



AIR QUALITY
MANAGEMENT DISTRICT

**TITLE V FEDERAL OPERATING PERMIT,
TITLE IV ACID RAIN PROGRAM PERMIT
AND
SMAQMD RULE 201 PERMITS TO OPERATE**

TITLE V PERMIT NO:

TV2012-19-01

ISSUED TO:

Cosumnes Power Plant
Sacramento Municipal Utility District
Financing Authority (SFA)
PO Box 15830, Mail Stop B355
Sacramento, CA 95852-1830

FACILITY LOCATION:

Cosumnes Power Plant
14295 Clay East Road
Herald, CA

PERMIT ISSUED:

TBD

PERMIT EXPIRES:

TBD

RESPONSIBLE OFFICIAL:

Paul Lau
Authority Representative and AGM, Power
Supply & Grid Operations
(916) 732-6252

CONTACT PERSON:

Dave Blevins
Facility Manager
(209) 748-5179

NATURE OF BUSINESS:

Municipal Electricity Generation [SIC 4911]

Larry Greene

SMAQMD Air Pollution Control Officer

by:

Venk Reddy
Air Quality Engineer

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I. PERMIT SUMMARY

This permit shall serve as a Permit to Operate pursuant to SMAQMD Rule 201 (General Permit Requirements) and SMAQMD Rule 207 (Title V - Federal Operating Permit Program). Requirements identified in the permit as non-federally enforceable are not enforceable by the U.S. EPA or the public. However, they are enforceable by the SMAQMD.

Your application for this air quality Permit to Operate was evaluated for compliance with SMAQMD, State of California and federal air quality rules and regulations. The following listed rules are those that were found to be applicable at the time of permit review, based on the information submitted with the Title V permit application.

Citation	Description	Rule Adoption Date	Federally Enforceable ?
SMAQMD Rule 101	General Provisions and Definitions	09-03-1998	Yes
SMAQMD Rule 102	Circumvention	11-29-1983	Yes
SMAQMD Rule 105	Emission Statements	09-05-1996	Yes
SMAQMD Rule 201	General Permit Requirements (SIP approved)	11-20-1984	Yes
SMAQMD Rule 201	General Permit Requirements (not SIP approved)	08-24-2006	No
SMAQMD Rule 202	New Source Review (not SIP approved)	10-28-2010	Yes, relating the issuance of the ATC
SMAQMD Rule 203	Prevention of Significant Deterioration (effective date 08-19-2011)	01-27-11	Yes
SMAQMD Rule 207	Title V - Federal Operating Permit Program (not SIP approved but rule is applicable as part of U.S. EPA approval of the SMAQMD Title V program)	04-26-2001	Yes
SMAQMD Rule 211	MACT at Major Sources of Hazardous Air Pollutants	01-22-1999	Yes
SMAQMD Rule 214	Federal New Source Review (SMAQMD Rule 201 permit applications were received prior to the rule's effective date 8-19-2011)	10-28-2010	Yes

I. PERMIT SUMMARY (continued)

Citation	Description	Rule Adoption Date	Federally Enforceable ?
SMAQMD Rule 301	Permit Fees - Stationary Source (not SIP approved but Title V fees in rule applicable as part of U.S. EPA approval of the SMAQMD Title V program)	08-01-2008	Yes (Title V provisions only)
SMAQMD Rule 304	Plan Fees	05-31-1989	No
SMAQMD Rule 306	Air Toxic Fees	03-27-2003	No
SMAQMD Rule 307	Clean Air Act Fees	09-26-2002	Yes
SMAQMD Rule 401	Ringelmann Chart	04-05-1983	Yes
SMAQMD Rule 402	Nuisance	08-03-1977	No
SMAQMD Rule 403	Fugitive Dust	11-29-1983	Yes
SMAQMD Rule 404	Particulate Matter	11-20-1984	Yes
SMAQMD Rule 406	Specific Contaminants	11-29-1983	Yes
SMAQMD Rule 413	Stationary Gas Turbines (see permit shield of Condition No. 46)	03-24-2005	Yes
SMAQMD Rule 420	Sulfur Content of Fuels	11-29-1983	Yes
SMAQMD Rule 441	Organic Solvents	11-29-1983	Yes
SMAQMD Rule 442	Architectural Coatings	09-05-1996	Yes
SMAQMD Rule 442	Architectural Coatings	05-24-2001	No
SMAQMD Rule 451	Surface Coating of Miscellaneous Metal Arts and Products	10-28-2010	Yes
SMAQMD Rule 466	Solvent Cleaning	10-28-2010	Yes
SMAQMD Rule 602	Breakdown Conditions: Emergency Variance	12-06-1978	No
SMAQMD Rule 701	Emergency Episode Plan	05-27-1999	Yes

I. PERMIT SUMMARY (continued)

Citation	Description	Rule Adoption Date	Federally Enforceable ?
SMAQMD Rule 904 and CARB Air Toxic Control Measure	State of California Air Toxic Control Measure for Chromate Treated Cooling Towers [CCR 93103]	03-09-1989 (A)	No
SMAQMD Rule 801 and U.S. EPA New Source Performance Standards (NSPS)	Standards of Performance for Stationary Gas Turbines [40 CFR 60 Subpart GG (begin at 60.330)]	02-24-2006 (B)	No, but the Federal Rules are Federally enforceable.
U.S. EPA Acid Rain Program	Acid Rain Program [40 CFR 72-78 (begin at 72.1)]	03-01-2001 (B)	Yes

(A) California Air Resources Board adoption date

(B) U.S. EPA promulgation date

Future changes in prohibitory rules may establish more stringent requirements that may, at the SMAQMD level, supersede the conditions listed here. For Title V purposes however, the federally enforceable requirements are those found in the Title V permit. Federally enforceable provisions of the Title V permit do not change until the Title V permit is revised.

II. FACILITY DESCRIPTION

Permit Background

<u>Permit Action</u>	<u>Date Issued</u>	<u>Federal Title V Operating Permit No.</u>
Initial Title V Federal Operating Permit	03-10-2008	TV2006-19-01
1st Administrative Amendment	09-03-2008	TV2006-19-01A
2nd Administrative Amendment	09-10-2009	TV2006-19-01B
1st Significant Modification	11-04-2011	TV2006-19-02
2nd Significant Modification	01-17-2013	TV2006-19-03

Current Permitting Action

This permit action is the first renewal of the Title V Federal Operating Permit, TV2006-19-03.

This permit will be assigned the new permit number TV2012-19-01.

Facility Description

SFA Cosumnes Power Plant became operational in October 2005. The facility generates electricity only and does not provide steam for use by others. There are two gas turbine generator units:

- a. Baseload gas turbine No. 2 with a non-fired heat recovery steam generator (HRSG).
- b. Baseload gas turbine No. 3 with a non-fired heat recovery steam generator (HRSG).

The major components of the facility are the combined cycle gas turbines, HRSGs, steam turbine, emission control systems, exhaust stacks, water treatment systems, fuel delivery systems and electrical transmission and interconnection systems.

Each gas turbine combusts natural gas and digester gas only with no emergency backup fuel. Each gas turbine operating at or near maximum load, produces up to 170 megawatts of electrical power, 24 hours per day and 365 days per year. The steam produced by the two HRSGs drives a single steam turbine, which produces up to 190 megawatts of electrical power. The total electrical power produced by the facility is approximately 530 MW.

Each gas turbine is equipped with a selective catalytic reduction (SCR) air pollution control system to reduce emissions of nitrogen oxides (NOx). The SCR system reduces emissions to a level that was determined to be the best available control technology (BACT) at the time the facility was approved for construction in 2002. Carbon monoxide (CO) and Volatile Organic Compound (VOC) emissions are reduced by controlling the combustion process in the gas turbines. Particulate matter (PM10 & PM2.5) and sulfur oxides (SO₂) emissions are reduced by combusting natural gas and digester gas treated to 50 ppmv of sulfur content measured as H₂S rather than a liquid or solid fuel.

The facility has an eight-cell cooling tower with a drift eliminator to reduce PM10 & PM2.5 emissions and a bag house connected to a storage silo used for perlite. Perlite is used as a water treatment filter media.

I. PERMIT SUMMARY (continued)

To be consistent with other permitting actions, local SMAQMD and federal regulation applicability, PM2.5 and Greenhouse gasses will be added to the permit at this time. These pollutants are added for inventory purposes only, and appear in the non-federally enforceable section of the permit.

III. FEDERALLY ENFORCEABLE REQUIREMENTS - GENERAL

TITLE V PERMIT MODIFICATIONS AND RENEWAL

1. The permittee shall submit to the SMAQMD Air Pollution Control Officer a complete Title V permit application for renewal no later than 12 months prior to the expiration date of TBD of the Title V permit.
[Basis: SMAQMD Rule 207 Section 301.4]
2. The permittee shall submit to the SMAQMD Air Pollution Control Officer a complete Title V permit application for minor Title V permit modification when applicable. The application shall be submitted after receiving any required preconstruction permit from the SMAQMD and before commencing operation associated with the Minor Title V permit modification.
[Basis: SMAQMD Rule 207 Section 301.6]
3. The permittee shall submit to the SMAQMD Air Pollution Control Officer a complete Title V permit application for Significant Title V permit modification when applicable. The application shall not be submitted prior to receiving any required preconstruction permit from the SMAQMD but no later than 12 months after commencing an operation associated with the Significant Title V permit modification. Where an existing federally enforceable Title V permit condition would prohibit such change in operation or the stationary source is not required to obtain a preconstruction permit, the owner or operator must obtain a Title V permit modification before commencing operation.
[Basis: SMAQMD Rule 207 Section 301.7]
4. The permittee shall submit to the SMAQMD Air Pollution Control Officer timely updates to the Title V application as new applicable federal requirements become applicable to the source.
[Basis: SMAQMD Rule 207 Section 302.1]
5. The permittee shall submit to the SMAQMD Air Pollution Control Officer any additional information necessary to correct any incorrect information in the Title V permit application upon becoming aware of such incorrect submittal or if the applicant is notified by the SMAQMD Air Pollution Control Officer of such incorrect submittal.
[Basis: SMAQMD Rule 207 Section 302.2]
6. The permittee shall submit to the SMAQMD Air Pollution Control Officer any additional information relating to the Title V application within 30 days if such information is requested in writing by the SMAQMD Air Pollution Control Officer.
[Basis: SMAQMD Rule 207 Section 302.3]
7. Title V permit expiration terminates the stationary source's right to operate unless a timely and complete Title V permit application for renewal has been submitted and the stationary source complies with SMAQMD Rule 207 Sections 303.1(a), (b), (c) and (d), in which case the existing Title V permit will remain in effect until the Title V permit renewal has been issued or denied.
[Basis: SMAQMD Rule 207 Section 303.2]

III. FEDERALLY ENFORCEABLE REQUIREMENTS - GENERAL

8. Any Title V application form, report, or compliance certification submitted pursuant to a federally enforceable requirement in this permit shall contain certification by a responsible official. The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

[Basis: SMAQMD Rule 207 Section 304]

9. This Title V permit shall have a 5-year fixed term from the date of issuance. The Title V permit shall have a new 5-year fixed term from the date of final action on reopening if the responsible official chooses to submit to the SMAQMD a complete Title V application for renewal upon reopening of the Title V permit pursuant to Sections 411 or 412 of SMAQMD Rule 207, and the Title V permit is renewed according to the administrative procedures listed in SMAQMD Rule 207 Sections 401 through 408.

[Basis: SMAQMD Rule 207 Section 306]

COMPLIANCE

10. The permittee shall comply with all conditions of the Title V permit.

[Basis: SMAQMD Rule 207 Section 305.1(k)(1)]

11. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the Title V permit.

[Basis: SMAQMD Rule 207 Section 305.1(k)(2)]

12. This Title V permit may be modified, revoked, reopened, and reissued, or terminated for cause.

[Basis: SMAQMD Rule 207 Section 305.1(k)(3)]

13. The permittee shall furnish to the SMAQMD Air Pollution Control Officer, within a reasonable time, any information that the SMAQMD Air Pollution Control Officer may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit pursuant to SMAQMD Rule 207 Section 411, or to determine compliance with this Title V permit. Upon request, the permittee shall also furnish to the SMAQMD Air Pollution Control Officer copies of records required to be kept by conditions of this permit or, for information claimed to be confidential, the permittee may furnish such records directly to the U.S. EPA along with a claim of confidentiality.

[Basis: SMAQMD Rule 207 Section 305.1(k)(4)]

14. Noncompliance with any federally enforceable requirement in this Title V permit is grounds for Title V permit termination, revocation and reissuance, modification, enforcement action or denial of the Title V permit renewal application. Any violation of the Title V permit shall also be a violation of SMAQMD Rule 207.

[Basis: SMAQMD Rule 207 Section 305.1(k)(5)]

III. FEDERALLY ENFORCEABLE REQUIREMENTS - GENERAL

15. A pending Title V permit action (e.g. a proposed permit revision) or notification of anticipated noncompliance does not stay any permit condition.

[Basis: SMAQMD Rule 207 Section 305.1(k)(6)]

16. This Title V permit does not convey any property rights of any sort or any exclusive privilege.

[Basis: SMAQMD Rule 207 Section 305.1(k)(7)]

17. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the SMAQMD Air Pollution Control Officer or an authorized representative to perform all of the following:

- A. Enter upon the stationary source's premises where this source is located or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- B. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Title V permit;
- C. Inspect at reasonable times, the stationary source, equipment (including monitoring and air pollution control equipment), practices and operations regulated or required under this Title V permit, and;
- D. As authorized by the Federal Clean Air Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the Title V permit conditions or applicable federal requirements.

[Basis: SMAQMD Rule 207 Section 413.1]

REPORTS AND RECORDKEEPING

18. Monitoring Reports

- A. The permittee shall submit to the SMAQMD Air Pollution Control Officer at least once every six months, unless required more frequently by an applicable requirement, reports of all required monitoring.
 - i. All instances of deviations from Title V permit monitoring conditions must be clearly identified in such reports.
- B. The reporting periods for this permit shall be January 01 through June 30 and July 01 through December 31. The reports shall be submitted by July 30 and January 30 following each reporting period respectively.
- C. All required reports must be certified by the responsible official and shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

[Basis: SMAQMD Rule 207 Section 501.1]

III. FEDERALLY ENFORCEABLE REQUIREMENTS - GENERAL

19. Compliance Reports

- A. The permittee shall submit to the SMAQMD Air Pollution Control Officer and U.S. EPA (Air-3, U.S. EPA, Region IX) on an annual basis, unless required more frequently by additional applicable federal requirements such as Section 114(a)(3) and 504(b) (42 U.S.C. Sections 7414(a)(3) and 7661c(b)) of the Federal Clean Air Act, a certification of compliance by the responsible official with all terms and conditions contained in the Title V permit, including emission limitations, standards and work practices.
- B. The reporting period for this permit shall be January 01 through December 31. The report shall be submitted by January 30 following the reporting period.
- C. All required reports must be certified by the responsible official and shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.
- D. The Compliance Certification Report shall include the following:
 - i. The identification of each term or condition of the Title V permit that is the basis of the certification;
 - ii. The method(s) used for determining the compliance status of the source, currently and over the reporting period, and whether such method(s) provides continuous or intermittent data; iii.. The status of compliance with the terms and conditions of the permit for the period covered by the certification, including whether compliance during the period was continuous or intermittent. The certification shall be based on the method or means designated in Section D(ii) of this condition. The certification shall identify each deviation and take it into account in the compliance certification.
 - a. If an emissions unit is subject to 40 CFR 64 Compliance Assurance Monitoring then the certification shall also identify as possible exceptions to compliance any periods during which compliance is required and in which an excursion or exceedance as defined under 40 CFR 64 of this chapter occurred. The facility is exempt from CAM conditions because it is subject to NSPS and Acid Rain monitoring requirements.
 - iv. Such other facts as the SMAQMD Air Pollution Control Officer may require to determine the compliance status of the source; and
 - v. In accordance with SMAQMD Rule 207 Section 305, a method for monitoring the compliance of the stationary source with its emissions limitations, standards and work practices.

[Basis: SMAQMD Rule 207 Section 413.4 and 40 CFR 70.6 (c)(5)]

- 20. The permittee shall report within 24 hours of detection any deviation from a federally enforceable Title V permit condition not attributable to an emergency. In order to fulfill the reporting requirement of this condition, the permittee shall notify the SMAQMD Air Pollution Control Officer by telephone followed by a written statement describing the nature of the deviation from the federally enforceable permit condition.

[Basis: SMAQMD Rule 207 Section 501.3]

III. FEDERALLY ENFORCEABLE REQUIREMENTS - GENERAL

21. All monitoring data and support information required by a federally enforceable applicable requirement must be kept by the permittee for a period of 5 years from the date of the monitoring sample, measurement, report or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the federally enforceable applicable requirements in the Title V permit.

[Basis: SMAQMD Rule 207 Section 502.3]

RINGELMANN CHART

22. Except as otherwise provided in SMAQMD Rule 401 Section 100, the permittee shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant, other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour which is:

- A. As dark or darker in shade as that designated No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines, or
- B. Of such opacity as to obscure a human observer's view, or a certified calibrated in-stack opacity monitoring system to a degree equal to or greater than No. 1 on the Ringelmann Chart.

