



**PERMIT to OPERATE 8010-R6
and
PART 70 OPERATING PERMIT 8010**

**E&B Natural Resources Management Corporation
South Cuyama Internal Combustion Engines**

**South Cuyama State Designated Oilfield
3 miles southwest of New Cuyama**

OPERATOR

E&B Natural Resources Management Corporation

OWNERSHIP

E&B Natural Resources Management Corporation

**Santa Barbara County
Air Pollution Control District**

**June 2, 2008 (APCD Permit to Operate)
June 2, 2008 (Part 70 Operating Permit)**

Table of Contents

<u>Section</u>	<u>Page</u>
1.0 INTRODUCTION.....	1
1.1 PURPOSE	1
1.2 FACILITY OVERVIEW	1
1.3 EMISSION SOURCES	4
1.4 EMISSION CONTROL OVERVIEW	4
1.5 OFFSETS/EMISSION REDUCTION CREDIT OVERVIEW	5
1.6 PART 70 OPERATING PERMIT OVERVIEW	5
2.0 PROCESS DESCRIPTION.....	7
2.1 PROCESS SUMMARY	7
2.2 SUPPORT SYSTEMS	8
2.3 MAINTENANCE/DEGREASING ACTIVITIES	8
2.4 OTHER PROCESSES	8
2.5 DETAILED PROCESS EQUIPMENT LISTING	8
3.0 REGULATORY REVIEW	9
3.1 RULE EXEMPTIONS CLAIMED	9
3.2 COMPLIANCE WITH APPLICABLE FEDERAL RULES AND REGULATIONS	9
3.3 COMPLIANCE WITH APPLICABLE STATE RULES AND REGULATIONS	10
3.4 COMPLIANCE WITH APPLICABLE LOCAL RULES AND REGULATIONS	10
3.5 COMPLIANCE HISTORY	13
4.0 ENGINEERING ANALYSIS	18
4.1 GENERAL.....	18
4.2 PISTON INTERNAL COMBUSTION ENGINES.....	18
4.3 BACT / NSPS / NESHAP / MACT	20
4.4 CEMS/PROCESS MONITORING/CAM	20
4.5 SOURCE TESTING / SAMPLING	21
4.6 PART 70 ENGINEERING REVIEW: HAZARDOUS AIR POLLUTANT EMISSIONS	21
5.0 EMISSIONS.....	23
5.1 GENERAL.....	23
5.2 PERMITTED EMISSION LIMITS - EMISSION UNITS	23
5.3 PERMITTED EMISSION LIMITS - FACILITY TOTALS	23
5.4 PART 70: FEDERAL POTENTIAL TO EMIT FOR THE FACILITY	24
5.5 PART 70: HAZARDOUS AIR POLLUTANT EMISSIONS FOR THE FACILITY	24
5.6 EXEMPT EMISSION SOURCES/PART 70 INSIGNIFICANT EMISSIONS	24
5.7 NET EMISSIONS INCREASE CALCULATION	24
6.0 AIR QUALITY IMPACT ANALYSES.....	36
6.1 MODELING	36
6.2 INCREMENTS	36
6.3 MONITORING	36
6.4 HEALTH RISK ASSESSMENT	36
7.0 CAP CONSISTENCY, OFFSET REQUIREMENTS AND ERCS	36
7.1 GENERAL.....	36
7.2 CLEAN AIR PLAN.....	37
7.3 OFFSET REQUIREMENTS	37
7.4 EMISSION REDUCTION CREDITS.....	37

8.0	LEAD AGENCY PERMIT CONSISTENCY	38
9.0	PERMIT CONDITIONS	38
9.A	STANDARD ADMINISTRATIVE CONDITIONS.....	38
A.1.	<i>Compliance with Permit Conditions</i>	38
A.2.	<i>Emergency Provisions</i>	39
A.3.	<i>Compliance Plan</i>	39
A.4.	<i>Right of Entry</i>	39
A.5.	<i>Severability</i>	39
A.6.	<i>Permit Life</i>	39
A.7.	<i>Payment of Fees</i>	39
A.8.	<i>Prompt Reporting of Deviations</i>	40
A.9.	<i>Federally-Enforceable Conditions</i>	40
A.10	<i>Reporting Requirements/Compliance Certification</i>	40
A.11	<i>Recordkeeping Requirements</i>	40
A.12	<i>Conditions for Permit Reopening</i>	40
9.B.	GENERIC CONDITIONS	41
B.1	<i>Circumvention (Rule 301)</i>	41
B.2.	<i>Visible Emissions (Rule 302)</i>	41
B.3	<i>Nuisance (Rule 303)</i>	42
B.4	<i>Particulate Matter - Northern Zone (Rule 304)</i>	42
B.5	<i>Specific Contaminants (Rule 309)</i>	42
B.6	<i>Sulfur Content of Fuels (Rule 311)</i>	42
B.7	<i>Emergency Episode Plans (Rule 603)</i>	42
B.8	<i>Adhesives and Sealants (Rule 353)</i>	42
B.9	<i>Oil and Natural Gas Production MACT</i>	42
B.10	<i>CARB Registered Portable Equipment</i>	42
9.C	EQUIPMENT-SPECIFIC CONDITIONS.....	43
C.1	<i>Derated Internal Combustion Engines</i>	43
C.2	<i>Controlled Burn Internal Combustion Engines</i>	43
C.3	<i>Limited Use Internal Combustion Engines</i>	46
C.4	<i>Engine Identification</i>	48
C.5	<i>Inspection and Maintenance Plan</i>	48
C.6	<i>Maintenance</i>	48
C.7	<i>Fuel Use Monitoring</i>	48
C.8	<i>Fuel Type</i>	48
C.9	<i>Gaseous Fuel Sulfur Limit</i>	48
C.10	<i>Liquid Fuel Sulfur Limit</i>	48
C.11	<i>Fuel Sulfur/BTU Monitoring</i>	48
C.12	<i>Recordkeeping</i>	49
C.13	<i>Semi-Annual Monitoring/Compliance Verification Reports</i>	49
C.14	<i>Source Testing</i>	50
C.15	<i>Visible Emissions - Diesel Fueled IC Engines</i>	52
C.16	<i>DOI #0033</i>	52
9.D	APCD-ONLY CONDITIONS	52
D.1	<i>Internal Combustion Engine Operational Limits</i>	52
D.2	<i>Emergency Diesel Firewater Pump Engine</i>	53
D.3	<i>Diesel Air Compressor Engine</i>	56
D.4	<i>Engine Identification</i>	59
D.5	<i>Compliance with Permit Conditions</i>	59
D.6	<i>Condition Acceptance</i>	59
D.7	<i>Grounds for Revocation</i>	59
D.8	<i>Reimbursement of Costs</i>	59
D.9	<i>Access to Records and Facilities</i>	60
D.10	<i>Compliance</i>	60
D.11	<i>Consistency with Analysis</i>	60

<i>D.12 Consistency with Federal, State and Local Permits</i>	60
<i>D.13 Permitted Equipment</i>	60
<i>D.14 Mass Emission Limitations</i>	60
<i>D.15 Process Monitoring Systems - Operation and Maintenance</i>	60
<i>D.16 Recordkeeping</i>	60
<i>D.17 Annual Compliance Verification Reports</i>	60
<i>D.18 Documents Incorporated by Reference</i>	61

List of Figures and Tables

<u>Table/Figure</u>	<u>Page</u>
FIGURE 1.1 - LOCATION MAP FOR SOUTH CUYAMA STATIONARY SOURCE.....	2
TABLE 3.1 - GENERIC FEDERALLY- ENFORCEABLE APCD RULES	14
TABLE 3.2 - UNIT-SPECIFIC FEDERALLY-ENFORCEABLE APCD RULES	15
TABLE 3.3 - NON-FEDERALLY-ENFORCEABLE APCD RULES	15
TABLE 3.4 - ADOPTION DATES OF APCD RULES APPLICABLE AT ISSUANCE OF PERMIT	16
TABLE 5.0 - STATIONARY SOURCE NET EMISSIONS INCREASE.....	25
TABLE 5.1-1 - EQUIPMENT DESCRIPTION	26
TABLE 5.1-1 - FOOTNOTES	27
TABLE 5.1-2 - EMISSION FACTORS	28
TABLE 5.1-3 - HOURLY AND DAILY EMISSIONS	29
TABLE 5.1-4 - QUARTERLY AND ANNUAL EMISSIONS	30
TABLE 5.2 - TOTAL PERMITTED EMISSIONS	31
TABLE 5.3 - FEDERAL POTENTIAL TO EMIT	32
TABLE 5.4 - APCD EXEMPT AND PART 70 INSIGNIFICANT EMISSIONS	33
TABLE 5.5-1 - HAZARDOUS AIR POLLUTANT EMISSION FACTORS.....	34
TABLE 5.5-2 - HAZARDOUS AIR POLLUTANT EMISSIONS	35

Abbreviations/Acronyms

AOS	Alternative Operating Scenario
AP-42	USEPA's <i>Compilation of Emission Factors</i>
APCD	Santa Barbara County Air Pollution Control District
API	American Petroleum Institute
ASTM	American Society for Testing Materials
BACT	Best Available Control Technology
bpd	barrels per day (1 barrel = 42 gallons)
CAM	compliance assurance monitoring
CEMS	continuous emissions monitoring
dscf	dry standard cubic foot
E&B	E&B Natural Resources Management Corporation
EU	emission unit
°F	degree Fahrenheit
FID	facility ID number
FUMP	Fuel Use Monitoring Plan
gal	gallon
gr	grain
Hallador	Hallador Production Company, the previous operator
HAP	hazardous air pollutant (as defined by CAAA, Section 112(b))
H ₂ S	hydrogen sulfide
I&M	inspection & maintenance
l	liter
lb	pound
lbs/day	pounds per day
lbs/hr	pounds per hour
LACT	Lease Automatic Custody Transfer
LPG	liquid petroleum gas
M	mega (million)
MACT	Maximum Achievable Control Technology
MM	million
MW	molecular weight
NEI	net emissions increase
NG	natural gas
NGL	natural gas liquid
NOV	Notice of Violation
NSCR	Non-Selective Catalytic Reduction
NSPS	New Source Performance Standards
O ₂	oxygen
PERP	Portable Engine Registration Program
ppm(vd or w)	parts per million (volume dry or weight)
psia	pounds per square inch absolute
psig	pounds per square inch gauge
PRD	pressure relief device
PTO	Permit to Operate
RACT	Reasonably Available Control Technology
ROC	reactive organic compounds, same as "VOC" as used in this permit
RVP	Reid vapor pressure
scf	standard cubic foot
scfd (or scfm)	standard cubic feet per day (or per minute)
SIP	State Implementation Plan
SSID	stationary source ID number
STP	standard temperature (60°F) and pressure (29.92 inches of mercury)
THC	Total hydrocarbons
tpy, TPY	tons per year
TVP	true vapor pressure
USEPA	United States Environmental Protection Agency
VE	visible emissions
VOC	volatile organic compounds, also known as "ROC" throughout California
VRS	vapor recovery system

1.0 Introduction

1.1 Purpose

General: The Santa Barbara County Air Pollution Control District (APCD) is responsible for implementing all applicable federal, state and local air pollution requirements which affect any stationary source of air pollution in Santa Barbara County. The federal requirements include regulations listed in the Code of Federal Regulations: 40 CFR Parts 50, 51, 52, 55, 61, 63, 68, 70 and 82. The State regulations may be found in the California Health & Safety Code, Division 26, Section 39000 *et seq.* The applicable local regulations can be found in the APCD's Rules and Regulations. This is a combined permitting action that covers both the Federal Part 70 permit (*Part 70 Operating Permit 8010*) as well as the State Operating Permit (*Permit to Operate 8010-R6*).

The County is currently designated as a nonattainment area for the state ozone and PM₁₀ ambient air quality standards.

Part 70 Permitting: The initial Part 70 permit for the E&B Natural Resources Management Corporation's (E&B) Internal Combustion Engines was issued January 28, 1998 in accordance with the requirements of the APCD's Part 70 operating permit program. This permit is the third renewal of the Part 70 permit, and may include additional applicable requirements and associated compliance assurance conditions. Also, this permit incorporates any Part 70 minor modifications since the last renewal, and is being issued as a combined Part 70 and APCD reevaluation permit. The internal combustion engines are a part of the E&B stationary source, which is a major source for VOC¹, NO_x and CO. Conditions listed in this permit are based on federally-enforceable rules and requirements. Sections 9.A, 9.B and 9.C of this permit are enforceable by the APCD, the USEPA and the public since these sections are federally-enforceable under Part 70. Where any reference contained in Sections 9.A, 9.B or 9.C refers to any other part of this permit, that part of the permit referred to is federally-enforceable.

Pursuant to the stated aims of Title V of the CAAA of 1990 (i.e., the Part 70 operating permit program), this permit has been designed to meet two objectives. First, compliance with all conditions in this permit would ensure compliance with all federally-enforceable requirements for the facility. Second, the permit would be a comprehensive document to be used as a reference by the permittee, the regulatory agencies and the public to assess compliance.

1.2 Facility Overview

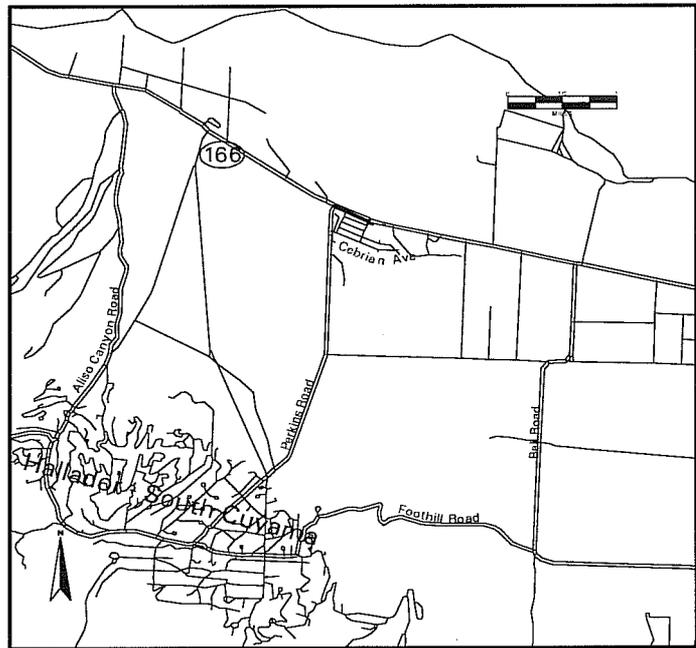
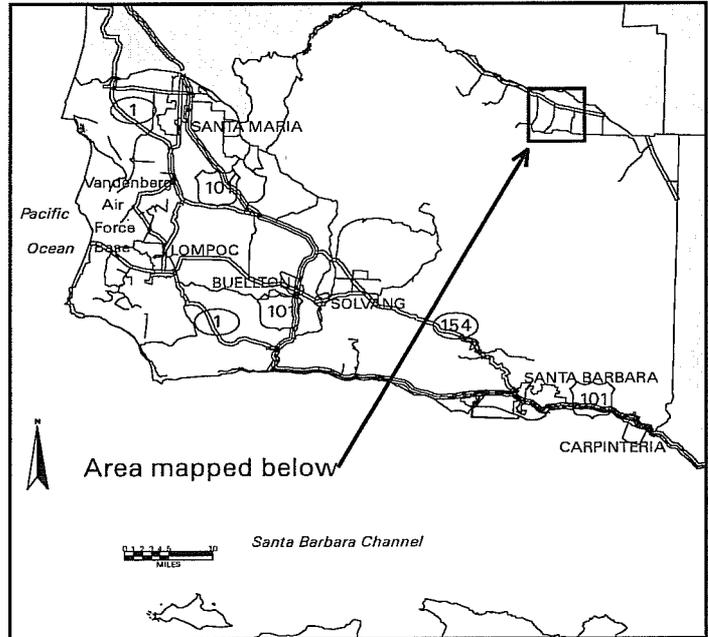
- 1.2.1 **Facility Overview:** E&B Natural Resources Management Corporation (E&B) is the sole owner and operator of the South Cuyama Stationary Source, which includes the internal combustion engines.

E&B Natural Resources Management Corporation
34740 Merced Avenue
Bakersfield, CA 93308

¹ VOC as defined in Regulation XIII has the same meaning as reactive organic compounds as defined in Rule 102. "ROC" is used in this document, but where used in the context of the Part 70 regulation, it means "VOC".

The South Cuyama Stationary Source, located at the South Cuyama State Designated Oilfield, is 3 miles southwest of the town of New Cuyama. For APCD regulatory purposes, the facility location is in the Northern Zone of Santa Barbara County². Figure 1.1 shows the location of the facility.

Figure 1.1 - Location Map for South Cuyama Stationary Source



² APCD Rule 102, Definition: "Northern Zone"

The E&B-South Cuyama Stationary Source (SSID 1073) was constructed in the late 1940's and consists of the following facilities:

- South Cuyama Unit and Gas Station (FID 1074)
- Gas Plant 10 (FID 3202)
- Internal Combustion Engines (FID 8916)

The source consists of oil and gas wells and tank batteries where oil is separated from gas and water. The oil is sold and shipped via pipeline from the lease. Produced water is reinjected into the formation. The gas plant removes sulfur compounds and water from the gas and strips out the NGLs. The NGLs are piped to Tank Battery #6 and blended with the produced oil. Dry gas is used for fuel, with residual gas sold to the utility or reinjected into one of the gas injection wells.

This permit covers only the internal combustion engines (ICEs) at the facility. The oil and gas production and separation equipment, as well as the gas station at the SCU is covered by PTO 7250. The E&B Gas Plant is covered by PTO 9136.

1.2.2 Facility Permit/New Source Review Overview: Many of the IC engines at this facility were in place and operating before a permit to operate was required. Therefore, much of the equipment was not subject to New Source Review requirements and was issued a Permit to Operate without an Authority to Construct. Table 1.1 provides a summary of the permits issued for this facility since April 2002.

Table 1.1 – Permit History

PERMIT TYPE	ISSUE DATE	DESCRIPTION
Permit to Operate 8010-R4	04/03/02	Facility operating permit.
Authority to Construct 11129	03/22/04	Removal of ICEs and electrification of the #10 and #12 Clark HRA-6T gas compressor/engines.
Decision of Issuance #0033	03/22/04	The removal of the gas-fired ICE from the #12 ICE resulted in the creation of NO _x , ROC, and CO ERCs
Permit to Operate 11129	07/06/04	Convert ATC 11129 to PTO 11129.
Part 70 Minor Revision 11212	08/16/04	Part 70 Minor revision for the changes made under ATC 11129.
Transfer of Ownership 8010-01	10/20/04	Ownership transferred from Hallador Production Company to E&B Natural Resources Management Corporation.
ERC Certificate 00116	10/21/04	ERCs created by DOI 0033 transferred from Hallador to E&B.
Permit to Operate 8010-R5	06/14/05	Facility operating permit.
Permit to Operate 11724	10/19/05	Permit for the diesel-fired engine that drives the fire water pump.
Permit to Operate 11759	05/17/06	Permit for the 61 bhp diesel-fired prime engine that drives the air compressor.
Authority to Construct 12284	07/02/07	Add air/fuel ratio controllers to 4 engines: W-11, W-12, W-42, and B-5.

PERMIT TYPE	ISSUE DATE	DESCRIPTION
Permit to Operate 12284	02/04/08	Convert ATC to PTO

1.3 **Emission Sources**

The emissions from the South Cuyama Unit ICEs come in part from field-gas-fired ICE and diesel-fired ICE exhaust. Section 4 of the permit provides the APCD's engineering analysis of these emission sources. Section 5 of the permit describes the allowable emissions from each permitted emissions unit and also lists the potential emissions from non-permitted emission units.

The ICE emission sources consist of 26 ICEs:

- One unmodified field gas-fired, rich-burn, non-cyclic engine not subject to Rule 333;
- Twelve derated field gas-fired, rich-burn, non-cyclic engines not subject to Rule 333;
- Six controlled field gas-fired, rich-burn, non-cyclic engines controlled with NSCR and subject to Rule 333;
- Four controlled field gas-fired, rich-burn, non-cyclic engines controlled with NSCR served by an air/fuel ratio controller and subject to Rule 333;
- One controlled field gas-fired, lean-burn, non-cyclic engine, controlled with lean burn and ignition timing retard and not subject to Rule 333;
- One uncontrolled, emergency backup, diesel-fired, engine that drives a firewater pump, not subject to Rule 333;
- One uncontrolled, prime, diesel-fired, portable engine that drives a captive air compressor, not subject to Rule 333.

