



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

December 20, 2007

Mohsen Nazemi
Assistant Deputy Executive Officer
South Coast Air Quality Management District
21865 East Copley Drive
Diamond Bar, CA 97165-4182

Re: Proposed Title V permit for Wellhead Power Margarita, LLC, Facility ID Number
152046

Dear Mohsen:

Thank you for the opportunity to review the proposed Title V permit for the Wellhead Power Margarita facility. In accordance with South Coast AQMD regulations and 40 CFR § 70.8(c), EPA has 45 days from receipt of a proposed permit and all necessary supporting documentation to object in writing to its issuance. The Agency's review period for this permit is scheduled to end on December 20, 2007.

EPA hereby submits our comments and recommendations in the enclosed documents. If you have any questions or would like to discuss this matter, please feel free to contact Joe Lapka of my staff at 415-947-4226 or lapka.joseph@epa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Gerardo C. Rios".

for Gerardo C. Rios
Chief, Permits Office

Enclosures

- EPA Comments on Proposed Title V Permit for Wellhead Power Margarita, LLC
- Excerpt from MMC Energy Incorporated's application for certification submitted to the California Energy Commission for the Chula Vista Upgrade Expansion Plant

- Excerpt from Wildflower Energy's application for certification submitted to the California Energy Commission for the Larkspur Energy Facility
- Copy of December 23, 2005 letter from EPA to the South Coast AQMD

Enclosure 1

EPA Comments on Proposed Title V Permit for Wellhead Power Margarita, LLC

- 1) Previous decisions by the Environmental Appeals Board have established that Best Available Control Technology requirements apply at all times during the operation of a facility, including periods of start-up and shutdown. The District must ensure that the proposed start-up and shutdown requirements in the Wellhead Power Margarita (Wellhead) permit are consistent with established BACT levels. Conditions A99.1, A99.2, and A99.3 may not do this for two reasons. First, the conditions allow 60 minutes per start-up event. In comparison, two other facilities with the same equipment that is being proposed for use at the Wellhead facility have proposed much shorter start-up periods. Specifically, MMC Energy, Incorporated has proposed to construct and operate a simple cycle electrical generating plant consisting of two LM6000 turbines in Chula Vista. MMC's application for certification submitted to the California Energy Commission indicates that all startup sequences will be 30 minutes or less. See application at 5.1-10, included as Enclosure 2. In addition, the application for the Larkspur Energy Facility states that based on vendor information, turbine start-up is expected to take 10 minutes. See application at 3.1-19, included as Enclosure 3. Based on this information it appears that the 60-minute period the District is proposing for Wellhead is unnecessarily long. Second, the permit does not contain emission limits for the start-up period. The District should discuss both of these issues in its BACT evaluation and ensure that the final permit is consistent with established BACT limits.

EPA has raised this issue with the District in the past and has attached a previous letter for your reference.

- 2) EPA also wishes to reiterate the comment in our December 23, 2005 letter regarding current BACT limits for CO. As the 2005 letter notes, there are a number of examples of gas turbines that have been permitted at 2 ppm and they should be included in the BACT analysis.
- 3) For any new or modified facility which has on-site emission increases exceeding any of the daily maximums specified in subdivision (g) of SIP Rule 212, section (c) of the rule requires that all addresses within the area described in section (d) be notified of the Executive Officer's intent to grant a Permit to Construct at least 30 days prior to the date action is to be taken on the application. The Engineering Evaluation states that Wellhead is subject to this requirement.

Section (d) of the rule states:

The applicant shall provide verification to the Executive Officer or designee that public notice has been distributed as required by this subdivision. In the case of

notifications performed under paragraphs (c)(2) and (c)(3), the applicant for the Permit to Construct shall be responsible for the distribution of the public notice to each address within a ¼ mile radius of the project or such other area as determined appropriate by the Executive Officer or designee. [Emphasis added]

With respect to this requirement, the Engineering Evaluation states only that a public notice will be issued followed by a 30-day public comment period. It makes no mention of the Applicant's efforts to distribute the notice to the required addresses nor does it mention the required verification from the Applicant.