[Basis: SMAQMD Rule 401 Section 301]

PARTICULATE MATTER

23. The permittee shall take every reasonable precaution not to cause or allow the emissions of fugitive dust from being airborne beyond the property line from which the emission originates, from any construction, handling or storage activity, or any wrecking, excavation, grading, clearing of land or solid waste disposal operation. Reasonable precautions shall include, but are not limited to:

- A. Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the construction of roadways or the clearing of land.
- B. Application of asphalt, oil, water, or suitable chemicals on dirt roads, materials stockpiles and other surfaces which can give rise to airborne dusts;
- C. Other means approved by the SMAQMD Air Pollution Control Officer.

[Basis: SMAQMD Rule 403 Section 301]

24. Except as otherwise provided in SMAQMD Rule 406, the permittee shall not discharge into the atmosphere from any source of particulate matter in excess of 0.23 grams per dry standard cubic meter (0.1 grains per dry standard cubic foot).

[Basis: SMAQMD Rule 404 Section 301]

III. FEDERALLY ENFORCEABLE REQUIREMENTS - GENERAL

25. The permittee shall not discharge into the atmosphere particulate matter from the burning of any kind of material containing carbon in a free or combined state, from any single source of emission whatsoever, combustion contaminants in any state or combination thereof exceeding in concentration at the point of discharge: 0.23 grams per dry standard cubic meter (0.1 grains per dry standard cubic foot) of gas calculated to 12% carbon dioxide (CO₂) at standard conditions.

[Basis: SMAQMD Rule 406 Section 302]

SULFUR COMPOUNDS

26. The permittee shall not discharge into the atmosphere from any single source of emission whatsoever sulfur compounds in any state or combination thereof exceeding in concentration at the point of discharge: sulfur compounds, calculated as sulfur dioxide (SO₂): 0.2% by volume.

[Basis: SMAQMD Rule 406 Section 301]

27. Except as otherwise provided in SMAQMD Rule 420 Section 110, the permittee shall not burn any gaseous fuel containing sulfur compounds in excess of 1.14 grams per cubic meter (50 grains per 100 cubic feet) of gaseous fuel, calculated as hydrogen sulfide at standard conditions, or any liquid fuel or solid fuel having a sulfur content in excess of 0.5% by weight.

[Basis: SMAQMD Rule 420 Section 301]

ARCHITECTURAL COATING AND SOLVENT CLEANING

28. Any coating applied to stationary structures and their appurtenances, to mobile homes, to pavements, or to curbs, shall meet the requirements of SMAQMD Rule 442.

[Basis: SMAQMD Rule 442 (09-05-1996 version)]

29. All VOC-containing materials shall be stored in closed containers when not in use. In use includes, but is not limited to: being accessed, filled, emptied, maintained or repaired.

[Basis: SMAQMD Rule 442 Section 304 (09-05-1996 version)]

30. The permittee shall comply with the requirements of SMAQMD Rule 466 Solvent Cleaning when using volatile organic compounds for the cleanup of architectural coating application equipment or for other applications of solvent cleaning at the facility.

[Basis: SMAQMD Rule 466 (10-28-2010 version, submitted to EPA pending 11-28-2011 approval)]

31. The permittee shall keep a record of all architectural coatings purchased that are not clearly labeled as complying with the VOC content limits contained in SMAQMD Rule 442. Compliance in these cases can be determined by maintaining records of the manufacturer's certifications or by Material Safety Data Sheets (MSDS) that demonstrate compliance with the VOC limits of SMAQMD Rule 442.

[Basis: SMAQMD Rule 442 (09-05-1996 version) and SMAQMD Rule 207 Section 305]

III. FEDERALLY ENFORCEABLE REQUIREMENTS - GENERAL

EQUIPMENT BREAKDOWNS

32. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology based emission limitations if the following conditions are met:

- A. The affirmative defense of an emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:
- i. An emergency occurred and that the permittee can identify the cause(s) of the emergency;
 - ii. The permitted facility was at the time being properly operated;
 - iii. During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the Title V permit;
 - iv. The permittee submitted notice of the emergency to the SMAQMD Air Pollution Control Officer within two working days of the time when emissions limitations were exceeded due to the emergency. The notice must contain a description of the emergency and corrective actions taken.

B. In any enforcement proceedings, the permittee seeking to establish the occurrence of an emergency has the burden of proof.

[Basis: SMAQMD Rule 207 Section 414]

33. The permittee shall notify the SMAQMD Air Pollution Control Officer of any occurrence which constitutes an emergency as defined in SMAQMD Rule 207 Section 212 as soon as reasonably possible, but no later than one hour after its detection. If the emergency occurs when the SMAQMD Air Pollution Control Officer cannot be contacted, their report of the emergency shall be made at the commencement of the next regular working day. The notification shall identify the time, specific location, equipment involved and to the extent known, the cause(s) of the occurrence.

[Basis: SMAQMD Rule 207 Section 501.2]

TITLE VI REQUIREMENTS (OZONE DEPLETING SUBSTANCES)

34. The permittee, when opening appliances containing CFCs for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.

[Basis: 40 CFR 82 Subpart F]

35. Equipment used during the maintenance, service, repair, or disposal of appliances containing CFCs must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.

[Basis: 40 CFR 82 Subpart F]

36. The permittee, when performing maintenance, service, repair or disposal of appliances containing CFCs must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

[Basis: 40 CFR 82 Subpart F]

III. FEDERALLY ENFORCEABLE REQUIREMENTS - GENERAL

PAYMENT OF FEES

37. The fee for (1) the issuance of an initial Title V operating permit, (2) the renewal and/or inspection of a Title V operating permit, (3) the modification of a Title V operating permit or (4) an administrative Title V permit amendment shall be based on the actual hours spent by the SMAQMD staff in evaluating the application and processing the operating permit. The fee shall be assessed in accordance with the hourly rate established in SMAQMD Rule 301 Section 308.12.

[Basis: SMAQMD Rule 207 Section 305.7 and SMAQMD Rule 301 Section 313]

38. After the provisions for granting permits as set forth in SMAQMD Rule 207 have been complied with, the permittee will be notified by mail of the fee due and payable and the date the fee is due. If the fee is not paid by the specified due date, the fee shall be increased by one half the amount and the applicant/permittee shall be notified by mail of the increased fee. If the increased fee is not paid within 30 days after notice the application/permit will be canceled/revoked and the applicant/permittee will be notified by mail.

[Basis: SMAQMD Rule 207 Section 305.7]

ACCIDENTAL RELEASES

39. If the permittee is subject to Section 112(r) of the federal Clean Air Act of 1990 and 40 CFR 68, the permittee shall register and submit to the EPA the required data related to the risk management plan (RMP) for reducing the probability of accidental releases of any regulated substances listed pursuant to Section 112(r)(3) of the CAA as amended in 40 CFR 68.130. The list of substances, threshold quantities and accident prevention regulations promulgated under 40 CFR Part 68 do not limit in any way the general duty provisions under Section 112(r)(1) of the federal Clean Air Act of 1990.

[Basis: 40 CFR 68]

40. If the permittee is subject to Section 112(r) of the federal Clean Air Act of 1990 and 40 CFR 68, the permittee shall comply with the requirements of 40 CFR Part 68 no later than the latest of the following dates as provided in 68.10(a):

A. June 21, 1999,

B. Three years after the date on which a regulated substance is first listed under 68.130, or

C. The date on which a regulated substance is first present above a threshold quantity in a process.

[Basis: 40 CFR 68]

41. If the permittee is subject to Section 112(r) of the federal Clean Air Act of 1990 and 40 CFR 68, the permittee shall submit any additional relevant information requested by any regulatory agency necessary to ensure compliance with the requirements of 40 CFR Part 68.

[Basis: 40 CFR 68]

III. FEDERALLY ENFORCEABLE REQUIREMENTS - GENERAL

42. If the permittee is subject to Section 112(r) of the federal Clean Air Act of 1990 and 40 CFR 68, the permittee shall annually certify compliance with all applicable requirements of Section 112(r) of the federal Clean Air Act of 1990 as part of the annual compliance certification as required by SMAQMD Rule 207 Section 413.4.

[Basis: 40 CFR 68]

EMISSION STATEMENTS

43. The permittee, when operating any stationary source that emits 25 tons or more per year of VOC or NOx, shall annually provide the SMAQMD Air Pollution Control Officer with a written emission statement showing actual emissions of VOC and NOx from that source.

[Basis: SMAQMD Rule 105]

CLEAN AIR ACT FEES

44. After the U.S. EPA determines that the SMAQMD has failed to demonstrate attainment of the one hour ozone ambient air quality standard by the attainment year, the permittee, operating any major stationary source of VOC or NOx, shall pay the Clean Air Act fees specified by the SMAQMD Air Pollution Control Officer in accordance with SMAQMD Rule 307.

[Basis: SMAQMD Rule 307]

EMERGENCY EPISODE PLAN

45. The permittee, operating any stationary source that emits more than 50 tons or more per year of VOC or NOx or 100 tons or more per year of PM10 or CO, shall maintain an approved Emergency Episode Plan and shall implement the provisions of the plan upon declaration of a Stage 1, 2 or 3 episode by the SMAQMD Air Pollution Control Officer.

[Basis: SMAQMD Rule 701]

PERMIT SHIELD

46. For each gas turbine, compliance with the 2.0 PPM NOx emission standard shall be considered compliance with the 9.0 PPM NOx emission standard (including the determination method of Rule 413) and 30 PPM NOx emission standard in V-A.B.1 and V-A.B.9, respectively. **[Basis: SMAQMD Rule 202, Rule 413, Section 302.1(d), and US EPA Title V White Paper Number 2]**

47. For the purposes of SMAQMD Rule 413 startup shall be defined per condition V-A.B.9. **[Basis: SMAQMD Rule 413, Section 214, and US EPA Title V White Paper Number 2]**

IV. NON-FEDERALLY ENFORCEABLE REQUIREMENTS - GENERAL

APPLICABILITY:

1. The requirements outlined in this section are applicable to the SMAQMD Rule 201 Permits to Operate only and are not an enforceable part of the Title V permit.
[Basis: General Rule limitation]

SMAQMD RULE 201 PERMIT RENEWAL:

2. Permits to Operate issued, pursuant to SMAQMD Rule 201 (non-Title V Permits to Operate), shall be renewed annually on February 13 and upon payment of the permit renewal fee established pursuant to SMAQMD Rule 301.
[Basis: SMAQMD Rule 301]
3. The SMAQMD Air Pollution Control Officer shall review every Permit to Operate upon annual renewal, pursuant to California Health and Safety Code Section 42301(c), to determine that permit conditions are adequate to ensure compliance with, and the enforceability of, SMAQMD rules and regulations applicable to the article, machine, equipment or contrivance for which the permit was issued. Applicable SMAQMD rules and regulations shall include those which were in effect at the time the permit was issued or modified, or which have subsequently been adopted and made retroactively applicable to an existing article, machine, equipment or contrivance, by the SMAQMD Board of Directors. The SMAQMD Air Pollution Control Officer shall revise the conditions, if such conditions are not consistent, in accordance with all applicable rules and regulations.
[Basis: California Health and Safety Code Section 42301(c)]

GENERAL:

4. The SMAQMD Air Pollution Control Officer and/or authorized representatives, upon the presentation of credentials shall be permitted:
 - A. To enter upon the premises where the source is located or in which any records are required to be kept under the terms and conditions of this permit to operate, and
 - B. At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this Permit to Operate, and
 - C. To inspect any equipment, operation, or method required in this Permit to Operate, and
 - D. To sample emissions from the source or require samples to be taken.
[Basis: SMAQMD Rule 201, Section 405]
5. Legible copies of all SMAQMD Rule 201 permits shall be maintained on the premises with the equipment.
[Basis: SMAQMD Rule 201, Section 401]

IV. NON-FEDERALLY ENFORCEABLE REQUIREMENTS - GENERAL

EQUIPMENT OPERATION:

6. The equipment shall be properly maintained.
[Basis: SMAQMD Rule 201, Section 405]
7. This permit does not authorize the emission of air contaminants in excess of those allowed by Division 26, Part 4, Chapter 3, of the Health and Safety Codes of the State of California or the Rules and Regulations of the Sacramento Metropolitan Air Quality Management District.
[Basis: SMAQMD Rule 201, Section 405]

EQUIPMENT BREAKDOWNS:

8. The permittee shall notify the SMAQMD Air Pollution Control Officer of any occurrence which constitutes a breakdown as defined in SMAQMD Rule 602 Section 201 as soon as reasonably possible, but no later than one hour after its detection. If the breakdown occurs when the SMAQMD Air Pollution Control Officer cannot be contacted, the report of breakdown shall be made at the commencement of the next regular working day. The notification shall identify the time, specific location, equipment involved, and to the extent known, the cause(s) of the occurrence.
[Basis: SMAQMD Rule 602]
9. Upon notification of the breakdown condition, the SMAQMD Air Pollution Control Officer shall investigate the breakdown condition in accordance with uniform written procedures and guidelines relating to logging of initial reports on appropriate forms, investigation, and enforcement follow-up. If the occurrence does not constitute a breakdown condition, the SMAQMD Air Pollution Control Officer may take appropriate enforcement action.
[Basis: SMAQMD Rule 602]
10. An occurrence which constitutes a breakdown condition, and which persists only until the end of the production run or 24 hours, whichever is sooner (except for continuous air pollution monitoring equipment, for which the period shall be 96 hours) shall constitute a violation of any applicable emission limitation or restriction prescribed by SMAQMD Rules and Regulations; however, the SMAQMD Air Pollution Control Officer may elect to take no enforcement action if the owner or operator demonstrates to his satisfaction that a breakdown condition exists and the following requirements are met:
 - A. The notification required in SMAQMD Rule 602 Section 301.1 is made; and
 - B. Immediate appropriate corrective measures are undertaken and compliance is achieved, or the process is shut down for corrective measures before commencement of the next production run or within 24 hours, whichever is sooner (except for continuous air pollution monitoring equipment for which the period shall be 96 hours). If the owner or operator elects to shut down rather than come into immediate compliance, (s)he must nonetheless take whatever steps are possible to minimize the impact of the breakdown within the 24 hour period; and

IV. NON-FEDERALLY ENFORCEABLE REQUIREMENTS - GENERAL

- C. The breakdown does not interfere with the attainment and maintenance of any national ambient air quality standard.
[Basis: SMAQMD Rule 602]
11. An occurrence which constitutes a breakdown condition shall not persist longer than the end of the production run or 24 hours, whichever is sooner (except for continuous air pollution monitoring equipment, for which the period shall be 96 hours), unless an emergency variance has been obtained.
[Basis: SMAQMD Rule 602]
12. If the breakdown condition will either require more than 24 hours to correct or persists longer than the end of the production run (except for continuous air pollution monitoring equipment, for which the period shall be 96 hours) the owner or operator may, in lieu of shutdown, request the SMAQMD Air Pollution Control Officer to commence the emergency variance procedure set forth in SMAQMD Rule 602 Section 304.
[Basis: SMAQMD Rule 602]
13. No emergency variance shall be granted unless the chairperson of the SMAQMD Hearing Board or other designated member(s) of the SMAQMD Hearing Board finds that:
- A. The occurrence constitutes a breakdown condition;
 - B. Continued operation is not likely to create an immediate threat or hazard to public health or safety; and
 - C. The requirements for a variance set forth in California Health and Safety Code Sections 42352 and 42353 have been met;
 - D. The continued operation in a breakdown condition will not interfere with the attainment or maintenance of the national ambient air quality standards.
- [Basis: SMAQMD Rule 602]**
14. At any time after an emergency variance has been granted, the SMAQMD Air Pollution Control Officer may request for good cause that the SMAQMD Hearing Board chairperson or designated member(s) reconsider and revoke, modify or further condition the variance. The procedures set forth in SMAQMD Rule 602 Section 304.1 shall govern any further proceedings conducted under this section.
[Basis: SMAQMD Rule 602]
15. An emergency variance shall remain in effect only for as long as necessary to repair or remedy the breakdown condition, but in no event after a properly noticed hearing to consider an interim or 90 day variance has been held, or 15 days from the date of the subject occurrence, whichever is sooner.
[Basis: SMAQMD Rule 602]

IV. NON-FEDERALLY ENFORCEABLE REQUIREMENTS - GENERAL

16. Within one week after a breakdown condition has been corrected, the owner or operator shall submit a written report to the SMAQMD Air Pollution Control Officer on forms supplied by the SMAQMD Air Pollution Control Officer describing the causes of the breakdown, corrective measures taken, estimated emissions during the breakdown and a statement that the condition has been corrected, together with the date of correction and proof of compliance. The SMAQMD Air Pollution Control Officer may, at the request of the owner or operator for good cause, extend up to 30 days the deadline for submittal of the report described in this subsection.

[Basis: SMAQMD Rule 602]

17. The burden of proof shall be on the owner or operator of the source to provide sufficient information to demonstrate that a breakdown condition did occur. If the owner or operator fails to provide sufficient information, the SMAQMD Air Pollution Control Officer shall undertake appropriate enforcement action.