A list of all permitted equipment is provided in Table 5.1-1.

1.4 **Emission Control Overview**

Eleven of the twelve ICEs that are rated greater than 50 hp utilize air quality emission controls. Two engines are operated less than 200 hours per year and are exempt from Rule 333 control. The emission controls employed by these ICEs at the facility include:

- Non-selective catalytic reduction (NSCR) is used by six controlled rich-burn non-cyclic ICEs.
- Non-selective catalytic reduction (NSCR) coupled with an air/fuel ratio controller is used by four controlled rich-burn non-cyclic ICEs.
- Ignition timing retard is used to control NO_x emissions from the Clark HRA #11 compressor to levels stipulated by APCD Rule 333 or lower. This compressor is permitted to operate less than 200 hrs/year and thus is not subject to Rule 333. The permittee agreed to keep the controls in place so a net emission increase will not be generated.

- Compliance with the fuel sulfur content levels stipulated by the APCD Rule 311 to restrict SO_x emissions to low levels by use of natural gas with less than 796 ppm sulfur as H₂S.

1.5 Offsets/Emission Reduction Credit Overview

Decision of Issuance (DOI) 0033 created NO_x, ROC, and CO ERCs from the electrification of the #Clark #12 HRA-6T integral gas compressor engine. The original Clark #12 unit included a compressor, powered by a 792 bhp piston Clark model #HRA-6T ICE. The ICE portion of the Clark #12 unit was replaced with a 600 hp, 1,180 RPM, electric motor. This project created the following ERCs:

NO _x	=	0.89 tpq	(7.37 tpy)
ROC	=	10.30 tpq	(41.40 tpy)
CO	=	6.63 tpq	(27.31 tpy)

There have been no offsets required for projects at the South Cuyama Unit.

1.6 Part 70 Operating Permit Overview

- 1.6.1 Federally-enforceable Requirements: All federally-enforceable requirements are listed in 40 CFR Part 70.2 (Definitions) under “applicable requirements.” These include all SIP-approved APCD Rules, all conditions in the APCD-issued Authority to Construct permits, and all conditions applicable to major sources under federally promulgated rules and regulations. All these requirements are enforceable by the public under CAAA. (See Tables 3.1 and 3.2 for a list of federally-enforceable requirements)
- 1.6.2 Insignificant Emissions Units: Insignificant emission units are defined under APCD Rule 1301 as any regulated air pollutant emitted from the unit, excluding HAPs, that are less than 2 tons per year based on the unit’s potential to emit and any HAP regulated under section 112(g) of the Clean Air Act that does not exceed 0.5 ton per year based on the unit’s potential to emit. Insignificant activities must be listed in the Part 70 application with supporting calculations. Applicable requirements may apply to insignificant units. (See Attachment 10.6)
- 1.6.3 Federal Potential to Emit: The federal potential to emit (PTE) of a stationary source does not include fugitive emissions of any pollutant, unless the source is: (1) subject to a federal NSPS/NESHAP requirement, or (2) included in the 29-category source list specified in 40 CFR 51.166 or 52.21. The federal PTE does include all emissions from any insignificant emissions units. (See Section 5.4 for the federal PTE for this source)
- 1.6.4 Permit Shield: The operator of a major source may be granted a shield: (a) specifically stipulating any federally-enforceable conditions that are no longer applicable to the source and (b) stating the reasons for such non-applicability. The permit shield must be based on a request from the source and its detailed review by the APCD. Permit shields cannot be indiscriminately granted with respect to all federal requirements. E&B has not made a request for a permit shield.
- 1.6.5 Alternate Operating Scenarios: A major source may be permitted to operate under different operating scenarios, if appropriate descriptions of such scenarios are included in its Part 70 permit application and if such operations are allowed under federally-enforceable rules.

E&B requested that a 5 ppmv H₂S content of the field natural gas it uses to fire most of the ICES be considered *de minimis*. This does not qualify as an AOS.

E&B also requested that the permit contain an AOS-based condition allowing the changing out and moving of equipment without a permit. This does not qualify as an AOS since a specific operating scenario was not identified, and federally-enforceable NSR permitting requirements cannot be bypassed.

In summary, no AOS is included in this permit.

- 1.6.6 Compliance Certification: Part 70 permittees must certify compliance with all applicable federally-enforceable requirements including permit conditions. Such certification must accompany each Part 70 permit application; and, be re-submitted annually March 1st or on a more frequent schedule specified in the permit. A “responsible official” of the owner/operator company whose name and address is listed prominently in the Part 70 permit signs each certification. (*see Section 1.6.9 below*)
- 1.6.7 Permit Reopening: Part 70 permits are re-opened and revised if the source becomes subject to a new rule or new permit conditions are necessary to ensure compliance with existing rules. The permits are also re-opened if they contain a material mistake or the emission limitations or other conditions are based on inaccurate permit application data.
- 1.6.8 MACT/HAPs: Part 70 permits also regulate emission of HAPs from major sources through the imposition of maximum achievable control technology (MACT), where applicable. The federal PTE for HAP emissions from a source is computed to determine MACT or any other rule applicability.
- 1.6.9 Responsible Official: The designated responsible official and his mailing address is:

Mr. Steve Layton, President
E&B Natural Resources Management Corporation
34740 Merced Avenue
Bakersfield, CA 93308

2.0 Process Description

2.1 Process Summary

The source consists of oil and gas wells and tank batteries where oil is separated from gas and water. The oil is sold and shipped via pipeline from the lease. Produced water is reinjected into the formation. The gas plant removes sulfur compounds and water from the gas and strips out the NGLs. The dry gas stream is used as fuel, re-injected, and/or sold. The natural gas liquids (NGLs) are piped to Tank Battery #6 and blended with the produced oil. The ICEs drive pumps and compressors used throughout the process. This permit covers the ICEs only, a full description of the South Cuyama Unit is provided in PTOs 7250 and 9136.

2.1.1 Unmodified Engine Not Subject to Rule 333: One (1) natural gas-fired, rich-burn, non-cyclic ICE (Device ID# 6338) is rated below 50 hp and is not required to meet Rule 333 emission limits.

2.1.2 Derated Engines Not Subject to Rule 333: Twelve (12) of the field-gas-fired rich burn ICEs (Device ID# 6347, 6348, 6350, 6351, 6352, 6361, 6363, , 6379, 6380, 6381, 6384, & 6387) are equipped with orifice plates to derate them to below 50 hp. Derating is not considered to be an emission control. These engines are not subject to Rule 333.

2.1.3 Controlled Engines Subject to Rule 333: There are ten (10) controlled engines at this facility that are subject to Rule 333:

Six (6) of the engines are natural gas-fired, rich-burn, non-cyclic engines (Device ID# 6388, 6389, 6390, 6391, 6394, & 6397) that use Non-Selective Catalytic Reduction (NSCR) in the form of Johnson Mathey or CSI catalysts to control NO_x exhaust emissions.

Four (4) of the engines are natural gas-fired, rich-burn, non-cyclic engines (Device ID# 6392, 6393, 6395, & 6396) that use NSCR in the form of Johnson Mathey or CSI catalysts served by a served by an Omnitek air/fuel ratio controller to control NO_x exhaust emissions.

2.1.4 Controlled Engine, Not Subject to Rule 333: One (1), gas fired lean-burn, non-cyclic ICE (Device ID# 6402) is a lean burn unit achieving emission control through lean burn technology and ignition timing retard. This engine is limited to less than 200 hrs/year and thus is not subject to Rule 333 emission standards.

2.1.5 Uncontrolled Prime Diesel-Fired Engine Not Subject to Rule 333: One (1) uncontrolled, diesel-fired internal combustion engine (Device ID# 6404) used to drive a portable air compressor. It is exempt from Rule 333 control because of a permitted operating limit less than 200 hrs/year. This engine is not essential to the production operations, and qualifies as a portable engine. It is subject to the California Diesel Internal Combustion Engine Airborne Air Toxic Control Measure for portable diesel engines.

2.1.6 Uncontrolled Emergency Diesel-fired Engine Not Subject to Rule 333: One (1) uncontrolled, diesel-fired internal combustion engine (Device ID# 8285) used to drive a firewater pump. It is exempt from Rule 333 control because of a permitted operating limit for testing and maintenance less than 200 hrs/year. This engine is subject to the California Diesel Internal Combustion Engine Airborne Air Toxic Control Measure for stationary diesel engines.

2.2 Support Systems

Support units at the South Cuyama Unit are covered in PTO 7250 (oil production and gas station) and PTO 9136 (Gas Plant 10).

2.3 Maintenance/Degreasing Activities

2.3.1 Paints and Coatings: PTO 7250 contains a full description of these activities at the SCU.

2.3.2 Solvent Usage: Solvents not used for surface coating thinning may be used on the South Cuyama Unit facility for daily operations. Usage includes cold solvent degreasing and wipe cleaning with rags. PTO 7250 contains a full description of the solvent usage at the SCU.

2.4 Other Processes

2.5.1 Unplanned Activities/Emissions: E&B does not anticipate or foresee any circumstances that would require use of special equipment and result in excess emissions.

2.5 Detailed Process Equipment Listing

Refer to Table 5.1-1 for a complete listing of all permitted ICEs.

3.0 Regulatory Review

3.1 Rule Exemptions Claimed

- APCD Rule 202 (Exemptions to Rule 201): Rule 202.D.6 requires E&B to maintain a record of each *de minimis* change, which shall include emission calculations demonstrating that each physical change meets the criteria listed in the Rule. Such records shall be made available to the APCD upon request. As of February 26, 2008, the *de minimis* totals at the E&B South Cuyama Stationary Source are: 10.528 lbs ROC/day.
- APCD Rule 202 (Exemptions to Rule 201): The following equipment are exempt from the requirements to obtain an APCD permit. An exemption from permit, however, does not grant relief from any applicable prohibitory rule unless specifically exempted by that prohibitory rule. (see Attachment 10.4 of this permit for a complete equipment list):
 - a. Standby generator ICE (Waukesha F1197, E&B ID# W-17, 195 hp) (Rule 202.F.1.d).

Note: Non-ICE items exempt from permit are covered in PTO's 7250 and 9136.

3.2 Compliance with Applicable Federal Rules and Regulations

- 3.2.1 40 CFR Parts 51/52 {New Source Review (Nonattainment Area Review and Prevention of Significant Deterioration)}: The South Cuyama Unit was constructed and permitted prior to the applicability of these regulations. However, in 1992 and 1993, the previous operator applied to modify its ICEs to implement emission controls required by APCD Rule 333. Because the net emission increase from the stationary source was not above applicable thresholds, New Source Review was not triggered. Compliance with APCD Regulation VIII (*New Source Review*), ensures that future modifications to the facility will comply with these regulations.
- 3.2.2 40 CFR Part 60 {New Source Performance Standards}: See PTOs 7250 & 9136.
- 3.2.3 40 CFR Part 61 {NESHAP}: This facility is not currently subject to the provisions of this Code of Federal Regulations Subpart.
- 3.2.4 40 CFR Part 63 {MACT}: On June 17, 1999, EPA promulgated Subpart HH, a National Emission Standards for Hazardous Air Pollutants (NESHAPS) for Oil and Natural Gas Production and Natural Gas Transmission and Storage. This facility currently is not subject to the provisions of this Subpart. The previous operator submitted information in July 2000 indicating its source is exempt from the requirements of MACT based on its 'black oil' production per section 63.760(e)(1) of the subpart. On October 20, 2000 the APCD issued a letter to the previous operator agreeing with this exemption.
- 3.2.5 40 CFR Part 64 {Compliance Assurance Monitoring}: This rule became effective on April 22, 1998. Compliance with this rule is required during the first permit renewal or the next significant permit revision for sources that had initial Part 70 applications deemed complete before April 22, 1998. This rule affects emission units at the source subject to a federally-enforceable emission limit or standard that use a control device to comply with the emission standard, and either pre-control or post-control emissions exceed the Part 70 source emission thresholds. Compliance with this rule was evaluated and it was determined that no emission units at this facility are currently subject to CAM. This is because only one engine has a

pre-control emission potential greater than 100 tons/year, however it is inherently controlled through timing retard and not a “control device”.

- 3.2.6 40 CFR Part 70 {Operating Permits}: This Subpart is applicable to the South Cuyama Unit. Table 3.1 lists the federally-enforceable APCD promulgated rules that are “generic” and apply to the South Cuyama Unit. Table 3.2 lists the federally-enforceable APCD promulgated rules that are “unit-specific” that apply to the South Cuyama Unit. These tables are based on data available from the APCD’s files and from E&B’s Part 70 Operating Permit renewal application filed on December 14, 2007. Table 3.4 includes the adoption dates of these rules.

In its Part 70 permit application, E&B certified compliance with all existing APCD rules and permit conditions. This certification is also required of E&B semi-annually.

3.3 Compliance with Applicable State Rules and Regulations

- 3.3.1 Division 26. Air Resources {California Health & Safety Code}: The administrative provisions of the Health & Safety Code apply to this facility and will be enforced by the APCD. These provisions are APCD-enforceable only.
- 3.3.2 California Administrative Code Title 17 Sub-Chapter 6, Sections 92000 through 92530: These sections specify the standards by which abrasive blasting activities are governed throughout the State. All abrasive blasting activities at the South Cuyama Unit are required to conform to these standards. Compliance will be assessed through onsite inspections. These standards are APCD-enforceable only. However, CAC Title 17 does not preempt enforcement of any SIP-approved rule that may be applicable to abrasive blasting activities.
- 3.3.3 Airborne Toxic Control Measure (ATCM) for Stationary Compression Ignition (CI) Engines (CCR Section 93115, Title 17): This ATCM applies for all stationary diesel-fueled engines rated over 50 brake horsepower (bhp) at this facility. On March 17, 2005, APCD Rule 202 was revised to remove the compression-ignited engine (e.g. diesel) permit exemption for units rated over 50 bhp to allow the APCD to implement the State’s ATCM for Stationary Compression Ignition Engines. Compliance shall be assessed through onsite inspections, and required fuel, recordkeeping, reporting, and monitoring requirements outlined in the ATCM.
- 3.3.4 Airborne Toxic Control Measure for Diesel Particulate Matter from Portable Engines Rated at 50 Horsepower and Greater (CCR Section 93116, Title 17): This ATCM applies for all portable diesel-fueled engines rated over 50 brake horsepower (bhp) at this facility. On March 17, 2005, APCD Rule 202 was revised to remove the compression-ignited engine (e.g. diesel) permit exemption for units rated over 50 bhp to allow the APCD to implement the State’s ATCM for Stationary Compression Ignition Engines. Compliance shall be assessed through onsite inspections, and required fuel, recordkeeping, reporting, and monitoring requirements outlined in the ATCM.

3.4 Compliance with Applicable Local Rules and Regulations

- 3.4.1 Applicability Tables: In addition to Tables 3.1 and 3.2, Table 3.3 lists the non-federally-enforceable APCD promulgated rules that apply to the South Cuyama Unit. Table 3.4 lists the adoption date of all rules applicable to this permit at the date of this permit’s issuance.
- 3.4.2 Rules Requiring Further Discussion: During the last three years onsite inspections of this facility have taken place on a routine basis. This section provides a detailed discussion regarding the applicability of and compliance with certain rules.

APCD Rule 201 (Permits Required): De-permitted equipment listed in Attachment 10.4 has been removed from service and removed from permit as part of this re-evaluation. Any use of the de-permitted equipment listed in Attachment 10.4 is subject to Rule 201 and may be subject to NSR.

APCD Rule 210 (Fees): Pursuant to Rule 201.G, APCD permits are reevaluated every three years. This includes the re-issuance of the underlying permit to operate. Also included are the PTO fees. The fees for this facility are based the APCD Rule 210, Fee Schedule A. This rule is not federally-enforceable. Attachment 10.3 presents the fee calculations for the reevaluated permit.

APCD Rule 301 (Circumvention): This rule prohibits the concealment of any activity that would otherwise constitute a violation of Division 26 (Air Resources) of the California H&SC and the SBCAPCD rules and regulations. To the best of the APCD's knowledge, E&B is operating in compliance with this rule.

APCD Rule 302 (Visible Emissions): This rule prohibits the discharge from any single source any air contaminants for which a period or periods aggregating more than three minutes in any one hour which is as dark or darker in shade than a reading of 1 on the Ringelmann Chart or of such opacity to obscure an observer's view to a degree equal to or greater than a reading of 1 on the Ringelmann Chart. Sources subject to this rule include: the flare and all diesel-fired piston internal combustion engines at the facility. Improperly maintained diesel engines have the potential to violate this rule. Compliance will be assured by requiring all engines to be maintained according to manufacturer maintenance schedules, and through quarterly visible emission inspections per the *Visible Emissions* condition of this permit.

APCD Rule 303 (Nuisance): Rule 303 prohibits any source from discharging such quantities of air contaminants or other material in violation of Section 41700 of the Health and Safety Code which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety or any such persons or the public or which cause or have a natural tendency to cause injury or damage to business or property. Compliance with this rule is assessed through the APCD's enforcement staff's complaint response program. There is no history of complaints regarding nuisances at this facility.

APCD Rule 304 (Particulate Matter - Northern Zone): A person shall not discharge into the atmosphere from any source particulate matter in excess of 0.3 grain per cubic foot of gas at standard conditions.

APCD Rule 309 (Specific Contaminants): Under Section "A", no source may discharge sulfur compounds and combustion contaminants in excess of 0.2-percent as SO₂ (by volume) and 0.3 gr/scf (at 12% CO₂) respectively. Sulfur emissions due to the combustion of sweet gas (generally less than 796 ppmv sulfur as H₂S) will comply with the SO₂ limit

APCD Rule 310 (Odorous Organic Compounds): This rule prohibits the discharge of H₂S and organic sulfides that result in a ground level impact beyond the property boundary in excess of either 0.06 ppmv averaged over 3 minutes and 0.03 ppmv averaged over 1 hour.

APCD Rule 311 (*Sulfur Content of Fuels*): All ICEs at the SCU are subject to this rule. Section C requires the sulfur compound content of gaseous fuel not to exceed 50 grains per 100 standard cubic feet (796 ppmv).

APCD Rule 317 (*Organic Solvent*): This rule sets specific prohibitions against the usage of both photochemically and non-photochemically reactive organic solvents (40 lb/day and 3,000 lb/day respectively). Solvents may be used at the E&B facilities during normal operations for degreasing by wipe cleaning and for use in paints and coatings in maintenance operations. There is the potential to exceed the limits under Section B.2 during significant surface coating activities. To demonstrate compliance with this rule, E&B is required to maintain detailed daily solvent usage records (along with the solvent's MSDS) and submit them annually to the APCD. See note below.

APCD Rule 322 (*Metal Surface Coating Thinner and Reducer*): This rule prohibits the use of photochemically reactive solvents for use as thinners or reducers in metal surface coatings. E&B is required to maintain records to ensure compliance with this rule. See note below.

APCD Rule 323 (*Architectural Coatings*): This rule sets standards for many types of architectural coatings. The primary coating standard that will apply is for Industrial Maintenance Coatings which has a limit of 340 grams ROC per liter of coating, as applied. E&B will be required to comply with the administrative requirements under Section F for each container at the facility. See note below.

APCD Rule 324 (*Disposal and Evaporation of Solvents*): This rule prohibits any source from disposing more than one and a half gallons of any photochemically reactive solvent per day by means that will allow the evaporation of the solvent into the atmosphere. E&B will be required to maintain records to ensure compliance with this rule. See note below.

APCD Rule 333 (*Control of Emissions from Reciprocating IC Engines*): IC engines with Device ID# 6388 - 6397 at the South Cuyama Stationary Source are subject to all provisions of this rule. The Clark #11 compressor (Device ID# 6402), and the diesel ICE (Device ID# 6404) are subject only to Sections H (Recordkeeping) and I (Compliance Schedule). The permit exempt standby engine (E&B ID# W-17) is subject to Section B.2's 200 hr/year and hour meter requirements. Rule 333.D stipulates NO_x, ROC and CO emission standards for gas-fired IC engines and NO_x emission standard for diesel-fired IC engines. Rule 333.E requires all engines subject to this rule to be operated per an APCD-approved inspection and maintenance plan which includes quarterly NO_x emissions monitoring. In addition, Rule 333.G requires biennial source testing, and Rule 333.H specifies recordkeeping of engine operations and maintenance including control equipment maintenance.

The APCD approved Hallador's June 9, 1994 updated ICE Inspection and Maintenance Plan for the engines on June 29, 1994.

The APCD approved Hallador's Sept 16, 1993 Fuel Use Monitoring Plan for the engines on March 24, 1994.