On December 18, EPA received a letter from a group of citizens who reside near the project location. The letter indicated that many residents entitled to this notice did not receive it. EPA requests that the District seek verification from the applicant that notice of the proposed permit was delivered in accordance with SIP Rule 212. The verification or a discussion of it should be added to the Engineering Evaluation. If the District finds that proper notice was not given, the District should propose a remedy for the error.

- 4) Condition E144.1 requires the Permittee to use vapor recovery equipment when filling the ammonia storage tank. EPA recommends that the District add a condition to the permit which requires the Permittee to perform and document an inspection each time the tank is filled to ensure that the vapor recovery equipment is consistently and properly used. EPA also notes that the capacity of the ammonia tank was incorrectly stated as 18 gallons (rather than 18,000 gallons) in the equipment list.
- 5) Condition C1.2, which limits the fuel usage for the turbines, is missing units of measure. Please add the proper units to the permit condition.

Table 5.1-7 presents a summary of total facility emissions.

TABLE 5.1-7
Summary of Facility Emissions for the CVEUP

Pollutant	lb/hour	lb/day ^a	tons/year ^b
NO _x	43.8	253.0	23.2
CO	33.5	327.9	29.9
VOC	3.3	55.3	5.0
SO _x	2.5	53.1	4.8
PM _{10/2.5}	6.3	144.3	13.2

^a Includes emissions from black start generator for 1 hour per week, 52 hours per year.

^b Includes turbine startup and shutdown emissions.

Table 5.1-8 presents data on the startup and shutdown emissions for the combustion turbines.

TABLE 5.1-8
Facility Startup Emission Rates for Each Turbine for the CVEUP

Scenario	NO _x	CO	VOC
Cold Start, lb/hr	19.3	14.3	1.4
Hot Start, lb/hr	8.8	9.2	1.4
Warm Start, lb/hr	12.2	10.8	1.4
Shutdown, lb/hr	7.8	8.9	1.4

Estimates based on operational data supplied by turbine mfg.

All startup sequences are 30 minutes or less. Shutdown is 10 minutes.

Table 5.1-9 compares the proposed potential to emit for the new facility to the calculated potential to emit for the current facility.

TABLE 5.1-9
Potential to Emit Comparison of the Current Facility to the Proposed CVEUP (tons per year)

Pollutant	Current Facility	Proposed Facility	Difference*
NO _x	32.6	23.2	-9.4
CO	249.97	29.9	-220.1
VOC	4.4	5.0	+0.6
SO _x	3.7	4.8	+1.1
PM ₁₀	10.51	13.2	+2.69

* Approximate emissions increases and decreases

Based on the values in Tables 5.1-7 and 5.1-9, the proposed modified facility will still maintain its minor source status under Rules 20.1 and 20.2. Detailed emissions data on the

Enclosure 3

SECTION THREE

Environmental Analysis of Proposed Amendment

TABLE 3.1-20
CTG 3 OPERATING LOAD SCENARIOS AND 1-HOUR OPERATING EMISSION RATES
(Continued)

Operating Temperature (°F)	104	104	104	63.6	63.6	63.6	38	38	38
stack (acfm)									
Stack Exit Velocity, ft/min	5,163	4,439	3,729	5,307	4,563	3,834	5,451	4,667	3,908
Emissions (lbs/hr)									
NO _x at 2.5 ppmvd BACT level	3.99	3.18	2.42	4.19	3.30	2.50	4.33	3.40	2.57
CO at 6.0 ppmvd BACT level	5.87	4.61	3.49	6.19	4.72	3.67	6.34	5.01	3.78
VOC at 2.0 ppmvd BACT level	1.25	0.99	0.76	1.31	1.03	0.78	1.11	0.85	0.75
SO ₂	0.83	0.66	0.50	0.87	0.69	0.52	0.90	0.71	0.53
PM ₁₀	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
NH ₃ at 5 ppmvd BACT level	2.97	2.33	1.77	3.13	2.39	1.86	3.21	2.54	1.91

The expected emissions and durations associated with individual turbine startup and shutdown events are summarized in Table 3.1-21. **Based on vendor information, turbine startup is expected to take 10 minutes,** and turbine shutdown will take 8 minutes to be completed. Because hours that include startup and shutdown events will have higher NO_x, CO, and ROC emissions than the normal operating condition with functioning SCR and CO catalyst, they were incorporated into the worst-case short- and long-term emissions estimates for each turbine in the model simulations pertaining to these pollutants.



