

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

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|----------------------------------|---|------------------------------|
| In re Russell City Energy Center |) | PSD Appeal No. 10-03 |
| |) | [Citizens Against Pollution] |
| Russell City Energy Company, LLC |) | |
| PSD Permit Application No. 15487 |) | |
| _____ |) | |

REPLY OF PETITIONER CITIZENS AGAINST POLLUTION

HELEN H. KANG
LUCAS WILLIAMS
Environmental Law and Justice Clinic
Golden Gate University School of Law
536 Mission Street
San Francisco, CA 94105
Tel: (415) 442-6647
Fax: (415) 896-2450
Email: hkang@ggu.edu
Email: lwilliams@ggu.edu

Attorneys for Citizens Against Pollution

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ARGUMENT

I. THE AIR DISTRICT FAILED TO RESPOND TO COMMENTS SEEKING A CREDIBLE SCENARIO, AND THE DISTRICT SHOULD HAVE JUSTIFIED WHY IT DID NOT USE THE WORST CASE SCENARIO WHEN THE DISTRICT'S ASSUMPTION THAT THE FACILITY WOULD OPERATE AT LEAST 16 HOURS PER DAY IS UNSUPPORTED AND PRACTICABLY UNENFORCEABLE.

The Air District¹ asserts that it determined BACT for startup and shutdown emissions based on a likely operating scenario based on a “6 x 16” operating profile, and that therefore it responded to public comments seeking information on a credible scenario of startups that the permit allows and the impact such information may have on setting BACT. But the undisputed facts show that the operating scenario that the District asserts as likely is unsupported by evidence, and the permitted number of cold or warm starts could be much higher, although the District and the public lack information on that number because the District failed to respond to comments seeking that information. Without that information, it is not possible to determine the correct BACT – whether it be turbines suitable for an intermediate to peaking operation (rather than those suitable for an intermediate to base load operation) or other technology to reduce startup emissions. As a result, the District failed to set BACT on a credible operating scenario.

Discussion of the Issue in the New Source Review Workshop Manual. The Manual's section on calculating baseline emissions for cost effectiveness (B.37-B.41) instructs that “a realistic scenario of upper bound uncontrolled emissions for the source” should be used as baseline emissions to calculate cost effectiveness. New Source Review Workshop Manual (Draft Oct., 1990) [Manual] at B.37. Normally, enforceable permit conditions should be used to make operating assumptions:

[I]t is important that the applicant confirm that the operational assumptions used to define the source's baseline emissions (and BACT) are genuine. . . . [T]his is usually done through enforceable permit

¹ The reply uses the same abbreviations as CAP's Petition.

conditions which reflect limits on the source's operation which were used to calculate baseline emissions.

Id. at B.40; *see also id.* at B.39 (“permit conditions are normally used to make operating assumptions enforceable”).

Where the permittee is unwilling to accept enforceable permit conditions that “have a deciding role in the BACT determination,” the Manual instructs that the permitting agency use “the worse case uncontrolled emissions in calculating baseline emissions.” *Id.* at B.39. “This is necessary to ensure that the permit reflects the conditions under which the source intends to operate.” *Id.* To ensure that BACT is based on a credible operating scenario, “historic upper bound operating data, typical for the source or industry, may be used in defining baseline emissions in evaluating the cost effectiveness of a control option for a specific source.” *Id.* at B.38.

As demonstrated below, the District failed to respond to public comments that the District set BACT based on the number and kind of startup events (such as high emissions events, such as cold starts) that are credible, even though the District did not set a limit on the number of such events, and the total daily and annual emissions limits in Paragraphs 22 and 23 of the permit allow for more – i.e., there are no enforceable permit limits on the number and kind of startup events that have a deciding role in the BACT determination for startup and shutdown emissions.