Rule 353 (*Adhesives and Sealants*): This rule applies to the use of adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers, or any other primers. Compliance shall be based on site inspections.

Rule 505 (Breakdown Conditions): This rule describes the procedures that E&B must follow when a breakdown condition occurs to any emissions unit associated with this facility. A breakdown condition is defined as an unforeseeable failure or malfunction of (1) any air pollution control equipment or related operating equipment which causes a violation of an emission limitation or restriction prescribed in the APCD Rules and Regulations, or by State law, or (2) any in-stack continuous monitoring equipment, provided such failure or malfunction:

- a. Is not the result of neglect or disregard of any air pollution control law or rule or regulation;
- b. Is not the result of an intentional or negligent act or omission on the part of the owner or operator;
- c. Is not the result of improper maintenance;
- d. Does not constitute a nuisance as defined in Section 41700 of the Health and Safety Code;
- e. Is not a recurrent breakdown of the same equipment.

Note: APCD solvent rules (317, 322, 323, & 324) are applicable to the stationary source. The compliance requirements for these rules are contained in PTO 7250, and are applicable to the solvent use on equipment covered by this permit.

3.5 Compliance History

This section contains a summary of the compliance history for this facility and was obtained from documentation contained in the APCD's Administrative file.

This facility was inspected on a routine basis and found to be in compliance with APCD rules and permit conditions during each inspection with the exceptions noted below.

Violations: The table below lists the enforcement actions taken at this facility since E&B Resource Management took over operation of this facility in 2004:

VIOLATION TYPE	NUMBER	ISSUE DATE	DESCRIPTION OF VIOLATION
NOV	8235	08/18/2005	Exceeding the emissions limits for NOx specified in Rule 333.
NOV	8895	05/31/2007	Waukesha F1197 ICEs W-11 and W-42 exceeded the Rule 333 emissions limit for NOx as determined through the APCD witnessed source test. W-11 tested at 516 ppm NOx, W-42 tested at 572 ppm NOx. The Rule 333 NOx limit is 50 ppm. The Buda 6MO engine B-5 failed the APCD witnessed source test for CO. B-5 tested at 8247 ppm. The Rule 333 CO limit is 4,500 ppm.

Table 3.1 - Generic Federally- Enforceable APCD Rules

Generic Requirements	Affected Emission Units	Basis for Applicability
<u>RULE 101</u> : Compliance by Existing Installations	All emission units	Emission of pollutants
<u>RULE 102</u> : Definitions	All emission units	Emission of pollutants
<u>RULE 103</u> : Severability	All emission units	Emission of pollutants
<u>RULE 201</u> : Permits Required	All emission units	Emission of pollutants
<u>RULE 202</u> : Exemptions to Rule 201	Applicable emission units, as listed in form 1302-H of the Part 70 application.	Insignificant activities/emissions, per size/rating/function
<u>RULE 203</u> : Transfer	All emission units	Change of ownership
<u>RULE 204</u> : Applications	All emission units	Addition of new equipment of modification to existing equipment.
<u>RULE 205</u> : Standards for Granting Permits	All emission units	Emission of pollutants
<u>RULE 206</u> : Conditional Approval of Authority to Construct or Permit to Operate	All emission units	Applicability of relevant Rules
<u>RULE 207</u> : Denial of Applications	All emission units	Applicability of relevant Rules
<u>RULE 208</u> : Action on Applications – Time Limits	All emission units. Not applicable to Part 70 permit applications.	Addition of new equipment of modification to existing equipment.
<u>RULE 212</u> : Emission Statements	All emission units	Administrative
<u>RULE 301</u> : Circumvention	All emission units	Any pollutant emission
<u>RULE 302</u> : Visible Emissions	All emission units	Particulate matter emissions
<u>RULE 303</u> : Nuisance	All emission units	Emissions that can injure, damage or offend.
<u>RULE 304</u> : Particulate matter – Northern Zone	Source	Emission of PM in effluent gas
<u>RULE 309</u> : Specific Contaminants	All emission units	Combustion contaminant emission
<u>Rule 310</u> : Odorous Organic Sulfides	All emission units	Combustion contaminant emission
<u>RULE 311</u> : Sulfur Content of Fuel	All combustion units	Use of fuel containing sulfur
<u>RULE 317</u> : Organic Solvents	Emission units using solvents	Solvent used in process operations.
<u>RULE 321</u> : Solvent Cleaning	Emission units using solvents.	Solvent used in process

Generic Requirements	Affected Emission Units	Basis for Applicability
Operations		operations.
<u>RULE 322</u> : Metal Surface Coating Thinner and Reducer	Emission units using solvents.	Solvent used in process operations.
<u>RULE 323</u> : Architectural Coatings	Paints used in maintenance and surface coating activities.	Application of architectural coatings.
<u>RULE 324</u> : Disposal and Evaporation of Solvents	Emission units using solvents.	Solvent used in process operations.
<u>RULE 353</u> : Adhesives and Sealants	Emission units using adhesives and solvents.	Adhesives and sealants used in process operations.
<u>RULE 505.A, B1, D</u> : Breakdown Conditions	All emission units	Breakdowns where permit limits are exceeded or rule requirements are not complied with.
<u>RULE 603</u> : Emergency Episode Plans	Stationary sources with PTE greater than 100 tpy	E&B South Cuyama is a major source.
<u>REGULATION VIII</u> : New Source Review	All emission units	Addition of new equipment of modification to existing equipment. Applications to generate ERC Certificates.
<u>REGULATION XIII (RULES 1301-1305)</u> : Part 70 Operating Permits	All emission units	E&B South Cuyama is a major source.

Table 3.2 - Unit-Specific Federally-Enforceable APCD Rules

Unit-Specific Requirements	Affected Emission Units	Basis for Applicability
<u>RULE 333</u> : Control of emissions from Reciprocating Internal Combustion Engines	All engines with a rated break horsepower of 50 or greater.	Engines used in the production and processing of oil and natural gas.

Table 3.3 - Non-Federally-Enforceable APCD Rules

Requirement	Affected Emission Units	Basis for Applicability
<u>RULE 210</u> : Fees	All emission units	Administrative
<u>RULE 212</u> : Emission Statements	All emission units	Administrative
<u>RULE 310</u> : Odorous Org. Sulfides	All emission units	Emission of organic sulfides
<u>RULES 501-504</u> : Variance Rules	All emission units	Administrative
<u>RULE 505.B2, B3, C, E, F, G</u> : Breakdown Conditions	All emission units	Breakdowns where permit limits are exceeded or rule requirements are not complied with.

Table 3.4 – Adoption Dates of APCD Rules Applicable at Issuance of Permit

Rule No.	Rule Name	Adoption Date
Rule 101	Compliance by Existing Installations: Conflicts	June 1981
Rule 102	Definitions	May 20, 1999
Rule 103	Severability	October 23, 1978
Rule 201	Permits Required	April 17, 1997
Rule 202	Exemptions to Rule 201	April 17, 1997
Rule 203	Transfer	April 17, 1997
Rule 204	Applications	April 17, 1997
Rule 205	Standards for Granting Permits	April 17, 1997
Rule 206	Conditional Approval of Authority to Construct or Permit to Operate	October 15, 1991
Rule 208	Action on Applications - Time Limits	April 17, 1997
Rule 212	Emission Statements	October 20, 1992
Rule 301	Circumvention	October 23, 1978
Rule 302	Visible Emissions	June 1981
Rule 303	Nuisance	October 23, 1978
Rule 304	Particulate Matter – Northern Zone	October 23, 1978
Rule 309	Specific Contaminants	October 23, 1978
Rule 310	Odorous Organic Sulfides	October 23, 1978
Rule 311	Sulfur Content of Fuels	October 23, 1978
Rule 317	Organic Solvents	October 23, 1978
Rule 321	Solvent Cleaning Operations	September 18, 1997
Rule 322	Metal Surface Coating Thinner and Reducer	October 23, 1978
Rule 323	Architectural Coatings	November 15, 2001
Rule 324	Disposal and Evaporation of Solvents	October 23, 1978
Rule 333	Control of Emissions from Reciprocating Internal Combustion Engines	April 17, 1997

Rule No.	Rule Name	Adoption Date
Rule 353	Adhesives and Sealants	August 19, 1999
Rule 505	Breakdown Conditions (Section A, B1 and D)	October 23, 1978
Rule 603	Emergency Episode Plans	June 15, 1981
Rule 801	New Source Review	April 17, 1997
Rule 802	Nonattainment Review	April 17, 1997
Rule 803	Prevention of Significant Deterioration	April 17, 1997
Rule 804	Emission Offsets	April 17, 1997
Rule 805	Air Quality Impact and Modeling	April 17, 1997
Rule 806	Emission Reduction Credits	April 17, 1997
Rule 901	New Source Performance Standards (NSPS)	May 16, 1996
Rule 1001	National Emission Standards for Hazardous Air Pollutants (NESHAPS)	October 23, 1993
Rule 1301	General Information	January 18, 2001
Rule 1302	Permit Application	November 9, 1993
Rule 1303	Permits	January 18, 2001
Rule 1304	Issuance, Renewal, Modification and Reopening	January 18, 2001
Rule 1305	Enforcement	November 9, 1993

4.0 Engineering Analysis

4.1 General

The engineering analyses performed for this permit were limited to the review of:

- facility process flow diagrams
- emission factors and calculation methods for each emissions unit
- emission control equipment (including RACT, BACT, NSPS, NESHAP, MACT)
- emission source testing, sampling, CEMS, CAM
- process monitors needed to ensure compliance

Unless noted otherwise, default ROC/THC reactivity profiles from the APCD's "*VOC/ROC Emission Factors and Reactivities for Common Source Types*" dated 7/13/98 (ver 1.1) was used to determine non-methane, non-ethane fraction of THC.

4.2 Piston Internal Combustion Engines

4.2.1 The stationary combustion sources at the South Cuyama Stationary Source consist of Twenty-four (24) field-gas-fired, piston IC engines to drive pumping units and compressors, and two (2) diesel-fired, piston IC engine (Device ID# 6404 & 8285) to drive an air compressor and a firewater pump.

Eleven engines are emission controlled:

Six (6) (Device ID# 6388, 6389, 6390, 6391, 6394, & 6397) are rich burn and use Non-Selective Catalytic Reduction (NSCR) for NO_x control. Of these, 5 are 195 hp Waukesha F1197 engines and one is a Buda engine. The emission calculations are in Section A below.

Four (4) (Device ID# 6392, 6393, 6395, & 6396) are rich burn and use Non-Selective Catalytic Reduction (NSCR) for NO_x control and are equipped with a fuel/air controller. Three are 195 hp Waukesha F1197 engine and one is a Buda. The emission calculations are in Section A below.

One controlled engine, Clark #11 (Device ID# 6402) is a lean burn compressor and uses ignition timing retard to achieve emission control. Its operation is limited to less than 200 hrs/year and thus it is not subject to Rule 333. The emission calculations covering this engine are in Section B below.

The two diesel-fired engines are uncontrolled and covered in Section C below. The one remaining ICE is an uncontrolled, gas-fired, rich burn unit and is covered by Section A.

Emission factors for ROC, CO and PM emissions are based on Rule 333, USEPA AP-42 and APCD Hearing Board values.

A. Gas-Fired, Rich Burn, Non-Cyclic ICEs

$$ER = [(EF \times SCFPP \times HHV) \div 10^6]$$

where: ER = Emission rate (lb/period)

EF = Pollutant specific emission factor (lb/MMBtu)

SCFPP = gas flow rate per operating period (scf/period)

HHV = gas higher heating values (1050 Btu/scf)

Emission Factors (EF) for Uncontrolled Gas Engines Not Subject to Rule 333

Pollutant	Emission Factor	Units	Notes
NO _x	1.905	lb/MMBtu	1.a
ROC	0.103	lb/MMBtu	1.a
CO	1.600	lb/MMBtu	1.a
PM ₁₀	0.010	lb/MMBtu	1.a
SO _x as SO ₂	0.128 = (0.169)(ppmv) / HHV	lb/MMBtu	2

Emission Factors (EF) for Controlled Gas Engines Subject to Rule 333.D.1

Pollutant	Emission Factor	Units	Notes
NO _x	0.190	lb/MMBtu	1.b
ROC	0.830	lb/MMBtu	1.b
CO	10.100	lb/MMBtu	1.b
PM ₁₀	0.010	lb/MMBtu	1.b
SO _x as SO ₂	0.128 = (0.169)(ppmv) / HHV	lb/MMBtu	2

Notes for both tables above:

- 1.a. SBCAPCD Permit Guidance Document for Reciprocating ICEs dated January 27, 1998, page 6, Table 3.6-1, which values are from AP-42 and APCD Hearing Board dictated gas-fired engine emission factors..
- 1.b. SBCAPCD Permit Guidance Document for Reciprocating ICEs dated January 27, 1998, page 7, Table 3.6-3, which values are from AP-42 gas-fired engine EFs based on Rule 333.D.1 rich-burn limits, i.e. 50 ppmv NO_x, 4500 ppmv CO, and 250 ppmv ROC at 15% excess oxygen.
2. Based on mass balance of sulfur in gaseous fuel and limit of 796 ppmv S.

B. Gas-Fired, Lean Burn, Non-Cyclic ICEs

$$ER = [(EF \times SCFPP \times HHV) \div 10^6]$$

where: ER = Emission rate (lb/period)
 EF = Pollutant specific emission factor (lb/MMBtu)
 SCFPP = gas flow rate per operating period (scf/period)
 HHV = gas higher heating values (1050 Btu/scf)

Emission Factors (EF) for Controlled Compressor Clark #11 Not Subject to Rule 333

Pollutant	Emission factor (PTO 9129)	Units	Notes
NO _x	0.460	lb/MMBtu	1
ROC	2.500	lb/MMBtu	1
CO	10.100	lb/MMBtu	1
PM ₁₀	0.046	lb/MMBtu	1
SO _x as SO ₂	0.128 = (0.169)(ppmv) / HHV	lb/MMBtu	2

Table Notes:

1. SBCAPCD Permit Guidance Document for Reciprocating ICEs dated January 27, 1998, page 7, Table 3.6-3, which values are from AP-42 gas-fired engine EFs based on Rule 333.D.2 lean-burn limits, i.e. 125 ppmv NO_x, 4,500 ppmv CO, and 750 ppmv ROC at 15% excess oxygen.
2. Based on mass balance of sulfur in gaseous fuel.

C. Diesel Fired Internal Combustion Engines

Emissions are determined by the following equations:

$$\begin{aligned} \text{lb/day} &= \text{Engine Rating (bhp)} * \text{EF (g/bhp-hr)} * \text{Daily Hours (hr/day)} * (\text{lb}/453.6 \text{ g}) \\ \text{tpy} &= \text{Engine Rating (bhp)} * \text{EF (g/bhp-hr)} * \text{Annual Hours (hr/yr)} * (\text{lb}/453.6 \text{ g}) * (\text{ton}/2000 \text{ lb}) \end{aligned}$$

The emission factors (EF) were chosen based on each engine's rating and age

Emission factors (EF) for diesel-fired ICEs not subject to Rule 333

Pollutant	Emission factor	units	Notes
NO _x	14.060	g/bhp-hour	1
ROC	1.120	g/bhp-hour	2, 6
CO	3.030	g/bhp-hour	3
SO _x	0.0055	g/bhp-hour	4
PM ₁₀	1.000	g/bhp-hour	5, 7

Notes:

1. NO_x emission factors are based on the EPA Tier 0 Factors.
2. ROC emission factors are based on the EPA Tier 0 Factors.
3. CO emission factors are based on the EPA Tier 0 Factors.
4. SO_x emission factors are based on the EPA Tier 0 Factors for 15 ppm sulfur diesel.
5. PM₁₀ emission factors are based on the EPA Tier 0 Factors.
6. ROC/THC ratio = 1.0
7. PM10/PM mass ratio = 1.0

4.3 BACT / NSPS / NESHAP / MACT

None of the ICEs at the South Cuyama Unit is subject to best available control technology (BACT) provisions of the APCD. In 1992 and 1993, the previous operator modified ICEs (Device ID# 6388 - 6397) to implement Rule 333.D. The Rule 333 limits are less strict than BACT. The ICE modifications did not increase emissions and so did not result in New Source Review. There is no New Source Performance Standard that applies to the ICEs covered by this permit. Non-ICE modifications are covered in PTOs 7250 and 9136.

4.4 CEMS/Process Monitoring/CAM

4.4.1 CEMS: There are no CEMS at this facility.

4.4.2 Process Monitoring: In many instances, ongoing compliance beyond a single (snap shot) source test is assessed by the use of process monitoring systems. Examples of these monitors include: engine hour meters, fuel usage meters, water injection mass flow meters, and hydrogen sulfide analyzers. Once these process monitors are in place, it is important that they be well maintained and calibrated to ensure that the required accuracy and precision of the devices are within specifications. At a minimum, the following process monitors will be required to be calibrated and maintained in good working order:

- Meters recording volume of gas processed at plant inlet
- Meters recording use of gaseous fuel for combustion devices per the APCD-approved FUMP
- Recorder for IC engine process parameters per the APCD-approved FUMP
- Meter recording hourly use for the Clark #11 compressor (Device ID# 6402)

To implement the above calibration and maintenance requirements the previous operator submitted a *Process Monitor Calibration and Maintenance Plan* that has been approved by the APCD. This Plan takes into consideration manufacturer recommended maintenance and calibration schedules. Where manufacturer guidance was not available, the recommendations of comparable equipment manufacturers and good engineering judgment was utilized.

- 4.4.3 CAM: E&B ICEs are not subject to the USEPA's Compliance Assurance Monitoring (CAM) rule (40 CFR 64) requirements because none of the engines equipped with a control device emits more than 100 tons/year of NO_x or ROC, or 100 tons/year of CO. This is based on both pre-control and post-control emissions.

4.5 Source Testing / Sampling

Source testing and sampling are required in order to ensure compliance with permitted emission limits, prohibitory rules, control measures and the assumptions that form the basis for issuing operating permits.

Biennial source testing of the IC engines with Device ID#s 6388 - 6397 in this permit is required to verify compliance with applicable emission standards. Process monitors used to ensure compliance are: (a) equipment recording volume of gas processed; (b) equipment recording gaseous fuel use; (c) IC engine process parameter recorders (e.g., A/F ratio controller recorder); and (d) IC engine operation logs required under APCD Rule 333.

At a minimum, E&B shall sample, monitor, or analyze as applicable the process streams below on a periodic basis, pursuant to APCD Rules and standards:

- Fuel (produced) Gas: Daily H₂S Draeger tube tests when the Southern California Gas analyzer is down or registering alarm conditions and annual total sulfur analysis by ASTM D-1072 or other method approved by the APCD.
- Diesel Fuel: Analysis for fuel sulfur content, *annually*.
- Piston IC Engines: Monitor fuel pressure, engine speed (rpm) and jacket water temperature for the compressor engines at the gas plant pursuant to the APCD approved IC Engine Inspection and Maintenance Plan.

All sampling and analyses are required to be performed according to APCD approved procedures and methodologies. Typically, the appropriate ASTM methods are acceptable. It is important that all sampling and analysis be traceable by chain of custody procedures. Diesel fuel sulfur content may be determined instead by certified statement of the supplier of diesel traceable to the diesel-burning ICE.

4.6 Part 70 Engineering Review: Hazardous Air Pollutant Emissions

Hazardous air pollutant emissions from the different categories of emission units at the E&B South Cuyama internal combustion engines are based on emission factors listed in USEPA AP-42. Where no emission factors are available, the HAP fractions from the ARB VOC

Speciation Manual – Second Edition (August 1991) are used in conjunction with the ROC emission factor for the equipment item in question.

The HAP emission factors are listed in Table 5.4-1. Potential HAP emissions from the facility are computed and listed in Table 5.4-2.

5.0 Emissions

5.1 General

This permit is a reevaluation of Permit to Operate 8010-R6 and the third renewal of Part 70 Operating Permit 8010 (both issued June 14, 2005).

Section 5.2 details the permitted emissions for each emissions unit. Section 5.3 details the overall permitted emissions for the facility based on reasonable worst-case scenarios using the potential-to-emit for each emissions unit. Section 5.4 provides the federal potential to emit calculation using the definition of potential to emit used in Rule 1301. Section 5.5 provides the estimated HAP emissions from the facility. Section 5.6 (if applicable) provides the estimated emissions from permit exempt equipment and also serves as the Part 70 list of insignificant emissions. Section 5.7 provides the net emissions increase calculation for the facility and the stationary source. The APCD uses a computer database to accurately track the emissions from a facility. Attachment 10.4 contains the APCD's documentation for the information entered into that database.

