STATEMENT OF THE LEGAL AND FACTUAL BASIS FOR THE TERMS OF THE PROPOSED PERMIT **[1203(B)(1)(a)(i)]**

TITLE V FEDERAL OPERATING PERMIT
Facility named – ACE Cogeneration Company

Federal Operating Permit # 50001051

Original Issue Date: November 16, 2000
Re-Issuance Date: November 16, 2005 (new 5 year term, expires, 11-16-2010)
Second Re-Issuance Date: November 16, 2010 (new 5 year term, expires, 11-16-2015)

Processing Engineer:
Alan De Salvio
Supervising Air Quality Engineer

A. FACILITY IDENTIFYING INFORMATION:

Owner/Company Name: ACE Cogeneration Company, a California Limited Partnership

Owner Mailing Address:	12801 S. Mariposa Street, Trona, CA 93562
Facility Name:	ACE Cogeneration Company
Facility Location/Mailing Address:	12801 S. Mariposa Street, Trona, CA 93562
MDAQMD Federal Operating Permit Number:	50001051
MDAQMD Company Number:	5000
MDAQMD Facility Number:	01051
Responsible Official: Title: Phone Number:	Mr. Tim Cotner Plant Manager 760-372-2113
Alternate Responsible Official: Title: Phone Number:	Mr. Stephen Gross Vice President 949-425-4756
Facility "Site" Contacts: Title: Phone Number:	Mr. Steve Dobbs Operation Manager 760-372-2113, extension # 122

Nature of Business: Electric Power and Steam Cogeneration

SIC Code: 4911 / 110 -- Electric Power and Steam Cogeneration

Facility Location: UTM (Km) 465E / 3957N

STATEMENT OF THE LEGAL AND FACTUAL BASIS FOR THE TERMS OF THE PROPOSED PERMIT **[1203(B)(1)(a)(i)]**

Statutory and Regulatory Authorities: Pursuant MDAQMD Regulation 12, Program - Federal Operating Permits, a.k.a. Title V (Adopted 7/25/94, Amended 02/22/95, Additional Rules adopted 06/28/95, 7/31/95) and 02/05/96 FR 4217, in accordance with Rule 221 - *Federal Operating Permit Requirement,* 40 CFR 52.220(c)(216)(i)(A)(2) - 02/05/96 61 FR 4217 of the Clean Air Act of 1990, the Mojave Desert Air Quality Management District issues this permit.

The ACE Cogeneration Company, Title V Federal Operating Permit # 060300975, was developed by consulting District Permit conditions for existing power plant equipment, and SIP Rule requirements for Federal Rules, applicable to the facility. In addition, the MDAQMD Title V Program Rules were also consulted.

I. BACKGROUND:

Federal Operating Permit (FOP number: 30500975) for ACE Cogeneration Company, located at 12801 S. Mariposa Street, Trona, CA 93562. Facility EQUIPMENT DESCRIPTION: MDAQMD permit # B002120; BOILER, STEAM GENERATING, - Manufactured by Pyropower Corp., a circulating fluidized bed combustion boiler with two integral hot cyclones and a single convection pass, non-reheat, with nominal heat input of 1,052 MMBtu/hr and a steam output of 910,000 lb/hr at 1525 psig and 1005° F. The boiler has ammonia injection, limestone feed and the following equipment (note that horsepower has been converted to MMBtu assuming 2550 Btu/hp-hr).

Federal Operating Permit (FOP number: 060300975) for ACE Cogeneration Company located at 12801 S. Mariposa Street, Trona, CA 93562. This *Statement of Legal and Factual Basis,* pursuant to Rule 1203(B)(1)(a)(i), is intended to assess the adequacy of this Title V Application and to explain the District's basis in composing the Title V - Federal Operating Permit for ACE Cogeneration Company. ACE Cogeneration Company - Title V Federal Operating Permit.