The 6 x 16 Profile and the Power Purchase Agreement. According to the District, it set BACT based on the 6 x 16 operating profile, which “means that the facility will be required to be available for commercial operation **at least** 16 hours per day, 6 days per week.” District Response at 10, 26, 29 (citing Responses to Public Comments at 123, which in turn cites the Power Purchase Agreement, Exh. 13 to Crockett Decl.) (emphasis added). The District asserts that the 6 x 16 operation results in 6 hot startups and 1 warm startup per week. District Response at 10. “The District therefore used a startup profile for each turbine of 250 hot startups per year (6 per week x 50 weeks); 50 warm startups

per year (1 per week x 50 weeks) and 3 cold startups per year (for occasional extended downtime).” *Id.* at 11.

But the Power Purchase Agreement, the very document on which the District relies for the crucial assertion – that the facility would have only a few number of cold starts with high emissions – does not support the operating scenario the District used. The Agreement says “up to” 16 hours per day and 50 weeks, not “at least,” which means that the District’s assumption that the facility will operate at least 16 hours per day is unsupported:

[The Authority to Construct] shall allow for **up to** 50 weeks of operation on [PG&E’s] behalf in “6x16” mode per year, where the Units are started and operated for **up to** 16 hours, and subsequently shut down each day for 6 days per week. The ATC shall also allow for operation on [PG&E’s] behalf **up to** 8264 hours per year, . . . with the number of Start-Ups and Shut-Downs that would result in this level of operation.

Exh. 13 to Crockett Decl., at A-97 (emphasis added).

Instead of the phrase “up to,” the District incorrectly substituted the phrase “at least” in its discussion of the Agreement, Responses to Comments at 123 (using “at least”), which results in a materially different meaning. “At least” means that the facility could operate anywhere between 16 and 24 hours per day, whereas “up to” means that the facility could operate between 0 and 16 hours per day. Similarly, up to 50 weeks of operation can be much less than 50 weeks, and certainly not at least 50 weeks. Thus, the Agreement supports the citizens’ position that the permit and the operating profile support a much higher number of potential cold or warm starts. (The District discussed this document for the first time in the Responses to Comments, at 123, issued with the final PSD permit, and thus CAP could not have raised the issue during the public comment period. *See* Exh. 4 to the Declaration of Barry G. Young in Support of Response to Petition for Review 10-05 [Young Decl.] (this exhibit is the index of documents made available with the August 2009 draft permit, and the index does not list the Agreement).)

In fact, the language of the Power Purchase Agreement is consistent with what the citizens have said. Taking the most restrictive of the limits for calculating the maximum number of cold starts, which is for CO, and based on the daily CO limit of 7,360 pounds per day applicable to the gas turbines, HRSGs, and other emissions sources, and the limit of 2,514 lbs per cold startup, the permit likely allows one to two cold starts per day. *See* PSD permit, ¶¶ 22, 23. (The answer is uncertain because the District failed to respond to public comments asking for the maximum number of such startup events the permit allows and the impact that number may have on setting BACT, *see, e.g.*, CAP Feb. 5, 2009 Comment at 2.)

In sum, the District ruled out peaking operation, but did not rule out anything in between that and base load, and thus erred. The error critically affected the District's inquiry as to whether certain engines should be dismissed as inefficient. *See* CAP comment, Feb. 5, 2009 at 8-9 (the District compares certain technology unfavorably with the equipment that RCEC purchased, without taking into account the number of startup events; "startups and shutdowns will undoubtedly have an effect on energy efficiency and emissions that the District's analysis fails to consider in its critique of the Flex Plant 10 design," which the District rejects as inappropriate for intermediate to base load facilities, *see* ASOB at 70, but finds to be "an excellent technology to allow peaking-to-intermediate plants," Responses to Comments at 109); Sierra Club comment, Jan. 22, 2009, Part II ("The BACT Analysis Did Not Consider More Efficient Processes"); *see also* ASOB at 8 n.3 (efficiency affects emissions).