5.2 Permitted Emission Limits - Emission Units

Each emissions unit associated with the facility was analyzed to determine the potential-to-emit for the following pollutants:

- ⇒ Nitrogen Oxides (NO_x)³
- ⇒ Reactive Organic Compounds (ROC)
- ⇒ Carbon Monoxide (CO)
- ⇒ Sulfur Oxides (SO_x)⁴
- ⇒ Particulate Matter (PM)⁵
- ⇒ Particulate Matter smaller than 10 microns (PM₁₀)

Permitted emissions are calculated for both short term (daily) and long term (annual) time periods. Section 4.0 (Engineering Analysis) provides a general discussion of the basic calculation methodologies and emission factors used. The reference documentation for the specific emission calculations, as well as detailed calculation spreadsheets, may be found in Section 4 and Attachments 10.1 and 10.2 respectively. Table 5.1-1 provides the basic operating characteristics. Table 5.1-2 provides the specific emission factors. Table 5.1-3 shows the permitted short-term and permitted long-term emissions for each unit or operation. In the table, the last column indicates whether the emission limits are federally-enforceable. Those emissions limits that are federally-enforceable are indicated by the symbol "FE". Those emissions limits that are APCD-only enforceable are indicated by the symbol "A".

5.3 Permitted Emission Limits - Facility Totals

The total potential-to-emit for all emission units associated with the facility were analyzed. This analysis looked at the reasonable worst-case operating scenarios for each operating period. The equipment operating in each of the scenarios are presented below. Unless otherwise specified,

³ Calculated and reported as nitrogen dioxide (NO₂)

⁴ Calculated and reported as sulfur dioxide (SO₂)

⁵ Calculated and reported as all particulate matter smaller than 100 μm

the operating characteristics defined in Table 5.1-1 for each emission unit are assumed. Table 5.2 shows the total permitted emissions for the facility.

Daily Scenario:

→ Twenty-Three (23) gas fired IC engines operate 24 hrs/day.

Annual Scenario:

- Gas-fired IC engines operating 8,760 hrs/year;
- The controlled gas fired Clark #11 compressor (Device ID# 6402) operating no more than 200 hours per year.
- The diesel air compressor ICE (Device ID# 6404) operating no more than 200 hours per year.
- The diesel firewater pump ICE (Device ID# 8285) operating no more than 20 hours per year for maintenance and testing with no limitation for emergency use.

5.4 Part 70: Federal Potential to Emit for the Facility

Table 5.3 lists the federal Part 70 potential to emit. All project emissions, except fugitive emissions, are counted in the federal definition of potential to emit.

5.5 Part 70: Hazardous Air Pollutant Emissions for the Facility

Hazardous air pollutants (HAP) emission factors, for each type of emissions unit, are listed in Table 5.5-1. Potential HAP emissions, based on the worst-case scenario, are shown in Table 5.5-2.

5.6 Exempt Emission Sources/Part 70 Insignificant Emissions

Equipment/activities exempt pursuant to Rule 202 include small ICEs and ICEs with specific operation limitations. This facility includes the following APCD permit-exempt and Part 70 insignificant ICEs with emissions:

- a. Standby generator ICE (Waukesha F1197, E&B ID# W-17, 195 hp) per Rule 202.F.1.d.

In addition, *insignificant activities* such as maintenance operations using paints and coatings contribute to the facility emissions. Table 5.4 lists the exempt emissions units and the expected emissions.

5.7 Net Emissions Increase Calculation

The stationary source net emissions increases since November 15, 1990 (the day the federal Clean Air Act Amendments were adopted) are listed in Table 5.0. This emissions history is relevant for any future modifications.

**Table 5.0
Stationary Source Net Emissions Increase**

Equipment Category	NOx	ROC	CO	SOx	PM	PM10
PTO 7250-R5 - Issued April 3, 2002						
lbs/day	0.00	7.80	0.00	0.00	0.00	0.00
tons/year	0.00	1.42	0.00	0.00	0.00	0.00
PTO 10849 - Issued August 18, 2003 - Replace Tanks and Increase Throughput at Tank Farm #6						
lbs/day	0.00	3.11	0.00	0.00	0.00	0.00
tons/year	0.00	0.56	0.00	0.00	0.00	0.00
PTO 10954 - Issued August 18, 2003 - Add NGLs to Crude Oil at Tank Farm #6						
lbs/day	0.00	10.04	0.00	0.00	0.00	0.00
tons/year	0.00	1.84	0.00	0.00	0.00	0.00
PTO 10914 - Issued November 10, 2003 - A New Amine Unit at Gas Plant 10						
lbs/day	1.53	17.80	1.29	0.21	0.12	0.12
tons/year	0.28	3.25	0.23	0.04	0.02	0.02
PTO 11136 - Issued July 8, 2004 - Upgrade Gas Station Vapor Recovery						
lbs/day	0.00	0.00	0.00	0.00	0.00	0.00
tons/year	0.00	0.00	0.00	0.00	0.00	0.00
PTO 11129 - Issued March 22, 2004 - Electrification of the Clark Compressors						
lbs/day	0.00	0.00	0.00	0.00	0.00	0.00
tons/year	0.00	0.00	0.00	0.00	0.00	0.00
PTO 11558 - Issued April 21, 2006 - New 1,250 bbl Wash Tank at Tank Farm #6						
lbs/day	0.00	0.51	0.00	0.00	0.00	0.00
tons/year	0.00	0.09	0.00	0.00	0.00	0.00
PTO 11724 - Issued 10/19/05 - One Existing Diesel-fired Firewater Pump						
lbs/day	0.00	0.00	0.00	0.00	0.00	0.00
tons/year	0.00	0.00	0.00	0.00	0.00	0.00
PTO 11759 - Issued 05/17/06 - One Existing Diesel-fired Portable Air Compressor						
lbs/day	0.00	0.00	0.00	0.00	0.00	0.00
tons/year	0.00	0.00	0.00	0.00	0.00	0.00
PTO 12284 - Issued 02/04/08 - Add Fuel/Air Controllers to Four Existing ICEs						
lbs/day	0.00	0.00	0.00	0.00	0.00	0.00
tons/year	0.00	0.00	0.00	0.00	0.00	0.00
PTO 12279 - Pending - New 5,000 bbl Wash Tank at Tank Farm #6						
lbs/day	0.00	1.65	0.00	0.00	0.00	0.00
tons/year	0.00	0.30	0.00	0.00	0.00	0.00
Total						
lbs/day	1.53	40.91	1.29	0.21	0.12	0.12
tons/year	0.28	7.46	0.23	0.04	0.02	0.02

Table 5.1-1
 E&B South Cuyama Unit Permit to Operate 8010-R6
 Operating Equipment Description for Internal Combustion Engines (ICEs)

Facility ID #: 08916		Heat Input & Usage Data Schedule														
APCD Permit ID#	APCD Device Number	APCD Make & Model	Engine Use	E&B ID	Fuel	% Sulfur by volume	Engine Specifications	BHP limited by	BSFC (Btu/bhp-hr)	Hourly	Annual	Load	hr day	qtr	year	
Unmodified Natural Gas-Fired, Rich-Burn, Non-Cyclic Engines Not Subject to Rule 333																
1	006338	Waukesha 180GBK	compressor	W-40	FNG	0.0796	24.0 hp	nameplate	9,100	0.218	1,913	1.0	1 24	2,190	8,760	
Derated Natural Gas-Fired, Rich-Burn, Non-Cyclic Engines Not Subject to Rule 333																
2	006347	Waukesha 195	spare	W-38	FNG	0.0796	41.8 hp	orifice plate at 1.65 inches	9,100	0.380	3,332	1.0	1 24	2,190	8,760	
3	006348	MM 336	lift pump	MM-1	FNG	0.0796	46.3 hp	orifice plate at 1.30 inches	9,800	0.454	3,975	1.0	1 24	2,190	8,760	
4	006350	MM 336	lift pump	MM-3	FNG	0.0796	46.3 hp	orifice plate at 1.30 inches	9,800	0.454	3,975	1.0	1 24	2,190	8,760	
5	006351	MM 336	lift pump	MM-5	FNG	0.0796	46.3 hp	orifice plate at 1.30 inches	9,800	0.454	3,975	1.0	1 24	2,190	8,760	
6	006352	MM 336	lift pump	MM-8	FNG	0.0796	46.3 hp	orifice plate at 1.30 inches	9,800	0.454	3,975	1.0	1 24	2,190	8,760	
7	006361	MM 336	lift pump	MM-11	FNG	0.0796	46.3 hp	orifice plate at 1.30 inches	9,800	0.454	3,975	1.0	1 24	2,190	8,760	
8	006363	MM 336	pump	MM-22	FNG	0.0796	46.3 hp	orifice plate at 1.30 inches	9,800	0.454	3,975	1.0	1 24	2,190	8,760	
9	006379	Waukesha 140	lift pump	W-24	FNG	0.0796	49.5 hp	orifice plate at 0.98 inches	9,100	0.450	3,946	1.0	1 24	2,190	8,760	
10	006380	Waukesha 140	lift pump	W-41	FNG	0.0796	49.5 hp	orifice plate at 0.98 inches	9,100	0.450	3,946	1.0	1 24	2,190	8,760	
11	006381	Waukesha 140	spare	W-36	FNG	0.0796	49.5 hp	orifice plate at 0.98 inches	9,100	0.450	3,946	1.0	1 24	2,190	8,760	
12	006384	Waukesha 145	lift pump	W-37	FNG	0.0796	49.5 hp	orifice plate at 0.922 inches	9,100	0.450	3,946	1.0	1 24	2,190	8,760	
13	006387	Waukesha 145	lift pump	W-51	FNG	0.0796	49.5 hp	orifice plate at 0.922 inches	9,100	0.450	3,946	1.0	1 24	2,190	8,760	
Controlled Natural Gas-Fired, Rich Burn, Noncyclic ICEs (e, f)																
14	006388	Waukesha F1197	pump	W-2	FNG	0.0796	195.0 hp	nameplate/NSCR Cat	9,100	1.775	15,545	1.0	1 24	2,190	8,760	
15	006389	Waukesha F1197	pump	W-3	FNG	0.0796	195.0 hp	nameplate/NSCR Cat	9,100	1.775	15,545	1.0	1 24	2,190	8,760	
16	006390	Waukesha F1197	WW injection	W-8	FNG	0.0796	195.0 hp	nameplate/NSCR Cat	9,100	1.775	15,545	1.0	1 24	2,190	8,760	
17	006391	Waukesha F1197	pump	W-4	FNG	0.0796	195.0 hp	nameplate/NSCR Cat	9,100	1.775	15,545	1.0	1 24	2,190	8,760	
18	006392	Waukesha F1197	pump	W-12	FNG	0.0796	195.0 hp	nameplate/NSCR Cat	9,100	1.775	15,545	1.0	1 24	2,190	8,760	
19	006393	Waukesha F1197	WW injection	W-11	FNG	0.0796	195.0 hp	nameplate/NSCR Cat	9,100	1.775	15,545	1.0	1 24	2,190	8,760	
20	006394	Waukesha F1197	pump	W-15	FNG	0.0796	195.0 hp	nameplate/NSCR Cat	9,100	1.775	15,545	1.0	1 24	2,190	8,760	
21	006395	Waukesha F1197	pump	W-42	FNG	0.0796	195.0 hp	nameplate/NSCR Cat	9,100	1.775	15,545	1.0	1 24	2,190	8,760	
22	006396	Buda/6MO-672	WW injection	B-5	FNG	0.0796	135.0 hp	nameplate/NSCR Cat	9,100	1.229	10,762	1.0	1 24	2,190	8,760	
23	006397	Buda/6MO	pump	B-6	FNG	0.0796	174.0 hp	nameplate/NSCR Cat	9,100	1.583	13,871	1.0	1 24	2,190	8,760	
Controlled Gas-Fired, Lean Burn, Non-Cyclic Engine Not Subject to Rule 333 (g)																
24	006402	Clark HRA-6T	gas compressor	HRA #11	FNG	0.0796	792.0 hp	namepl/retarded lean burn	8,460	6.700	1,340	1.0	1 24	200	200	
Uncontrolled Diesel-Fired, Lean Burn, Non-Cyclic Engine Not Subject to Rule 333 (i)																
25	006404	Detroit Diesel	air compressor	D-1	D		61.0 hp	nameplate	7,500	0.458	91	1.0	1 24	199	199	
26	008285	Caterpillar 3306	firewater pump	D-2	D		240.0 hp	nameplate	7,500	1.800	36	1.0	1 20	20	20	
														Totals		
														31.54		199,280

Footnotes for Table 5.1-1:

- a. Fuel: FNG means field natural gas, D means diesel.
- b. BSFC means brake-specific fuel consumption.
- c. BHP limited by "orifice plate" means intake manifold orifice plate at the indicated diameter in inches, "nameplate" means limited by manufacturer; "retarded lean bn" means lean burn with retarded ignition timing.
- d. Fuel HHV is 1,050 Btu/scf for NG, 140,000 Btu/gal for D.
- e. NSCR Cat means a catalytic converter using a noble metal catalyst.
- f. Engine is subject to Rule 333.D.1.
- g. Engine is subject to Rule 333.D.2 per PTO 8910.
- h. SCC for all natural gas-fired ICEs is 20200202; for the diesel-fired ICEs the SCC is 20200102.
- i. The diesel fired engines are not subject to Rule 333 because they operate less than 200 hours/year.

**Table 5.1-2
E&B South Cuyama Unit Permit to Operate 8010-R6
Equipment Emission Factors for ICES**

APCD Permit ID#	APCD Device Number	Emissions Unit Make & Model	Emission Factors in pounds of Pollutant per MMBtu										EF Units	References
			E&B ID#	NOx	ROC	CO	SOx	PM	PM10					
Unmodified Natural Gas-Fired, Rich-Burn, Non-Cyclic Engines Not Subject to Rule 333														
1	006338	Waukesha 180GBK	W-40	1.905	0.103	1.600	0.136	~	~	0.010		lb/MMBtu		
Derated Natural Gas-Fired, Rich-Burn, Non-Cyclic Engines Not Subject to Rule 333														
2	006347	Waukesha 195	W-38	1.905	0.103	1.600	0.136	~	~	0.010		lb/MMBtu		
3	006348	MM 336	MM-1	1.905	0.103	1.600	0.136	~	~	0.010		lb/MMBtu		
4	006350	MM 336	MM-3	1.905	0.103	1.600	0.136	~	~	0.010		lb/MMBtu		
5	006351	MM 336	MM-5	1.905	0.103	1.600	0.136	~	~	0.010		lb/MMBtu		
6	006352	MM 336	MM-8	1.905	0.103	1.600	0.136	~	~	0.010		lb/MMBtu		
7	006361	MM 336	MM-11	1.905	0.103	1.600	0.136	~	~	0.010		lb/MMBtu		
8	006363	MM 336	MM-22	1.905	0.103	1.600	0.136	~	~	0.010		lb/MMBtu		
9	006379	Waukesha 140	W-24	1.905	0.103	1.600	0.136	~	~	0.010		lb/MMBtu		
10	006380	Waukesha 140	W-41	1.905	0.103	1.600	0.136	~	~	0.010		lb/MMBtu		
11	006381	Waukesha 140	W-36	1.905	0.103	1.600	0.136	~	~	0.010		lb/MMBtu		
12	006384	Waukesha 145	W-37	1.905	0.103	1.600	0.136	~	~	0.010		lb/MMBtu		
13	006387	Waukesha 145	W-51	1.905	0.103	1.600	0.136	~	~	0.010		lb/MMBtu		
Controlled Natural Gas-Fired, Rich Burn, Noncyclic ICES														
14	006388	Waukesha F1197	W-2	0.190	0.830	10.100	0.136	~	~	0.010		lb/MMBtu		
15	006389	Waukesha F1197	W-3	0.190	0.830	10.100	0.136	~	~	0.010		lb/MMBtu		
16	006390	Waukesha F1197	W-8	0.190	0.830	10.100	0.136	~	~	0.010		lb/MMBtu		
17	006391	Waukesha F1197	W-4	0.190	0.830	10.100	0.136	~	~	0.010		lb/MMBtu		
18	006392	Waukesha F1197	W-12	0.190	0.830	10.100	0.136	~	~	0.010		lb/MMBtu		
19	006393	Waukesha F1197	W-11	0.190	0.830	10.100	0.136	~	~	0.010		lb/MMBtu		
20	006394	Waukesha F1197	W-15	0.190	0.830	10.100	0.136	~	~	0.010		lb/MMBtu		
21	006395	Waukesha F1197	W-42	0.190	0.830	10.100	0.136	~	~	0.010		lb/MMBtu		
22	006396	Buda/6MO-672	B-5	0.190	0.830	10.100	0.136	~	~	0.010		lb/MMBtu		
23	006397	Buda/6MO	B-6	0.190	0.830	10.100	0.136	~	~	0.010		lb/MMBtu		
Controlled Gas-Fired, Lean Burn, Non-Cyclic Engine Not Subject to Rule 333														
24	006402	Clark HRA-6T	HRA #11	0.460	2.500	10.100	0.136	~	~	0.046		lb/MMBtu	d	
Uncontrolled Diesel-Fired, Lean Burn, Non-Cyclic Engine Not Subject to Rule 333														
25	006404	Detroit Diesel	D-1	14.060	1.120	3.030	0.0055	1.000	1.000	1.000		g/bhp-hr		
26	008285	Caterpillar 3306	D-2	14.060	1.120	3.030	0.0055	1.000	1.000	1.000		g/bhp-hr		

**Table 5.1-3
E&B South Cuyama Unit Permit to Operate 8010-R6
Hourly and Daily Emissions**

APCD Permit ID#	APCD Device Number	Emissions Unit Make & Model	E&B ID #	NOx lbs/hr	lbs/day	ROC lbs/hr	CO lbs/hr	lbs/day	SOx lbs/hr	lbs/day	PM lbs/hr	lbs/day	PM10 lbs/hr	lbs/day	Federal Enforceability
Unmodified Natural Gas-Fired, Rich-Burn, Non-Cyclic Engines Not Subject to Rule 333															
1	006338	Waukesha 180GBK	W-40	0.42	9.99	0.02	0.54	0.35	8.39	0.03	0.71	~	0.00	0.05	A via PTO 8010
Derated Natural Gas-Fired, Rich-Burn, Non-Cyclic Engines Not Subject to Rule 333															
2	006347	Waukesha 195	W-38	0.72	17.39	0.04	0.94	0.61	14.61	0.05	1.24	~	0.00	0.09	A via PTO 8010
3	006348	MM 336	MM-1	0.86	20.74	0.05	1.12	0.73	17.42	0.06	1.48	~	0.00	0.11	A via PTO 8010
4	006350	MM 336	MM-3	0.86	20.74	0.05	1.12	0.73	17.42	0.06	1.48	~	0.00	0.11	A via PTO 8010
5	006351	MM 336	MM-5	0.86	20.74	0.05	1.12	0.73	17.42	0.06	1.48	~	0.00	0.11	A via PTO 8010
6	006352	MM 336	MM-8	0.86	20.74	0.05	1.12	0.73	17.42	0.06	1.48	~	0.00	0.11	A via PTO 8010
7	006361	MM 336	MM-11	0.86	20.74	0.05	1.12	0.73	17.42	0.06	1.48	~	0.00	0.11	A via PTO 8010
8	006363	MM 336	MM-22	0.86	20.74	0.05	1.12	0.73	17.42	0.06	1.48	~	0.00	0.11	A via PTO 8010
9	006379	Waukesha 140	W-24	0.86	20.59	0.05	1.11	0.72	17.30	0.06	1.47	~	0.00	0.11	A via PTO 8010
10	006380	Waukesha 140	W-41	0.86	20.59	0.05	1.11	0.72	17.30	0.06	1.47	~	0.00	0.11	A via PTO 8010
11	006381	Waukesha 140	W-36	0.86	20.59	0.05	1.11	0.72	17.30	0.06	1.47	~	0.00	0.11	A via PTO 8010
12	006384	Waukesha 145	W-37	0.86	20.59	0.05	1.11	0.72	17.30	0.06	1.47	~	0.00	0.11	A via PTO 8010
13	006387	Waukesha 145	W-51	0.86	20.59	0.05	1.11	0.72	17.30	0.06	1.47	~	0.00	0.11	A via PTO 8010
Controlled Natural Gas-Fired, Rich Burn, Noncyclic ICEs															
14	006388	Waukesha F1197	W-2	0.34	8.09	1.47	35.35	17.92	430.14	0.24	5.80	~	0.02	0.43	FE via ATC 9076
15	006389	Waukesha F1197	W-3	0.34	8.09	1.47	35.35	17.92	430.14	0.24	5.80	~	0.02	0.43	FE via ATC 9076
16	006390	Waukesha F1197	W-8	0.34	8.09	1.47	35.35	17.92	430.14	0.24	5.80	~	0.02	0.43	FE via ATC 9076
17	006391	Waukesha F1197	W-4	0.34	8.09	1.47	35.35	17.92	430.14	0.24	5.80	~	0.02	0.43	FE via ATC 9076
18	006392	Waukesha F1197	W-12	0.34	8.09	1.47	35.35	17.92	430.14	0.24	5.80	~	0.02	0.43	FE via ATC 9076
19	006393	Waukesha F1197	W-11	0.34	8.09	1.47	35.35	17.92	430.14	0.24	5.80	~	0.02	0.43	FE via ATC 9076
20	006394	Waukesha F1197	W-15	0.34	8.09	1.47	35.35	17.92	430.14	0.24	5.80	~	0.02	0.43	FE via ATC 9076
21	006395	Waukesha F1197	W-42	0.34	8.09	1.47	35.35	17.92	430.14	0.24	5.80	~	0.02	0.43	FE via ATC 9076
22	006396	Budar/6MO-672	B-5	0.23	5.60	1.02	24.47	12.41	297.79	0.17	4.01	~	0.01	0.29	FE via ATC 9129
23	006397	Budar/6MO	B-6	0.30	7.22	1.31	31.54	15.99	383.82	0.22	5.17	~	0.02	0.38	FE via ATC 9129
Controlled Gas-Fired, Lean Burn, Non-Cyclic Engine Not Subject to Rule 333															
24	006402	Clark HRA-6T	HRA #11	3.08	73.97	16.75	402.02	67.67	1,624.16	0.91	21.89	~	0.31	7.40	FE via ATC 8870
Uncontrolled Diesel-Fired, Lean Burn, Non-Cyclic Engine Not Subject to Rule 333															
25	006404	Detroit Diesel	D-1	0.62	14.80	0.05	1.19	0.13	3.12	0.00	0.01	0.04	0.04	1.04	A via PTO 11724
26	008285	Caterpillar 3306	D-2	2.27	45.38	0.18	3.62	0.49	9.78	0.00	0.01	0.16	0.16	3.23	A via PTO 11759