The District's approach to the Title V program is to issue a single Federal Operating Permit for the entire facility, which satisfies the federal requirement for a permit under Rule 221 [*NOTE: MDAQMD maintains separate Title V and District permits programs*]. All Federal, State and most District only requirements, associated with the emission of air contaminants, are included in the Federal Operating Permit. All documents, which are not readily available to the public, and are necessary to support the permit, are to be included. The District has taken the approach that the following documents are readily available to the public, and therefore, are not included: Code *of Federal Regulations, California Code of Regulations and Health and Safety Code, District Rules and Regulations [both documents are current and appear in the California State Implementation Plan], the continuous emission monitoring system quality assurance and monitoring plans [available at ACE Cogeneration Company, and the District's office], all test*

methods, copies of District Authorities to Construct and Permits to Operate [available at the District's office].

The USEPA, Region 9 was e-mailed a draft of the proposed permit on 10/04/2005 [a hard copy will be mailed by 10/05/2005]. The USEPA statutory 45-day review period will expire on or about 11/15/2005. The 30-day Public Notice was published 10/01/2005 and will end on 10/30/2005.

Rule 1203 (D)(1) outlines Title V Permit content requirements as follows:

II. TITLE V PERMIT CONTENTS [Rule 1203 (D)(1)]:

All Federal Operating Permits shall contain, at a minimum, the following terms, and conditions:

A. Identification of Applicable Requirements:

1. Standard conditions for generally applicable requirements do not list those processes to which they apply as allowed by EPA's White Paper One, page 11, section 4, last sentence of paragraph 2.

2. Minor New Source Review (NSR). All existing permit conditions, which are based on previous authority to construct conditions, are considered applicable federal requirements because those pre-construction review actions resulted from SIP Rule 203 - *Permit to Operate* and SIP Rule 204 - *Permit Conditions*.

3. Federal Applicable/Enforceable Requirements:
District Rule 1201 (P): "Federally Enforceable" - Any requirement, condition or other term which is fully enforceable by USEPA pursuant to the provisions of 42 U.S.C. §7413 (Federal Clean Air Act §113) or the public pursuant to the provisions of 42 U.S.C. §7604 (Federal Clean Air Act §304).
District Rule 1201 (G): "Applicable Requirement" - Any of the following requirements, including requirements that have been promulgated or approved by USEPA through rulemaking at the time of permit issuance but have future effective dates, as they apply to a Facility or Permit Unit:

   (a) Any standard or other requirement contained in the applicable implementation plan for the District, and any amendments thereto, approved or promulgated pursuant to the provisions of Title I of the Federal Clean Air Act (42 U.S.C. §§7401-7515).

   (b) Any term or condition of any preconstruction permit issued pursuant to regulations approved or promulgated under Title I of the Federal Clean Air Act (42 U.S.C. §§7401-7515).

(c) Any standard or other requirement under 42 U.S.C. §§7411, Standards of Performance for New Stationary Sources (Federal Clean Air Act §111); 42 U.S.C. §7412, Hazardous Air Pollutants (Federal Clean Air Act §112); and any regulations promulgated thereunder.

(d) Any standard or other requirement under Title IV of the Federal Clean Air Act (42 U.S.C. §§7651-7651o) or the regulations promulgated thereunder.

(e) Any requirements regarding monitoring, analysis, and compliance established pursuant to 42 U.S.C. §7414(a)(3), Record keeping, Inspections, Monitoring and Entry (Federal Clean Air Act §114); 42 U.S.C. §7661c(b), Permit Requirements and Conditions (Federal Clean Air Act §504); and the regulations promulgated thereunder.

(f) Any standard or other requirement governing Solid Waste Incineration Units under 42 U.S.C. §7429, Solid Waste Combustion (Federal Clean Air Act §129) and the regulations promulgated thereunder.

(g) Any standard or other requirement for consumer or commercial products under 42 U.S.C. §7511b(e) (Federal Clean Air Act §183) and the regulations promulgated thereunder.

(h) Any standard or other requirement of the regulations promulgated under Title VI of the Federal Clean Air Act (42 U.S.C. §§7671-7671q) unless the USEPA has determined that such requirement need not be contained in a Federal Operating Permit.