The District's response to comments therefore contravenes the Manual's directive that, in the absence of enforceable permit limits, the permitting agency use the worst case uncontrolled emissions. While the District concedes that the maximum number of cold starts allowed under the permit is much higher, District Response at 34 and 39, the District failed to justify to the public, with supporting evidence, why the scenario of worst uncontrolled emissions should not be used as the Manual instructs.

How the Error in the District's Assumptions that the Facility Will Operate at Least a Certain Number of Hours Affects the Auxiliary Boiler Cost-Effectiveness Calculation. In the absence of enforceable permit limits, the District ought to have used the maximum number of cold starts or other scenarios that represent the worst uncontrolled startup emissions to calculate the cost effectiveness number in determining whether an auxiliary boiler should be BACT. The District based the baseline emissions, however, on an unsupported and unenforceable scenario, which the District erroneously thought to be a likely scenario. Thus, the District erred.

In this regard, the District also erroneously states the law on who has the burden to establish that a control technology is not cost effective. District Response at 50 n.16. The case CAP cited, *In re Pennsauken County, New Jersey Recovery Facility*, 2 E.A.D. 667, 672 (Adm'r 1988), *see* Petition at 7, is unequivocal in stating that one of the central differences between the top-down BACT analysis and other approaches is to shift the burden of proof to the applicant to justify why the proposed source is unable to apply the best technology available, including where the applicant cites to costs as a reason for not applying that technology. *Id.* The District notably ignores *Pennsauken* in its discussion of the issue, even though that is the case CAP cited on the burden issue.

Palomar's Five Data Points for Cold Starts. The District attempts to insert new issues, which CAP believes the District has not discussed, in the permitting proceeding, by arguing that the five data points that the District has obtained from a San Diego facility is indicative of "the fact that cold startups from facilities like this are relatively uncommon events." District Response at 57. The Board should of course ignore this belated argument, especially in light of contrary evidence outside of the record. Operating records from a similar facility in the San Francisco Bay Area, which PG&E operates, show that cold starts are much more common in the Bay Area than the District asserts because the region does not need new fossil-fuel capacity to meet local energy reliability demands, *see* CAP Petition at 6. Taking the definition in the RCEC permit that

a cold start occurs more than 48 hours after a turbine shutdown, the evidence from the PG&E facility shows 16 cold starts in about a year. This evidence was not available to CAP until May 13, 2010, after CAP filed the Petition in this case, and is proffered to counter the District's new contention that Palomar's few cold starts is somehow evidence of how RCEC will operate. *See* Declaration of Helen Kang in Support of Reply of Citizens Against Pollution. The District should claim no prejudice from this information, which it should have had all along and did not review in this permitting proceeding.

The Facility's High Capacity Factor. The District's argument that this facility has a high capacity factor, which apparently rules the plant out as a peaker, does not fully respond to comments asking for the maximum number and kind of startups the permit allows. Even if the facility is not a peaker, what is the number of high emission startup events that the permit allows, and what are their impacts on the BACT determination? Specifically, given the number of startup events, what is the validity of the District's argument that certain technology (*e.g.*, Fast-Start) would be less efficient than the equipment that RCEC purchased long before receiving its PSD permit? The District did not answer these questions because of its unsupported assumptions about how the facility would operate.

In sum, the issue for the Board is a legal one: whether BACT was properly set without providing the public with information concerning the maximum number of high emission startup events allowed under the permit. The District should have determined a credible scenario to set BACT; the District cannot base its BACT determination on a "trust me" scenario because it is not practicably enforceable.

II. “ACHIEVED IN PRACTICE” TECHNOLOGY SHOULD HAVE BEEN APPLIED AS BACT WITHOUT A COST EFFECTIVENESS DETERMINATION.

A. CAP Properly Raised This Argument.

The Air District argues that CAP failed to raise the argument that cost effectiveness is irrelevant to “achieved in practice” technology. CAP raised this argument with sufficient particularity.