Table 5.1-4
E&B South Cuyama Unit Permit to Operate 8010-R6
Quarterly and Annual Emissions

APCD Permit ID#	APCD Device Number	Emissions Unit Make & Model	E&B ID #	NOx		ROC		CO		SOx		PM		PM10		Federal Enforceability and its basis
				TPQ	TPY	TPQ	TPY	TPQ	TPY	TPQ	TPY	TPQ	TPY	TPQ	TPY	
Unmodified Natural Gas-Fired, Rich-Burn, Non-Cyclic Engines Not Subject to Rule 333																
1	006338	Waukesha 180GBK	W-40	0.46	1.82	0.02	0.10	0.38	1.53	0.03	0.13	0.00	0.01	0.00	0.01	A via PTO 8010
Derated Natural Gas-Fired, Rich-Burn, Non-Cyclic Engines Not Subject to Rule 333																
2	006347	Waukesha 195	W-38	0.79	3.17	0.04	0.17	0.67	2.67	0.06	0.23	0.00	0.02	0.00	0.02	A via PTO 8010
3	006348	MM 336	MM-1	0.95	3.79	0.05	0.20	0.79	3.18	0.07	0.27	0.00	0.02	0.00	0.02	A via PTO 8010
4	006350	MM 336	MM-3	0.95	3.79	0.05	0.20	0.79	3.18	0.07	0.27	0.00	0.02	0.00	0.02	A via PTO 8010
5	006351	MM 336	MM-5	0.95	3.79	0.05	0.20	0.79	3.18	0.07	0.27	0.00	0.02	0.00	0.02	A via PTO 8010
6	006352	MM 336	MM-8	0.95	3.79	0.05	0.20	0.79	3.18	0.07	0.27	0.00	0.02	0.00	0.02	A via PTO 8010
7	006361	MM 336	MM-11	0.95	3.79	0.05	0.20	0.79	3.18	0.07	0.27	0.00	0.02	0.00	0.02	A via PTO 8010
8	006363	MM 336	MM-22	0.95	3.79	0.05	0.20	0.79	3.18	0.07	0.27	0.00	0.02	0.00	0.02	A via PTO 8010
9	006379	Waukesha 140	W-24	0.94	3.76	0.05	0.20	0.79	3.16	0.07	0.27	0.00	0.02	0.00	0.02	A via PTO 8010
10	006380	Waukesha 140	W-41	0.94	3.76	0.05	0.20	0.79	3.16	0.07	0.27	0.00	0.02	0.00	0.02	A via PTO 8010
11	006381	Waukesha 140	W-36	0.94	3.76	0.05	0.20	0.79	3.16	0.07	0.27	0.00	0.02	0.00	0.02	A via PTO 8010
12	006384	Waukesha 145	W-37	0.94	3.76	0.05	0.20	0.79	3.16	0.07	0.27	0.00	0.02	0.00	0.02	A via PTO 8010
13	006387	Waukesha 145	W-51	0.94	3.76	0.05	0.20	0.79	3.16	0.07	0.27	0.00	0.02	0.00	0.02	A via PTO 8010
Controlled Natural Gas-Fired, Rich Burn, Noncyclic ICEs																
14	006388	Waukesha F1197	W-2	0.37	1.48	1.61	6.45	19.63	78.50	0.26	1.06	0.02	0.08	0.02	0.08	FE via ATC 9076
15	006389	Waukesha F1197	W-3	0.37	1.48	1.61	6.45	19.63	78.50	0.26	1.06	0.02	0.08	0.02	0.08	FE via ATC 9076
16	006390	Waukesha F1197	W-8	0.37	1.48	1.61	6.45	19.63	78.50	0.26	1.06	0.02	0.08	0.02	0.08	FE via ATC 9076
17	006391	Waukesha F1197	W-4	0.37	1.48	1.61	6.45	19.63	78.50	0.26	1.06	0.02	0.08	0.02	0.08	FE via ATC 9076
18	006392	Waukesha F1197	W-12	0.37	1.48	1.61	6.45	19.63	78.50	0.26	1.06	0.02	0.08	0.02	0.08	FE via ATC 9076
19	006393	Waukesha F1197	W-11	0.37	1.48	1.61	6.45	19.63	78.50	0.26	1.06	0.02	0.08	0.02	0.08	FE via ATC 9076
20	006394	Waukesha F1197	W-15	0.37	1.48	1.61	6.45	19.63	78.50	0.26	1.06	0.02	0.08	0.02	0.08	FE via ATC 9076
21	006395	Waukesha F1197	W-42	0.37	1.48	1.61	6.45	19.63	78.50	0.26	1.06	0.02	0.08	0.02	0.08	FE via ATC 9076
22	006396	Buda/6MO-672	B-5	0.26	1.02	1.12	4.47	13.59	54.35	0.18	0.73	0.01	0.05	0.01	0.05	FE via ATC 9129
23	006397	Buda/6MO	B-6	0.33	1.32	1.44	5.76	17.51	70.05	0.24	0.94	0.02	0.07	0.02	0.07	FE via ATC 9129
Controlled Gas-Fired, Lean Burn, Non-Cyclic Engine Not Subject to Rule 333																
24	006402	Clark HRA-6T	HRA #11	0.31	0.31	1.68	1.68	6.77	6.77	0.09	0.09	0.03	0.03	0.03	0.03	FE via ATC 8870
Uncontrolled Diesel-Fired, Lean Burn, Non-Cyclic Engine Not Subject to Rule 333																
25	006404	Detroit Diesel	D-1	0.07	0.07	0.01	0.01	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	A via PTO 11724
26	008285	Caterpillar 3306	D-2	0.19	0.19	0.01	0.01	0.04	0.04	0.01	0.01	0.01	0.01	0.01	0.01	A via PTO 11759

Table 5.2
E&B South Cuyama Unit Permit to Operate 8010-R6
Total Permitted Facility Emissions
for Internal Combustion Engines Only (FID 8916)

A. Peak Hourly (lb/hr)

Equipment Category	NOx	ROC	CO	SOx	PM	PM10
Internal Comb. Engines	19.82	31.67	248.99	3.99		0.74
Totals (lb/hr)	19.82	31.67	248.99	3.99		0.74

B. Peak Daily (lb/day)

Equipment Category	NOx	ROC	CO	SOx	PM	PM10
Internal Comb. Engines	466.53	759.40	5,973.79	95.67		17.09
Totals (lb/day)	466.53	759.40	5,973.79	95.67		17.09

C. Peak Quarterly (Tons/Qtr)

Equipment Category	NOx	ROC	CO	SOx	PM	PM10
Internal Comb. Engines	15.73	17.78	204.69	3.48		0.30
Totals (ton/qtr)	15.73	17.78	204.69	3.48		0.30

D. Peak Annual (Ton/yr)

Equipment Category	NOx	ROC	CO	SOx	PM	PM10
Internal Comb. Engines	61.23	66.04	798.28	13.57		1.04
Totals (ton/yr)	61.23	66.04	798.28	13.57		1.04

Note: This permit covers only the ICEs at the E&B stationary source. For the tanks, fugitives, external combustion, etc. emissions, see Part 70 permits 7250 and 9136.

Table 5.3
E&B South Cuyama Unit Permit to Operate 8010-R6
Federal Part 70 "PTE"
For Internal Combustion Engines Only

A. Peak Daily (lb/day)

Equipment Category	NOx	ROC	CO	SOx	PM	PM10
Internal Combustion Engines	466.53	759.40	5,973.79	95.67		17.09
Exempt Internal Comb. Engines	1.85	0.10	1.56	0.13		0.01
Totals (lb/day)	468.38	759.50	5,975.35	95.80		17.10

D. Peak Annual (ton/year)

Equipment Category	NOx	ROC	CO	SOx	PM	PM10
Internal Combustion Engines	61.23	66.04	798.28	13.57		1.04
Exempt Internal Comb. Engines	0.34	0.02	0.28	0.02		0.00
Totals (ton/year)	61.56	66.06	798.57	13.60		1.04

Note: This permit covers only the ICEs at the E&B stationary source. For the tanks, fugitives, external combustion, etc. emissions, see Part 70 permits 7250 and 9136.

Table 5.4
E&B South Cuyama Unit Permit to Operate 8010-R6
Estimated Emissions from APCD Permit Exempt
and Part 70 Insignificant Internal Combustion Engines

A. Quarterly (Tons/Qtr)

Equipment Category	NOx	ROC	CO	SOx	PM	PM10
195 hp Waukesha W-17 for generator	0.34	0.02	0.28	0.02	-	0.00
TOTALS (ton/qtr)	0.34	0.02	0.28	0.02	-	0.00

B. Annual (Tons/yr)

Equipment Category	NOx	ROC	CO	SOx	PM	PM10
195 hp Waukesha W-17 for generator	0.34	0.02	0.28	0.02	-	0.00
TOTALS (ton/yr)	0.34	0.02	0.28	0.02	-	0.00

Table 5.5-1
 Permit to Operate 8010-R6
 E&B South Cuyama Internal Combustion Engines
 Hazardous Pollutant Emission Factors

Equipment Category	APCD		Emission Factors							References	
	ID#		Formaldehyde	Xylene	Acrolein	Acetaldehyde	Benzene	Toluene	Units		
Gas Fired ICEs											
Unmodified 4-Stroke, Rich Burn	1.	2.05E-02	1.95E-04	2.63E-03	2.79E-03	1.58E-03	5.58E-04	5.58E-04	lb/MMBtu	AP-42	July 2000 Table 3.2-3
Derated 4-Stroke, Rich Burn	2. - 13.	2.05E-02	1.95E-04	2.63E-03	2.79E-03	1.58E-03	5.58E-04	5.58E-04	lb/MMBtu	AP-42	July 2000 Table 3.2-3
NSCR-Controlled, 4-stroke, Rich Burn	14. - 23.	7.20E-06	4.00E-05	9.60E-06	4.80E-06	1.10E-04	2.30E-05	2.30E-05	lb/MMBtu	AP-42	Nov 1995 Table 3.2-5
Controlled Lean Burn	24.	3.90E-02	4.48E-05	4.40E-04	3.40E-03	6.38E-04	1.90E-04	1.90E-04	lb/MMBtu	AP-42	June 1997 Table 3.2-4
Diesel Fired ICEs											
Uncontrolled Lean Burn	25 -26	1.18E-03	2.85E-04	9.25E-05	7.67E-04	9.33E-04	4.09E-04	4.09E-04	lb/MMBtu	AP-42	Oct 1996 Table 3.3-2

Table 5.5-2
Permit to Operate 8010-R6
E&B South Cuyama Internal Combustion Engines
Hazardous Pollutant Emissions

Equipment Category	APCD ID#	Formaldehyde		Xylene		Acrolein		Acetaldehyde		Benzene		Toluene	
		lb/day	ton/year	lb/day	ton/year	lb/day	ton/year	lb/day	ton/year	lb/day	ton/year	lb/day	ton/year
Gas Fired ICES	1.	0.11	0.02	0.00	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.00
	2. - 13.	2.86	0.52	0.03	0.00	0.37	0.07	0.39	0.07	0.22	0.04	0.08	0.01
	14. - 23.	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.04	0.01	0.01	0.00
	24.	25.09	4.58	0.03	0.01	0.28	0.05	2.19	0.40	0.41	0.07	0.12	0.02
Diesel Fired ICES	25-26	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00
	Total	28.07	5.12	0.08	0.01	0.67	0.12	2.60	0.47	0.69	0.12	0.22	0.04

Note:
Based on CAAA, Section 112 (n) (4) stipulations, the HAP emissions listed above can not be aggregated at the source for any purpose, including determination of HAP major source status for MACT applicability.

Note: The HAP emissions in these tables are estimates only and are not enforceable limits.

6.0 Air Quality Impact Analyses

6.1 Modeling

Air quality modeling has not been required for this stationary source.

6.2 Increments

An air quality increment analysis has not been required for this stationary source

6.3 Monitoring

Air quality monitoring is not required for this stationary source.

6.4 Health Risk Assessment

The E&B stationary source is subject to the Air Toxics Hot-Spots Program (AB-2588). A health risk assessment (HRA) for the facilities was prepared by the APCD on March 12, 1996 under the requirements of the Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588). The HRA is based on 1994 toxic emissions inventory data submitted to the APCD by E&B. An earlier HRA, based on 1991 emission data was also prepared by the APCD for Hallador on November 10, 1993.

Based on the 1994 toxic emissions inventory, a cancer risk of 6 per million off the property was estimated for the E&B Stationary Source. This risk is primarily due to emissions of polycyclic aromatic hydrocarbon (PAH) from internal combustion devices. Additionally, a chronic risk of 0.3 and an acute risk of 0.07 have been estimated by the APCD and are mainly due to formaldehyde and acrolein emissions from internal combustion devices. The cancer and non-cancer chronic risk projections are less than the APCD's AB-2588 significance thresholds of 10 in a million and 1.0, respectively. Approximately 4.7 pounds of PAH, 6,000 pounds of formaldehyde and 190 pounds of acrolein were emitted from internal combustion devices in 1994.

The health risk assessment based on the 1991 inventory showed a cancer risk of 5 per million. Emissions of benzene and PAH contributed to a majority of the risk. Chronic and acute non-cancer risks were estimated to be 0.2 and 0.1 respectively in 1991.

7.0 CAP Consistency, Offset Requirements and ERCs

7.1 General

Santa Barbara County is in attainment for the federal ozone standard but is nonattainment for the state ozone ambient air quality standards. In addition, the County is nonattainment with the state PM₁₀ ambient air quality standard. Therefore, emissions from all emission units at the stationary source and its constituent facilities must be consistent with the provisions of the USEPA and State approved Clean Air Plans (CAP) and must not interfere with progress towards maintenance of the federal and attainment of the state ambient air quality standards. Under APCD regulations, any modifications at the E&B South Cuyama Stationary Source that result in an emissions increase of any nonattainment pollutant exceeding 25 lbs/day must apply BACT (NAR).⁶ Additional increases may trigger offsets at the source or elsewhere so that there is a net air quality benefit for Santa Barbara County. These offset threshold levels are 55 lbs/day for all non-attainment pollutants except PM₁₀ for which the level is 80 lbs/day.

7.2 Clean Air Plan

Santa Barbara County's air quality has historically violated both the state and federal ozone standards. Since 1999, however, local air quality data show that every monitoring location in the County complied with the federal one-hour ambient air quality standard for ozone. The Santa Barbara County Air Pollution Control District adopted the 2001 Clean Air Plan (2001 CAP) that demonstrated attainment of the federal one-hour ozone standard and continued maintenance of that standard through 2015. Consequently, on August 8, 2003, the United States Environmental Protection Agency (USEPA) designated Santa Barbara County as an attainment area for the federal one-hour ozone standard.

On June 15, 2004, USEPA replaced the federal one-hour ozone standard with an eight-hour ozone standard for Santa Barbara County and most parts of the country. This eight-hour ozone standard, originally promulgated by USEPA on July 18, 1997, is set at 0.08 parts per million measured over eight hours and is more protective of public health and more stringent than the federal one-hour standard. For the purposes of the federal eight-hour ozone standard, Santa Barbara County has been designated attainment.

On August 16, 2007 the APCD Board adopted the 2007 Clean Air Plan to chart a course of action that will provide for ongoing maintenance of the federal eight-hour ozone standard through the year 2014 as well as the expeditious attainment of the state one-hour ozone standard. These plans have been developed for Santa Barbara County as required by both the 1998 California Clean Air Act and the 1990 Federal Clean Air Act Amendments.

7.3 Offset Requirements

The E&B South Cuyama Stationary Source does not currently require emission offsets.

7.4 Emission Reduction Credits

Decision of Issuance (DOI) 0033 created NO_x, ROC, and CO ERCs from the electrification of the #12 Clark HRA-6T integral gas compressor engine. See Section 1.5 of this permit.

8.0 Lead Agency Permit Consistency

To the best of the APCD's knowledge, no other governmental agency's permit requires air quality mitigation.

9.0 Permit Conditions

This section lists the applicable permit conditions for the E&B Internal Combustion Engines. Section 9.A lists the standard administrative conditions. Section 9.B lists 'generic' permit conditions, including emission standards, for all equipment in this permit. Section 9.C lists conditions affecting specific equipment. Section 9.D lists non-federally-enforceable (i.e., APCD only) permit conditions. Conditions listed in Sections 9.A, 9.B and 9.C are enforceable by the USEPA, the APCD, the State of California and the public. Conditions listed in Section 9.D are enforceable only by the APCD and the State of California. Where any reference contained in Sections 9.A, 9.B or 9.C refers to any other part of this permit, that part of the permit referred to is federally-enforceable. In case of a discrepancy between the wording of a condition and the applicable federal or APCD rule(s), the wording of the rule shall control.

For the purposes of submitting compliance certifications or establishing whether or not a person has violated or is in violation of any standard in this permit, nothing in the permit shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test had been performed.

9.A Standard Administrative Conditions

The following federally-enforceable administrative permit conditions apply to the ICEs at the South Cuyama Unit:

A.1. Compliance with Permit Conditions.

- (a) The permittee shall comply with all permit conditions in Sections A, B and C of this permit.
- (b) This permit does not convey property rights or exclusive privilege of any sort.
- (c) Non-compliance with any permit condition is grounds for permit termination, revocation and re-issuance, modification, enforcement action, or denial of permit renewal.
- (d) The permittee shall not use the "need to halt or reduce a permitted activity in order to maintain compliance" as a defense for noncompliance with any permit condition.
- (e) A pending permit action or notification of anticipated noncompliance does not stay any permit condition.
- (f) Within a reasonable time period, the permittee shall furnish any information requested by the Control Officer, in writing, for the purpose of determining:
 - (i) compliance with the permit, or
 - (ii) whether or not cause exists to modify, revoke and reissue, or terminate a permit or for an enforcement action.

