Appeal of PSD permit modification for Delta Energy Center

By Robert Simpson and Helping Hand Tools, a California nonprofit organization.

Project owned by Calpine Pittsburg, Inc. in pittsburg California under BAAQMD plant number 11928

Introduction

I am a pro se litigant without the benefit of legal council on this matter.

The California Energy Commission (CEC) has authority over power plants in the state.

The CEC certified an 880 MW combined cycle gas-fired power plant called the Delta Energy Center ("DEC") in 2000. The Bay Area Air Quality Management District (BAAQMD) issued a PSD permit for the Delta Energy Center on October 21, 1999 . The CEC approved an amendment of its license for the facility on March 21, 2017 which will allow Delta to make a physical change and change in operations in violation of the PSD permit issued by BAAQMD. BAAQMD appears to have failed to adequately supervise the CEC in this action, they appeared to have had no role in the amendment.

Argument

On January 29th 2017 an explosion and fire at the facility disabled operations.
On February 21st 2017 Delta petitioned the CEC to make physical modifications to the facility.
The Petition states in relevant part;

> As a result of the event, the steam turbine and steam turbine generator experienced significant damage. The cause of the event is currently being investigated, and a schedule for repairs is being generated. Delta Energy Center, LLC is petitioning to allow the facility to make temporary modifications to the steam turbine condenser that will allow repairs to the steam turbine to be performed, while the facility operates in simple cycle mode….
> The plant is designed and equipped with a set of valves that allows the steam to bypass the steam turbine (the now-damaged equipment) and be sent directly to the condenser for routing to the cooling tower and reuse in the generation process. Even though the bypass valves allow

steam to be diverted to the condenser, the top of the condenser is connected directly to the bottom of the LP steam turbine. As such, in order for safe work to be performed on the steam turbine while the facility is operating in bypass mode, an isolating plate (i.e., a blind) must be installed to prohibit steam from entering the steam turbine and to seal the system so that it can properly hold the vacuum necessary for condenser operation.
Project Owner is petitioning the Commission to install a rupture disk and associated pressure relief vent to allow temporary safe operations.

There was no contention that this was "routine maintenance, repair and replacement" The basis for the physical change is clearly the explosion and fire. Robert Sarvey submit testimony to the CEC in our motion for reconsideration of the decision demonstrating a significant increase in potential to emit. He stated;

> The Commission has failed to consult the responsible agency the Bay Area Air Quality Management District (BAAQMD) during this abbreviated amendment period. According to my public records request submitted by me to the BAAQMD[19] the district has not even been notified of the accident much less performed an analysis of compliance with BAAQMD rules and regulations with the project operating as a peaker plant. The amendment changes the method of operation of the DEC converting it to a simple cycle unit from a combined cycle unit. BAAQMD Regulation 2-2-604 provides an Emission Increase/Decrease Calculation Procedures for New Sources and Changes at Existing Sources. As provided in Regulation 2-2-604**, "**The amount of any emissions increase (or decrease) associated with a new source, or with a physical change, change in the method of operation, change in throughput or production, or other similar change at an existing source, shall be calculated according to the following procedures. BAAQMD Regulation 604.2 provides the method to compute emission increases that result from a Change to Existing Source. Regulation 604.2 provides that, "The emissions increase (or decrease) associated with a physical change, change in the method of operation, change in throughput or production, or other similar change at an existing source (including a permanent shutdown of the source) shall be calculated as the difference between: (i) the source's potential to emit after the change; and (ii) the source's adjusted baseline emissions before the change, calculated in accordance with Section 2-2-603. The Delta Energy Centers three year baseline emissions are calculated pursuant to BAAQMD regulation 603-2, The DEC emitted 136.5 tons of NOx in 2015,[20] 143.1 tons of NOx in 2014[21] and 154.3 tons of NOx in 2013 for an average of 144.6 tons per NOx over the last three years. Since the amendment does not change the potential to emit as provided for in the 2000 FDOC the DEC's potential to emit in simple cycle mode for the DEC is 298.7 tons per year of NOx leading to an emission increase of over 150 tons per year of NOx which triggers BAAQMD ATC, BACT, and PSD requirements. All of the BACT determinations imposed by the 2000 FDOC were based on assumption that facility would be operating in combined cycle mode.[22] Now that the facility is proposed to be operated in simple cycle mode new BACT determinations should be imposed. Simple cycle units in the BAAQMD now utilize 1 ppm VOC limit as BACT, a 2ppm CO limit as BACT, and an ammonia slip limit of 5 ppm.