[Basis: SMAQMD Rule 602]

18. Any failure to comply, or comply in a timely manner, with the reporting requirements established in SMAQMD Rule 602 Sections 301.1 and 401 shall constitute a separate violation of SMAQMD Rule 602.

[Basis: SMAQMD Rule 602]

19. It shall constitute a separate violation of SMAQMD Rule 602 for any person to file with the SMAQMD Air Pollution Control Officer a report which falsely, or without probable cause, claims that an occurrence is a breakdown condition.

[Basis: SMAQMD Rule 602]

20. Severability - if any provision, clause, sentence, paragraph, section or part of these conditions for any reason is judged to be unconstitutional or invalid, such judgment shall not affect or invalidate the remainder of these conditions.

[Basis: SMAQMD Rule 101]

IV. NON-FEDERALLY ENFORCEABLE REQUIREMENTS - GENERAL

PM2.5 AND GHG EMISSIONS:

21. Emissions from the following equipment shall not exceed the following emission limits, **including** periods containing startups, shutdowns or short term excursions as defined in **Condition No. B-8 Gas Turbines**.
[Basis: SMAQMD Rule 202]

Pollutant	Maximum Allowable Emissions lb/day				
	Gas Turbine No. 2	Gas Turbine No. 3	Cooling Tower	Perlite Storage Silo Dust Collector	Total
PM2.5 (A)	215.6	215.6	3.6	0.2	435

(A) A conversion factor of 0.998 was used to convert PM10 to PM2.5 as referenced in SMAQMD document "COMMUNITY BANK AND PRIORITY RESERVE BANK PM2.5 EMISSION REDUCTION CREDIT EVALUATION" 8-9-2012, The PM2.5 factor for the cooling tower is based on submitted data from the applicant as part of permit 22672 which showed PM2.5 is 26.6% of the total PM from the drift eliminator. PM2.5 is assumed to be equal to PM10 for the perlite storage silo. PM2.5 is included for inventory purposes only.

IV. NON-FEDERALLY ENFORCEABLE REQUIREMENTS - GENERAL

Emissions from the following equipment shall not exceed the following emission limits, **including** periods containing startups, shutdowns or short term excursions as defined in **Condition No. B-8, Gas Turbines.**
[Basis: SMAQMD Rule 202]

Pollutant	Maximum Allowable Emissions Gas Turbine No. 2, Gas Turbine No. 3 Perlite Storage Silo Dust Collector and Cooling Tower Combined				
	Quarter 1 lb/quarter	Quarter 2 lb/quarter	Quarter 3 lb/quarter	Quarter 4 lb/quarter	Total lb/year
PM2.5 (D)	39,129	39,564	39,998	39,998	158,689
GHG, CO2e Natural Gas combustion (A)	466,889 Tons	472,077 Tons	477,265 Tons	477,265 Tons	1,893,495 Tons
GHG, CO2e CH4 & N2O (B)	462 Tons	467 Tons	472 Tons	472 Tons	1,873 Tons
GHG, CO2e Digester Gas combustion (C)	18203 Tons	18405 Tons	18607 Tons	18607 Tons	73,822 Tons

- (A) GHG emission factor is based on 40 CFR part 75, Appx. G, Eq G-4, assuming all fuel is natural gas. For inventory purposes only.
- (B) GHG emission factors for Methane and N2O are based on 40 CFR part 98.33 Table C-2, Global warming potential from 40 CFR Part 98, Table A-1. For inventory purposes only.
- (C) GHG emission factors are based on 40 CFR part 75, Appx. G, Eq G-4 & 40 CFR part 98.33, Eq C-5. Calculation is based on fuel flow of 2,500 scfm of digester gas provided for inventory purposes only.
- (D) A conversion factor of 0.998 was used to convert PM10 to PM2.5 as referenced in SMAQMD document "COMMUNITY BANK AND PRIORITY RESERVE BANK PM2.5 EMISSION REDUCTION CREDIT EVALUATION" 8-9-2012, The factor of PM2.5 for the cooling tower is based on submitted data from the applicant as part of permit 22672 which showed PM2.5 is 26.6% of the total PM from the drift eliminator. PM2.5 is assumed to be equal to PM10 for the perlite storage silo. PM2.5 is included for inventory purposes only.

ARCHITECTURAL COATING

21. Unless applied by an aerosol can or contained within a volume of one liter or less any person who supplies, sells, offers for sale or manufactures any architectural coating for use within the District, as well as any person who applies or solicits the application of any architectural coating within the District shall meet the requirements of SMAQMD Rule 442
[Basis: SMAQMD Rule 442 (05-24-2001 version)]

V-A. FEDERALLY ENFORCEABLE REQUIREMENTS - EQUIPMENT SPECIFIC
GAS TURBINE NOS. 2 AND 3
APC NOx SCR SYSTEM NOS. 2 AND 3

A. EQUIPMENT DESCRIPTION:

The information specified under this section is enforceable by the SMAQMD, U.S. EPA and the public.

The requirements specified under the following sections apply to the following equipment:

GAS TURBINE NO. 2

P/O No. 22673

Manufacturer: General Electric

Model: 7FA

Type: Combined cycle

Heat Input: 1865 MMBTU/hour

Fuel: Natural gas and Digester gas mixture (no emergency use fuel)

Driving: Electrical generator, approximately 170 MW

AIR POLLUTION CONTROL SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM NO. 2

P/O No. 16012(rev01)

Serving: Gas Turbine No. 2, NOx emission control

GAS TURBINE NO. 3

P/O No. 22674

Manufacturer: General Electric

Model: 7FA

Type: Combined cycle

Heat Input: 1865 MMBTU/hour

Fuel: Natural gas and Digester gas mixture (no emergency use fuel)

Driving: Electrical generator, approximately 170 MW

AIR POLLUTION CONTROL SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM NO. 3

P/O No. 16013(rev01)

Serving: Gas Turbine No. 3, NOx emission control

V-A. FEDERALLY ENFORCEABLE REQUIREMENTS - EQUIPMENT SPECIFIC
GAS TURBINE NOS. 2 AND 3
APC NOx SCR SYSTEM NOS. 2 AND 3

B. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS - EQUIPMENT SPECIFIC:

The requirements specified under this section are enforceable by the SMAQMD, U.S. EPA and the public.

EMISSION LIMITATION REQUIREMENTS

1. Emissions from the following equipment shall not exceed the following emission limits.
[Basis: SMAQMD Rule 202 and Rule 413, Section 302.1(d), and 40 CFR Part 60.332(a)(i)]

Pollutant	Maximum Allowable Emissions Gas Turbine No. 2 and Gas Turbine No. 3
VOC	A. 1.4 ppmvd at 15% O ₂ , averaged over any 3 hour period (A)
NOx	B. 2.0 ppmvd at 15% O ₂ , averaged over any 1 hour period (A) (B) C. 9.0 ppmvd at 15% O ₂ (C), the average of three runs for 15 minutes, determined by using EPA Method 20. D. 30 ppmvd at 15% O ₂ , averaged over any 1 hour period (D)
CO	E. 4.0 ppmvd at 15% O ₂ averaged over any 3 hour period (A)

- (A) **Excluding** periods containing startups or shutdowns as defined in **Condition No. B-8 Gas Turbines**.
- (B) **Excluding** periods containing short term excursions as defined in **Condition No. B-8 Gas Turbines**.
- (C) Excluding the startup, shutdown, short term excursion periods defined in **Condition No. B-9 Gas Turbines. Compliance with the 9-ppm NOx emission standard is determined pursuant to SMAQMD Rule 413, as amended March 24, 2005.**
- (D) **Applicable only** for periods containing short term excursions as defined in **Condition No. B-8 Gas Turbines**.

**V-A. FEDERALLY ENFORCEABLE REQUIREMENTS - EQUIPMENT SPECIFIC
 GAS TURBINE NOS. 2 AND 3
 APC NOx SCR SYSTEM NOS. 2 AND 3**

2. Emissions from the following equipment shall not exceed the following emission limits, **excluding** periods containing startups, shutdowns or short term excursions as defined in **Condition No. B-8 Gas Turbines**.
[Basis: SMAQMD Rule 202]

Pollutant	Maximum Allowable Emissions lb/hour	
	Gas Turbine No. 2	Gas Turbine No. 3
VOC	3.30 (A)	3.30 (A)
NOx	13.51 (B)	13.51 (B)
SO ₂	1.67 (C)	1.67 (C)
PM10	9.00 (D)	9.00 (D)
CO	16.46 (E)	16.46 (E)

- (A) Emissions based on a turbine VOC emission factor of 0.00177 lb/MMbtu and operating at maximum capacity.
 (B) Emissions based on data submitted in the SMAQMD Rule 201 permit application and is monitored by the turbine's NOx CEM system (1 hour average).
 (C) Emissions based on a turbine aggregate usage of 2,500 scfm (92.63 MMbtu/hr) digester gas (4.626577E-3 lb SO₂/MMbtu) and 1,772.37 MMbtu/hr natural gas (7.00967E-4 lb SO₂/MMbtu)
 (D) Emissions based on a turbine PM10 emission factor of 0.00483 lb/MMbtu and operating at maximum capacity.
 (E) Emissions based on data submitted in the SMAQMD Rule 201 permit application and is monitored by the turbine's CO CEM system (3 hour average)

V-A. FEDERALLY ENFORCEABLE REQUIREMENTS - EQUIPMENT SPECIFIC
GAS TURBINE NOS. 2 AND 3
APC NOx SCR SYSTEM NOS. 2 AND 3

3. Emissions from the following equipment shall not exceed the following emission limits, **including** periods containing startups, shutdowns or short term excursions as defined in **Condition No. B-8 Gas Turbines**.
[Basis: SMAQMD Rule 202]

Pollutant	Maximum Allowable Emissions lb/day				
	Gas Turbine No. 2	Gas Turbine No. 3	Cooling Tower	Perlite Storage Silo Dust Collector	Total
VOC	117.3	117.3	NA	NA	234.6
NOx	523.7	523.7	NA	NA	1,047.4
SO ₂	40.1 (A)	40.1 (A)	NA	NA	71.6
PM10	216.0	216.0	9.4 (B)	0.2 (B)	441.6 (B)
CO	3,051.7	3,051.7	NA	NA	6,103.3

- (A) Facility SO₂ total equates to the total usage of the proposed natural gas/digester gas mixture. Individual turbines equate to the total usage of the digester gas and balance natural gas.
 (B) Values of PM10 reflect changes proposed in applications 22673, cooling tower TDS change and 22702, perlite storage silo dust collector addition.

V-A. FEDERALLY ENFORCEABLE REQUIREMENTS - EQUIPMENT SPECIFIC
GAS TURBINE NOS. 2 AND 3
APC NOx SCR SYSTEM NOS. 2 AND 3

4. Emissions from the following equipment shall not exceed the following emission limits, **including** periods containing startups, shutdowns or short term excursions as defined in **Condition No. B-8, Gas Turbines.**
[Basis: SMAQMD Rule 202]

Pollutant	Maximum Allowable Emissions Gas Turbine No. 2, Gas Turbine No. 3 Perlite Storage Silo Dust Collector and Cooling Tower Combined				
	Quarter 1 lb/quarter	Quarter 2 lb/quarter	Quarter 3 lb/quarter	Quarter 4 lb/quarter	Total lb/year
VOC	14,807	14,958	15,110	15,110	59,986
NOx	62,021	62,643	63,265	63,265	251,194
SO ₂	6,190	6,259	6,328	6,328	25,105
PM10 (A)	39,725	40,167	40,608	40,608	161,108
PM2.5 (E)	39,129	39,564	39,998	39,998	158,689
CO	147,929	148,687	149,444	149,444	595,505
GHG, CO ₂ e Natural Gas combustion (B)	466,889 Tons	472,077 Tons	477,265 Tons	477,265 Tons	1,893,495 Tons
GHG, CO ₂ e CH ₄ & N ₂ O (C)	462 Tons	467 Tons	472 Tons	472 Tons	1,873 Tons
GHG, CO ₂ e Digester Gas combustion (D)	18203 Tons	18405 Tons	18607 Tons	18607 Tons	73,822 Tons

- (A) Values of PM10 reflect changes proposed in applications A/C 22673, cooling tower TDS change and A/C 22702, perlite storage silo dust collector addition.
- (B) GHG emission factor is based on 40 CFR part 75, Appx. G, Eq G-4, assuming all fuel is natural gas. For inventory purposes only.
- (C) GHG emission factors for Methane and N₂O are based on 40 CFR part 98.33 Cable C-2, Global warming potential from 40 CFR Part 98, Table A-1. For inventory purposes only.
- (D) GHG emission factors are based on 40 CFR part 75, Appx. G, Eq G-4 & 40 CFR part 98.33, Eq C-5. Calculation is based on fuel flow of 2,500 scfm of digester gas provided for inventory purposes only.
- (E) A conversion factor of 0.998 was used to convert PM10 to PM2.5 as referenced in SMAQMD document "COMMUNITY BANK AND PRIORITY RESERVE BANK PM2.5

**V-A. FEDERALLY ENFORCEABLE REQUIREMENTS - EQUIPMENT SPECIFIC
GAS TURBINE NOS. 2 AND 3
APC NOx SCR SYSTEM NOS. 2 AND 3**

EMISSION REDUCTION CREDIT EVALUATION" 8-9-2012, The factor of PM2.5 for the cooling tower is based on submitted data from the applicant as part of permit 22672 which showed PM2.5 is 26.6% of the total PM from the drift eliminator. PM2.5 is assumed to be equal to PM10 for the perlite storage silo. PM2.5 is for included for inventory purposes only.

EQUIPMENT OPERATION REQUIREMENTS

5. The total consumption rate of digester gas by Cosumnes Power Plant shall not exceed 2,500 scfm.
[Basis: SMAQMD Rules 201, 202, and 208]
6. The digester gas used at this facility shall not exceed 50 PPM of H₂S, measured prior to the commingling with the natural gas.
[Basis: SMAQMD Rules 201 and 202]
7. Each combined cycle turbine shall not be operated without a functioning selective catalytic reduction air pollution control system, **excluding** periods of startups and shutdowns as defined in **Condition No. B-8 Gas Turbines**.
[Basis: SMAQMD Rules 201 and 202]
8. Startup, shutdown and short term excursions are defined as follows:
 - A. Startup is defined as the time period commencing with the introduction of fuel to the gas turbine and ending at the time that the 15 minute average NO_x and CO concentrations do not exceed 2.0 ppmvd at 15% O₂ and 4.0 ppmvd at 15% O₂ respectively
 - i. In no case shall the startup time period exceed 180 consecutive minutes.
 - B. Shutdown is defined as the 30 minute time period immediately prior to the termination of fuel flow to the gas turbine.
 - C. Short term excursion is defined as a 15-minute period designated by the owner/operator, that is the direct result of transient load conditions, when the 15 minute average NO_x concentration exceeds 2.0 ppmvd at 15% O₂.
 - i. No more than four consecutive 15-minute periods shall be designated as short term excursions.
 - ii. For each gas turbine, no more than 40 15-minute periods/calendar year (10 hours/calendar year) shall be designated as short term excursions.
 - iii. Examples of transient load conditions include, but are not limited to the following:
 - (a) initiation/shutdown of combustion turbine inlet air cooling.
 - (b) rapid combustion turbine load changes.

[Basis: SMAQMD Rules 201 and 202]

V-A. FEDERALLY ENFORCEABLE REQUIREMENTS - EQUIPMENT SPECIFIC
GAS TURBINE NOS. 2 AND 3
APC NOx SCR SYSTEM NOS. 2 AND 3

9. For purposes of determining compliance with SMAQMD Rule 413:
- A. Startup is defined as the time period commencing with the introduction of fuel to the gas turbine and ending at the time that the 15 minute average NOx concentration does not exceed 9.0 ppmvd at 15% O₂.
- i. The startup period shall not exceed 4 hours following a shutdown of the associated steam turbine or associated HRSG and steam piping of greater than 72 hours.
- ii. The startup period shall not exceed 3 hours following a shutdown of the associated steam turbine or associated HRSG and steam piping between 8 hours and 72 hours.
- iii. The startup period shall not exceed 1 hour following a shutdown of the associated steam turbine or associated HRSG and steam piping of less than or equal to 8 hours.
- B. The shutdown period for a gas turbine shall not exceed 1 hour.
- C. A short term excursion is defined as a period of time not exceeding 6 hours and not more than four consecutive 15 minute blocks. The total of all 15 minute blocks shall not exceed 10 hours per calendar year per gas turbine.

[Basis: SMAQMD Rule 413, Sections 113 and 114, and US EPA Title V White Paper Number 2]

MONITORING REQUIREMENTS

10. The owner/operator shall operate a continuous emission monitoring (CEM) system for each turbine's emissions that has been approved by the SMAQMD Air Pollution Control Officer.
- A. The CEM system shall monitor and record nitrogen oxides (NOx), carbon monoxide (CO) and oxygen (O₂).
- B. For NOx and O₂, the CEMS shall comply with U.S. EPA Performance Specifications in 40 CFR 75 Appendix A.
- C. For CO, the CEMS shall comply with U.S. EPA Performance Specifications in 40 CFR 60 Appendix B Performance Specification 4.