[Re: 40 CFR Part 70.6.(a)(6)(iii), APCD Rules 1303.D.1.j, 1303.D.1.n, 1303.D.1.l, 1303.D.1.k, 1303.D.1.o]

A.2. **Emergency Provisions:** The permittee shall comply with the requirements of the APCD, Rule 505 (Upset/Breakdown rule) and/or APCD Rule 1303.F, whichever is applicable to the emergency situation. In order to maintain an affirmative defense under Rule 1303.F, the permittee shall provide the APCD, in writing, a “notice of emergency” within 2 days of the emergency. The “notice of emergency” shall contain the information/documentation listed in Sections (1) through (5) of Rule 1303.F. [Re: 40 CFR 70.6(g), APCD Rule 1303.F]

A.3. **Compliance Plan:**

- (a) The permittee shall comply with all federally-enforceable requirements that become applicable during the permit term, in a timely manner.
- (b) For all applicable equipment, the permittee shall implement and comply with any specific compliance plan required under any federally-enforceable rules or standards.

[Re: APCD Rule 1302.D.2]

A.4. **Right of Entry:** The Regional Administrator of USEPA, the Control Officer, or their authorized representatives, upon the presentation of credentials, shall be permitted to enter upon the premises where a Part 70 Source is located or where records must be kept:

- (a) To inspect at reasonable times the stationary source, including monitoring and control equipment, work practices, operations, and emission-related activity;
- (b) To inspect and duplicate, at reasonable times, records required by this Permit to Operate;
- (c) To sample substances or monitor emissions from the source or assess other parameters to assure compliance with the permit or applicable requirements, at reasonable times.

[Re: APCD Rule 1303.D.2.a]

A.5. **Severability:** The provisions of this Permit to Operate are severable and if any provision of this Permit to Operate is held invalid, the remainder of this Permit to Operate shall not be affected thereby. [Re: APCD Rules 103, 1303.D.1.i]

A.6. **Permit Life:** The Part 70 permit shall become invalid three years from the date of issuance unless a timely and complete renewal application is submitted to the APCD. Any operation of the source to which this Part 70 permit is issued beyond the expiration date of this Part 70 permit and without a valid Part 70 operating permit (or a complete Part 70 permit renewal application) shall be a violation of the CAAA, § 502(a) and 503(d) and of the APCD rules.

The permittee shall apply for renewal of the Part 70 permit not later than 6-months before the date of the permit expiration. Upon submittal of a timely and complete renewal application, the Part 70 permit shall remain in effect until the Control Officer issues or denies the renewal application. [Re: APCD Rules 1303.D.1.c ,d, 1304.D.1.a.v]

A.7. **Payment of Fees:** The permittee shall reimburse the APCD for all its Part 70 permit processing and compliance monitoring expenses for the stationary source on a timely basis. Failure to reimburse on a timely basis shall be a violation of this permit and of applicable requirements and can result in forfeiture of the Part 70 permit. Operation without a Part 70 permit subjects the

source to potential enforcement action by the APCD and the USEPA pursuant to section 502(a) of the Clean Air Act. [Re: APCD Rules 1303.D.1.p, 1304.D.11 and 40 CFR 70.6(a)(7)]

A.8 **Prompt Reporting of Deviations:** The permittee shall submit a written report to the APCD documenting each and every deviation from the requirements of this permit or any applicable federal requirements within 7-days after discovery of the violation, but not later than 180-days after the date of occurrence. The report shall clearly document 1) the probable cause and extent of the deviation 2) equipment involved, 3) the quantity of excess pollutant emissions, if any, and 4) actions taken to correct the deviation. The requirements of this condition shall not apply to deviations reported to APCD in accordance with Rule 505. *Breakdown Conditions*, or Rule 1303.F *Emergency Provisions*. [APCD Rule 1303.D.1, 40 CFR 70.6(a) (3)]

A.9 **Federally-Enforceable Conditions:** Each federally-enforceable condition in this permit shall be enforceable by the USEPA and members of the public. None of the conditions in the APCD-only enforceable section of this permit are federally-enforceable or subject to the public/USEPA review [Re: CAAA, § 502(b)(6), 40 CFR 70.6(b)]

A.10 **Reporting Requirements/Compliance Certification:** The permittee shall submit compliance certification reports to both the USEPA and the Control Officer every six-months. These reports shall be submitted on APCD forms and shall identify each applicable requirement/condition of the permit, the compliance status with each requirement/condition, the monitoring methods used to determine compliance, whether the compliance was continuous or intermittent, and include detailed information on the occurrence and correction of any deviations (excluding emergency upsets) from permit requirement. The reporting periods shall be each half of the calendar year, e.g., January through June for the first half of the year. These reports shall be submitted by September 1st and March 1st, respectively, each year. Supporting monitoring data shall be submitted in accordance with the “Semi-Annual Monitoring/Compliance Verification Report” condition in section 9.C. The permittee shall include a written statement from the responsible official, which certifies the truth, accuracy, and completeness of the reports. [Re: APCD Rules 1303.D.1, 1302.D.3, 1303.2.c]

A.11 **Recordkeeping Requirements.** Records of required monitoring information that include the following:

- (a) The date, place as defined in the permit, and time of sampling or measurements;
- (b) The date(s) analyses were performed;
- (c) The company or entity that performed the analyses;
- (d) The analytical techniques or methods used;
- (e) The results of such analyses; and
- (f) The operating conditions as existing at the time of sampling or measurement.

The records (electronic or hard copy), as well as all supporting information including calibration and maintenance records, shall be maintained for a minimum of five (5) years from date of initial entry by the permittee and shall be made available to the APCD upon request. [Re: APCD Rule 1303.D.1.f, 40CFR70.6(a)(3)(ii)(A)]

A.12 **Conditions for Permit Reopening:** The permit shall be reopened and revised for cause under any of the following circumstances:

- (a) Additional Requirements: If additional applicable requirements (e.g., NSPS or MACT) become applicable to the source which has an unexpired permit term of three (3) or more years, the permit shall be reopened. Such a reopening shall be completed no later than 18

months after promulgation of the applicable requirement. However, no such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended. All such re-openings shall be initiated only after a 30-day notice of intent to reopen the permit has been provided to the permittee, except that a shorter notice may be given in case of an emergency.

- (b) **Inaccurate Permit Provisions**: If the APCD or the USEPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emission standards or other terms or conditions of the permit, the permit shall be reopened. Such re-openings shall be made as soon as practicable.
- (c) **Applicable Requirement**: If the APCD or the USEPA determines that the permit must be revised or revoked to assure compliance with any applicable requirement including a federally-enforceable requirement, the permit shall be reopened. Such re-openings shall be made as soon as practicable.

Administrative procedures to reopen and revise/revoke/reissue a permit shall follow the same procedures as apply to initial permit issuance. Re-openings shall affect only those parts of the permit for which cause to reopen exist.

If a permit is reopened, the expiration date does not change. Thus, if the permit is reopened, and revised, then it will be reissued with the expiration date applicable to the re-opened permit. [*Re: 40 CFR 70.7(f)(1)-(3), 40 CFR 70.6(a)(2)*]

9.B. Generic Conditions

The generic conditions listed below apply to all emission units, regardless of their category or emission rates. These conditions are federally-enforceable. Compliance with these requirements is discussed in Section 3. In case of a discrepancy between the wording of a condition and the applicable federal or APCD rule(s), the wording of the rule shall control.

- B.1 **Circumvention (Rule 301)**: A person shall not build, erect, install, or use any article, machine, equipment or other contrivance, the use of which, without resulting in a reduction in the total release of air contaminants to the atmosphere, reduces or conceals an emission which would otherwise constitute a violation of Division 26 (Air Resources) of the Health and Safety Code of the State of California or of these Rules and Regulations. This Rule shall not apply to cases in which the only violation involved is of Section 41700 of the Health and Safety Code of the State of California, or of APCD Rule 303. [*Re: APCD Rule 301*]
- B.2. **Visible Emissions (Rule 302)**: The permittee shall not discharge into the atmosphere from any single source of emission or air contaminants 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 as No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines, or
 - (b) Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in subsection B.2.(a) above.

The permittee shall determine compliance with this Rule in accordance with the monitoring and recordkeeping procedures in *Visible Emissions* condition of this permit.. [Re: *APCD Rule 302*].

- B.3 **Nuisance (Rule 303):** No pollutant emissions from any equipment at this facility shall create nuisance conditions. No operations shall endanger health, safety or comfort, nor shall they damage any property or business. [Re: *APCD Rule 303*]
- B.4 **Particulate Matter – Northern Zone (Rule 304):** The permittee shall not discharge into the atmosphere, from any source, particulate matter in excess 0.3 grain per cubic foot of gas at standard conditions. [Re: *APCD Rule 304*]
- B.5 **Specific Contaminants (Rule 309):** The permittee shall not discharge into the atmosphere from any single source sulfur compounds, carbon monoxide and combustion contaminants in excess of the standards listed in Sections A and G of Rule 309. [Re: *APCD Rule 309.A.2.b, 309.A.1*].
- B.6 **Sulfur Content of Fuels (Rule 311):** The permittee shall not burn fuels with a sulfur content in excess of 0.5% (by weight) for liquid fuels and 796 ppmvd or 50 gr/100 scf (calculated as H₂S) for gaseous fuel. Compliance with this condition shall be based on measurements of the fuel gas using Draeger tubes, ASTM, or other APCD-approved methods and diesel fuel billing records or other data showing the certified sulfur content for each shipment. [Re: *APCD Rule 311.B*]
- B.7 **Emergency Episode Plans (Rule 603):** During emergency episodes, the permittee shall implement their APCD approved Emergency Episode Plan. [Reference *APCD Rule 603*]
- B.8 **Adhesives and Sealants (Rule 353):** The permittee shall not use adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers, or any other primers, unless the permittee complies with the following:
- a) Such materials used are purchased or supplied by the manufacturer or suppliers in containers of 16 fluid ounces or less; or alternately
 - b) When the permittee uses such materials from containers larger than 16 fluid ounces and the materials are not exempt by Rule 353, Section B.1, the total reactive organic compound emissions from the use of such material shall not exceed 200 pounds per year unless the substances used and the operational methods comply with Sections D, E, F, G, and H of Rule 353. Compliance shall be demonstrated by recordkeeping in accordance with Section B.2 and/or Section O of Rule 353. [Re: *APCD Rule 353*]
- B.9 **Oil and Natural Gas Production MACT:** The permittee shall comply with the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPS) for Oil and Natural Gas Production and Natural Gas Transmission and Storage (promulgated June 17, 1999). At a minimum, the permittee shall maintain records in accordance with 40 CFR Part 63, Subpart A, Section 63.10 (b) (1) and (3). Full compliance shall be achieved by no later than June 17, 2002. [Re: 40 CFR 63, Subpart HH]
- B.10 **CARB Registered Portable Equipment:** State registered portable equipment shall comply with State registration requirements. A copy of the State registration shall be readily available whenever the equipment is at the facility. [Re: *APCD Rule 202*]

9.C Equipment-Specific Conditions

This section contains non-generic federally-enforceable conditions, including emissions and operations limits, monitoring, recordkeeping and reporting for each specific equipment group. This section may also contain other non-generic conditions.

- C.1 **Derated Internal Combustion Engines:** The following engines are included in this emissions unit category:

Device ID	Equipment
6347, 6348, 6350, 6351, 6352, 6361, 6363, 6379, 6380, 6384, & 6387	Derated, gas-fired, rich burn, internal combustion engines rated less than 50 hp and not subject to Rule 333 emission limits.

Orifice plates shall be in place at all times during engine operations. The permittee shall assist APCD personnel in the measurement and/or inspection of orifices from a random sampling of any engines that have been derated in brake horsepower rating by the addition of an orifice plate between the carburetor and the intake manifold. APCD personnel shall determine the number of engines to be measured and/or inspected. If, in the judgment of APCD personnel, evidence of corrosion or other degradation of any orifice plate exists which may result in an increase in brake horsepower and/or emissions resulting from the use of the engine(s), the permittee shall inspect all orifice plate installations that have not been inspected within the last six-months.

The permittee shall replace any degraded orifice plate within sixty (60) calendar days after the APCD inspection per the following criteria. The permittee shall replace any orifice plate that shows corrosion and/or degradation that enlarges the specified hole diameter. Any condition that indicates a decreased flow of air and/or fuel through the orifice shall not be grounds for mandatory replacement (e.g., a smaller than specified orifice hole diameter). The APCD shall be notified in writing when all orifice plate inspections and/or replacements, if any, are complete. This notification shall be received by the APCD no more than 10-days after completion of the orifice plate inspection/replacement work.

- C.2 **Controlled Rich Burn Internal Combustion Engines:** The following engines are included in this emissions unit category:

Device ID	Equipment
6388 through 6397	Controlled gas-fired internal combustion engines rated greater than 50 hp and subject to Rule 333 emission limits.

- (a) Emission Limits: Emission from engines subject to this condition shall not exceed the values listed in Table 5.1. In addition, the following specific limits apply:
- (i) The permittee shall meet APCD Rule 333.D.1 NO_x, ROC and CO ppm_v limits, or the oxides of nitrogen (NO_x) shall be reduced by at least 90-percent of the uncontrolled emissions across the control device. The Rule 333 emission limitations shall be verified through biennial source testing and Rule 333 quarterly inspections.

The emission limits stipulated above do not supersede any other limits that may be specified for the equipment by any applicable requirement promulgated by the USEPA or the APCD during the life of this permit. [Re: *APCD Rule 333, APCD ATCs 9129, 9076, 8910, 8870*]

- (b) Operational Limits: The following operational limits apply to engines subject to this condition:
- (i) *Hourly Heat Input*: Maximum heat input (MMBtu/hour) to the internal combustion engines listed in this condition is restricted to the values listed in the “Use per Hour” column of Table 5.1-1.
 - (ii) *Annual Heat Input*: Maximum annual heat input (MMBtu/year) to the internal combustion engines listed in this condition is restricted to the values listed in the “Use per Year” column of Table 5.1-1.
 - (iii) *Catalyst Replacement*: The permittee shall inform the APCD verbally within 14-days whenever the catalyst for any of the catalyst controlled engines subject to this condition has been replaced. This notification shall be followed up with a written report submitted to the APCD within five-days. Such replacement is only allowed in accordance with APCD Rules and Regulations.

Within 3-days of replacing a catalyst, a portable NO_x analyzer shall be used to take NO_x and oxygen emission readings to determine compliance with this permit. An instrument reading in excess of the limits in Condition 9.C.2.(a).(i) shall not be considered a violation so long as the problem is corrected and a follow-up source test that demonstrates compliance is conducted within 30-days of the initial portable analyzer inspection. The requirements specified in Condition 9.C.14 shall apply to any source test triggered by this condition. A log shall be maintained detailing the portable analyzer readings, a description of the corrective actions taken, and a determination of whether or not the engine is in compliance. The initials of the person making the measurement shall be recorded in the log.

- (iv) *ERCs: Disposition of the Clark #10 and Clark #12 HRA-6T Engines (PTO 8010-R4 ID# 26 and #28)* - To ensure that the ERCs created by replacement of the gas-fired engine on the Clark #12 compressor-engine unit remain permanent and enforceable, the permittee shall ensure that the gas-fired engines on the Clark #10 and Clark #12 HRA-6T compressor-engine units are permanently disabled to prevent any future use. This provision does not preclude the permittee from salvaging non-engine block components for subsequent use as replacement parts in the Clark #11 HRA-6T engine.
 - (1) The permittee shall permanently remove all connecting rods, pistons, and piston rings associated with the power cylinders on the Clark #12 HRA-6T engine. The permittee shall permanently remove the fuel injection valves, fuel gas headers, exhaust manifold, and power cylinder jacket water lines on the Clark #12 HRA-6T engine.

- (2) The permittee shall not use or offer for sale the engine block from the Clark #12 HRA-6T engine within the South Central Coast Air Basin. The permittee shall make available to the APCD or its agent access to verify that the engine block has been permanently disabled. In the event that the permittee sells the Clark #12 engine block to a business outside of the South Central Coast Air Basin, the permittee shall provide signed documentation verifying the date of sale, business sold to, contact name and phone number and the location the engine block will be transported to for future operation.
- (v) *Engine Identification:* The Clark #9, Clark #10, and Clark #12 HRA-6T engines shall have unique identification numbers permanently and legibly liquid welded or stamped into the engine block. The location of the identifying stamp shall be the same for each engine model and shall be readily accessible for inspection.
- (vi) *Emission Controls.* Each engine listed in Table 1 below shall be equipped with an air/fuel ratio controller compatible with the existing Non-Selective Catalytic Reduction (NSCR) control technology to control IC engine exhaust NO_x, ROC, and CO emissions. NSCR emission controls and associated air/fuel ratio controller shall be used at all times when operating the engine.

Table 1			
Device ID	E&B ID No	Engine Make & Model	Location & Service
6393	W-11	Waukesha F1197	Perkins WW Injection- Primary Service
6392	W-12	Waukesha F1197	Machader WW Injection- Primary Service
6395	W-42	Waukesha F1197	Perkins WW Injection- Standby Service
6396	B-5	Buda 6MO-672	Machader WW Injection- Standby Service

- (vii) *Air/Fuel Ratio Controller Display:* The air/fuel ratio controller shall be operated in accordance with manufacturer's specifications and the approved ICE Inspection and Monitoring Plan. Millivolt readouts shall be maintained at values documented by source testing to comply with Rule 333.
- (viii) *Catalyst Exhaust Oxygen Concentration:* The oxygen concentration in the catalyst exhaust in each engine listed in Table 1 shall not exceed 0.5% by volume.
- (c) Monitoring:
- (i) *Source Testing:* For each engine subject to this condition, the permittee shall perform source testing of air emissions and process parameters consistent with the requirement of the *Source Testing* permit condition below and in accordance with the requirements of Rule 333.G.
- (ii) *Quarterly Monitoring:* The permittee shall perform quarterly NO_x, CO and O₂ monitoring in accordance with Rule 333 and Condition 9.C.5 below.
- (iii) *ICE Inspection and Maintenance Plan:* The APCD approved *ICE I&M Plan*, dated November 1, 2007 and any subsequent updates required by Rule 333.E, shall be followed by the permittee. The Plan may be modified only upon written APCD approval. All required logs of the parameter settings and values documented by this

plan shall be readily available on-site for review by APCD inspection staff upon request.

- (d) **Recordkeeping:** The following records (electronic or hard copy) shall be maintained by the permittee and shall be made available to the APCD upon request:
 - (i) Written records documenting fuel use on a monthly basis.
 - (ii) Written records documenting the ICE operating hours on a monthly basis.
 - (iii) On an annual basis, the high heating value of the gaseous fuel (Btu/scf) shall be measured and recorded.
 - (iv) Fuel meter calibration records, including the meter's calibration procedures.
 - (v) Written ICE operations logs consistent with the requirements of Rule 333.H.
 - (v) If an operator's tag number is used in lieu of an ICE identification plate, written documentation which references the permittee's unique ICE ID number to a list containing the make, model, rated maximum HP and the corresponding RPM.
 - (vi) A log of all significant activities involving the catalytic converter and air/fuel ratio controller shall be maintained. This log shall include the following: catalyst replacements, A/F ratio oxygen sensor replacements, and catalyst cleanings.
 - (vii) A log that tracks and records daily oxygen sensor voltage, oxygen concentration in % by volume, pre-catalyst exhaust temperature, and engine timing shall be recorded.
- (d) **Reporting:** On a semi-annual basis, a report detailing the previous six-month's activities shall be provided to the APCD. The report must list all data required by the *Semi-Annual Monitoring/Compliance Verification Reports* condition of this permit. [Re: APCD Rule 333.F,G, APCD ATC 11129, 9129, 9076, 8910, 8870/PTO 8010]

C.3 **Limited Use Internal Combustion Engines:** The following equipment are included in this emissions unit category:

Table C.3-1 Limited Use IC Engines

Device ID#	Equipment
6402	Gas-fired ICE, Clark #11 HRA-6T

- (a) **Emission Limits:** Clark #11 - The permittee shall meet APCD Rule 333.D.2 NO_x, ROC and CO ppm_v limits. The Rule 333 ppm_v limitations shall be verified through testing with a portable NO_x analyzer and confirmation of timing retard if the engine runs more than 100 hours in any six-month period.
- (b) **Operational Limits:** The following operational limits apply to Clark #11 :
 - (i) Annual operation of Clark #11 shall not exceed 200 hours per year.