> The CEC did not disclose its intent to modify the PSD permit. It failed to provide public notice of the action consistent with a PSD permit amendment application. The notice of the hearing did not even include the address of the facility. We did not have adequate time or information to effectively participate or comment on

the action. None of the rules for a PSD permit or permit amendment occurred. These are all errors in law. Many of the Boards past remands of permits were due to an inadequate record. This amendment certainly qualifies for a remand on that basis.

Despite having only 12 days to comment before the CEC decision, we submit significant comments and commented at the hearing. I stated;

1 Until you have BAQMD that says it's okay to
22 increase the GHG emissions per megawatt, I think it's 30
23 percent increase, this doesn't meet the performance
24 standards of the combined cycle facility. There's nothing
25 in the amendment that says this is a temporary amendment.
1 So Calpine could decide that, we're just going to
2 run it forever in simple cycle. There's no GHG analysis.
3 I filed an informal complaint. There was no substantive
4 response. So I filed a formal complaint regarding the
5 explosion and lack of information to the public.
6 So I think there's a lot of -- I've got a stack
7 of data requests that haven't been responded to. So I feel
8 it's premature to approve this project without some Agency
9 coordination --

The CEC failed to recognize that the combined cycle operation was integral to the BACT determination for this facility.

The original CEC Decision states;
The DEC will be configured as a compound-train combined cycle power plant, in which electricity is generated by three gas turbines, and additionally by a steam turbine that operates on heat energy recuperated from the gas turbines' exhaust. By recovering this heat, which would otherwise be lost up the exhaust stacks, the efficiency of any combined cycle power plant is increased considerably from that of either gas turbines or steam turbines operating alone. Such a configuration is well suited to the large, steady loads met by a baseload plant, intended to supply energy efficiently for long periods of time.
and
The project is configured as a compound-train combined cycle power plant. Electricity will be generated by the three gas turbines and a shared steam turbine that uses heat energy recuperated from the gas turbines exhaust. (Ex. 20, p. 337.) By recovering this heat, which would otherwise be lost in the exhaust stacks, the efficiency of any combined cycle power plant is significantly increased in comparison to that of either gas turbines or steam turbines operating alone. (*Ibid*.) The project objectives include generation of baseload or load following electricity. (Ex. 2, ⁄ 2.4.1.) Staff concluded that the proposed project configuration is well suited to meet project objectives. (Ex. 20, p. 337.)
also

The number of turbines further contributes to efficiency at part load. Gas turbine generators operate most efficiently at one particular output level, typically at full load. Whenever desired output is less than full load, the unit must be throttled back. Rather than being forced to throttle back one large turbine, with the consequent reduction in efficiency, the power plant operator will have the option of shutting off one or more gas turbines. This allows the plant to generate at less than full load while maintaining optimum efficiency, suitable for a plant meant for load-following duty. Loads down to 33 percent of full load allow one gas turbine, operating at full load, and the steam turbine to maintain peak efficiency. 338 DEC

The CEC Final Staff Assessment (FSA) states;

ALTERNATIVES TO REDUCE WASTEFUL, INEFFICIENT AND UNNECESSARY ENERGY CONSUMPTION…

The number of turbines further contributes to efficiency at part load. Gas turbine generators operate most efficiently at one particular output level, typically at full load. Whenever desired output is less than full load, the unit must be throttled back. Rather than being forced to throttle back one large turbine, with the consequent reduction in efficiency, the power plant operator will have the option of shutting off one or more gas turbines. This allows the plant to generate at less than full load while maintaining optimum efficiency, suitable for a plant meant for load-following duty. Loads down to 33 percent of full load allow one gas turbine, operating at full load, and the steam turbine to maintain peak efficiency.

and

In conclusion, the project configuration (combined cycle cogeneration) and generating equipment ("F-class" gas turbines) chosen appear to represent the most efficient feasible combination to satisfy the project objectives. Wasteful, inefficient and unnecessary consumption of energy is not likely to occur.