[Basis: SMAQMD Rules 201 and 202]

11. The owner/operator shall operate a continuous parameter monitoring system, that has been approved by the SMAQMD Air Pollution Control Officer that either measures or calculates and records the following:

[Basis: SMAQMD Rule 201, Rule 202 Rule 413, Section 303.3 and 40 CFR Part

**V-A. FEDERALLY ENFORCEABLE REQUIREMENTS - EQUIPMENT SPECIFIC
 GAS TURBINE NOS. 2 AND 3
 APC NOx SCR SYSTEM NOS. 2 AND 3**

60.334(i)(2)(i)]

Parameter to be Monitored	Units
A. Total Fuel consumption of each gas turbine	MMBTU/hr of natural gas and/or natural gas/digester gas combination
B. Exhaust gas flow rate of turbine	kscfh or lb/hr
C. Non-resettable totalizing hour meter	Operating hours

RECORDKEEPING AND REPORTING REQUIREMENTS

12. The following records shall be continuously maintained on site for the most recent five-year period and shall be made available to the SMAQMD Air Pollution Control Officer upon request. Quarterly records shall be made available for inspection within 30 days of the end of the reporting period.

[Basis: SMAQMD Rules 201 and 202, and 40 CFR Part 60.334 (j)(1)(iii)(B), 60.334(j)(2)(iii), Part 60.334 (h)(1), Part 60.334(i)(3), Part 60.335(b)(10), 40 CFR Part 75.66(c), and Part 75 Appendix D]

Frequency	Information to be Recorded
At all times	<p>A. Permit number of each gas turbine.</p> <p>B. Manufacturer, model number and rating in megawatts of each gas turbine.</p> <p>C. Actual startup and shutdown time.</p> <p>D. Date and results of most recent emission test reported as ppmv at 15% O2 and pounds per unit time.</p> <p>E. A summary of any emissions corrective maintenance taken.</p> <p>F. Malfunction in operation of each turbine.</p> <p>G. Measurements from the continuous emissions monitoring system and continuous parameter monitoring system.</p> <p>H. Continuous emission monitoring device and performance testing measurements.</p>

**V-A. FEDERALLY ENFORCEABLE REQUIREMENTS - EQUIPMENT SPECIFIC
 GAS TURBINE NOS. 2 AND 3
 APC NOx SCR SYSTEM NOS. 2 AND 3**

Frequency	Information to be Recorded
	<p>I. Continuous emissions monitoring system performance evaluations.</p> <p>J. Continuous emissions monitoring system calibration checks.</p> <p>K. Continuous emission monitoring system (CEMS adjustments, maintenance and downtime (i.e., any unit operating hour in which sufficient data are not obtained to validate emissions over the hour; and/or any period when a fuel sample cannot be validated), and periods of fuel sulfur content monitor downtime (i.e., any period when required sampling is not taken by its due date, or if invalid sampling results are obtained).</p> <p>L. For short-term excursions, as defined in Condition No. B-8, Gas Turbines, record the following information:</p> <ul style="list-style-type: none"> i. The number of consecutive 15-minute periods when the 15-minute average NOx concentration exceeded the limits of Condition No. B-1 Gas Turbines during each short-term excursion. ii. The qualified condition(s) under which each short-term excursion occurred. iii. The maximum 1-hour average NOx concentration during the period that includes each short-term excursion, pursuant to Condition No. B-1, Gas Turbines. iv. The cumulative total, per calendar year per gas turbine, of all 15-minute periods when the 15-minute average NOx concentration exceeded the limits of Condition No. B-1, Gas Turbines. <p>M. Using the methodologies specified in U.S. EPA's alternative monitoring approval letter dated October 11, 2011, the permittee shall:</p> <ul style="list-style-type: none"> i. As applicable determine the fuel sulfur content, gross caloric value, and F-factor for natural gas, digester gas, and combined fuel stream ii. Calculate the hourly NOx (in lb/hour), CO2 (in tons/hour), and

**V-A. FEDERALLY ENFORCEABLE REQUIREMENTS - EQUIPMENT SPECIFIC
 GAS TURBINE NOS. 2 AND 3
 APC NOx SCR SYSTEM NOS. 2 AND 3**

Frequency	Information to be Recorded
	SOx (in lb/hour) emissions from each combustion turbine.
Hourly	<p>M. Each gas turbine's natural gas and digester gas fuel consumption (MMbtu/hr).</p> <p>N. Indicate when each gas turbine startup or shutdown time period occurred.</p> <p>O. Each gas turbine's VOC, NOx, SO₂, PM10 and CO hourly mass emissions.</p> <p>i. For those pollutants directly monitored (NOx and CO), the hourly mass emissions shall be calculated based on concentration measurements from the CEM system required pursuant to Condition No. B-10, Gas Turbines.</p> <p>ii. For those pollutants that are not directly monitored (VOC, SO₂ and PM10), the hourly mass emissions shall be calculated based on SMAQMD approved emission factors contained in footnotes to the table in Condition No. B-2, Gas Turbines.</p> <p>P. Each gas turbine's NOx and CO concentration measured in ppmvd at 15% O₂.</p>
Daily	<p>Q. Number of hours of operation each day for each gas turbine.</p> <p>R. Actual daily combined fuel usage, by turbine</p> <p>S. Total facility VOC, NOx, SO₂, PM10 and CO daily mass emissions.</p>
Quarterly	T. Total facility VOC, NOx, SO ₂ , PM10 and CO quarterly mass emissions.

13. A written report which contains the following information for each calendar quarter shall be submitted to the SMAQMD Air Pollution Control Officer.

[Basis: SMAQMD Rules 201 and 202, and 40 CFR Part 60.334 (j)(5)]

Frequency	Information to be Submitted
Quarterly Submit the report by:	A. All CEMS downtime (i.e., whenever inoperative excluding periods of monitor zero and span checks:

**V-A. FEDERALLY ENFORCEABLE REQUIREMENTS - EQUIPMENT SPECIFIC
 GAS TURBINE NOS. 2 AND 3
 APC NOx SCR SYSTEM NOS. 2 AND 3**

Frequency	Information to be Submitted
<p>January 30 April 30 July 30 October 30</p> <p>for the previous calendar quarter.</p>	<ul style="list-style-type: none"> i. Date and time of non operation of the continuous emission monitoring system. ii. Nature of the continuous emission monitoring system repairs or adjustments. <p>B. Whenever an emission occurs as measured by the required continuous monitoring equipment that is in excess of any emission limitation:</p> <ul style="list-style-type: none"> i. Magnitude of the emission which has been determined to be in excess. ii. Date and time of the commencement and completion of each period of excess emissions. iii. Periods of excess emissions due to start-up, shut-down, short-term excursion and malfunction shall be specifically identified. iv. The nature and cause of any malfunction (if known). v. The corrective action taken or preventive measures adopted. <p>C. If there were no excess emissions for a calendar quarter:</p> <ul style="list-style-type: none"> i. A report shall be submitted indicating that there were no excess emissions.

**V-A. FEDERALLY ENFORCEABLE REQUIREMENTS - EQUIPMENT SPECIFIC
 GAS TURBINE NOS. 2 AND 3
 APC NOx SCR SYSTEM NOS. 2 AND 3**

EMISSION REDUCTION CREDIT (ERC) REQUIREMENTS

14. The permittee shall surrender (and has surrendered - **See Condition No. B-15, Gas Turbines**) ERCs to the SMAQMD Air Pollution Control Officer to offset the following amount of emissions:

[Basis: SMAQMD Rule 202]

Equipment - Gas Turbine No. 2 Gas Turbine No. 3 Cooling Tower Perlite Storage Silo Dust Collector	Amount of Emission Offsets for which ERCs are to be Surrendered lb/quarter			
	Quarter 1	Quarter 2	Quarter 3	Quarter 4
VOC	14,807	14,958	15,110	15,110
NOx	62,021	62,643	63,265	63,265
PM10	39,724.6	40,166.6	40,607.6	40,607.6

**V-A. FEDERALLY ENFORCEABLE REQUIREMENTS - EQUIPMENT SPECIFIC
 GAS TURBINE NOS. 2 AND 3
 APC NOx SCR SYSTEM NOS. 2 AND 3**

15. The following ERCs have been surrendered to the SMAQMD Air Pollution Control Officer to comply with the emission offset requirements as stated in **Condition No. B-14, Gas Turbines:**
[Basis: SMAQMD Rule 202]

Equipment - Gas Turbine No. 2 Gas Turbine No. 3 Cooling Tower Perlite Storage Silo Dust Collector	Amount of Emissions Offsets Provided by ERCs that have been Surrendered lb/quarter			
	Quarter 1	Quarter 2	Quarter 3	Quarter 4
VOC - See Attachment A	14,807	14,958	15,110	15,110
NOx - See Attachment B	62,021	62,643	63,265	63,265
PM10 - See Attachment C	39,724.6	40,166.6	40,607.6	40,607.6

16. The permittee shall ensure that the paved roads described in the following SMAQMD ERCs are properly maintained and repaired for the life of the Cosumnes Power Plant to confirm continuing PM10 emission reductions.
- A. SMAQMD ERC No. 00767 - 0.5 mile section of Angle Road
 - B. SMAQMD ERC No. 00768 - 1.0 mile section of Angrave Road
 - C. SMAQMD ERC No. 00769- 0.78 mile section of Beskeen Road
 - D. SMAQMD ERC No. 00772 - 1.40 mile section of Kiefer Boulevard
 - E. SMAQMD ERC No. 00773 - 0.89 mile section of Laguna Road
 - F. SMAQMD ERC No. 00774 - 1.0 mile section of Loll Road
 - G. SMAQMD ERC No. 00775 - 0.19 mile section of Magos Road
- [Basis: SMAQMD Rules 201 and 202]**

**V-A. FEDERALLY ENFORCEABLE REQUIREMENTS - EQUIPMENT SPECIFIC
GAS TURBINE NOS. 2 AND 3
APC NOx SCR SYSTEM NOS. 2 AND 3**

EMISSION TESTING REQUIREMENTS

17. The permittee shall perform a VOC, NO_x, SO₂, PM₁₀ and CO source test and CEM accuracy (RATA) test of each gas turbine once each calendar year. The SMAQMD Air Pollution Control Officer may waive the annual PM₁₀ and/or VOC source test requirement if, in the SMAQMD Air Pollution Control Officer's sole judgment, prior source test results indicate an adequate compliance margin has been maintained.
- A. Submit a source test plan to the SMAQMD Air Pollution Control Officer for approval at least 30 days before the source test is to be performed.
 - B. Notify the SMAQMD Air Pollution Control Officer at least 7 days prior to the emission testing date.
 - C. During the test(s), each gas turbine shall be operated at its maximum firing capacity, defined as $\geq 90\%$ of rated heat input capacity and taking into account ambient conditions.
 - D. Submit the source test results to the SMAQMD Air Pollution Control Officer within 60 days after the completion of the source test(s).
 - E. Source testing shall occur with a representative flow of digester gas into the pipeline feeding the fuel supply to the turbine being tested.

[Basis: SMAQMD Rules 201 and 202]

**V-A. FEDERALLY ENFORCEABLE REQUIREMENTS - EQUIPMENT SPECIFIC
 GAS TURBINE NOS. 2 AND 3
 APC NOx SCR SYSTEM NOS. 2 AND 3
 ATTACHMENT A – VOC (ROC) ERCs SURRENDERED**

The following VOC ERCs have been surrendered to the SMAQMD Air Pollution Control Officer to comply with the VOC emission offset requirements as stated in **Condition No. B-15, Gas Turbines**:

Emission Reduction Credit Certificate No.	Face Value of VOC (ROC) ERC Certificates Surrendered lb/quarter				Inter-Pollutant Trading Ratio	Offset Ratio	Value Applied to the Project VOC Emission Liability lb/quarter			
	Qtr 1	Qtr 2	Qtr 3	Qtr 4			Qtr 1	Qtr 2	Qtr 3	Qtr 4
PCAPCD 2000-0007 (A) Formica Corporation	22211 (of 68000)	22437 (of 70000)	22665 (of 70000)	22665 (of 62000)	N/A	1.5:1	14807	14958	15110	15110
Total VOC							14807	14958	15110	15110

(A) This is a partial surrender of the total amount of the ERC certificate. The remaining VOC ERCs are surrendered for the required NOx offsets using an interpollutant trading ratio.

V-A. FEDERALLY ENFORCEABLE REQUIREMENTS - EQUIPMENT SPECIFIC
GAS TURBINE NOS. 2 AND 3
APC NOx SCR SYSTEM NOS. 2 AND 3
ATTACHMENT B - NOx ERCs SURRENDERED

The following NOx/VOC ERCs have been surrendered to the SMAQMD Air Pollution Control Officer to comply with the NOx emission offset requirements as stated in **Condition No. B-15, Gas Turbines:**

Emission Reduction Credit Certificate No.	Face Value of NOx/VOC ERC Certificates Surrendered lb/quarter				Inter-Pollutant Trading Ratio	Offset Ratio	Value Applied to the Project NOx Emission Liability lb/quarter			
	Qtr 1	Qtr 2	Qtr 3	Qtr 4			Qtr 1	Qtr 2	Qtr 3	Qtr 4
SMAQMD 00-00653 Swansons VOC	15985	20446	11643	24584	2.6:1	1.5:1	4099	5243	2985	6304
SMAQMD 01-00750 Donner Furn. VOC	394	757	659	784	2.6:1	1.5:1	101	194	169	201
SMAQMD 00-00776 Ag Containers VOC	680	1240	1560	520	2.6:1	1.5:1	174	318	400	133
SMAQMD 02-00777 P and G NOx	829	829	829	829	NA	1.5:1	553	553	553	553
SMAQMD 02-00823 P and G NOx	1518	1518	1518	1518	NA	1.5:1	1012	1012	1012	1012
SMAQMD 02-00826 P and G NOx	4514	4514	4514	4514	NA	1.5:1	3009	3009	3009	3009
SMAQMD 02-00827 P and G NOx	1486	1486	1486	1486	NA	1.5:1	991	991	991	991

**V-A. FEDERALLY ENFORCEABLE REQUIREMENTS - EQUIPMENT SPECIFIC
 GAS TURBINE NOS. 2 AND 3
 APC NOx SCR SYSTEM NOS. 2 AND 3
 ATTACHMENT B - NOx ERCs SURRENDERED**

Emission Reduction Credit Certificate No.	Face Value of NOx/VOC ERC Certificates Surrendered lb/quarter				Inter-Pollutant Trading Ratio	Offset Ratio	Value Applied to the Project NOx Emission Liability lb/quarter			
	Qtr 1	Qtr 2	Qtr 3	Qtr 4			Qtr 1	Qtr 2	Qtr 3	Qtr 4
SMAQMD 02-00836 Blue Diamond VOC	1590	1545	1600	1556	2.6:1	1.5:1	408	396	410	399
SMAQMD 02-00838 Campbell Soup NOx	0	0	7303	0	NA	1.5:1	0	0	4869	0
SMAQMD 02-00849 Blue Diamond NOx	5693	5919	6159	5489	NA	1.5:1	3795	3946	4106	3659
SMAQMD 00-00852 Ag Container VOC	1314	2415	3045	984	2.6:1	1.5:1	337	619	781	252
SMAQMD 03-00867 Rancho Seco VOC	40	40	40	40	2.6:1	1.3:1	11.8	11.8	11.8	11.8
SMAQMD 03-00869 Rancho Seco VOC	28	28	28	28	2.6:1	1.3:1	8.3	8.3	8.3	8.3
SMAQMD 03-00873 Rancho Seco VOC	52	52	52	52	2.6:1	1.3:1	15.4	15.4	15.4	15.4
SMAQMD 03-00875 Rancho Seco VOC	341	125	30	134	2.6:1	1.3:1	101	37	9	40

**V-A. FEDERALLY ENFORCEABLE REQUIREMENTS - EQUIPMENT SPECIFIC
 GAS TURBINE NOS. 2 AND 3
 APC NOx SCR SYSTEM NOS. 2 AND 3
 ATTACHMENT B - NOx ERCs SURRENDERED**

Emission Reduction Credit Certificate No.	Face Value of NOx/VOC ERC Certificates Surrendered lb/quarter				Inter-Pollutant Trading Ratio	Offset Ratio	Value Applied to the Project NOx Emission Liability lb/quarter			
	Qtr 1	Qtr 2	Qtr 3	Qtr 4			Qtr 1	Qtr 2	Qtr 3	Qtr 4
SMAQMD 03-00881 Campbell NOx	1785.7	3817.4	3028.9	0	NA	1.5	1191	2545	2019	0
SMAQMD 03-00883 P and G VOC	25000	25000	21630	25000	2.6:1	1.5:1	6410	6410	5546	6410
SMAQMD 03-00887 Am Riv Aggreg. VOC	250	631	1188	1013	2.6:1	1.5:1	64	162	304	260
SMAQMD 03-00887 Am Riv Aggreg. NOx	322	810	1528	1303	NA	1.5:1	215	540	1019	869
YSAQMD EC-0121 Burns Philp VOC	0	5	20	9	2.6:1	1.5:1	0	1	5	2
YSAQMD EC-0121 Burns Philp NOx	0	292	1201	500	NA	1.5:1	0	195	801	333
YSAQMD EC-0123 General Mills NOx	765	751	1074	1007	NA	1.5:1	510	501	716	671
YSAQMD EC-0174 Spreckles VOC	10	230	233	243	2.6:1	1.5:1	3	59	60	62