The standard for judging whether public comments raised an issue is whether the “comments are presented in a way which could reasonably have permitted the agency to examine those contentions.” *Adams v. U.S. EPA*, 38 F.3d 43, 51 (1st Cir. 1994). The court cautioned that the purpose of the requirement for public commenters to raise ascertainable issues is “not to foreclose participation in the process, but to provide notice” to the permitting agency. *Id.* at 52. *Adams* thus held that comments stating that EPA “had not carried out the intent of Congress in relation to the Water Quality Act of 1987,” with reference to the public laws, was sufficient to raise the issue on appeal that the permitting agency had not adequately complied with the Ocean Discharge Criteria. *Id.* The court reasoned that the public laws referenced in the comments included the Ocean Discharge Criteria. *Id.*

Similarly, in *In re Kendall New Century Dev’t*, 11 E.A.D. 40, 2003 WL 21213227, at *7 (2003), the Board held that public comments relating to an emissions limit equivalent to the one at issue on appeal were sufficient. The Board noted that the permitting agency could not “credibly contend that it was not placed on notice during the public comment period that members of the public had concerns.” *Id.*

Likewise, the Air District cannot credibly claim that it was not placed on notice that the public wanted “achieved in practice” technology to be applied as BACT without a cost effectiveness determination. In CAP’s February 2009 comments, CAP discussed in detail why “achieved in practice” technology should be considered BACT without a

cost-effectiveness determination. *See* CAP 2/09 Comments at 7-8. At the time this comment was made, the District had not yet discussed the possibility of requiring an auxiliary boiler as BACT, identifying only work practices, once-through boiler technology, and turn-down technology. *See* SOB at 40-42.

In response to CAP's comments, the District said nothing. *See* ASOB at 58-74 (section on startup and shutdown issues). But it assured the public that it would analyze public comments, and that the public did not need to resubmit their comments:

Members of the public who submitted comments during the initial comment period on the initial draft permit and statement of basis **do not** need to re-submit their comments to the Air District. The Air District has taken all comments previously received during the comment period under consideration and will consider and respond to them before making a final decision on the proposed permit.

ASOB at 3. When CAP submitted comments on the draft permit that was issued with the ASOB, CAP thus did not make the same comment that "achieved in practice" technology need not undergo a cost-effectiveness analysis as to the auxiliary boiler. CAP did state, however, that auxiliary boilers are "demonstrated as feasible since they are used at the Lake Side and Caithness plants." CAP 9/09 Comments at 5.

In its Responses to Comments, the District then purported to respond to CAP's February 2009 comments by characterizing the comment incorrectly: "Some comments stated that the District's BACT analysis was inconsistent with the District's BACT approach under its Non-attainment NSR rules (District Regulation 2-2) and under the federal Clean Air Act and EPA's implementing regulations for Nonattainment NSR." Responses to Comments at 218. The District then stated that "Non-Attainment NSR is a state-law permitting program conducted in accordance with the District's SIP-approved Non-Attainment NSR regulations." Thus, the District did not even respond to CAP's comment that the PSD Delegation Agreement required Regulation 2-2 to be applied to the RCEC proceeding. *See* CAP 2/09 Comment at 6.

Under these circumstances, the District cannot fairly say that the issue was not

raised. CAP raised the issue as to once-through boiler technology at issue in the first draft permit; the District then discussed the auxiliary boiler issue with the second draft permit, at the same time promising a response on the legal issue of whether and how Regulation 2-2 applies to the RCEC proceeding; and only provided a partial response with the final permit in the Responses to Comments. Even more so than in *Kendall*, the issue that CAP raised was the same legal issue of whether and how Regulation 2-2 applies. See 11 E.A.D. 40, 2003 WL 21213227, at * 7; cf. *Great Basin Mine Watch v. Hankins*, 456 F.3d 955, 968 (9th Cir. 2006) (sufficiently clear that plaintiffs have exhausted their administrative appeal if, “taken as a whole,” it provided sufficient notice to afford the agency the opportunity to rectify the violations). In addition, it would be unfair to bar CAP’s argument when reiterating the same argument as to the auxiliary boiler would have elicited the same response from the District – that Regulation 2-2 does not apply.