The BAAQMD PSD PERMIT states;

Calpine Corporation and Bechtel Enterprises have submitted a permit application (# 19414) for a proposed nominal 880-MW combined cycle power plant, the Delta Energy Center

Each of these statements underpin the BACT determination for the facility. There is no BACT determination for operating the combined cycle facility in simple cycle mode with a useless HRSG attached that is merely diminishing performance. As described above, combined cycle operation is an inherently more efficient and therefore lower emitting technique or control device for simple cycle turbines as is contemplated in step one of a BACT determination. This BACT determination is the basis for the Federal PSD permit issued by the Bay Area Air Quality Management District (BAAQMD) The Commission effectively modified that permit when it amended the operating permit for the facility. The amendment was conducted in violation of federal law.

The PSD permit states;

Pursuant to BAAQMD Regulation 2, Rule 3, Section 403, this document serves as the Final Determination of Compliance (FDOC) document for the Delta Energy Center. It will also serve as the evaluation report for the District Authority to Construct application #19414 and serves as the final PSD permit under delegated authority from the EPA.

THE PROJECT (AS AMENDED) DOES NOT MEET BACT AND REQUIRES A BACT DETERMINATION TO CONFORM TO THE CLEAN AIR ACT, AND DISTRICT RULES INCLUDING PSD RULES

The amendment modified the "PSD permit" without authority, adequate public notice under PSD rules and without a BACT analysis or analysis of other impacts from the changes. BAAQMD rule**2-2-224 PSD Project** is clear that the amendment constitutes a PSD PROJECT

THE CEC FAILED TO CALCULATE ANY POTENTIAL EMISSION CHANGES despite the requirements of BAAQMD Regulation 2-2-604

I request oral argument in this matter and an opportunity for alternative dispute resolution

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Table of Authorities

BAAQMD BACT rule states;
2-2-202 Best Available Control Technology (BACT): An emission limitation, control device, or control technique applied at a source that is the most stringent of:
202.1 The most effective emission control device or technique that has been successfully utilized for the type of equipment comprising such a source; or
202.2 The most stringent emission limitation achieved by an emission control device or technique for the type of equipment comprising such a source; or
202.3 The most effective control device or technique or most stringent emission limitation that the APCO has determined to be technologically feasible for a source, taking into consideration cost-effectiveness, any ancillary health and environmental impacts, and energy requirements; or
202.4 The most effective emission control limitation for the type of equipment comprising such a source that is contained in an approved implementation plan of any state, unless the applicant demonstrates to the satisfaction of the APCO that such limitation is not achievable.
Under no circumstances shall BACT be less stringent than any emission control required by any applicable provision of federal, state or District laws, rules or regulations.
And
2-2-301 Best Available Control Technology Requirement: An authority to construct and/or permit to operate for a new or modified source shall require BACT to control emissions of District BACT pollutants under the following conditions:
301.1 New Source: An authority to construct and/or permit to operate for a new source shall require BACT to control emissions of a District BACT pollutant if the source will have the potential to

emit that pollutant in an amount of 10.0 or more pounds on any day as defined in Regulation 2-1-217;
301.2 Modified Source: An authority to construct and/or permit to operate for a modified source shall require BACT to control emissions of each District BACT pollutant for which the source is "modified" as defined in Section 2-1-234 for which:
2.1 the source, after the modification, will have the potential to emit that pollutant in an amount of 10.0 or more pounds on any day as defined in Regulation 2-1-217; and 2.2 the modification will result in an increase in emissions of that pollutant above baseline levels calculated pursuant to Section 2-2-604.