(i) Any national ambient air quality standard or increment or visibility requirement under part C of Title I of the Federal Clean Air Act (42 U.S.C. §§7401-7515), but only as it would apply to temporary sources pursuant to the provisions of 42 U.S.C. 7661c(e) (Federal Clean Air Act §504(e).

4. The MDAQMD confirmed the federally applicable/enforceable requirements listed in the March 6, 1997 Title V Application and those requirements included in the proposed draft August 31, 1999 Title V Permit. See the following discussions below:

40 CFR, Parts 60.7, 60.8 and 60.13; Subpart A - New Source Performance Standards, General Provisions: This facility is not subject to the requirements of this part because the facility started construction before the respective applicability dates as discussed in the following.

40 CFR Part 61, Subpart M - National Emission Standard for Asbestos

This facility on an as needed basis is subject to Section 61.145 through 61.147 - standards for the demolition and renovation of asbestos. Historically, the facility has been in compliance with the requirements of these standards. Appropriate conditions will be included on the permit to ensure compliance with these requirements.

40 CFR Part 82 - Protection of Stratospheric Ozone
This facility is in compliance with the requirements of this part. Any servicing of air conditioners is performed by a qualified contracting company. An appropriate condition will be included on the permit to ensure continued compliance with these requirements.

Other - ACE Cogeneration Company - Facility Support Equipment
None.

B. Emissions limitations and/or standards, including operational limitations, which assure compliance with all Applicable Requirements and a reference to the origin and authority of each term or condition contained in the Federal Operating Permit: ***COMPLETED***

C. Monitoring requirements including but not limited to: [40 CFR 70.6(a)(1)] [see following] ***Various CAPCOA/CARB/EPA Periodic Monitoring Workgroup proposed Periodic Monitoring Requirements were incorporated into the ACE Cogeneration Company - Title V Permit:***

(i) All emissions monitoring and analysis methods required by an Applicable Requirement.
(ii) Periodic monitoring, testing or record keeping (including test methods sufficient to yield reliable data) to determine compliance with an Applicable Requirement that does not directly require such monitoring.
(iii) Necessary requirements concerning use and maintenance of equipment including the installation and maintenance of monitoring equipment.

D. Record keeping requirements, where applicable, including but not limited to: [see following] ***All COMPLETED***

(i) Records of required monitoring information including dates and times of sampling, operating conditions at the time of sampling, date of analysis, analytical techniques and methods, the person or company performing the analysis, and the results of the analysis.
(ii) The retention of all records for a period of at least five (5) years from the date of monitoring.

E. Reporting requirements, where applicable, including but not limited to: [see following] ***All COMPLETED***

(i) Submittal of any required monitoring reports at least every six (6) months.

(ii) Prompt reporting of all deviations from permit requirements including those attributable to breakdown conditions. Prompt reporting shall be determined in compliance with District Rule 430.

F. Various Standardized Provisions and/or Conditions: [see following] ***All COMPLETED***

(i) A severability clause.

(ii) A provision, which states that the permit holder shall comply with all conditions of the Federal Operating Permit. Any noncompliance constitutes a violation of the Federal Clean Air Act and is grounds for enforcement action; the termination, revocation and reissuance, or modification of the Federal Operating Permit; and/or grounds for denial of a renewal application.

(iii) A provision which states that the need to halt or reduce activity to maintain compliance with the provisions of the Federal Operating Permit, or for any other reason, is not a defense in an enforcement action.

(iv) A provisions, which states that the Federal Operating Permit may be modified, revoked, reopened, reissued or terminated for cause.

(v) A provision which states that the filing of an application for modification; a request for revocation and re-issuance, or termination; or notifications of planned changes, or anticipated noncompliance does not stay any condition of the Federal Operating Permit.

(vi) A provision, which states that the permit does not convey any property rights of any sort, or any exclusive privilege.