B. *Western Suburban* Is Inapposite Because the Delegation Agreement There Did Not Incorporate the SIP.

The Delegation Agreement, which applies to PSD permitting proceedings here, provides that the Air District should apply the District’s State Implementation Regulation 2-2 to PSD proceedings. That rule provides that “achieved in practice” technology does not require a cost effectiveness determination. Respondents contend that the rule does not apply here because it is an NSR rule.

That the rule is an NSR rule does not make it a PSD rule, when EPA stated that the District should apply the rule in a PSD proceeding. Unlike the Delegation Agreement in *In re Western Suburban Recycling & Energy Center*, 6 E.A.D. 692 (1996), which is available from 46 Fed. Reg. 9580 (Jan. 29, 1981), the Delegation Agreement applicable here specifically incorporated Regulation 2-2. Indeed, the Manual applying Regulation 2-2 is consistent with the federal PSD program. As the NSR Manual notes, “if the cost of reducing emissions with the top control alternative . . . is on the same order as the cost

previously borne by other sources of the same type in applying that control alternative, the alternative should initially be considered economically achievable, and therefore acceptable as BACT.” Manual at B.44. The Manual further states that if “unusual circumstances” affect the cost of controls, then they should be documented. *Id.* The District has failed to sufficiently document why an auxiliary boiler, which is achieved technology, would cost so much more at the RCEC facility.

III. THE DISTRICT DOES NOT JUSTIFY THE HIGH COLD AND HOT STARTUP LIMITS FOR NO_x.

The Air District cites cases to argue that the high BACT limits that the Air District set for cold and hot startup NO₂ emissions are based on Board precedent. None of the cases stand for the proposition that the District can set a large compliance margin based simply on the conclusory statement about the variability in startup emissions. The District’s statement that several different factors can cause variability, *see* SOB at 44, without reference to any specific facts pertaining to RCEC, does not provide a basis for adding a large margin.

For example, the District does not discuss whether the variability results from uncontrollable circumstances; nor does the District explain whether the high emission rates seen result from violations of work practices set as BACT, in explaining the margin:

the 480- pound cold-startup limit was based on early data from the Palomar facility showing emissions could be as much as 375-437 pounds for a cold startup, with a reasonable additional compliance margin to allow for the fact that startups are highly variable in nature and that the 375-437 pound startup emissions seen in the Palomar data may not necessarily be the highest startups the facility will experience over its lifetime.

Responses to Comments at 100. The cases that were not discussed in the Petition are discussed below:

In re Newmont Nevada Energy Investment, 12 E.A.D. 429, 2005 WL 4905114, at *24 (2005) (District Response at 59, 67): The case provides an example of why the District’s justification for the large margin is unsupportable. In *Newmont*, the permitting

agency chose a lower control efficiency than that the petitioner advocated. *Id.* The agency explained that the control system was relatively new at that time, and that higher efficiencies would require injection of higher volumes of ammonia. *Id.* In contrast, the District failed to have any fact-based justification for the margin, including evidence that the reason for some of the higher startup emissions are due to the general variability factors that the District mentions. *See* Petition at 26-27. Examples of relevant evidence include evidence that the lower rates were achieved incidentally or in performance tests. *Newmont*, 2005 WL 4905114, at *8. The case also confirms that the BACT analysis “must be solidly grounded on what is presently known.” 2005 WL 4905114, at *10 (citing Manual at B.24).