2-2-224 PSD Project: A new source as defined in Section 2-1-232, or a modified source as defined in Section 2-1-234, or a combination of such new or modified sources that are part of a single common project, that meets all of the following criteria:
224.1 Major PSD Facility: The source(s) are or will be located at a facility that has the potential to emit 100 tons or more per year of any PSD pollutant* (including fugitive emissions) if it is in one of the 28 categories listed in Section 169(1) of the Clean Air Act, or 250 tons or more of any PSD Pollutant* (not including fugitive emissions) if it is not in a listed category; and
224.2 Significant Increase in Emissions of PSD Pollutant: The new emissions from the new source(s) and/or the increase in emissions from the modified source(s) calculated according to Section 2-2-604 constitute significant emissions of any PSD pollutant as defined in Section 2-2-227.1; and
224.3 Significant Net Increase in Emissions of PSD Pollutant: The net emissions increase associated with the new or modified source(s), as defined in Section 2-2-220, constitute significant emissions of any PSD pollutant as defined in Section 2-2-227.1.
Any physical change or change in method of operation that takes place at a facility that does not meet the Major PSD Facility criteria specified in subsection 224.1, but which change would constitute a Major PSD Facility under the criteria in subsection 224.1 by itself, is a PSD Project.
**Note that GHG emissions are not included for purposes of applying the 100/250 ton-per-year major PSD facility threshold in Section 2-2-224.1. GHGs are not a Regulated NSR Pollutant under 40 C.F.R. § 52.21(b)(50), and therefore not a PSD Pollutant under Section 2-2-223, unless they are emitted from a facility that exceeds the 100/250 ton-per-year major PSD threshold for some other pollutant besides GHGs. Thus, for a facility to satisfy the major PSD facility test in Section 2-2-224.1, it must have emissions of some other Regulated NSR Pollutant besides GHGs that exceed the 100/250 ton-per-year threshold. For such facilities, GHG emissions are Regulated NSR Pollutants if there is an increase in emissions of 75,000 tons per year CO2e or more. See Section 2-2-223; see also 40 C.F.R. § 52.21(b)(50)(iv) and 40 C.F.R. § 52.21(b)(49)(iv).*
2-2-217 Major Facility: For purposes of the New Source Review requirements of Regulation 2, Rule 2, a major facility is a facility that has the potential to emit 100 tons per year or more of POC, NOx, SO2, PM10, PM2.5, and/or CO. Fugitive emissions shall be included in calculating the facility's potential to emit under this Section if and only if the facility is in one of the 28 categories listed in Section 169(1) of the Clean Air Act. A physical change at a facility that does not otherwise qualify as a major facility is a new major facility if the change would constitute a major facility by itself
52.21 Prevention of significant deterioration of air quality (b)1(i)*(c)* Any physical change that would occur at a stationary source not otherwise qualifying under paragraph (b)(1) of this section, as a major stationary source, if the changes would constitute a major stationary source by itself.

BAAQMD Regulation 2-2-604 requires an Emission Increase/Decrease Calculation Procedures for New Sources and Changes at Existing Sources: The amount of any emissions increase (or decrease) associated with a new source, **or with a physical change, change in the method of operation, change in throughput or production, or other similar change at an existing source**, shall be calculated according to the following procedures:
604.1 New Source: The emissions increase associated with a new source is the source's potential to emit.
604.2 Change to Existing Source: The emissions increase (or decrease) associated with a physical change, change in the method of operation, change in throughput or production, or other similar change at an existing source (including a permanent shutdown of the source) shall be calculated as **the difference between: (i) the source's potential to emit after the change; and (ii) the source's adjusted baseline emissions before the change, calculated in accordance with Section 2-2-603.** The

IN RE TENNESSEE VALLEY AUTHORITY CAA Docket No. 00-6

As explained by the Seventh Circuit, "[t]he purpose of the 'modification' rule is to ensure that pollution control measures are undertaken when they can be most effective, at the time of new or modified construction." Wisconsin Elec. Power Co. v. Reilly, 893 F.2d 901, 909 (7th Cir. 1990) (citation omitted) ("WEPCO").

The determination under the various regulatory programs of whether the source owner or operator must obtain a permit before making a change to the source is derived from the statutory definition of the term "modification." Generally, the statutory standard requires consideration of two issues: (1) whether there was a "physical change" made to the unit; and (2) whether there was an increase in the emissions of particular pollutants that results from the physical change. The regulations for the various state and federal permitting programs interpret and elaborate upon the statutory definition of "modification" by both excluding certain types of changes from the permitting requirements and by establishing requirements for determining when the change results in an emissions increase.