- (ii) Lean burn/timing retard controls shall be in place on Clark #11 at all times during operations.
 - (iii) *Shift in Load*: To ensure that the NEI decrease and ERCs created by replacement of the gas-fired IC engine part of the Clark #12 compressor-engine with an electric motor remain permanent and enforceable, the permittee shall not shift load from the electric motor driven Clark #10 and Clark #12 compressors to either the Clark #11 compressor-engine by operating this engine beyond the existing 200 hour per year limit, or to any other gas-fired IC engine.
 - (1) The permittee may apply to increase the hours of operation of the Clark #11 compressor-engine contingent upon the increased potential to emit being offset with ERCs from the Source Register. Furthermore, all natural gas compression at the E&B South Cuyama Stationary Source shall be performed with engine/compressor units that ensure the emission reductions remain permanent and enforceable for the life of the project.
 - (iv) *Hourly Heat Input*: Maximum heat input (MMBtu/hour) is restricted to the value listed in the "Use per Hour" column of Table 5.2-1.
 - (v) *Annual Heat Input*: Maximum annual heat input (MMBtu/year) in the "Use per Year" column of Table 5.2-1.
 - (vi) *Fuel Use Monitoring*: The permittee shall comply with the *Fuel Use Monitoring Plan* submitted by the permittee and approved by the APCD on June 9, 1994, for the engines listed on this permit. This Plan is incorporated by reference as an enforceable part of this permit. The Plan may be modified only upon written approval by the APCD and shall be maintained on-site and made available to APCD personnel upon request.
- (c) Monitoring: The following testing and periodic monitoring conditions apply to Clark #11:
- (i) *Hour Meter* – Clark #11 shall be equipped with totalizing non-resettable hour meters in accordance with Rule 333 Section H. Hour meters shall be operational at all times the engines are operated.
 - (ii) If the Clark #11 HRA-6T operates for more than 100 hours during any six month period, the permittee shall measure NO_x emissions with a portable NO_x analyzer and verify that the timing retard is still in place by measuring and logging the engine ignition timing.
- (d) Recordkeeping: The permittee shall keep the required logs for Clark #11 which demonstrate compliance with operation limits and monitoring requirements for this engine. All records and logs, required under any applicable federal or APCD requirements for the engine, shall be maintained for a minimum of five calendar years from the date of the information collection and log entry. These shall be readily accessible and be made available to the APCD upon request. Written information (logs) shall include:

- (i) The hours of operation for Clark #11 . The log shall detail the number of operating hours on each day the engine is operated and the cumulative total monthly and annual hours.
 - (ii) The dates that the Clark #11 HRA-6T exceeds 100 hours of operation in any 6-month period, and the date that portable NO_x monitoring and engine timing measurement were completed.
- (e) Reporting: On a semi-annual basis, a report detailing the previous six-month's activities shall be provided to the APCD. The report must list all data required by the *Semi-Annual Monitoring/Compliance Verification Reports* condition of this permit.
- C.4 **Engine Identification**: Each engine shall be identified with a permanently affixed plate, tag, or marking listing, or providing reference to, the engine's make, model, and serial number. The plate, tag, or marking shall be maintained in an accessible and legible manner in order to facilitate engine inspection by APCD personnel.
- C.5 **Inspection and Maintenance Plan**: The APCD approved *ICE Inspection and Maintenance Plan*, dated November 1, 2007 and any subsequent updates required by Rule 333.E, shall be followed by the permittee. The Plan may be modified only upon written APCD approval. All required logs of the parameter settings and values documented by this plan shall be readily available on-site for review by APCD inspection staff upon request.
- C.6 **Maintenance**: Each engine shall be maintained in conformance with the manufacturer's (or the permittee's, if equivalent) operation and maintenance procedures. A copy of these procedures is to be made accessible during APCD inspections of the engines. For each engine, records shall be kept to document the maintenance activities along with any adjustment to the operations or maintenance procedures which may change the emissions. Engine operational and maintenance records shall be readily available for review by APCD inspection staff upon request.
- C.7 **Fuel Use Monitoring**: The permittee shall follow the Fuel Use Monitoring Plan and Fuel Meter Calibration Plans approved by the APCD. These Plans may only be revised upon written APCD approval. The permittee shall revise the approved plan upon written notification by the APCD if the APCD determines that implementation of the approved plan does not provide fuel monitoring data sufficient to readily determine compliance. The Fuel Use Monitoring Plan and required records shall be readily available for review by APCD inspection staff upon request.
- C.8 **Fuel Type**: Engines ID# 6338, 6347, 6348, 6350, 6351, 6352, 6361, 6363, 6379, 6380, 6381, 6384, 6387, 6388 through 6397, & 6402 shall be fired on gaseous fuels only. Engines ID# 6404 and 8285 shall be fired on diesel fuel only.
- C.9 **Gaseous Fuel Sulfur Limit**: The total sulfur content (calculated as H₂S at standard conditions, 60° F and 14.7 psia) of the gaseous fuel burned at the facility shall not exceed 50 grains per 100 cubic feet (796 ppmv).
- C.10 **Liquid Fuel Sulfur Limit**: The diesel fired engines included in this permit shall be fired on "CARB diesel" with a total sulfur content that does not exceed 15 ppmv.
- C.11 **Fuel Sulfur/BTU Monitoring**: The permittee shall measure the following parameters at the frequencies shown using the methods specified:

Fuel Type	Parameter	Frequency	Method
natural gas	Sulfur content	annually	current ASTM D-1072 ^a
natural gas	Hydrogen sulfide content	daily ^b	Draeger tubes ^c
natural gas	Gross heating value (Btu/scf)	annually	ARB or SBCAPCD-approved test method
diesel ^d	Sulfur content	annually	ARB or SBCAPCD-approved test method

a or an APCD approved equivalent method

b only required when Southern California Gas Company H₂S analyzer is down or registering alarm conditions

c or an equivalent field check type device/procedure

d certified value from diesel fuel supplier will be accepted in lieu of measurement

[Re: APCD Rule 333.F, G, APCD ATC 9129, 9076, 8910, 8870/PTO 8010]

C.12 **Recordkeeping.** The permittee shall maintain all records and logs required by this permit or any applicable federal rule or regulation for a minimum of five calendar years from the date of information collection and log entry at the lease. These records or logs shall be readily accessible and be made available to the APCD upon request.

C.13 **Semi-Annual Monitoring/Compliance Verification Reports:** The permittee shall submit a report to the APCD every six-months to verify compliance with the emission limits and other requirements of this permit. The reporting periods shall be each half of the calendar year, e.g., January through June for the first half of the year. These reports shall be submitted by September 1st and March 1st, respectively, each year, and shall be in a format approved by the APCD. All logs and other basic source data not included in the report shall be available to the APCD upon request. The second report shall also include an annual report for the prior four quarters. The report shall include the following information:

(a) **Controlled Internal Combustion Engines**

- (i) Fuel used by each controlled engine on a monthly basis.
- (ii) On an annual basis, the high heating value (Btu/scf) and sulfur content (ppmv) of the gaseous fuel. (Submitted with July through December report.)
- (iii) On an annual basis, written ICE operations logs consistent with the requirements of Rule 333.H. (Submitted with July through December report.)

(b) **Limited Use Internal Combustion Engines**

- (i) Engine hour meter logs detailing the requirements of Rule 333.B.2 for any engine operating less than two hundred (200) hours per calendar year.
- (ii) On an annual basis, the high heating value (Btu/gallon) and the sulfur content (percent) of the diesel fuel. (Submitted with July through December report.)
- (iii) On an annual basis, written ICE operations logs consistent with the requirements of Rule 333.H. (Submitted with July through December report.)
- (iv) For the Clark #11 HRA-6T, copies of the portable NO_x monitoring and engine timing results if triggered by Condition 9.C.3.(c).(ii).

(c) **Diesel Fired Firewater Pump**

- (i) The emergency use hours of operation;
- (ii) The maintenance and testing hours of operation;

(iii) The hours of operation for all uses other than those specified in items (i) & (ii) above along with a description of what those hours were for.

(d) **Diesel Fired Air Compressor**

(i) The number of operating hours and days for each day month the engine operated and the cumulative total annual hours.

(ii) The total volume of diesel fuel combusted in the engine shall on a monthly and annual basis in units of gallons.

(c) **Emissions:** Annual NO_x and ROC emissions from both permitted and exempt equipment.

C.14 **Source Testing:** The following source testing provisions shall apply to controlled natural gas engines (Device IDs #6388 – 6397) which are subject to Rule 333:

(a) The permittee shall perform source testing of air emissions and process parameters listed in Table 9.1 in accordance with the requirements of Rule 333.G. These engines shall be tested biennially in the month of April. An extension of the test deadlines for good cause may be granted upon submittal of a written request from the permittee, and APCD approval.

(b) *Not-In-Service Engines:* The engines that are not-in-service (e.g. permitted engines that have not been operating and remain non-operational), at the time a source test is due are subject to the following testing requirements upon return to service:

(i) If the engine has not been source tested in more than two years, E&B shall source test the engine in accordance with the approved source test plan within 45-days after the engine returns to service.

(ii) If less than two years has lapsed since the last source test of the engine, a NO_x emissions reading using a portable NO_x analyzer shall be obtained within 15-days after the engine returns to service. This portable reading shall serve as the quarterly reading required under APCD Rule 333.E.4, and all terms of Rule 333.E.4 shall apply.

E&B shall notify the APCD 30-days in advance of the test date if a test is triggered by (i) or (ii) above.

(c) *ICE Load Limitations:* Testing shall be performed on ICEs in as-found condition at normal operating loads. The source test plan shall identify the proposed source test load and include fuel use data and hours of operation for 2-months prior to the test of each ICE. The fuel use rate during the test shall be within 5% of the average fuel rate over the previous two-month period. [Re: APCD Rule 333.F,G, APCD PTO 9129, 9076, 8910, 8870, 8010, 11129]

(d) The permittee shall submit to the APCD a Source Test Plan at least thirty (30) calendar days prior to the start of source testing. The plan must be approved by the APCD prior to initiation of source testing. The Source Test Plan shall be prepared consistent with the APCD's "Source Test Procedures Manual" (revised May 1990 and any subsequent revisions). The permittee shall notify the APCD at least fourteen (14) calendar days prior

to the start of source testing activity to arrange for a mutually agreeable source test date when APCD personnel may observe the test.

- (e) Source test results shall be submitted to the APCD within forty-five (45) calendar days following the date of source test completion and shall be consistent with the requirements approved within the source test plan. Source test results shall be used to make compliance determinations with emission rates in Table 5.1 and applicable permit conditions. All APCD costs associated with the review and approval of all plans and reports and the witnessing of tests shall be paid by the permittee as provided for by APCD Rule 210.
- (f) A source test for an item of equipment shall be performed on the scheduled day of testing (the test day mutually agreed to) unless circumstances beyond the control of the permittee prevent completion of the test on the scheduled day. Such circumstances include mechanical malfunction of the equipment to be tested, malfunction of the source test equipment, delays in source test contractor arrival and/or set-up, or unsafe conditions on site. Except in cases of an emergency, the permittee shall seek and obtain APCD approval before deferring or discontinuing a scheduled test, or performing maintenance on the equipment item on the scheduled test day. Once the sample probe has been inserted into the exhaust stream of the equipment unit to be tested (or extraction of the sample has begun), the test shall proceed in accordance with the approved source test plan. In no case shall a test run be aborted except in the case of an emergency or unless approval is first obtained from the APCD. If the test cannot be completed on the scheduled day, then the test shall be rescheduled for another time with prior authorization by the APCD. Failing to perform the source test of an equipment item on the scheduled test day without a valid reason and without APCD's prior authorization, except in the case of an emergency, shall constitute a violation of this permit. If a test is postponed due to an emergency, written documentation of the emergency event shall be submitted to the APCD by the close of the business day following the scheduled test day.
- (g) Any APCD certified ICE source test result which indicates the applicable Rule 333, or Table 5.1 emission limitations applicable to ICES ID# 6388 – 6397 have been exceeded shall constitute a violation of Rule 333 and/or the PTO. The APCD may, at its discretion, extend the deadlines in this condition.

Table 9.1
IC Engine Source Test Requirements ^{6 7 8 9}

Device ID#	Pollutant/ Parameter	Exhaust Concentration Limit¹⁰ (ppmv @ 15% O₂)	Max Exhaust Emission Rate¹¹ (lb/hr)	Other
6388 – 6397	NO _x	50	See Table 5.1-3	Measure
	ROC	250	See Table 5.1-3	Measure
	CO	4,500	See Table 5.1-3	Measure

⁶ All emission and process parameter testing shall be performed consistent with APCD protocol.

⁷ All source test values shall be reported at standard conditions (60°F and 1 atm) or as otherwise specified.

⁸ Emission source test shall be performed at the load approved in the source test plan.

⁹ Source testing will establish values for emissions calculations and Rule 333 I&M purposes.

¹⁰ As specified in Rule 333, referenced to a corrected 15% oxygen concentration in exhaust.

¹¹ As specified and referenced in Table 5.1-1 and 5.1-3 of this permit.

Device ID#	Pollutant/ Parameter	Exhaust Concentration Limit ¹⁰ (ppmv @ 15% O ₂)	Max Exhaust Emission Rate ¹¹ (lb/hr)	Other
6388 – 6397	Fuel Analysis			Measure
	Fuel Flow, scf/hr			Measure
	Exhaust Oxygen			Measure
	Ignition Timing			Document settings used in source test
6392, 6393, 6395, & 6396	AFRC O ₂ Sensor Concentration	0.5% by volume		Measure and document AFRC display

- C.15 **Visible Emissions - Diesel Fueled IC Engines:** No visible emissions shall occur from any diesel fueled engines. Once per calendar quarter, the permittee shall perform a visible emissions inspection for a one-minute period on each permitted and APCD-permit exempt diesel engine when operating, except for the firewater pump. If an engine does not operate during a calendar quarter, no monitoring is required. For the firewater pump, the permittee shall perform a one-minute visible emission inspection each time the firewater pump is operated longer than 15-minutes during any testing or emergency drill.

The start-time and end-time of each visible emissions inspection shall be recorded in a log, along with a notation identifying whether visible emissions were detected. The permittee shall obtain APCD approval of the Visible Emissions Log required by this condition. All records shall be maintained consistent with the recordkeeping condition of this permit.

- C.16 **DOI #0033:** The conditions and limits contained in DOI #0033 (and all updates thereof) are hereby incorporated by reference as an enforceable part of this permit.

9.D **APCD-Only Conditions**

The following section lists permit conditions that are not federally-enforceable (i.e., not enforceable by the USEPA or the public). However, these conditions are enforceable by the APCD and the State of California. These conditions have been determined as being necessary to ensure that operation of the facility complies with all applicable local and state air quality rules, regulations and laws. Failure to comply with any of these conditions shall be a violation of APCD Rule 206, this permit, as well as any applicable section of the California Health & Safety Code.

- D.1 **Internal Combustion Engine Operational Limits:** The following limits apply to all internal combustion engines included in this permit:

- (a) *Hourly Heat Input:* Maximum heat input (MMBtu/hour) to the internal combustion engines listed in this permit is restricted to the values listed in the “Use per Hour” column of Table 5.1-1.
- (b) *Annual Heat Input:* Maximum annual heat input (MMBtu/year) to the internal combustion engines listed in this permit is restricted to the values listed in the “Use per Year” column of Table 5.1-1.

- (c) *Engine Identification*: Each engine shall be identified with a permanently affixed plate, tag, or marking listing, or providing reference to, the engine's make, model, and serial number. The plate, tag, or marking shall be maintained in an accessible and legible manner in order to facilitate engine inspection by APCD personnel.
- (d) *Fuel Use Monitoring Plan*: The permittee shall comply with the *Fuel Use Monitoring Plan* submitted by Hallador and approved by the APCD on June 9, 1994 for the engines listed in this permit. Within 30-days after the issuance date of this permit, E&B shall submit a revised *Fuel Use Monitoring Plan* to the APCD for review. When approved, this plan will supersede the June 9, 1994 *Fuel Use Monitoring Plan*. The plan shall describe new fuel use meters to be installed to isolate fuel usage of each in-service engine and at locations such as the Machader Wastewater Plant, the Perkins Wastewater Plant, and at Gas Plant 10. For meters proposed to be shared between two or more engines, the Plan shall provide a drawing of the fuel meter configuration, and describe how the fuel use will be apportioned between engines. The plan shall include manufacturer's specifications of the new meters to be installed and the meter maintenance and calibration schedule. When approved, the Plan will be incorporated by reference as an enforceable part of this permit. Within 30-days after written APCD approval of the revised Plan, E&B shall install and operate the new fuel meters. The Plan may be modified only upon written approval by the APCD and shall be maintained on-site and made available to APCD personnel upon request.

D.2 **Emergency Diesel Fired Firewater Pump Engine.** The emergency diesel firewater pump (Device ID# 8285) is subject to the following emission and operational restrictions listed below.

- (a) Emission Limits: The mass emissions from the equipment permitted herein shall not exceed the values listed in Table 5.1. Compliance shall be based on the operational, monitoring, recordkeeping and reporting conditions of this permit.
- (b) Operational Limits: The emergency diesel firewater pump is subject to the operational restrictions listed below. Emergency use operations, as defined in the ATCM¹², have no operational hours limitations.
 - (i) Maintenance & Testing Use Limit: The stationary emergency standby diesel-fueled compression ignition (CI) engine subject to this condition, except for in-use firewater pump engines, shall limit maintenance and testing¹³ operations to no more than the hours listed in the attached permit equipment list.
 - (ii) Impending Rotating Outage Use: The in-use stationary emergency standby diesel-fueled CI engine subject to this condition may be operated in response to the notification of an impending rotating outage if all the conditions cited in the ATCM are met.
 - (iii) Fuel and Fuel Additive Requirements: The permittee may only add fuel and/or fuel additives to the engine or any fuel tank directly attached to the engine that comply with the ATCM.

¹² As used in the permit, "ATCM" means Section 93115, Title 17, California Code of Regulations. Airborne Toxic Control Measure for Stationary Compression Ignition (CI) Engines

¹³ "maintenance and testing" is defined in of the ATCM and may also be found on the APCD webpage at http://www.sbcapcd.org/eng/atcm/dice/ES_MT_DICE_Definitions.pdf

- (c) Monitoring: The emergency firewater pump is subject to the following monitoring requirements:
- (i) Non-Resettable Hour Meter: Effective January 1, 2005, the in-use stationary emergency standby diesel-fueled CI engine subject to this condition shall have installed a non-resettable hour meter with a minimum display capability of 9,999 hours, unless the APCD has determined (in writing) that a non-resettable hour meter with a different minimum display capability is appropriate in consideration of the historical use of the engine and the owner or operator's compliance history.
- (d) Recordkeeping: The permittee shall record and maintain the information listed below. Log entries shall be retained for a minimum of 36 months from the date of entry. Log entries made within 24 months of the most recent entry shall be retained on-site, either at a central location or at the engine's location, and made immediately available to the APCD staff upon request. Log entries made from 25 to 36 months from most recent entry shall be made available to APCD staff within 5 working days from request. APCD Form ENF-92 (*Diesel-Fired Emergency Standby Engine Recordkeeping Form*) can be used for this requirement.
- (i) Emergency use hours of operation;
 - (ii) Maintenance and testing hours of operation;
 - (iii) Hours of operation for all uses other than those specified in items (a) – (d) above along with a description of what those hours were for.
 - (iv) The owner or operator shall document fuel use through the retention of fuel purchase records that demonstrate that the only fuel purchased and added to an engine, or to any fuel tank directly attached to the engine, meets the requirements of the ATCM.
- (e) Reporting: On a semi-annual basis, a report detailing the previous six-month's activities shall be provided to the APCD. The report must list all data required by the *Semi-Annual Monitoring/Compliance Verification Reports* condition of this permit.
- (f) Temporary Engine Replacements - DICE ATCM: Any reciprocating internal combustion engine subject to this permit and the stationary diesel ATCM may be replaced temporarily only if the requirements (i – vi) listed below are satisfied.
- (i) The permitted engine is in need of routine repair or maintenance.
 - (ii) The permitted engine that is undergoing routine repair or maintenance is returned to its original service within 180 days of installation of the temporary engine.
 - (iii) The temporary replacement engine has the same or lower manufacturer rated horsepower and same or lower potential to emit of each pollutant as the permitted engine that is being temporarily replaced. At the written request of the permittee, the APCD may approve a replacement engine with a larger rated horsepower than the permitted engine if the proposed temporary engine has manufacturer guaranteed emissions (for a brand new engine) or source test data (for a previously used engine)

less than or equal to the permitted engine.

- (iv) The temporary replacement engine shall comply with all rules and permit requirements that apply to the permitted engine that is undergoing routine repair or maintenance.
- (v) For each permitted engine to be temporarily replaced, the permittee shall submit a completed *Temporary IC Engine Replacement Notification* form (Form ENF-94) within 14 days of the temporary engine being installed. This form shall be sent electronically to: *temp-engine@sbcapcd.org*.
- (vi) Within 14 days upon return of the original permitted engine to service, the permittee shall submit a completed *Temporary IC Engine Replacement Report* form (Form ENF-95). This form shall be sent electronically to: *temp-engine@sbcapcd.org*.