V-A. FEDERALLY ENFORCEABLE REQUIREMENTS - EQUIPMENT SPECIFIC
GAS TURBINE NOS. 2 AND 3
APC NOx SCR SYSTEM NOS. 2 AND 3
ATTACHMENT B - NOx ERCs SURRENDERED

Emission Reduction Credit Certificate No.	Face Value of NOx/VOC ERC Certificates Surrendered lb/quarter				Inter-Pollutant Trading Ratio	Offset Ratio	Value Applied to the Project NOx Emission Liability lb/quarter			
	Qtr 1	Qtr 2	Qtr 3	Qtr 4			Qtr 1	Qtr 2	Qtr 3	Qtr 4
YSAQMD EC-0174 Spreckles NOx	32	1271	1158	1307	NA	1.5:1	21	847	772	871
YSAQMD EC-0175 Spreckles VOC	21	485	491	503	2.6:1	1.5:1	5	124	126	129
YSAQMD EC-0175 Spreckles NOx	430	10044	10173	10410	NA	1.5:1	287	6696	6782	6940
YSAQMD EC-0176 Spreckles VOC	20	0	0	0	2.6:1	1.5:1	5	0	0	0
YSAQMD EC-0176 Spreckles NOx	487	0	0	0	NA	1.5:1	325	0	0	0
YSAQMD EC-0177 Spreckles VOC	19	397	403	421	2.6:1	1.5:1	5	102	103	108
YSAQMD EC-0177 Spreckles NOx	550	11844	12003	12552	NA	1.5:1	367	7896	8002	8368
YSAQMD EC-0178 Spreckles VOC	1	86	104	97	2.6:1	1.5:1	0	22	27	25

**V-A. FEDERALLY ENFORCEABLE REQUIREMENTS - EQUIPMENT SPECIFIC
 GAS TURBINE NOS. 2 AND 3
 APC NOx SCR SYSTEM NOS. 2 AND 3
 ATTACHMENT B - NOx ERCs SURRENDERED**

Emission Reduction Credit Certificate No.	Face Value of NOx/VOC ERC Certificates Surrendered lb/quarter				Inter-Pollutant Trading Ratio	Offset Ratio	Value Applied to the Project NOx Emission Liability lb/quarter			
	Qtr 1	Qtr 2	Qtr 3	Qtr 4			Qtr 1	Qtr 2	Qtr 3	Qtr 4
YSAQMD EC-0178 Spreckles NOx	90	6401	7780	7232	NA	1.5:1	60	4267	5186	4821
PCAPCD 2000-0007 Formica Corp VOC	45790	47563	47335	39335	2.6:1	1.5:1	11741	12196	12137	10086
PCAPCD 2001-17 Formica Corp VOC	62698	4151	48395	28959	2.6:1	1.5:1	16076	1064	12409	7425
Subtotal NOx							51899	59981	75344	63970
Move 9417 lb of surplus ERCs from Quarter 3 to Quarter 1 (A)							+9417		-9417	
Move 2662 lb of surplus ERCs from Quarter 3 to Quarter 2 (A)								+2662	-2662	
Move 705 lb of surplus ERCs from Quarter 4 to Quarter 1 (B)							+705			-705
Total NOx							62021	62643	63265	63265

- (A) SMAQMD Rule 202 Section 302.4.a allows VOC and NOx ERCs created in calendar quarters 2 and 3 to be used as offsets in any calendar quarter with certain restrictions.
 (B) SMAQMD Rule 202 Section 302.4.b allows VOC and NOx ERCs created in calendar quarters 1 and 4 to be used as offsets in either of calendar quarters 1 and 4.

**V-A. FEDERALLY ENFORCEABLE REQUIREMENTS - EQUIPMENT SPECIFIC
 GAS TURBINE NOS. 2 AND 3
 APC NOx SCR SYSTEM NOS. 2 AND 3**

ATTACHMENT C - PM10 ERCs SURRENDERED

The following PM10 ERCs have been surrendered to the SMAQMD Air Pollution Control Officer to comply with the emission offset requirements as stated in **Condition No. B-15, Gas Turbines**:

Emission Reduction Credit Certificate No.	Face Value of PM10 ERC Certificates Surrendered lb/quarter				Inter-Pollutant Trading Ratio	Offset Ratio	Value Applied to the Project PM10 Emission Liability lb/quarter			
	Qtr 1	Qtr 2	Qtr 3	Qtr 4			Qtr 1	Qtr 2	Qtr 3	Qtr 4
SMAQMD 01-00758 E G Ready Mix PM10	1275	1506	1564	1448	NA	1.5:1	850.0	1004.0	1042.7	965.3
SMAQMD certificate numbers follow P and G PM10										
02-00779	1	1	1	1	NA	1.5	0.7	0.7	0.7	0.7
02-00780	2	2	2	2	NA	1.5	1.3	1.3	1.3	1.3
02-00781	0.5	0.5	0.5	0.5	NA	1.5	0.3	0.3	0.3	0.3
02-00782	0.4	0.4	0.4	0.4	NA	1.5	0.3	0.3	0.3	0.3
02-00783	6	6	6	6	NA	1.5	4.0	4.0	4.0	4.0
02-00784	48	48	48	48	NA	1.5	32.0	32.0	32.0	32.0
02-00785	2	2	2	2	NA	1.5	1.3	1.3	1.3	1.3
02-00786	4	4	4	4	NA	1.5	2.7	2.7	2.7	2.7
02-00787	0.03	0.03	0.03	0.03	NA	1.5	0.0	0.0	0.0	0.0
02-00788	80	80	80	80	NA	1.5	53.3	53.3	53.3	53.3
02-00789	0.3	0.3	0.3	0.3	NA	1.5	0.2	0.2	0.2	0.2
02-00790	7	7	7	7	NA	1.5	4.7	4.7	4.7	4.7
02-00791	31	31	31	31	NA	1.5	20.7	20.7	20.7	20.7

**V-A. FEDERALLY ENFORCEABLE REQUIREMENTS - EQUIPMENT SPECIFIC
 GAS TURBINE NOS. 2 AND 3
 APC NOx SCR SYSTEM NOS. 2 AND 3**

ATTACHMENT C - PM10 ERCs SURRENDERED

Emission Reduction Credit Certificate No.	Face Value of PM10 ERC Certificates Surrendered lb/quarter				Inter-Pollutant Trading Ratio	Offset Ratio	Value Applied to the Project PM10 Emission Liability lb/quarter			
	Qtr 1	Qtr 2	Qtr 3	Qtr 4			Qtr 1	Qtr 2	Qtr 3	Qtr 4
02-00792	1	1	1	1	NA	1.5	0.7	0.7	0.7	0.7
02-00793	0.3	0.3	0.3	0.3	NA	1.5	0.2	0.2	0.2	0.2
02-00794	35	35	35	35	NA	1.5	23.3	23.3	23.3	23.3
02-00795	199	199	199	199	NA	1.5	132.7	132.7	132.7	132.7
02-00796	186	186	186	186	NA	1.5	124.0	124.0	124.0	124.0
02-00797	2	2	2	2	NA	1.5	1.3	1.3	1.3	1.3
02-00798	0.1	0.1	0.1	0.1	NA	1.5	0.1	0.1	0.1	0.1
02-00799	2	2	2	2	NA	1.5	1.3	1.3	1.3	1.3
02-00800	1	1	1	1	NA	1.5	0.7	0.7	0.7	0.7
02-00801	208	208	208	208	NA	1.5	138.7	138.7	138.7	138.7
02-00802	1	1	1	1	NA	1.5	0.7	0.7	0.7	0.7
02-00803	35	35	35	35	NA	1.5	23.3	23.3	23.3	23.3
02-00804	28	28	28	28	NA	1.5	18.7	18.7	18.7	18.7
02-00805	105	105	105	105	NA	1.5	70.0	70.0	70.0	70.0
02-00806	58	58	58	58	NA	1.5	38.7	38.7	38.7	38.7
02-00807	162	162	162	162	NA	1.5	108.0	108.0	108.0	108.0
02-00808	13	13	13	13	NA	1.5	8.7	8.7	8.7	8.7
02-00809	2	2	2	2	NA	1.5	1.3	1.3	1.3	1.3
02-00810	121	121	121	121	NA	1.5	80.7	80.7	80.7	80.7
02-00811	235	235	235	235	NA	1.5	156.7	156.7	156.7	156.7
02-00812	99	99	99	99	NA	1.5	66.0	66.0	66.0	66.0
02-00813	193	193	193	193	NA	1.5	128.7	128.7	128.7	128.7

V-A. FEDERALLY ENFORCEABLE REQUIREMENTS - EQUIPMENT SPECIFIC
GAS TURBINE NOS. 2 AND 3
APC NOx SCR SYSTEM NOS. 2 AND 3

ATTACHMENT C - PM10 ERCs SURRENDERED

Emission Reduction Credit Certificate No.	Face Value of PM10 ERC Certificates Surrendered lb/quarter				Inter-Pollutant Trading Ratio	Offset Ratio	Value Applied to the Project PM10 Emission Liability lb/quarter			
	Qtr 1	Qtr 2	Qtr 3	Qtr 4			Qtr 1	Qtr 2	Qtr 3	Qtr 4
02-00814	2	2	2	2	NA	1.5	1.3	1.3	1.3	1.3
02-00815	0.3	0.3	0.3	0.3	NA	1.5	0.2	0.2	0.2	0.2
02-00816	186	186	186	186	NA	1.5	124.0	124.0	124.0	124.0
02-00817	26	26	26	26	NA	1.5	17.3	17.3	17.3	17.3
02-00818	30	30	30	30	NA	1.5	20.0	20.0	20.0	20.0
02-00819	0.4	0.4	0.4	0.4	NA	1.5	0.3	0.3	0.3	0.3
02-00820	3	3	3	3	NA	1.5	2.0	2.0	2.0	2.0
02-00821	48	48	48	48	NA	1.5	32.0	32.0	32.0	32.0
02-00822	104	104	104	104	NA	1.5	69.3	69.3	69.3	69.3
02-00823	7	7	7	7	NA	1.5	4.7	4.7	4.7	4.7
02-00827	261	261	261	261	NA	1.5	174.0	174.0	174.0	174.0
02-00828	238	238	238	238	NA	1.5	158.7	158.7	158.7	158.7
02-00829	253	253	253	253	NA	1.5	168.7	168.7	168.7	168.7
02-00830	19	19	19	19	NA	1.5	12.7	12.7	12.7	12.7
02-00831	503	503	503	503	NA	1.5	335.3	335.3	335.3	335.3
SMAQMD 02-00833 Grace Indust. PM10	135	135	135	136	NA	1.5	90.0	90.0	90.0	90.7
SMAQMD 02-00834 Grace Indust. PM10	1962	2116	2079	1963	NA	1.5	1308.0	1410.7	1386.0	1308.7

V-A. FEDERALLY ENFORCEABLE REQUIREMENTS - EQUIPMENT SPECIFIC
GAS TURBINE NOS. 2 AND 3
APC NOx SCR SYSTEM NOS. 2 AND 3

ATTACHMENT C - PM10 ERCs SURRENDERED

Emission Reduction Credit Certificate No.	Face Value of PM10 ERC Certificates Surrendered lb/quarter				Inter-Pollutant Trading Ratio	Offset Ratio	Value Applied to the Project PM10 Emission Liability lb/quarter			
	Qtr 1	Qtr 2	Qtr 3	Qtr 4			Qtr 1	Qtr 2	Qtr 3	Qtr 4
SMAQMD 02-00835 Grace Indust. PM10	1494	1338	1360	1415	NA	1.5	996.0	892.0	906.7	943.3
SMAQMD 02-00849 Blue Diamond PM10	3480	3321	3433	3207	NA	1.5	2320.0	2214.0	2288.7	2138.0
SMAQMD 03-00863 Grace Indust. SO ₂	1118	0	0	1117	(B)	1.5	266.2	0.0	0.0	225.7
SMAQMD 03-00865 Grace Indust. SO ₂	861	0	0	812	(B)	1.5	205.0	0.0	0.0	164.0
SMAQMD 03-00867 Rancho Seco										
SO ₂	174	0	0	174	(B)	1.2	51.8	0.0	0.0	43.9
PM10	60	60	60	60	NA	1.2	50.0	50.0	50.0	50.0
SMAQMD 03-00869 Rancho Seco										
SO ₂	126	0	0	126	(B)	1.2	37.5	0.0	0.0	31.8
PM10	47	47	47	47	NA	1.2	39.2	39.2	39.2	39.2
SMAQMD 03-00871 Rancho Seco										
SO ₂	260	0	0	260	(B)	1.2	77.4	0.0	0.0	65.7

V-A. FEDERALLY ENFORCEABLE REQUIREMENTS - EQUIPMENT SPECIFIC
GAS TURBINE NOS. 2 AND 3
APC NOx SCR SYSTEM NOS. 2 AND 3

ATTACHMENT C - PM10 ERCs SURRENDERED

Emission Reduction Credit Certificate No.	Face Value of PM10 ERC Certificates Surrendered lb/quarter				Inter-Pollutant Trading Ratio	Offset Ratio	Value Applied to the Project PM10 Emission Liability lb/quarter			
	Qtr 1	Qtr 2	Qtr 3	Qtr 4			Qtr 1	Qtr 2	Qtr 3	Qtr 4
PM10	129	129	129	129	1	1.2	107.5	107.5	107.5	107.5
SMAQMD 03-00873 Rancho Seco										
SO ₂	260	0	0	260	(B)	1.2	77.4	0.0	0.0	65.7
PM10	122	122	122	122	NA	1.2	101.7	101.7	101.7	101.7
SMAQMD 03-00875 Rancho Seco										
SO ₂	24682	0	0	8008	(B)	1.2	7345.8	0.0	0.0	2022.2
PM10	1707	626	150	672	NA	1.2	1422.5	521.7	125.0	560.0
SMAQMD 03-00877 Poppy Ridge										
SO ₂	16	0	0	15	(B)	1.5	3.8	0.0	0.0	3.0
PM10	899	804	546	853	NA	1.5	599.3	536.0	364.0	568.7
SMAQMD 03-00879 Poppy Ridge										
SO ₂	54	0	0	57	(B)	1.5	12.9	0.0	0.0	11.5
PM10	129	191	194	135	NA	1.5	86.0	127.3	129.3	90.0
SMAQMD 03-00881 Campbell Soup										
SO ₂	140.7	0	0	150.8	(B)	1.5	33.5	0.0	0.0	30.5
PM10	573.1	336.1	1858.8	656.8	NA	1.5	382.1	224.1	1239.2	437.9

V-A. FEDERALLY ENFORCEABLE REQUIREMENTS - EQUIPMENT SPECIFIC
GAS TURBINE NOS. 2 AND 3
APC NOx SCR SYSTEM NOS. 2 AND 3

ATTACHMENT C - PM10 ERCs SURRENDERED

Emission Reduction Credit Certificate No.	Face Value of PM10 ERC Certificates Surrendered lb/quarter				Inter-Pollutant Trading Ratio	Offset Ratio	Value Applied to the Project PM10 Emission Liability lb/quarter			
	Qtr 1	Qtr 2	Qtr 3	Qtr 4			Qtr 1	Qtr 2	Qtr 3	Qtr 4
SMAQMD 03-00887 Am Riv Aggreg.										
SO ₂	259	0	0	1050	(B)	1.5	61.7	0.0	0.0	212.1
PM10	515	1229	2143	1695	NA	1.5	343.3	819.3	1428.7	1130.0
SMAQMD 03-00885 P and G PM10	7719	7719	5479.7	7719	NA	1.5	5146.0	5146.0	3653.1	5146.0
SMAQMD 05-00767 Road paving PM10	1085	1491	2054	1537	NA	1.2	904.2	1242.5	1711.7	1280.8
SMAQMD 05-00768 Road paving PM10	2004	2770	3844	2871	NA	1.2	1670.0	2308.3	3203.3	2392.5
SMAQMD 05-00769 Road paving PM10	3237	4463	6172	4615	NA	1.2	2697.5	3719.2	5143.3	3845.8
SMAQMD 05-00772 Road paving PM10	5242	7247	10061	7515	NA	1.2	4368.3	6039.2	8384.2	6262.5
SMAQMD 05-00773 Road paving PM10	3316	4564	6293	4709	NA	1.2	2763.3	3803.3	5244.2	3924.2

**V-A. FEDERALLY ENFORCEABLE REQUIREMENTS - EQUIPMENT SPECIFIC
 GAS TURBINE NOS. 2 AND 3
 APC NOx SCR SYSTEM NOS. 2 AND 3**

ATTACHMENT C - PM10 ERCs SURRENDERED

Emission Reduction Credit Certificate No.	Face Value of PM10 ERC Certificates Surrendered lb/quarter				Inter-Pollutant Trading Ratio	Offset Ratio	Value Applied to the Project PM10 Emission Liability lb/quarter			
	Qtr 1	Qtr 2	Qtr 3	Qtr 4			Qtr 1	Qtr 2	Qtr 3	Qtr 4
SMAQMD 05-00774 Road paving PM10	2326	3209	4441	3320	NA	1.2	1938.3	2674.2	3700.8	2766.7
SMAQMD 05-00775 Road paving PM10	577	795	1096	821	NA	1.2	480.8	662.5	913.3	684.2
SMAQMD 01031 Chinet Co. PM10	519	524	530	530	NA	1.5	346	349	353	353
SMAQMD 11-01143 Chinet Co.	258	263	266	266	N/A	1.5	172	175	177	177
SMAQMD 11-01144 Chinet Co.	4	4	4	4	N/A	1.5	2.6	2.6	2.6	2.6
Subtotal PM10							39,723.8	36,625.4	44,151.3	40,608.5
Move 3542.9 lb of surplus ERCs from Quarter 3 to Quarter 2 (A)								3542.9	-3542.9	
Move 0.8 lb of surplus ERCs from Quarter 4 to Quarter 1 (A)							0.8			-0.8
Total PM10							39,724.6	40,168.3	40,608.4	40,607.7
Total PM10 to compare to Condition No. B-15, Gas Turbines (because more ERCs were surrendered than required)							39,724.6	40,166.6	40,607.6	40,607.6

- (A) SMAQMD Rule 202 allows PM10 ERCs:
- i. created in calendar quarters 2 and 3 to be used as offsets in either calendar quarters 2 or 3.
 - ii. created in calendar quarters 1 and 4 to be used as offsets in all calendar quarters.
- (B) SO₂ Interpollutant Trading Ratio varies by quarter -
- | | |
|-------------------|-------------------|
| 1st Quarter = 2.8 | 3rd Quarter = 1.7 |
| 2nd Quarter = 1.7 | 4th Quarter = 3.3 |

V-A. FEDERALLY ENFORCEABLE REQUIREMENTS - EQUIPMENT SPECIFIC
GAS TURBINE NOS. 2 AND 3
APC NOx SCR SYSTEM NOS. 2 AND 3

C. NON-FEDERALLY ENFORCEABLE REQUIREMENTS - EQUIPMENT SPECIFIC:

The requirements specified under this section are enforceable by the SMAQMD only.