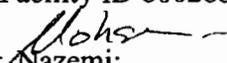
Enclosure 4

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

December 23, 2005

Mohsen Nazemi
Assistant Deputy Executive Officer
Engineering and Compliance
21865 E. Copely Drive
Diamond Bar, CA 91765-4182

Re: LAER/BACT for Proposed Cogeneration Unit at University of California, Irvine
(Facility ID 800288)

Dear Mr.  Nazemi:

Thank you for the opportunity to review the proposed revisions to the title V permit for the University of California, at Irvine ("UC Irvine"). The purpose of the proposed revisions is to allow installation of a gas turbine cogeneration unit equipped with low-NO_x burners, selective Catalytic Reduction ("SCR"), and carbon monoxide ("CO") oxidation catalyst. EPA received the proposed permit on December 9, 2005; EPA's 45-day review period ends on January 22, 2006. In consideration of a request from UC Irvine's consultant, Environ, EPA has performed an expedited review of the proposed title V permit modification. We would like to notify you of two issues we have identified related to the LAER (California BACT) determination for the gas turbine cogeneration unit, and we are writing to request that your staff consider the following in making LAER and BACT determinations for this type of unit in the future.

First, the permit states that the 2 ppm NO_x, the 2 ppm VOC and the 3 ppm CO emission limits do not apply during startup. EPA acknowledges that in some instances it can be technically infeasible for gas turbines to achieve such low limits during startup and shutdown events. However, it is important to note that LAER and BACT apply during all modes of operation, although alternate LAER and BACT limits may be specified for varying modes of operation¹. Engineering evaluations should document if it is technically infeasible for a source to achieve the LAER or BACT limits set for normal operations during startup or shutdown, and should then identify what alternate limits,

¹ For further discussion please see Memo from John B. Rasnic, Dir., Stationary Source Compliance Div., OAQPS, to Linda M. Murphy, Dir., Air, Pesticides and Toxics Mgt Div., Region 1 (Jan. 28, 1993), and a number of EAB opinions on this matter. See, e.g., In re RockGen Energy Center, 8 E.A.D. 536, 554 (EAB 1999); In re Tallmadge Generating Station, PSD Appeal No. 02-12, slip op. at 24 (EAB May 21, 2003); and In re Indeck-Niles Energy Center, PSD Appeal No. 04-01, slip op. at 14 (EAB Sept. 30, 2004).

controls, and work practices are appropriate to ensure that LAER or BACT is achieved during all modes of operation.

Second, the engineering evaluation states that the "current BACT emission limits for natural gas-fired turbines rated at 3-50 MWe are 2 ppmvd for NOx, 2 ppmvd for VOC and 3 ppmvd for CO." On October 25, 2001, EPA informed SCAQMD that a District BACT determination must start with 2 ppm for CO emissions, based on a determination by the Massachusetts Department of Environmental Protection that LAER for CO is 2 ppm. See letter from Gerardo C. Rios, Chief of the Permits Office, Air Division, EPA Region 9 to Mohsen Nazemi, Assistant Deputy Executive Officer, Engineering and Compliance Division, South Coast Air Quality Management District, dated October 25, 2001. There are a number of additional examples of combined cycle gas turbines equipped with Oxidation Catalyst being permitted at 2 ppm CO, on a 1-hour average. We are reiterating our request that SCAQMD consider 2 ppm CO in making LAER and BACT determinations for gas turbines.

We look forward to working on these issues with your staff in the future. Please do not hesitate to contact Kathleen Stewart of our permits office at (415) 947-4119 should you have any questions or if you wish to obtain copies of cited guidance and EAB cases.

Sincerely,



Matt Haber
Deputy Director
Air Division

cc: Michael Mills, SCAQMD
Maria Vibal, SCAQMD
Joe Hower, Environ
Dick Sun, UC Irvine