In re Knauf Fiber Glass GmbH, 9 E.A.D. 1 (2000), and *Kendall*, 11 E.A.D. at 40, upholds limits that are at the higher end or that have a safety factor. The cases do not change the fact that the District fails to connect the higher startup emissions to the general variability factors that the District mentions.

IV. MISCELLANEOUS MATTERS

- CAP does not dispute that the table, “SU-SD analysis final 4-1-09.pdf,” (discussed in District Response at 37-39) is part of the record.
- The Air District is correct that CAP did not discuss the Mankato Energy Center Start profiles in its public comments. But, as the Air District also concedes, public comments questioned the emissions assumptions that the District used. *See* Chabot-Las Positas Community College District (Chabot) Comments on ASOB (September 16, 2009) at 4. Given that the District bears the burden on not requiring achieved technology based on cost ineffectiveness, it is proper for CAP to point out that the District’s justification is without factual support, *see* Petition at 22. Since the Mankato information supplied by Calpine is the only information on which the District’s cost ineffectiveness determination is based, *see* District Response to Chabot at 33;

Responses to Comments at 114-16, and such determination was questioned, arguments about the factual support for the District's basis should not be considered to have been waived.

CONCLUSION

The District did not respond to comments about the operating scenario, and the District thus clearly erred in setting BACT for startup and shutdown emissions. In addition, the selected emissions limits were set high without specific justifications. Moreover, the District did not meet its burden of justifying the rejection of achieved technology. The Board should thus remand the permit to the District.

/s/ Helen Kang

HELEN H. KANG
Environmental Law and Justice Clinic
Golden Gate University School of Law
536 Mission Street
San Francisco, CA 94105
Tel: (415) 442-6647
Fax: (415) 896-2450
Email: hkang@ggu.edu

Attorneys for Citizens Against Pollution

CERTIFICATE OF SERVICE

I, Lucas Williams, certify that a copy of the foregoing MOTION OF PETITIONER CITIZENS AGAINST POLLUTION FOR LEAVE TO FILE A REPLY was e-filed with the Board's CDX system.

The document was served to the following persons in the manner indicated this 28th day of May, 2010:

By First Class Mail:

Nancy Marvel
Office of Regional Counsel
US EPA Region 9
75 Hawthorne St.
San Francisco, Ca. 94105-3901
Fax: (415) 947-3571

All parties/counsel have agreed to the use of electronic service.

By E-Mail:

Jack Broadbent
Alexander Crockett
Bay Area Air Quality Management District
939 Ellis Street
San Francisco, CA 94109
E-Mail: ACrockett@baaqmd.gov

Robert Sarvey
501 W. Grantline Road
Tracy, CA 95376
E-Mail: Sarveybob@aol.com

Andy Wilson
California Pilots Association
P.O. Box 6868
San Carlos, CA 94070-6868
E-Mail: andy_psi@sbcglobal.net

Michael E. Boyd and Rob Simpson
Californians for Renewable Energy, Inc.
5439 Soquel Drive
Soquel, CA 95073
E-Mail: michaelboyd@sbcglobal.net,
rob@redwoodrob.com

Jewell L. Hargleroad
Law Office of Jewell Hargleroad
1090 B Street, No. 104
Hayward, CA 94541
E-Mail: jewellhargleroad@mac.com

Kevin Poloncarz, Holly L. Pearson
Bingham McCutchen LLP
Three Embarcadero Center
San Francisco, CA 94111-4067
E-Mail: kevin.poloncarz@bingham.com

Robert Bezemek
Law Offices of Robert J. Bezemek
The Latham Square Building
1611 Telegraph Avenue, Suite 936
Oakland, California 94612
Email: lawoffice@bezemeklaw.com

Executed on May 28, 2010, at San Francisco, California.

/s/ Lucas Williams
Lucas Williams
Environmental Law & Justice Clinic
536 Mission Street
San Francisco, CA 94105
Telephone: (415) 369-5351
Fax: (415) 896-2450
Email: lwilliams@ggu.edu