1. Emissions from Gas Turbine No. 2 and Gas Turbine No. 3 shall not exceed the following emissions limit, **excluding** periods containing startups, or shutdowns as defined in **Condition No. B- 8 Gas Turbines**.
[Basis: SMAQMD Rule 402]

Pollutant	Maximum Allowable Emissions
Ammonia (NH3)	A. 10 ppmvd at 15% O2, measured as NH3, averaged over any 3 hour period

2. The permittee shall perform an NH3 source test of each gas turbine once each calendar year.
 - A. Submit a source test plan to the SMAQMD Air Pollution Control Officer for approval at least 30 days before the source test is to be performed.
 - B. Notify the SMAQMD Air Pollution Control Officer at least 7 days prior to the emission testing date.
 - C. During the test(s), each gas turbine is to be operated at its maximum firing capacity, which is defined as $\geq 90\%$ of rated heat input capacity and taking into account ambient conditions.
 - D. Submit the source test results to the SMAQMD Air Pollution Control Officer within 60 days after the completion of the source test(s).

[Basis: SMAQMD Rule 201]

**V-A. FEDERALLY ENFORCEABLE REQUIREMENTS - TITLE IV ACID RAIN PERMIT
GAS TURBINE NOS. 2 AND 3
APC NOx SCR SYSTEM NOS. 2 AND 3**

D. ACID RAIN PERMIT:

The requirements specified under this subsection are issued in accordance with SMAQMD Rule 207 - Title V Federal Operating Permit Program, SMAQMD Rule 208 - Acid Rain and Title IV and Title V of the federal Clean Air Act, and are enforceable by the SMAQMD, the U.S. EPA and the public.

PERMIT REQUIREMENTS:

1. The designated representative of each affected source and each affected unit at the source shall:
 - A. Submit a complete Acid Rain permit application (including a compliance plan) under 40 CFR Part 72 in accordance with the deadlines specified in 40 CFR 72.30; and
 - B. Submit in a timely manner any supplemental information that the permitting authority determines is necessary in order to review an Acid Rain permit application and issue or deny an Acid Rain permit.
[Basis: 40 CFR 72.9(a)(1)]
2. The owners and operators of each affected source and each affected unit at the source shall:
 - A. Operate the unit in compliance with a complete Acid Rain permit application or a superseding Acid Rain permit issued by the permitting authority; and
 - B. Have an Acid Rain Permit.
[Basis: 40 CFR 72.9(a)(2)]

MONITORING REQUIREMENTS:

3. The owners and operators and, to the extent applicable, designated representative of each affected source and each affected unit at the source shall comply with the monitoring requirements as provided in 40 CFR Parts 74, 75 and 76.
[Basis: 40 CFR 72.9(b)(1)]
4. The emissions measurements recorded and reported in accordance with 40 CFR Part 75 shall be used to determine compliance by the source or unit, as appropriate, with the Acid Rain emissions limitations and emissions reduction requirements for sulfur dioxide and nitrogen oxides under the Acid Rain Program.
[Basis: 40 CFR 72.9(b)(2)]

**V-A. FEDERALLY ENFORCEABLE REQUIREMENTS - TITLE IV ACID RAIN PERMIT
GAS TURBINE NOS. 2 AND 3
APC NO_x SCR SYSTEM NOS. 2 AND 3**

5. The requirements of 40 CFR Parts 74 and 75 shall not affect the responsibility of the owners and operators to monitor emissions of other pollutants or other emissions characteristics at the unit under other applicable requirements of the federal Clean Air Act and other provisions of the operating permit for the source.

[Basis: 40 CFR 72.9(b)(3)]

SULFUR DIOXIDE REQUIREMENTS:

6. The owners and operators of each source and each affected unit at the source shall:

A. Hold allowances, as of the allowance transfer deadline, in the source's compliance account (after deductions under 40 CFR 73.34(c)) not less than the total annual emissions of sulfur dioxide for the previous calendar year from the affected units at the source; and

B. Comply with the applicable Acid Rain emissions limitations for sulfur dioxide.

[Basis: 40 CFR 72.9(c)(1)]

7. Each ton of sulfur dioxide emitted in excess of the Acid Rain emissions limitations for sulfur dioxide shall constitute a separate violation of the federal Clean Air Act.

[Basis: 40 CFR 72.9(c)(2)]

8. An affected unit shall be subject to the requirements under 40 CFR 72.9(c)(1) as follows:

A. Starting January 1, 2000, an affected unit under 40 CFR 72.6(a)(2); or

B. Starting on the later of January 1, 2000 or the deadline for monitor certification under 40 CFR Part 75, an affected unit under 40 CFR 72.6(a)(3).

[Basis: 40 CFR 72.9(c)(3)]

9. Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program.

[Basis: 40 CFR 72.9(c)(4)]

10. An allowance shall not be deducted in order to comply with the requirements of 40 CFR 72.9(c)(1)(i) prior to the calendar year for which the allowance was allocated.

[Basis: 40 CFR 72.9(c)(5)]

11. An allowance allocated by the U.S. EPA Administrator under the Acid Rain Program is a limited authorization to emit sulfur dioxide in accordance with the Acid Rain Program. No provision of the Acid Rain Program, the Acid Rain permit application, the Acid Rain permit, or the written exemption under 40 CFR 72.7 and 72.8 and no provision of law shall be construed to limit the authority of the United States to terminate or limit such

**V-A. FEDERALLY ENFORCEABLE REQUIREMENTS - TITLE IV ACID RAIN PERMIT
GAS TURBINE NOS. 2 AND 3
APC NO_x SCR SYSTEM NOS. 2 AND 3**

authorization.

[Basis: 40 CFR 72.9(c)(6)]

12. An allowance allocated by the U.S. EPA Administrator under the Acid Rain Program does not constitute a property right.

[Basis: 40 CFR 72.9(c)(7)]

EXCESS EMISSIONS REQUIREMENTS:

13. The designated representative of an affected source that has excess emissions in any calendar year shall submit a proposed offset plan, as required under 40 CFR Part 77.

[Basis: 40 CFR 72.9(e)(1)]

14. The owners and operators of an affected source that has excess emissions in any calendar year shall:

A. Pay without demand the penalty required, and pay upon demand the interest on that penalty, as required by 40 CFR Part 77; and

B. Comply with the terms of an approved offset plan, as required by 40 CFR Part 77.

[Basis: 40 CFR 72.9(e)(2)]

RECORDKEEPING AND REPORTING REQUIREMENTS:

15. Unless otherwise provided, the owners and operators of the source and each affected unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time prior to the end of 5 years, in writing by the U.S. EPA Administrator or permitting authority:

A. The certificate of representation for the designated representative for the source and each affected unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation, in accordance with 40 CFR 72.24; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation changing the designated representative;

B. All emissions monitoring information, in accordance with 40 CFR Part 75;

C. Copies of all reports, compliance certifications and other submissions and all records made or required under the Acid Rain Program; and

D. Copies of all documents used to complete an Acid Rain permit application and any other submission under the Acid Rain Program or to demonstrate compliance with

**V-A. FEDERALLY ENFORCEABLE REQUIREMENTS - TITLE IV ACID RAIN PERMIT
GAS TURBINE NOS. 2 AND 3
APC NOx SCR SYSTEM NOS. 2 AND 3**

the requirements of the Acid Rain Program.

[Basis: 40 CFR 72.9(f)(1)]

16. The designated representative of an affected source and each affected unit at the source shall submit the reports and compliance certifications required under the Acid Rain Program, including those under 40 CFR Part 72 Subpart I and 40 CFR Part 75.

[Basis: 40 CFR 72.9(f)(2)]

LIABILITY REQUIREMENTS:

17. Any person who knowingly violates any requirement or prohibition of the Acid Rain Program, a complete Acid Rain permit application, an Acid Rain permit or a written exemption under 40 CFR 72.7 or 72.8, including any requirement for the payment of any penalty owed to the United States, shall be subject to enforcement pursuant to Section 113(c) of the federal Clean Air Act.

[Basis: 40 CFR 72.9(g)(1)]

18. Any person who knowingly makes a false material statement in any record, submission or report under the Acid Rain Program shall be subject to criminal enforcement pursuant to Section 113(c) of the federal Clean Air Act and 18 U.S.C. 1001.

[Basis: 40 CFR 72.9(g)(2)]

19. No permit revision shall excuse any violation of the requirements of the Acid Rain Program that occurs prior to the date that the revision takes effect.

[Basis: 40 CFR 72.9(g)(3)]

20. Each affected source and each affected unit shall meet the requirements of the Acid Rain Program.

[Basis: 40 CFR 72.9(g)(4)]

21. Any provision of the Acid Rain Program that applies to an affected source (including a provision applicable to the designated representative of an affected source) shall also apply to the owners and operators of such source and of the affected units at the source.

[Basis: 40 CFR 72.9(g)(5)]

22. Any provision of the Acid Rain Program that applies to an affected unit (including a provision applicable to the designated representative of an affected unit) shall also apply to the owners and operators of such unit.

[Basis: 40 CFR 72.9(g)(6)]

23. Each violation of a provision of 40 CFR Parts 72, 73, 74, 75, 76, 77 and 78 by an affected source or affected unit, or by an owner or operator or designated representative of such source or unit, shall be a separate violation of the federal Clean Air Act.

[Basis: 40 CFR 72.9(g)(7)]

**V-A. FEDERALLY ENFORCEABLE REQUIREMENTS - TITLE IV ACID RAIN PERMIT
GAS TURBINE NOS. 2 AND 3
APC NO_x SCR SYSTEM NOS. 2 AND 3**

EFFECT ON OTHER AUTHORITIES:

24. No provision of the Acid Rain Program, an Acid Rain permit application, an Acid Rain permit or a written exemption under 40 CFR 72.7 or 72.8 shall be construed as:
- A. Except as expressly provided in Title IV of the federal Clean Air Act, exempting or excluding the owners and operators and, to the extent applicable, the designated representative of an affected source or affected unit from compliance with any other provision of the federal Clean Air Act, including the provisions of Title I of the federal Clean Air Act relating to applicable National Ambient Air Quality Standards or State Implementation Plans;
 - B. Limiting the number of allowances a source can hold; provided, that the number of allowances held by the source shall not affect the source's obligation to comply with any other provisions of the federal Clean Air Act;
 - C. Requiring a change of any kind in any State law regulating electric utility rates and charges, affecting any State law regarding such State regulation, or limiting such State regulation, including any prudence review requirements under such State law;
 - D. Modifying the Federal Power Act or affecting the authority of the Federal Energy Regulatory Commission under the Federal Power Act; or
 - E. Interfering with or impairing any program for competitive bidding for power supply in a State in which such program is established.

[Basis: 40 CFR 72.9(h)]

**V-B. FEDERALLY ENFORCEABLE REQUIREMENTS - EQUIPMENT SPECIFIC
COOLING TOWER**

A. EQUIPMENT DESCRIPTION:

The information specified under this section is enforceable by the SMAQMD, U.S. EPA and the public.

The requirements specified under the following sections apply to the following equipment:

COOLING TOWER

P/O No. 22672

Type: mechanical draft, counterflow, with drift eliminator

Size: 8 cell

Capacity: 155,000 gallons/minute

Pumps: 3 pumps in parallel with only 2 pumps operating simultaneously

B. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS - EQUIPMENT SPECIFIC:

The requirements specified under this subsection are enforceable by the SMAQMD, U.S. EPA and the public.

EMISSION LIMITATION REQUIREMENTS:

1. Emissions from the cooling tower shall not exceed the following limit averaged over a three hour period.

[Basis: SMAQMD Rule 202]

Pollutant	Maximum Allowable Emissions Cooling Tower lb/hour
PM10	0.39 (A)

(A) Based on a water circulation rate of 155,000 gal/min, cooling tower drift rate of 0.0005%, PM10 fraction of 67.7%, and a TDS level of 1,500 ppmw.

**V-B. FEDERALLY ENFORCEABLE REQUIREMENTS - EQUIPMENT SPECIFIC
 COOLING TOWER**

2. Emissions from the following equipment shall not exceed the following emission limits, including periods containing startups, shutdowns or short term excursions as defined in **Condition No. B-5, Cooling Tower.**
[Basis: SMAQMD Rule 202]

Pollutant	Maximum Allowable Emissions lb/day	
	Cooling Tower	Cooling Tower, Perlite Storage Silo and Gas Turbine No. 2 and Gas Turbine No. 3 Combined
PM10	9.4	441.6

3. Emissions from the following equipment shall not exceed the following emission limits, including periods containing startups, shutdowns or short term excursions as defined in **Condition No. B-5, Cooling Tower.**
[Basis: SMAQMD Rule 202]

Pollutant	Maximum Allowable Emissions Cooling Tower, Perlite Storage Silo Dust Collector and Gas Turbine No. 2 and Gas Turbine No. 3 Combined				
	Quarter 1 lb/quarter	Quarter 2 lb/quarter	Quarter 3 lb/quarter	Quarter 4 lb/quarter	Total lb/year
PM10	39,725	40,167	40,608	40,608	161,108

4. The total dissolved solids content of the circulating cooling water shall not exceed 1,500 ppmw, averaged over any consecutive three-hour period.
[Basis: SMAQMD Rule 202]

V-B. FEDERALLY ENFORCEABLE REQUIREMENTS - EQUIPMENT SPECIFIC COOLING TOWER

EQUIPMENT OPERATION REQUIREMENTS:

5. Startup, shutdown and short term excursions are defined as follows:
- A. Startup is defined as the time period commencing with the introduction of fuel to the gas turbine and ending at the time that the 15 minute average NO_x and CO concentrations do not exceed 2.0 ppmvd at 15% O₂ and 4.0 ppmvd at 15% O₂ respectively.
 - i. In no case shall the startup time period exceed 180 consecutive minutes.
 - B. Shutdown is defined as the 30 minute time period immediately prior to the termination of fuel flow to the gas turbine.
 - C. Short term excursion is defined as a 15-minute period designated by the owner/operator, that is the direct result of transient load conditions, when the 15 minute average NO_x concentration exceeds 2.0 ppmvd at 15% O₂.
 - i. No more than four consecutive 15-minute periods shall be designated as short term excursions.
 - ii. For each gas turbine, no more than 40 15-minute periods/calendar year (10 hours/calendar year) shall be designated as short term excursions.
 - iii. Examples of transient load conditions include, but are not limited to the following:
 - (a) initiation/shutdown of combustion turbine inlet air cooling.
 - (b) rapid combustion turbine load changes.