(vii) A provision which states that the Permit holder shall furnish to the District, within a reasonable time as specified by the District, any information that the District may request in writing to determine whether cause exists for modifying, revoking and reissuing, terminating or determining compliance with the Federal Operating Permit.

(viii) A provision, which states that the Permit holder shall, upon request, furnish to the District copies of records, required to be kept pursuant to conditions of the Federal Operating Permit.

(ix) A provision requiring the payment of annual permit renewal fees and other applicable fees as prescribed in District Rule 312.

(x) A provision stating that no permit revision shall be required under any approved economic incentives, marketable permits, emissions trading or other similar programs provided for in the permit.

(xi) Terms and conditions, if applicable, for reasonably anticipated operating scenarios identified by the Facility in its application which require the Facility, contemporaneously with making the change from one operating scenario to another, to record in a log at the Facility a record of the scenario under which it is operating; and ensure that each alternative operating scenario meets all Applicable Requirements.

(xii) Terms and conditions, if requested by the applicant, for the trading of emissions increases and decreases within the Facility to the extent any Applicable

Requirements allow for such trading without case-by-case approval. Such terms conditions shall include all terms and conditions to determine compliance with all Applicable Requirements; and meet all Applicable Requirements.

G. Compliance Conditions: [see following] ***All COMPLETED***

(i) Inspection and entry requirements which require that the Permit Holder allow an authorized representative of the District to enter upon the Permit holder's premises, at reasonable times.

(ii) Provisions that allow an authorized representative of the District to have access to and copy any records that must be kept under conditions of the Federal Operating Permit.

(iii) Provisions that allow an authorized representative of the District to inspect any Permit Unit, equipment, practice, or operation regulated or required under the Federal Operating Permit.

(iv) Provisions which allow an authorized representative of the District to sample or monitor substances or parameters for the purpose of assuring compliance with the Federal Operating Permits or with any Applicable Requirement.

(v) A Compliance Plan.

(vi) A restatement, if applicable, of the requirement that the Permit holder submit progress reports at least semiannually pursuant to a schedule of compliance. Such progress reports shall comply with the provisions of District Rule 1201(I)(3)(iii).

(vii) Certification requirements including the frequency of submission, not less than annually, for Compliance Certifications.

(viii) Requirements those methods for monitoring compliance be included in the Compliance Certifications.

(ix) Requirements that all Compliance Certifications be contemporaneously submitted to USEPA.

(x) Any additional certification requirements as specified in 42 U.S.C §7414(a)(3), Recordkeeping Inspections Monitoring and Entry (Federal Clean Air Act §114(a)(3)) and 42 U.S.C. §7661c(b), Permit Requirements and Conditions (Federal Clean Air Act §503(b)) or in regulations promulgated thereunder.

H. Fugitive Emissions: ***COMPLETED***

(i) Fugitive emissions shall be included in the permit and permit conditions in the same manner as stack emissions.

III. CONCLUSIONS AND RECOMMENDATION:

In conclusion, the proposed **ACE Cogeneration Company - Title V Permit** has been found to satisfy all of the requirements of District Rule 221, Rule 312, Regulation XII Rules, and the District's Title V Permit Program requirements.

Therefore, it is recommended that this Title V - Federal Operating Permit be Re-Issued to satisfy those requirements on 11/16/2010 for a new 5-year permit term until 11/16/2015.

The Re-Issue ACE Cogeneration Company - Title V Permit was electronically e-mailed on or about November 16, 2010 [hardcopy to be mailed on or about November 16, 2010] to Mr. Many Aquitania, U.S. EPA Region 9 sent to: aquitania.many@epamail.epa.gov

Alan De Salvio
Supervising Air Quality Engineer
November 16, 2010

APPENDIX "A"

DISTRICT / SIP RULE COMPLIANCE DEMONSTRATIONS:

A. Rule 406: Owner/Operator shall not discharge into the atmosphere from this facility, from any single source of emissions whatsoever, Sulfur compounds, which would exist as a liquid or gas at standard conditions, calculated as sulfur dioxide (SO_2) greater than or equal to 500 ppm by volume.
[40 CFR 70.6 (a)(1) - Periodic Monitoring Requirements] (for Periodic Monitoring Requirements, see: Part II, section A, condition 22; Part III, section C, conditions 11 and 22; Part V, section C, condition 4; Part V, section D, condition 3; Part V, section I, condition 3)
[Rule 406 - *Specific Contaminants*; Version in SIP = 07/25/77, 40 CFR 52.220(c)(42)(xiii)(A) - 12/21/78 43 FR 52489, Subpart (a) only; Current Rule Version = 02/20/79]

Rule 406 specifies standard conditions, but not dry. Standard conditions for Rule 406 will be calculated as wet.

Calculate the SO_2 concentration in the diesel fueled IC engine exhaust gas using the following assumptions/calculations:

1. Maximum sulfur content of the diesel fuel is by permit condition: 0.05 % by weight.
2. Specific gravity of diesel fuel is 0.84: weight of one gallon of diesel fuel is: 8.33 lb/gal x 0.84 = 7 lb/gal.
3. Heating value of diesel fuel from U.S. EPA AP-42, Section 3.3: 19,300 Btu/lb.
4. Gallons of fuel required for 10^6 Btu: 1 lb/19,300 Btu = x lb/ 10^6 Btu: x = 51.8 lb: (51.8 lb)(1 gal/7 lb) = 7.4 gallons per 10^6 Btu.
5. Pounds of sulfur per 10^6 Btu (7.4 gallons): (7.4 gal)(7 lb/gal)(0.0005) = 0.0259 pounds.
6. Mols of sulfur per 10^6 Btu: 0.0259 lb/ 32 lb/mol = 8.09 x 10^{-4} mols.
7. Volume of SO_2 produced; assuming that one mol of sulfur produces one mol of SO_2; 8.09 x 10^{-4} mols of SO_2 are produced per 10^6 Btu of diesel burned: (385 ft^3 / mol)(8.09 x 10^{-4} mols) = 0.312 ft^3 : (385 ft^3/mol is at 68 degrees Fahrenheit).
8. From 40 CFR 60, Appendix A, Method 19 the F_w factor for diesel is 10,320 wscf / 10^6 Btu (68 degrees Fahrenheit, 0 % excess O_2). Rule 406 specifies the SO_2 concentration at standard conditions, wet, not dry.

For purposes of this calculation, excess air from the combustion process will not be considered in calculating the SO_2 concentration & is the most conservative assumption:

Concentration of SO_2 at zero percent oxygen:

$$0.312\ ft^3/(0.010320 \times 10^6\ wscf) = 30.2\ ppmv$$

Conclusion: Diesel fueled IC Engine exhaust SO_2 concentration of 30.2 ppmv complies with Rule 406 SO_2 limit of 500 ppmv.

It is assumed that the SO_2 concentration in natural gas fueled IC engine exhaust gas will be conservatively less than that demonstrated above for diesel combustion:

Calculate the CO concentration in boiler exhaust gas using the following assumptions/calculations:

1. Based on U.S. EPA AP-42; Section 1.4, Table 1.4-2, lists the CO emission factor for natural gas combustion in boilers to be 35 lb CO per 10^6 ft^3 of natural gas burned. Assume 1000 Btu / ft^3 of natural gas.
2. From 40 CFR 60 Appendix A, Method 19, the F_d factor for natural gas is 8710 dscf /10^6 Btu (68 degrees Fahrenheit). Rule 407 specifies the CO concentration on a dry basis.
3. For the purposes of this calculation, excess air will not be considered in calculating the CO concentration (most conservative):

   Cubic feet of CO produced per 10^6 ft^3 of natural gas burned:
   (35 lb) (1 lb mol / 28 lb) (385 ft^3 / mol) = 481 ft^3 CO (385 ft^3 / mol at 68 degrees Fahrenheit)

   Dry cubic feet of combustion gas formed from 10^6 ft^3 of natural gas burned:
   (10^6 ft^3 gas) (1000 Btu / ft^3) (8710 dscf / 10^6 Btu) = 8,710,000 dscf

   CO concentration = 481 ft^3 / 8.71 10^6 ft^3 = 55.2 ppm (most conservative)

   Conclusion: Boiler exhaust CO concentration of 55.2 ppmv complies with Rule 407 CO limit of 2000 ppmv.