"actual-to-potential" test, which compares actual pre-change emissions (based on the annual average emissions in a two-year baseline period) to the maximum potential to emit of the unit if it were operated twenty-four hours a day for 365 days in a year.

demonstrated that TVA violated the minor NSR permitting requirements of the applicable state SIPs

This preconstruction permitting requirement is generally referred to as new source review, or NSR. Although the NSPS program is focused on technology requirements for source categories, the NSR requirements focus on the location of the source and its potential effect on the environment of that locality. Northern Plains Res. Council v. EPA, 645 F.2d 1349, 1356 (9th Cir. 1981)

The CAA provides, with respect to both the PSD program and the nonattainment NSR program, that "modification" of a major stationary source of an air pollutant is unlawful unless the source owner or operator has obtained a preconstruction permit under the applicable PSD or nonattainment NSR program. CAA §§ 165(a), 169(2)(C), 171(4), 172(b) — (c), 42 U.S.C. §§ 7475(a), 7479(2)(C), 7501(4), 7502(b) — (c). Specifically, CAA section 165(a) prohibits "construction" of a facility without a permit, and section 169(2)(C) defines construction as including "modification" as defined in section 111(a) of the CAA

Before a permit is issued, among other things, the owner or operator of the source must demonstrate, inter alia, that post-modification emissions from the source will not violate air quality requirements. Specifically, the owner or operator must demonstrate that "emissions from * * * operation of such facility will not cause, or contribute to, air pollution in excess of [the NAAQS]," among other things. CAA § 165(a)(3), 42 U.S.C. § 7475(a)(3). Further, a permit may not be issued unless "there has been an analysis of any air quality impacts projected for the area as a result of growth associated with such facility." Id. § 165(a)(6), 42 U.S.C. § 7410.

In particular, the CAA requires that a state's SIP must "include a program to provide for * * * regulation of the modification and construction of any stationary source within the areas covered by the plan" to assure that the NAAQS are achieved. CAA § 110(a)(2)(C), 42 U.S.C. § 7410(a)(2)(C), (emphasis added)

"Modification" for the purposes of the CAA's NSPS, SIP, PSD and nonattainment NSR requirements is defined in the statute as follows: The term "modification" means any physical change in, or change in the method of operation of, a stationary source which increases the amount of any air pollutant emitted by such source or which results in the emission of any air pollutant not previously emitted.

In terms of what constitutes a "physical change" within the meaning of the CAA, the Seventh Circuit's holding in WEPCO is instructive. There, the court stated that "any physical change means precisely that." WEPCO, 893 F.2d at 909. In its decision, the court rejected Wisconsin Electric Power Company's argument that a "simple equipment replacement" did not constitute a physical change for the purpose of the CAA's modification provisions. Instead, the court gave the term "physical change" a broad construction:

It is commonplace for sources regulated under the CAA to seek applicability determinations in circumstances of uncertainty. The regulations provide for such determinations, see 40 C.F.R. § 60.5; 57 Fed. Reg. 32,314 (1992), and EPA has encouraged their use. 57 Fed. Reg. at 32,332 (1992)

Regulatory Emissions Increase Test: the "Actual-to-Potential" Test

Petitions and any response brief in NSR appeals may not exceed 14,000 words. 5 40 C.F .R. § 124.19(d)(3). A statement of compliance with the word limitation should be included with any petition or response brief filed. Id. § 124. 19(d)(l)(iv).

For each issue appealed, the petitioner must demonstrate, by specific citation to the administrative record, including to the applicable document name and page number(s), that each issue being raised was either raised during the public comment period (including any public hearing), id. § 124. 19(a)(4)(ii), or was not reasonably ascertainable, id. § 124.13. If a comment was previously raised, the petitioner must also demonstrate with specific citation to the administrative record where in the response to comments the permit issuer responded to the comments and must explain why the permit issuer's response to comments is inadequate. Id.

The Board will not grant review of an NSR permit unless it is based on a clearly erroneous finding of fact or conclusion of law, or involves an important matter of policy or exercise of discretion that warrants review. See id. § 124.19(a)(4)(i); Consolidated Permit Regulations, 45 Fed. Reg. 33,290,33,412 (May 19,1980). In determining whether to exercise its discretion to review an NSR appeal, the Board will consider the totality of the circumstances in a particular case, and in its sole discretion where the circumstances warrant, may decline review without issuing an opinion.