[Basis: SMAQMD Rule 201 and 202]

MONITORING REQUIREMENTS:

6. The owner/operator shall operate a continuous parameter monitoring system that has been approved by the SMAQMD Air Pollution Control Officer that either measures or calculates and records the following:

[Basis: SMAQMD Rule 201 and 202]

Parameter to be Monitored	Units
A. Total dissolved solids content of the circulating water in the cooling tower	ppmw

**V-B. FEDERALLY ENFORCEABLE REQUIREMENTS - EQUIPMENT SPECIFIC
 COOLING TOWER**

RECORDKEEPING AND REPORTING REQUIREMENTS:

7. The following records shall be continuously maintained on site for the most recent five-year period and shall be made available to the SMAQMD Air Pollution Control Officer upon request. Quarterly records shall be made available for inspection within 30 days of the end of the reporting period.

[Basis: SMAQMD Rule 201 and 202]

Frequency	Information to be Recorded
Hourly	A. Total dissolved solids content of the circulating water in the cooling tower. (ppmw) B. Cooling tower hourly PM10 mass emission rate. (lb PM10/hour) i. The hourly emissions shall be calculated based on the cooling water circulation rate multiplied by the cooling tower drift rate, density of water, measured TDS level, and PM10 fraction of 67.7%.
Daily	C. Total facility PM10 daily mass emissions.
Quarterly	D. Total facility PM10 quarterly mass emissions.

EMISSION REDUCTION CREDIT (ERC) REQUIREMENTS:

8. The permittee shall surrender (and has surrendered - See **Condition No. B-9 cooling tower**, PM10 ERCs to the SMAQMD Air Pollution Control Officer to offset the following amount of emissions:

[Basis: SMAQMD Rule 202]

Equipment - Gas Turbine No. 2 Gas Turbine No. 3 Cooling Tower Perlite Storage Silo Dust Collector	Amount of PM10 Emission Offsets for which ERCs are to be Surrendered lb/quarter			
	Quarter 1	Quarter 2	Quarter 3	Quarter 4
PM10	39,724.6	40,166.6	40,607.6	40,607.6

**V-B. FEDERALLY ENFORCEABLE REQUIREMENTS - EQUIPMENT SPECIFIC
 COOLING TOWER**

9. The following PM10 ERCs have been surrendered to the SMAQMD Air Pollution Control Officer to comply with the emission offset requirements as stated in **Condition No. B-8 cooling tower:**
[Basis: SMAQMD Rule 202]

Equipment - Gas Turbine No. 2 Gas Turbine No. 3 Cooling Tower Perlite Storage Silo Dust Collector	Amount of PM10 Offsets Provided by ERCs that have been Surrendered lb/quarter			
	Quarter 1	Quarter 2	Quarter 3	Quarter 4
PM10 - See Attachment C for Gas Turbine Nos. 2 and 3	39,724.6	40,166.6	40,607.6	40,607.6

**V-B. FEDERALLY ENFORCEABLE REQUIREMENTS - EQUIPMENT SPECIFIC
COOLING TOWER**

C. NON-FEDERALLY ENFORCEABLE REQUIREMENTS - EQUIPMENT SPECIFIC:

The requirements specified under this section are enforceable by the SMAQMD only.

1. The cooling tower shall not use any chromium containing water treatment chemicals.
[Basis: State of California Air Toxic Control Measure for Chromate Treated Cooling Towers (CCR 93103)]

**V-C. FEDERALLY ENFORCEABLE REQUIREMENTS - EQUIPMENT SPECIFIC
PERLITE STORAGE SILO DUST COLLECTOR**

A. EQUIPMENT DESCRIPTION:

The information specified under this section is enforceable by the SMAQMD, U.S. EPA and the public.

The requirements specified under the following sections apply to the following equipment:

PERLITE STORAGE

P/O No. 22702

Manufacturer: Cyclonaire

Model: #18-DC-36

Serial No.: 24-0-4216-00

Size/Rating: 405 Sq. Ft. Filter Area, 585 Max acfm, 6" water pressure maximum differential.

B. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS - EQUIPMENT SPECIFIC:

The requirements specified under this subsection are enforceable by the SMAQMD, U.S. EPA and the public.

EMISSION LIMITATION REQUIREMENTS:

1. Emissions from the perlite storage silo dust collector shall not exceed the following limit averaged over a three hour period:

[Basis: SMAQMD Rule 202]

Pollutant	Maximum Allowable Emissions Perlite Storage Silo Dust Collector lb/hour
PM10	0.1 (A)

(A) Based on maximum allowable grain loading of 0.02 gr/acf, 26 hours/qtr, and air flow rate of 585 acfm

**V-C. FEDERALLY ENFORCEABLE REQUIREMENTS - EQUIPMENT SPECIFIC
 PERLITE STORAGE SILO DUST COLLECTOR**

2. Emissions from the following equipment shall not exceed the following emission limits.
[Basis: SMAQMD Rule 202]

Pollutant	Maximum Allowable Emissions lb/day	
	Perlite Storage Silo Dust Collector	Cooling Tower, Perlite Storage Silo Dust Collector and Gas Turbine No. 2 and Gas Turbine No. 3 Combined
PM10	0.2	441.6

3. Emissions from the following equipment shall not exceed the following emission limits,
 including periods containing startups, shutdowns or short term excursions as defined in
Condition No. B-5, Cooling Tower and B-8 Gas Turbines.
[Basis: SMAQMD Rule 202]

Pollutant	Maximum Allowable Emissions Cooling Tower, Perlite Storage Silo Dust Collector and Gas Turbine No. 2 and Gas Turbine No. 3 Combined				
	Quarter 1 lb/quarter	Quarter 2 lb/quarter	Quarter 3 lb/quarter	Quarter 4 lb/quarter	Total lb/year
PM10	39,725	40,167	40,608	40,608	161,108

EQUIPMENT OPERATION REQUIREMENTS:

4. The Perlite Storage Silo Dust Collector shall be equipped with a pressure differential
 gauge to indicate the pressure drop across the bags. The average pressure drop shall
 not exceed the manufactures recommendations.
[Basis: SMAQMD Rule 201 and 202]

**V-C. FEDERALLY ENFORCEABLE REQUIREMENTS - EQUIPMENT SPECIFIC
 PERLITE STORAGE SILO DUST COLLECTOR**

5. The dust collector cleaning frequency and duration shall follow the manufacturer's recommendations.

[Basis: SMAQMD Rule 201 and 202]

6. Total perlite delivered to the silo per quarter shall not exceed 101.4 tons.

[Basis: SMAQMD Rule 201 and 202]

RECORDKEEPING AND REPORTING REQUIREMENTS:

7. The following records shall be continuously maintained on site for the most recent five-year period and shall be made available to the SMAQMD Air Pollution Control Officer upon request. Quarterly records shall be made available for inspection within 30 days of the end of the reporting period.

[Basis: SMAQMD Rule 201 and 202]

Frequency	Information to be Recorded
Quarterly	Perlite delivered to the silo (tons/qtr)

EMISSION REDUCTION CREDIT (ERC) REQUIREMENTS:

8. The permittee shall surrender (and has surrendered - See **Condition No. B-9**, Perlite Storage Silo Dust Collector, PM10 ERCs to the SMAQMD Air Pollution Control Officer to offset the following amount of emissions:

[Basis: SMAQMD Rule 202]

Equipment - Gas Turbine No. 2 Gas Turbine No. 3 Cooling Tower Perlite Storage Silo Dust Collector	Amount of PM10 Emission Offsets for which ERCs are to be Surrendered lb/quarter			
	Quarter 1	Quarter 2	Quarter 3	Quarter 4
PM10	39,724.6	40,166.6	40,607.6	40,607.6

**V-C. FEDERALLY ENFORCEABLE REQUIREMENTS - EQUIPMENT SPECIFIC
 PERLITE STORAGE SILO DUST COLLECTOR**

9. The following PM10 ERCs have been surrendered to the SMAQMD Air Pollution Control Officer to comply with the emission offset requirements as stated in **Condition No. B-8, Perlite Storage Dust Collector:**
[Basis: SMAQMD Rule 202]

Equipment - Gas Turbine No. 2 Gas Turbine No. 3 Cooling Tower	Amount of PM10 Offsets Provided by ERCs that have been Surrendered lb/quarter			
	Quarter 1	Quarter 2	Quarter 3	Quarter 4
PM10 - See Attachment C for Gas Turbine Nos. 2 and 3	39,724.6	40,166.6	40,607.6	40,607.6

VI. INSIGNIFICANT EMISSIONS UNITS

The following systems are considered insignificant emissions units and are not subject to equipment specific requirements. However, these units are required to comply with all applicable general requirements :

Equipment Category as Listed in the Title V List and Criteria Adopted 03-1985	Equipment	Basis for Exemption From the List and Criteria Document
A. Fugitive Emission Sources Associated with Insignificant Activities	N/A	N/A
B. Combustion and Heat Transfer Equipment	Portable pressure washer – 5 hp Portable generator – 5 hp Push blower – 6 hp Backpack blower – 2 hp Steam cleaner – 11 hp String trimmer – 2 hp Portable welder - 22 hp	Piston-type internal combustion engine with rating <50 bhp.
C. Cooling Towers	N/A	<10,000 GPM and are not used to cool process water, water from barometric jets or water from barometric condensers
D. Printing and Reproduction Equipment	N/A	N/A
E. Food Processing Equipment	N/A	N/A
F. Plastic and / or Rubber Processing Equipment	N/A	N/A
G. Storage Containers,	N/A	N/A

VI. INSIGNIFICANT EMISSIONS UNITS

Equipment Category as Listed in the Title V List and Criteria Adopted 03-1985	Equipment	Basis for Exemption From the List and Criteria Document
Reservoirs, and Tanks – Fuel, Fuel Oil and Asphalt		
H. Storage Containers, Reservoirs, and Tanks – General Organic and VOC-Containing Material	Lube oil storage tanks Waste lube oil storage tanks Water/waste oil separator	a. An initial boiling point of 150° Centigrade (C) [302° Fahrenheit (F)] or greater as determined by ASTM test method 1078-86); or b. A vapor pressure of no more than five millimeters mercury (mmHg) [0.1 pound per square inch (psi) absolute] as determined by ASTM test method D-2879-86.
I. Storage Containers, Reservoirs, and Tanks – Inorganic Material	Water treatment chemical storage tanks (calcium chloride, sulfuric acid, sodium sulfate, sodium hypochlorite corrosion inhibitor, biocide, etc.) Water storage tanks Degreaser - water based cleaner Water washing skid - water based cleaner Aqueous ammonia storage tank Zero liquid discharge system	Insignificant air pollutant emissions source
J. Storage Containers, Reservoirs, and Tanks – Liquefied Gases	Hydrogen storage tanks CO2 storage tanks	Insignificant air pollutant emissions source

VI. INSIGNIFICANT EMISSIONS UNITS

Equipment Category as Listed in the Title V List and Criteria Adopted 03-1985	Equipment	Basis for Exemption From the List and Criteria Document
	Various natural gas valves and flanges	
K. Compression and Storage of Dry Natural Gas	N/A	N/A
L. Transfer Equipment	N/A	Insignificant air pollutant emissions source
M. Adhesive Application	N/A	N/A
N. Surface Coating	Maintenance shop painting	<ol style="list-style-type: none"> 1. Any equipment or activity using no more than one gallon per day of surface coating, or any combination of surface coating and solvent, which contains either VOC or hazardous air pollutants (HAP), or both. 2. Any coating operation using less than 10,950 gallons per year of coating(s) that contain less than 20 grams of VOC per liter.
O. Solvent Cleaning	N/A	N/A
P. Abrasive Blasting	Abrasive blasting cabinet	<ol style="list-style-type: none"> 1. Any blast cleaning equipment using a suspension of abrasive material in water and the control equipment venting such blast cleaning equipment. 2. Any abrasive blast room when vented to a control device that discharges back to the room.
Q. Brazing, Soldering, Welding and Cutting Torches	Welding equipment	Any brazing, soldering, welding, or cutting torch equipment used in manufacturing and construction activities and with the potential to emit hazardous air pollutant (HAP) metals,

VI. INSIGNIFICANT EMISSIONS UNITS

Equipment Category as Listed in the Title V List and Criteria Adopted 03-1985	Equipment	Basis for Exemption From the List and Criteria Document
		provided the total emissions of HAPs do not exceed 0.5 tons per year.
R. Solder Leveler, Hydrosqueegee, Wave Solder Machine, or Drag Solder Machine	N/A	N/A
S. Metal Products	N/A	N/A
T. Aerosol Can Puncturing or Crushing	N/A	N/A
U. Biotechnology Manufacturing	N/A	N/A
V. Textile Dyeing, Stripping or Bleaching	N/A	N/A
W. Laboratory Fume Hoods and Vents	N/A	N/A
X. Refrigeration Units	Air conditioners	Not used in conjunction with air pollution control equipment

VII. ACRONYMS, ABBREVIATIONS AND UNITS OF MEASURE

Acronyms, abbreviations and units of measure used in this permit are defined as follows:

ASTM

American Society for Testing and Materials

BACT

Best Available Control Technology.

BAAQMD

Bay Area Air Quality Management District

CAA

The federal Clean Air Act.

CARB

California Air Resources Board.

CFC

Chloro-fluoro-carbons. A class of compounds responsible for destroying ozone in the upper atmosphere.

CFR

The Code of Federal Regulations. 40 CFR contains the implementing regulations for federal environmental statutes such as the Clean Air Act. Parts 50-99 of 40 CFR contain the requirements for air pollution programs.

CH₄

Methane

CO

Carbon monoxide.

CO₂

Carbon dioxide.

CO_{2e}

Carbon dioxide equivalent

ERC

Emission reduction credit.

Federally Enforceable

All limitations and conditions which are enforceable by the Administrator of the U.S. EPA including those requirements developed pursuant to 40 CFR Part 51, Subpart I (NSR), Part 52.21 (PSD), Part 60 (NSPS), Part 61 (NESHAPs), Part 63 (HAP) and Part 72 (Permits

VII. ACRONYMS, ABBREVIATIONS AND UNITS OF MEASURE

Regulation, Acid Rain) including limitations and conditions contained in operating permits issued under a U.S. EPA approved program that has been incorporated into the California SIP.

GHG

Green House Gas

N2O

Nitrous Oxide

NESHAP

National Emission Standards for Hazardous Air Pollutants (see 40 CFR Parts 61 and 63).

NOx

Nitrogen oxides.

NSPS

New Source Performance Standards. U.S. EPA standards for emissions from new stationary sources. Mandated by Title I, Section 111 of the federal Clean Air Act and implemented by 40 CFR Part 60 and SMAQMD Regulation 8.

NSR

New Source Review. A federal program for pre-construction review and permitting of new and modified sources of pollutants for which criteria have been established in accordance with Section 108 of the Federal Clean Air Act. Mandated by Title I of the federal Clean Air Act and implemented by 40 CFR Parts 51 and 52 and SMAQMD Rule 202. (Note: There are additional NSR requirements mandated by the California Clean Air Act.)

O2

Oxygen.

Offset Requirement

A New Source Review requirement to provide federally enforceable emission offsets for the emissions from a new or modified source. Applies to emissions of VOC, NOx, SO₂ and PM₁₀.

PCAPCD

Placer County Air Pollution Control District

PM

Particulate matter.

PM10

Particulate matter with aerodynamic equivalent diameter of less than or equal to 10 microns.

PM2.5

Particulate matter with aerodynamic equivalent diameter of less than or equal to 2.5 microns.

VII. ACRONYMS, ABBREVIATIONS AND UNITS OF MEASURE

PSD

Prevention of Significant Deterioration. A federal program for permitting new and modified sources of those air pollutants for which the SMAQMD is classified "attainment" of the National Air Ambient Quality Standards. Mandated by Title I of the federal Clean Air Act and implemented by 40 CFR Part 52.

ROC

Reactive organic compounds. VOC and ROC are used synonymously throughout the permit.

SIP

State Implementation Plan. CARB and SMAQMD programs and regulations approved by U.S. EPA and developed in order to attain the National Air Ambient Quality Standards. Mandated by Title I of the federal Clean Air Act.

SMAQMD

Sacramento Metropolitan Air Quality Management District.

SO₂

Sulfur dioxide.

Title V

Title V of the federal Clean Air Act. Title V requires the SMAQMD to operate a federally enforceable operating permit program for major stationary sources and other specified sources.

TSP

Total suspended particulate.

U.S. EPA

The federal Environmental Protection Agency.

VOC

Volatile Organic Compounds. VOC and ROC are used synonymously throughout the permit.