B. Rule 409: Owner/Operator shall not discharge into the atmosphere from this facility from the burning of fuel, combustion contaminants exceeding 0.23 gram per cubic meter (0.1 grain per cubic foot) of gas calculated to 12 percent of carbon dioxide (CO_2) at standard conditions averaged over a minimum of 25 consecutive minutes.
[Rule 409 - *Combustion Contaminants*; Version in SIP = CARB Ex. Order G-73, 40 CFR 52.220(c)(39)(ii)(C) - 09/08/78 43 FR 40011; Current Rule Version = 07/25/77]

Calculate the Total Particulate Concentration in the diesel fueled IC engine exhaust gas using the following assumptions/calculations:

1. Based on U.S. EPA AP-42, Section 3.4, Table 3.4-5, the emission factor for total particulate is 0.0697 lb/10^6 Btu. (= 487.9 grains/10^6 Btu)
2. From 40 CFR 60, Appendix A, Method 19 the F_w factor for diesel is 10,320 wscf/10^6 Btu (68 degrees Fahrenheit, 0 % excess O_2). Rule 409 specifies the Particulate concentration at standard conditions, wet, not dry.

For purposes of this calculation, excess air from the combustion process will not be considered in calculating the Particulate concentration & is the most conservative assumption:

Concentration of Particulate at zero percent oxygen:

(487.9 grains/10^6 Btu) / (10,320 wscf/10^6 Btu) = 0.047 grain/ft^3

Conclusion: Diesel fueled IC Engine exhaust Total Particulate concentration of 0.047 grain per cubic foot complies with Rule 409 limit of 0.1 grain per cubic foot.

It is assumed that the Total Particulate concentration in natural gas fueled IC engine exhaust

gas will be conservatively less than that demonstrated above for diesel combustion

APPENDIX "B"

COMPLIANCE ASSURANCE MONITORING APPLICABILITY ANALYSIS:

Estimate PM10 emissions from stack

Basis: ACE facility

Firing rate -	1,052	MMBtu/hr
Fuel HHV (avg) -	10,000	Btu/lb
Op hrs/year	8,760	hours per year (maximum)
Fuel Usage -	460,776	tons/yr

Emission Factor (AP-42, 5th edition, Section 1.1, Table 1.1-4)
Bituminous coal as surrogate, fluidized bed, circulating (FBC, circulating) [Uncontrolled Emissions]

PM10 emissions	12.4	lbs PM10/ton fuel burned (uncontrolled)

PM10 Control Efficiency, Baghouse

	99.0	percent

PM10 emissions [EF] x [tons coal burned] = PM10 emissions

652.2	lbs PM10/hr (uncontrolled)
5,713,622	lbs PM10/yr (uncontrolled)
2,857	tons PM10/yr (uncontrolled)
6.5	lbs PM10/hr (controlled)
57,136	lbs PM10/yr (controlled)
28.6	tons PM10/yr (controlled)

The uncontrolled PM10 emissions are above the major source threshold, therefore CAM applies for PM10 emissions

The following method was used by SJVAPCD to determine CAM applicability for Rio Bravo Poso.

Stack Emissions
Basis: emission limit in permit

Permitted PM10 Emission Limit -	14.6	lbs/hr (verified by annual compliance test, controlled emission)
Baghouse efficiency -	99	percent (assumed)
Operating hours -	8,760	hours/year

Uncontrolled emissions = controlled emissions x 8,760 hrs/yr ÷ (1 - control efficiency/100)

Uncontrolled emissions =	12,789,600	lbs PM10/year
	6,395	tons/year

The uncontrolled PM10 emissions are above the major source threshold, therefore CAM applies for

PM10 emissions