matter. Whatever additional PM<sub>2.5</sub> emissions the facility will create will not contribute any impacts above the Significant Impact Level in any area where air quality may be predicted to exceed this standard, and therefore the facility will not cause more than a *de minimis* additional impact. This approach to evaluating potential exceedances of an air quality standard is the one that EPA requires under its PSD program, and it has been condoned by the courts in cases such as *Alabama Power Co. v. Costle*, 636 F.2d 323 (D.C. Cir. 1980). The EAB has also endorsed this approach in cases such as *Prairie State*, *supra*, slip op. at 144 (where facility's contribution to NAAQS exceedance was below the SIL, it was not "anything more significant than de minimis or trivial."); and it has agreed that there is no potential for an environmental justice impact where found that where such impacts would at most be trivial and Petitioners have not shown any error in that conclusion," *id.*, slip op. at 166. The District's analysis therefore fully supports that the facility will not have any significant impact on any nearby community, which is the basis on which the District determined that it will not have any significant impact on any environmental justice community.

Furthermore, the District's 24-hour PM<sub>2.5</sub> NAAQS analysis was just one analysis that the District undertook regarding the potential impacts in surrounding communities. The District also conducted a health risk assessment that considered carcinogenic risk from the facility as well as acute and chronic non-cancer risks, and found them all to be less than significant. *See Responses*

to Public Comments, Section XIV, pp. 184-91. The District also provided a high degree of public outreach and community involvement for this permit, holding two public meetings at Hayward City Hall to receive comments from the community. The District also provided notice in Spanish-language newspapers and provided a Spanish-language translation service at the hearings in order to help engage non-English-speaking constituencies in the vicinity of the project. *See* Responses to Public Comments at 194. The District also responded in detail to all community concerns that were raised, including many that were unrelated to any PSD issues and therefore did not technically require a response under 40 C.F.R. § 124.17(a)(2). In particular, the District responded in great detail on the issue of 24-hour PM<sub>2.5</sub> impacts, the issue on which these environmental justice concerns are based, even though it was no longer strictly relevant as part of the PSD permitting analysis under 40 C.F.R. Section 52.21. The District did so in an effort to address concerns voiced by members of the community, and especially the concerns raised by members of any environmental justice communities that may be located in the vicinity of the project. These efforts to go above and beyond the minimum regulatory requirements for PSD permitting show that the District actually built its environmental justice analysis on a very robust foundation, contrary to Petitioner's assertions.

Finally, in a last footnote the Petition also claims that the District was required to undertake an alternative siting analysis under the Non-Attainment NSR requirements of the Clean Air Act. *See* Petition at 37 n.14. But this Non-Attainment NSR alternatives analysis applies, by definition, to Non-Attainment NSR permitting under 40 C.F.R. Part 51, Appendix S, and not to PSD permitting under 40 C.F.R. Section 52.21. There is nothing in 40 C.F.R. Section 52.21 that requires such an analysis, as Petitioner's lack of any citation to that regulation attests. Thus, as with the rest of Petitioner's arguments, this final footnote falls flat.

**CONCLUSION**

For the foregoing reasons, the District respectfully submits that Petition for Review No. 10-02 should be DISMISSED in its entirety.

Dated: April 23, 2010

Respectfully Submitted

BRIAN C. BUNGER, ESQ.  
DISTRICT COUNSEL  
BAY AREA AIR QUALITY  
MANAGEMENT DISTRICT

\_\_\_\_\_  
/s/  
By: Alexander G. Crockett Esq.  
Assistant Counsel