YSAQMD

Yolo-Solano Air Quality Management District

UNITS OF MEASURE:

acf	=	Actual cubic feet
acfm	=	Actual cubic feet per minute
BTU	=	British Thermal Unit
cfm	=	cubic feet per minute
cm	=	centimeter
g	=	grams
gal	=	gallon

VII. ACRONYMS, ABBREVIATIONS AND UNITS OF MEASURE

gpm	=	gallons per minute
gr/acf	=	grains per actual cubic feet
hp	=	horsepower
hr	=	hour
lb	=	pound
in	=	inch
kg	=	kilogram
kscfh	=	thousands of standard cubic feet per hour
max	=	maximum
m ²	=	square meter
min	=	minute
mm	=	millimeter
MM	=	million
ppmv	=	parts per million by volume
ppmvd	=	parts per million by volume dry basis
ppmw	=	parts per million by weight
psia	=	pounds per square inch, absolute
psig	=	pounds per square inch, gauge
quarter	=	calendar quarter (qtr)
RVP	=	Reid vapor pressure
scfm	=	standard cubic feet per minute
yr	=	year

VIII. USEPA PART 75 PETITION RESPONSE

APPENDIX I



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

Carls

OCT 11 2011

Mr. James Shetler
Designated Representative
Sacramento Municipal Utility District Financing Authority
Cosumnes Power Plant
P.O. Box 15830
Sacramento, CA 95852-1830

OFFICE OF
AIR AND RADIATION

Re: Monitoring of Emissions when Digester Gas and Natural Gas are Co-fired at the
Cosumnes Power Plant (Facility ID (ORISPL) 55970)

Dear Mr. Shetler:

The United States Environmental Protection Agency (EPA) has reviewed the March 28, 2011 petition and the July 21, 2011 amendment to that petition, submitted under 40 CFR 75.66 by the Sacramento Municipal Utility District Financing Authority (SFA), in which SFA requested approval of alternatives to certain monitoring provisions of 40 CFR Part 75, to account for the nitrogen oxides (NO_x), sulfur dioxide (SO₂), and carbon dioxide (CO₂) emissions produced when natural gas and digester gas are co-fired in Units 2 and 3 at the Cosumnes Power Plant. EPA approves the petition, with conditions, as discussed below.

Background

SFA owns and operates the Cosumnes Power Plant (CPP), located in Herald, California. Units 2 and 3 at CPP are natural gas-fired 170 megawatt gas turbines, which, according to SFA, are subject to the Acid Rain Program (ARP). Therefore, CPP is required to continuously monitor and report SO₂, NO_x, and CO₂ emissions and heat input for Units 2 and 3 according to 40 CFR Part 75.

The Sacramento Municipal Utility District (SMUD) supplies pipeline natural gas to CPP and is planning to blend digester gas into the natural gas pipeline that feeds CPP. The digester gas is produced by the Sacramento Regional Wastewater Treatment Plant (SRWTP) and is currently combusted at either the Carson Cogeneration Facility (Carson) or SRWTP (in boilers and/or flares).

Digester gas from SRWTP will be injected into SMUD's 26-mile gas transmission pipeline that connects the Carson facility to CPP. Prior to injection into the pipeline, the digester gas will be dried, and its total sulfur content will be reduced to a maximum of 1.0 grains per 100 standard cubic feet (gr/100 scf). The primary reason for pre-treating the digester gas is to meet gas pipeline design and safety criteria. If at any time CPP cannot receive digester gas into the pipeline, the gas will be burned at Carson and/or at SRWTP.

According to SFA, the heating value of digester gas is approximately 618 British thermal units per standard cubic foot (Btu/scf). The maximum amount of digester gas produced at SRWTP will be about 2,500 standard cubic feet per minute (scfm) or 150,000 standard cubic feet per hour (scfh). Therefore, the maximum heat input to Units 2 and 3 from digester gas combustion will be around 100 million Btu per hour (mmBtu/hr), which is less than 3 percent of the units' combined heat input capacity of 3,730 mmBtu/hr.

When digester gas is blended with pipeline natural gas, the resultant fuel mixture cannot be classified as "pipeline natural gas", but rather, for the purposes of Part 75, must be reclassified as an "other" gaseous fuel. The emissions monitoring requirements in Part 75 for "other" gaseous fuels are much more rigorous than those for pipeline natural gas. SFA submitted a petition to EPA on March 28, 2011, requesting to use alternatives to some of these requirements for "other" gaseous fuel, with regard to combustion of the blended gas stream at CPP Units 2 and 3.

SFA's March 28, 2011 Petition

1. Site-Specific F Factors for NO_x and CO₂ Emissions Calculations

For Units 2 and 3, CPP monitors and reports hourly NO_x emission rates (in pounds per million Btu (lb/mmBtu)), using continuous emission monitoring systems (CEMS). Equation F-5 in section 3.1 of Appendix F to Part 75 is used to calculate the NO_x emission rates. To determine hourly CO₂ mass emissions (tons per hour), CPP uses Equation G-4 in Appendix G to Part 75. Equations F-5 and G-4 both include an "F factor" term. Equation F-5 requires a dry-basis F factor ("F_d")¹, which is the volume of dry flue gas produced per million Btu of heat input from the combustion of a particular type of fuel. Equation G-4 requires a carbon-based F factor ("F_c"), which is the volume of CO₂ produced per million Btu of heat input from combustion of a particular fuel.

Table 1 in section 3.3.5 of Appendix F to Part 75, lists default F_d and F_c factors for various fuel types. Natural gas is included on the list, but digester gas is not. Section 3.3.6.3 of Appendix F states that when an affected unit combusts a combination of a fuel (or fuels) listed in Table 1 with fuel(s) not listed in the Table, the F_d or F_c factor used for the combined fuel stream is subject to the Administrator's approval, through the petition process under §75.66.

In the March 28, 2011 petition, SFA has proposed the following approach for determining appropriate F factors for the individual fuels and for the combined gas stream at CPP:

- First, the provisions of Appendix F, section 3.3.6 would be used to calculate site-specific F_d and F_c values for natural gas and digester gas. Section 3.3.6 allows the owner or operator to use the results of fuel sampling and analysis to calculate F_d and F_c, using

¹ Note that F_d is a commonly-used symbol for a dry basis F factor. Part 75 uses the symbol "F" without the "d" subscript.

Equations F-7a and F-7b, respectively. Although Part 75 restricts the use of these equations to fuels listed in Table 1 of Appendix F, SFA believes that the equations can be applied equally well to fuels such as digester gas, which are not listed in the Table, and has proposed to implement the provisions of section 3.3.6 at CPP in the following manner:

- ✓ Develop average F_d and F_c factors for both pipeline natural gas and digester gas, based on a minimum of 9 samples of each fuel;
 - ✓ Determine the percentage of hydrogen, carbon, sulfur, nitrogen, and oxygen in each fuel by ultimate analysis, in accordance with section 3.3.6.1 of Appendix F;
 - ✓ Determine the gross calorific value (GCV) of each fuel would be determined in accordance with section 3.3.6.2 of Appendix F;
 - ✓ Calculate the F_d and F_c factor for each fuel at standard conditions of 20 °C (68 °F) and 29.92 inches of mercury, using Equations F-7a and F-7b;
 - ✓ Re-determine the F_d and F_c factors for each fuel at least annually;
 - ✓ Use the F_d and F_c values from the most recent determinations in the emissions calculations, unless they are lower than the F_d and F_c values currently in use; and
 - ✓ Keep records of all fuel-specific F_d and F_c determinations, active for at least 3 years.
- Second, Equation F-8 in section 3.3.6.4 of Appendix F to Part 75 would be used to calculate monthly prorated F_d and F_c factors for the combined gas stream, based on the F_d and F_c values for the individual fuels (obtained from Equations F-7a and F-7b) and the fraction of the monthly heat input derived from each fuel. The prorated F_d and F_c factors would be used in the NO_x and CO_2 emissions calculations. Although Part 75 restricts the use of Equation F-8 to mixtures of fuels listed in Table 1 of Appendix F, SFA believes that the equation can be used for combined gas streams that consist of fuel(s) listed in Table 1 and fuel(s) not listed in the Table, provided that a reliable estimate of the fractional heat input contribution of each fuel is available. In view of this, SFA has proposed to implement the provisions of section 3.3.6.4 for the combined gas stream at CPP in the following manner:
 - ✓ Determine the monthly heat input to Units 2 and 3 from digester gas combustion using hourly digester gas flow rates measured with a certified Appendix D fuel flow meter, together with measurements of the GCV of the digester gas, made using methods specified in section 2.2.4.3 of Appendix D;
 - ✓ Determine the total monthly heat input to Units 2 and 3 from combustion of the combined gas stream using hourly flow rates measured with certified Appendix D

fuel flow meters, together with measurements of the GCV of the combined gas stream, made using methods specified in section 2.2.4.3 of Appendix D;

- ✓ Calculate the monthly heat input to Units 2 and 3 from pipeline natural gas combustion by subtracting the monthly heat input provided by digester gas combustion from the monthly heat input provided by combustion of the combined gas stream;
- ✓ Calculate the fractional heat input contribution from digester gas (X_{DG}), as the ratio of the monthly heat input provided by digester gas to the monthly heat input provided by the combustion of the combined gas stream;
- ✓ Determine the fractional heat input contribution from pipeline natural gas (X_{PNG}) by subtraction, i.e., $(1-X_{DG})$;
- ✓ Use Equation F-8 to calculate prorated monthly F_d and F_c values for the combined gas stream, using the F_d and F_c for the individual fuels and the values of X_{DG} and X_{PNG} ; and
- ✓ Apply the calculated, prorated monthly F_d and F_c values to the next calendar month, except for the first month of digester gas combustion at CPP, where an estimate of the values for X_{DG} and X_{PNG} based on the previous year's fuel usage at CPP and the previous year's digester gas production at SRWTP should be used.²

According to SFA, the proposed calculation methodology for site-specific individual and prorated F_d and F_c factors is consistent with current ARP calculation procedures for fuels listed in Table 1 of Appendix F, suggesting that the use of this proposed alternative would not adversely impact the quality of the emissions data reported for CPP Units 2 and 3.

2. SO₂ Emissions from Combustion of the Combined Gas Stream

Historically, CPP has followed the procedures in Appendix D of Part 75 to account for the SO₂ emissions from Units 2 and 3. For gas-fired units, Appendix D requires the use of certified fuel flow meters to continuously measure hourly fuel flow rates. Periodic fuel sampling and analysis are also required to determine the fuel sulfur content, gross calorific value (GCV), and, in some cases, density.

For pipeline natural gas, section 2.3.1.4(e) of Appendix D requires annual sampling of the fuel for total sulfur and section 2.3.4.1 of Appendix D requires monthly GCV sampling.

² The reason for this is that prorated F_d and F_c factors must be programmed into the data acquisition and handling system (DAHS) at the beginning of each month, in order to generate hourly NO_x and CO₂ emission rates. These prorated F factors must be based on the values of X_{DG} and X_{PNG} for the previous month. However, for the first month in which SFA uses the proposed methodology, there will have been no digester gas combustion at CPP in the previous month. Therefore, for the first month of digester gas combustion at CPP, SFA has proposed to estimate the values of X_{DG} and X_{PNG} as described above.

However, for "other" gaseous fuels, such as the combined gas stream at CPP, section 2.3.3.1.1 of Appendix D requires hourly sampling of the total sulfur content using an on-line gas chromatograph (GC), unless 720 hours of total sulfur data are available to demonstrate that the fuel has a low sulfur variability and qualifies for less frequent (daily or annual) sampling (see Section 2.3.6 of Appendix D). Further, Section 2.3.4.3.3 of Appendix D requires daily measurement of the GCV for "other" gaseous fuels, unless 720 hours of GCV data are available to demonstrate that the fuel has a low GCV variability, in which case monthly GCV sampling may be performed (see Section 2.3.5 of Appendix D).

SFA does not have the requisite historical data to demonstrate the sulfur or GCV variability of the combined gas stream at CPP. In view of this, SFA proposed an alternative to the rigorous sulfur and GCV sampling requirements of Appendix D to account for the SO₂ emissions from combustion of the combined gas stream. SFA proposed to:

- Use Equation D-4 of Appendix D to estimate the hourly SO₂ mass emission rate (lb/hr), from combustion of the digester gas, based on data from an ultrasonic fuel flow meter and a continuous hydrogen sulfide (H₂S) monitor.
 - ✓ SFA included the accuracy specifications of the flow meter and H₂S monitor as attachments to the March 28, 2011 petition. According to SFA, the flow meter conforms to AGA Report No. 9, *Measurement of Gas by Multipath Ultrasonic Meters* (1998) and is accurate to within ± 1% of full scale. The specification sheet for the H₂S analyzer indicates that it is accurate to within ± 0.5 ppm for a range of 0 to 20 ppm H₂S.
 - ✓ SFA would multiply the H₂S readings by 1.15, to convert them to total sulfur. A 1.15 adjustment factor was previously approved by EPA in 1999 for use at the Carson facility, based on fuel analyses showing that more than 85% of the total sulfur in the SRWTP digester gas comes from H₂S.
- Use Equation D-5 of Appendix D to estimate the hourly SO₂ mass emission rate (lb/hr), from combustion of pipeline natural gas (PNG).
 - ✓ The hourly heat input rate for PNG in Equation D-5 would be obtained by subtracting the measured heat input rate of the digester gas from the heat input rate of the combined gas stream that is fed to Units 2 and 3.
 - ✓ Data from certified Appendix D fuel flow meters and an on-line gas chromatograph that meets Appendix D requirements would be used to quantify the heat input rate of the combined gas stream.
 - ✓ The default SO₂ emission rate of 0.0006 lb/mmBtu for PNG would be used in the calculations.
- Sum the hourly SO₂ mass emission rates from PNG and digester gas combustion.
- Rearrange Equation D-4 of Appendix D to determine the hourly sulfur content of the combined gas stream.

- ✓ The total SO₂ mass emission rate for the combined gas stream and the sum of the measured flow rates of combined gas to Units 2 and 3 would be used in this calculation.
- Calculate and report hourly SO₂ mass emissions for each unit.
 - ✓ Use Equation D-4 of Appendix D.
 - ✓ Substitute the measured flow rate of the combined gas stream to the unit and the calculated hourly sulfur content of the combined gas stream into Equation D-4.

According to SDFA, because the proposed alternative method for calculating SO₂ emissions from CPP Units 2 and 3 is based on calculation procedures in Appendix D, no adverse impact on the quality of the SO₂ emissions data reported to EPA is expected.

The July 21, 2011 Amendment to the March 28, 2011 Petition

In June, 2011, EPA contacted SFA to discuss the March 28, 2011 petition. Among other things, EPA and SFA sought ways to simplify the proposed SO₂ emissions calculation methodology for Units 2 and 3. One suggested approach would be for SFA to take multiple samples of the digester gas and analyze them for total sulfur. If the results of the fuel analyses could demonstrate that the digester gas has a total sulfur content equivalent to that of PNG, i.e., 0.5 gr/100 scf or less, then SFA could use the PNG default SO₂ emission rate (0.0006 lb/mmBtu) to calculate SO₂ mass emissions from Units 2 and 3 for all unit operating hours, including hours when PNG and digester gas are co-fired.

On July 21, 2011, SFA submitted an amendment to the March 28, 2011 petition, proposing to take 9 samples of the digester gas and analyze them for total sulfur, using methods in Appendix D of Part 75. If the results of the analyses demonstrate that the sulfur content of the digester gas is 0.5 gr/100 scf or less, SFA would:

- Use the PNG default SO₂ emission rate of 0.0006 lb/mmBtu to calculate SO₂ emissions from CPP Units 2 and 3, for all unit operating hours; and
- Sample the digester gas annually (i.e., at the same frequency as PNG), to confirm that the sulfur content of the gas remains at or below 0.5 gr/100 scf.

However, if SFA is unable to demonstrate that the sulfur content of the digester gas is equivalent to that of PNG, SFA would implement the SO₂ emissions calculation methodology described in the March 28, 2011 petition.

EPA's Determination

EPA has reviewed SFA's March 28, 2011 petition, as amended on July 21, 2011, and approves the petition, with conditions, as follows:

1. EPA approves SFA's proposed methodology for determining site-specific F-factors for the Units 2 and 3 at the Cosumnes Power Plant. The individual F_d and F_c factors for pipeline natural gas and digester gas and the prorated F-factor for the combined gas stream must be re-determined annually. The value from the most recent determination must be used in the NO_x and CO_2 emissions calculations, unless it is lower than the value currently in use. CPP must keep records of all site-specific F_d and F_c determinations, for at least 3 years.

2. EPA approves SFA's proposal to calculate the SO_2 mass emissions from Units 2 and 3 using a default SO_2 emission factor of 0.0006 lb/mmBtu for all operating hours, provided that a minimum of 9 samples of the digester gas are analyzed, using methods specified in Appendix D of Part 75, and the results of the analyses demonstrate that the sulfur content of the digester gas is 0.5 gr/100 scf or less.

- If SFA is able to successfully demonstrate this, annual sampling of the digester gas for total sulfur is required, using methods specified in Appendix D of Part 75, to confirm that the sulfur content remains at or below 0.5 gr/100 scf.
- If SFA is unable to successfully demonstrate this, or if the results of required annual sampling show that the sulfur content of the digester gas is greater than 0.5 gr/100 scf, SFA must implement the SO_2 emissions calculation methodology proposed in the March 28, 2011 petition for CPP Units 2 and 3, which is hereby approved.

EPA's determination relies on the accuracy and completeness of SFA's March 28, 2011 petition and the July 21, 2011 amendment and is appealable under Part 78. If you have any questions regarding this correspondence, please contact Carlos R. Martinez at (202) 343-9747 or by e-mail at martinez.carlos@epa.gov. Thank you for your continued cooperation.

Sincerely,



Sam Napolitano, Director
Clean Air Markets Division

cc: Brian Krebs, Program Coordinator
Steve Frey, EPA Region IX
Carlos R. Martinez, CAMD
Edgar Mercado, CAMD
Craig Hillock, CAMD