Any engine in temporary replacement service shall be immediately shut down if the APCD determines that the requirements of this condition have not been met. This condition does not apply to engines that have experienced a cracked block (unless under manufacturer's warranty), to engines for which replacement parts are no longer available, or new engine replacements {including "reconstructed" engines as defined in Section (d)(44) of the ATCM}. Such engines are subject to the provisions of New Source Review and the new engine requirements of the ATCM.

(g) Permanent Engine Replacements: The permittee may install a new engine in place of a permitted E/S engine, fire water pump engine or engine used for an essential public service that breaks down and can not be repaired, without first obtaining an ATC permit only if the requirements (a – e) listed herein are satisfied.

- (i) The permitted stationary diesel IC engine is an E/S engine, a fire water pump engine or an engine used for an essential public service (as defined by the APCD).
- (ii) The engine breaks down, cannot be repaired and needs to be replaced by a new engine.
- (iii) The facility provides "good cause" (in writing) for the immediate need to install a permanent replacement engine prior to the time period before an ATC permit can be obtained for a new engine. The new engine must comply with the requirements of the ATCM for new engines. If a new engine is not immediately available, a temporary engine may be used while the new replacement engine is being procured. During this time period, the temporary replacement engine must meet the same guidelines and procedures as defined in the permit condition above (*Temporary Engine Replacements - DICE ATCM*).
- (iv) An Authority to Construct application for the new permanent engine is submitted to the APCD within 15 days of the existing engine being replaced and the APCD permit for the new engine is obtained no later that 180 days from the date of engine replacement (these timelines include the use of a temporary engine).
- (v) For each permitted engine to be permanently replaced pursuant to the condition, the permittee shall submit a completed *Permanent IC Engine Replacement Notification*

form (Form ENF-96) within 14 days of either the permanent or temporary engine being installed. This form shall be sent electronically to: *temp-engine@sbcapcd.org*.

Any engine installed (either temporarily or permanently) pursuant to this permit condition shall be immediately shut down if the APCD determines that the requirements of this condition have not been met.

- (h) Notification of Non-Compliance: Owners or operators who have determined that they are operating their stationary diesel-fueled engine(s) in violation of the requirements specified in Sections (e)(1) or (e)(2) of the ATCM shall notify the APCD immediately upon detection of the violation and shall be subject to APCD enforcement action.
- (i) Notification of Loss of Exemption: Owners or operators of in-use stationary diesel-fueled CI engines, who are subject to an exemption specified in the ATCM shall notify the APCD immediately after they become aware that the exemption no longer applies and shall demonstrate compliance within 180-days after notifying the APCD.
- (j) Enrollment in a DRP/ISC - January 1, 2005: Any stationary diesel IC engine rated over 50 bhp that enrolls for the first time in a Demand Response Program/Interruptible Service Contract (as defined in the ATCM) on or after January 1, 2005, shall first obtain an APCD Authority to Construct permit to ensure compliance with the emission control requirements and hour limitations governing ISC engines.

D.3 Diesel Air Compressor Engine. The diesel air compressor engine (Device ID# 6404) is subject to the following emission and operational restrictions listed below.

- (a) Emission Limitations. The mass emissions from the diesel fired air compressor engine shall not exceed the values listed in Table 5.1. Compliance shall be based on the operational, monitoring, recordkeeping and reporting conditions of this condition.
 - (i) Diesel PM Standard: Effective January 1, 2010, all portable diesel fuel engines rated at or greater than 50 bhp shall be certified to meet a federal or California standard for new manufactured non-road engines pursuant to 40 CFR 89 or Title 13 of CCR, Section 2423.
 - (ii) Diesel PM Fleet Standard: The in-use portable prime diesel fueled CI engine subject to this condition shall emit diesel PM at a rate that is less than or equal to the standards defined in the table below. The permittee shall comply with the fleet requirements, as well as the weighted diesel particulate matter emission fleet averages. Compliance with these emission limitations are due no later than the dates specified in the table below as defined in section (c) (title 17, CCR, section 93116). The permittee shall obtain an APCD permit prior to installing any emission control systems to meet the requirements of the ATCM.

Fleet Standard Compliance Date	Diesel Particulate Matter Emission Standard (g/bhp-hr)		
	Engines < 175 bhp	Engines 175 < 749 bhp	Engines > 750 bhp
1/1/2013	0.30	0.15	0.25
1/1/2017	0.18	0.08	0.08
1/1/2020	0.04	0.02	0.02

(b) Operational Limits:

- (i) Annual operation of the engine shall not exceed 199 hours per year.
- (ii) Heat Input Limits. The daily and annual heat input limits to the stationary prime diesel fuel CI engine subject to this condition shall not exceed the values listed below. These limits are based on the design rating of the engine and the permitted annual heat input value as listed in the permit application.

Device		Fuel Use (MMBtu)	
Device ID#	Owner ID	(per day)	(per yr)
6404		11	91

- (iii) Fuel and Fuel Additive Requirements. The permittee may only add fuel and/or fuel additives to the engine or any fuel tank directly attached to the engine that comply with the portable ATCM.
 - (iv) Diesel Fuel Sulfur Limit. The total sulfur content of the diesel fuel used in the diesel fired engines included in this permit shall not exceed 15 ppmv. Compliance with this condition shall be based on the recordkeeping and reporting requirements below.
- (c) Monitoring: The equipment permitted herein is subject to the following monitoring requirements:
- (i) Non-Resettable Hour Meter: The in-use stationary diesel-fueled CI engine subject to this condition shall have installed a non-resettable hour meter with a minimum display capability of 9,999 hours, unless the APCD has determined (in writing) that a non-resettable hour meter with a different minimum display capability is appropriate in consideration of the historical use of the engine and the owner or operator's compliance history.
 - (ii) Fuel Usage Metering: The volume of diesel fuel (in gallons) burned in the engine shall be measured through the use of an APCD-approved calibrated non-resettable fuel meter. As an alternative to in-line fuel meters, the permittee may report individual engine hours of operation utilizing an APCD-approved elapsed time

meter¹⁴. A log shall be maintained that records the fuel usage (or hours of operation) of the engine.

- (iii) Diesel Fuel Sulfur Content: Compliance with the *Diesel Fuel Sulfur Limit* condition shall be based upon information provided by fuel vendor that each fuel shipment meets of the ATCM (i.e., ARB "Clean Diesel"). Alternately, the permittee shall annually sample and perform a fuel total sulfur analysis consistent with appropriate ASTM procedures.
- (d) Recordkeeping: The permittee shall record and maintain the information listed below. Log entries shall be retained for a minimum of 36 months from the date of entry. Log entries made within 24 months of the most recent entry shall be retained on-site, either at a central location or at the engine's location, and made immediately available to the APCD staff upon request. Log entries made from 25 to 36 months from most recent entry shall be made available to APCD staff within 5 working days from request.
 - (i) *Operating Hours*. A log shall be maintained that details the number of operating hours and days for each day month the engine is operated and the cumulative total annual hours.
 - (ii) *Fuel Use*. The total amount of diesel fuel combusted in the engine shall be recorded on a monthly and annual basis in units of gallons.
 - (iii) The owner or operator shall document fuel use through the retention of fuel purchase records that demonstrate that the only fuel purchased and added to an the engine, or to any fuel tank directly attached to the engine, meets the requirements of the ATCM.
 - (iv) *Engine Calibration and Maintenance Logs*. IC engine calibration and maintenance logs shall be maintained consistent with the requirements of Rule 333.H.
- (e) Reporting: On a semi-annual basis, a report detailing the previous six-month's activities shall be provided to the APCD. The report must list all data required by the *Semi-Annual Monitoring/Compliance Verification Reports* condition of this permit.
- (f) Temporary Engine Replacements - DICE ATCM: Any reciprocating internal combustion engine subject to this permit and the portable diesel ATCM may be replaced temporarily only if the requirements (a – f) listed herein are satisfied.
 - (i) The permitted engine is in need of routine repair or maintenance.
 - (ii) The permitted engine that is undergoing routine repair or maintenance is returned to its original service within 180 days of installation of the temporary engine.
 - (iii) The temporary replacement engine has the same or lower manufacturer rated horsepower and same or lower potential to emit of each pollutant as the permitted

¹⁴ The hours of operation, along with the engine horsepower rating and BSFC value of 7,500 Btu/bhp-hr, a fuel correction factor of 1.06, and a high heating value of 137,000 Btu/gal will be used to determine the number of gallons of fuel consumed per time period.

engine that is being temporarily replaced. At the written request of the permittee, the APCD may approve a replacement engine with a larger rated horsepower than the permitted engine if the proposed temporary engine has manufacturer guaranteed emissions (for a brand new engine) or source test data (for a previously used engine) less than or equal to the permitted engine.

- (iv) The temporary replacement engine shall comply with all rules and permit requirements that apply to the permitted engine that is undergoing routine repair or maintenance.
- (v) For each permitted engine to be temporarily replaced, the permittee shall submit a completed *Temporary IC Engine Replacement Notification* form (Form ENF-94) within 14 days of the temporary engine being installed. This form shall be sent electronically to: *temp-engine@sbcapcd.org*.
- (vi) Within 14 days upon return of the original permitted engine to service, the permittee shall submit a completed *Temporary IC Engine Replacement Report* form (Form ENF-95). This form shall be sent electronically to: *temp-engine@sbcapcd.org*.

Any engine in temporary replacement service shall be immediately shut down if the APCD determines that the requirements of this condition have not been met. This condition does not apply to engines that have experienced a cracked block (unless under manufacturer's warranty), to engines for which replacement parts are no longer available, or new engine replacements {including "reconstructed" engines as defined in Section (d)(44) of the ATCM}. Such engines are subject to the provisions of New Source Review and the new engine requirements of the portable Engine ATCM.

- D.4 **Engine Identification:** Each engine listed in Table 5.1-1 of this permit shall each have its E&B identification number permanently and legibly stamped into the engine block. The location of the identifying stamp shall be the same for each engine and shall be readily accessible for inspection. Any engine removed from permit shall not be returned to operation at the E&B South Cuyama Stationary Source without first obtaining an Authority to Construct permit from the APCD.
- D.5 **Compliance with Permit Conditions:** The permittee shall comply with all permit conditions in Section 9.D.
- D.6 **Condition Acceptance:** Acceptance of this operating permit by the permittee shall be considered as acceptance of all terms, conditions, and limits of this permit. [*Re: APCD Rule 206*]
- D.7 **Grounds for Revocation:** Failure to abide by and faithfully comply with this permit shall constitute grounds for revocation pursuant to California Health & Safety Code Section 42307 *et seq.*
- D.8 **Reimbursement of Costs:** All reasonable expenses, as defined in APCD Rule 210, incurred by the APCD, APCD contractors, and legal counsel for all activities related to the implementation of Regulation XIII (*Part 70 Operating Permits*) that follow the issuance of this PTO permit, including but not limited to permit condition implementation, compliance verification and emergency response, directly and necessarily related to enforcement of the permit shall be reimbursed by the permittee as required by Rule 210.

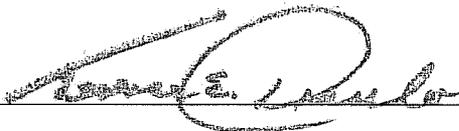
- D.9 **Access to Records and Facilities:** As to any condition that requires for its effective enforcement the inspection of records or facilities by the APCD or its agents, the permittee shall make such records available or provide access to such facilities upon notice from the APCD. Access shall mean access consistent with California Health and Safety Code Section 41510 and Clean Air Act Section 114A.
- D.10 **Compliance:** Nothing contained within this permit shall be construed to allow the violation of any local, State or Federal rule, regulation, ambient air quality standard or air quality increment.
- D.11 **Consistency with Analysis:** Operation under this permit shall be conducted consistent with all data, specifications and assumptions included with the application and supplements thereof (as documented in the APCD's project file) and the APCD's analyses under which this permit is issued.
- D.12 **Consistency with Federal, State and Local Permits:** Nothing in this permit shall relax any air pollution control requirement imposed on the permittee by any other governmental agency.
- D.13 **Permitted Equipment:** Only those equipment items listed in Table 5.1-1 are approved for operation under this permit and are covered by the requirements of this permit and APCD Rule 201.B.
- D.14 **Mass Emission Limitations:** Mass emissions for each equipment item (i.e., emissions unit) associated with the ICEs at the South Cuyama Unit shall not exceed the values listed in Tables 5.1-3 and 5.1-4. Emissions for the ICEs at the entire facility shall not exceed the total limits listed in Table 5.2.
- D.15 **Process Monitoring Systems - Operation and Maintenance:** All facility process monitoring devices shall be properly operated and maintained according to manufacturer recommended specifications and the APCD approved *Process Monitor Calibration and Maintenance Plan*.
- D.16 **Recordkeeping:** All records and logs required by this permit and any applicable APCD, state or federal rule or regulation shall be maintained for a minimum of five calendar years at the facility. These records or logs shall be readily accessible and be made available to the APCD upon request.
- D.17 **Annual Compliance Verification Reports:** The permittee shall submit a report to the APCD, by March 1st of each year containing the information listed below and shall document compliance with all applicable permit requirements. These reports shall be in a format approved by the APCD. All logs and other basic source data not included in the report shall be available to the APCD upon request. Pursuant to Rule 212, a completed *APCD Annual Emissions Inventory Questionnaire* shall be included in the annual report or submitted electronically via the APCD website. The report shall include the following information:
- (a) Breakdowns and variances reported/obtained per Regulation V along with the excess emissions that accompanied each occurrence.
 - (b) The throughputs for all permit exempt activities (tons per year by device/activity).
 - (c) All fuel parameters (fuel use, fuel sulfur content and gross fuel heating value).

- (d) The annual emissions totals of all pollutants in tons per year for each emission unit and summarized for the entire facility.

D.18 **Documents Incorporated by Reference:** The documents listed below, including any APCD-approved updates thereof, are incorporated herein and shall have the full force and effect of a permit condition for this operating permit:

- (a) *Internal Combustion Engine Inspection and Maintenance Plan for the South Cuyama Unit ICEs (dated November 1, 2007, and all subsequent approved updates).*
- (b) *Fuel Use Monitoring Plan (amended March 17, 1994, approved by the APCD on March 24, 1994 and all subsequent approved updates).*
- (c) *Process Monitor Calibration and Maintenance Plan – Hallador Production Company (dated August 4, 2000 and approved August 16, 2000).*
- (d) *Emergency Episode Plan approved March 3, 2000.*

AIR POLLUTION CONTROL OFFICER



JUN 02 2008
Date

Notes:

- a. This permit supersedes PTO 8010-R5 Part 70 Permit 8010 issued 06/14/05, PTO 11724 issued 10/19/05, PTO 11759 issued 05/17/06 and PTO 12284 issued 02/08/08.
- b. Permit Reevaluation Due Date: June 2011
- c. Part 70 Operating Permit Expiration Date: June 2011

RECOMMENDATION

It is recommended that this PTO be issued with the conditions as specified in the permit.

 Phil Sheehan AQ Engineer	<u>05/27/08</u> Date	 Brian Shafritz Engineering Supervisor	<u>5/30/08</u> Date
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10.0 Attachments

10.1 Emission Calculation Documentation

10.2 Emission Calculation (See Tables 5.1-1 and Section 10.1)

10.3 Fee Statement

10.4 Equipment List

10.5 Comments on the Draft Permit and APCD Responses

10.1 Emission Calculation Documentation:

This attachment contains relevant emission calculation documentation used for the emission tables in Section 5. Refer to Section 4 for the general equations. The letters A - E refer to Tables 5.1-1 and 5.1-2.

Reference A - Internal Combustion Engines

- The maximum operating schedule is in units of hours
- Gaseous fuel default characteristics:
 - ⇒ HHV = 1,050 Btu/scf
 - ⇒ Fuel S = 796 ppmvd as H₂S for all equipment
 - ⇒ Fuel S = 846 ppmvd as S for all equipment
- Diesel fuel #2 default characteristics are:
 - ⇒ Density = 7.043 lb/gal (36° API)
 - ⇒ HHV = 19,878 Btu/lb (140,000 Btu/gal)
 - ⇒ LHV = 18,410 Btu/lb (129,700 Btu/gal)
- Brake Specific Fuel Consumption (BSFC) based on HHV for each model of ICE:

Manufacturer	Model(s)	APCD ID# in	Control type	BSFC
		Table 5.1-1		
Waukesha	180GBK, 195, 140, 145		None (all but #1 derated)	9,100
MM	336		none (derated)	9,800
Waukesha	F1197		NSCR	9,100
Buda	6MO-672		NSCR	9,100
Buda	8MO		NSCR	8,490
Clark	HRA-6T		lean & retard	8,460
Detroit Diesel	-		none	7,500

- Emission factor units (lb/MMBtu) are based on HHV.
- The NO_x emission factor for all uncontrolled IC engines is based on factors dictated by the APCD Hearing Board. The NO_x emission factor for controlled IC engines are based on APCD Rule 333 limits, i.e., 0.19 lbs/MMBtu (gas-fired rich burn), and 0.46 lbs/MMBtu (gas-fired lean burn).
- ROC emission factors for all uncontrolled IC engines are based on factors dictated by the APCD Hearing Board. The ROC emission factors for controlled IC engines are based on APCD Rule 333 limits, i.e., 0.83 lbs/MMBtu (gas-fired rich burn), and 2.5 lbs/MMBtu (gas-fired lean burn) as given by the SBCAPCD PGD on Reciprocating ICEs dated January 27, 1998, page 7.

- The CO emission factor for all uncontrolled IC engines is based on factors dictated by the APCD Hearing Board. The CO emission factor for controlled IC engines are based on APCD Rule 333 limits, i.e., 10.1 lbs/MMBtu (for both rich and lean burn gas-fired) as given by the SBCAPCD PGD on Reciprocating ICEs dated January 27, 1998, page 7.
- SO₂ emission limits (factors) are based on mass balance based on fuel S. Thus, for gas-fired engines:
 - ⇒ SO₂ (lb/MMBtu) = 0.169 lb SO₂/scf of H₂S * 1/HHV*(ppmvd S in fuel) = 0.1361
- PM emission limits are based on USEPA, AP-42, Table 3.2.4 (gas-fired ICE). Thus, for gas-fired ICEs:
 - ⇒ PM (lb/MMBtu) = 0.010 lb/MMBtu (gas-fired) based on AP-42 data via the SBCAPCD PGD on Reciprocating ICEs dated January 27, 1998, page 7.
 - ⇒ PM₁₀: PM ratio = 1.00 (gas-fired) - based on CARB data and AP-42, Chapter 3.2 via SBCAPCD PGD on Reciprocating ICEs dated January 27, 1998, page 7, Tables 3.6-1 and 3.6-3 footnotes (c).

10.2 Emission Calculation

(See Table 5.1-2, the equations in 4.2.1 and the variables in Section 10.1)

10.3 Fee Statement

Emission fees for the permit reevaluation of PTO 8010 are based on Fee Schedule A.3 of APCD Rule 210. The fees are detailed in the attached table.

FEE STATEMENT
PT-70/Reeval No. 08010 - R6
FID: 08916 E & B IC Engines / SSID: 01073



Device Fee

Device No.	Device Name	Fee Schedule	Qty of Fee Units	Fee per Unit	Fee Units	Max or Min. Fee Apply?	Number of Same Devices	Pro Rate Factor	Device Fee	Penalty Fee?	Fee Credit	Total Fee per Device
006338	IC Engine: W-40	A3	0.218	427.25	Per 1 million Btu input	No	1	1.000	93.14	0.00	0.00	93.14
006347	IC Engine: W-38	A3	0.380	427.25	Per 1 million Btu input	No	1	1.000	162.36	0.00	0.00	162.36
006348	IC Engine: MM-1	A3	0.454	427.25	Per 1 million Btu input	No	1	1.000	193.97	0.00	0.00	193.97
006350	IC Engine: MM-3	A3	0.454	427.25	Per 1 million Btu input	No	1	1.000	193.97	0.00	0.00	193.97
006351	IC Engine: MM-5	A3	0.454	427.25	Per 1 million Btu input	No	1	1.000	193.97	0.00	0.00	193.97
006352	IC Engine: MM-8	A3	0.454	427.25	Per 1 million Btu input	No	1	1.000	193.97	0.00	0.00	193.97
006361	IC Engine: MM-11	A3	0.454	427.25	Per 1 million Btu input	No	1	1.000	193.97	0.00	0.00	193.97
006363	IC Engine: MM-22	A3	0.454	427.25	Per 1 million Btu input	No	1	1.000	193.97	0.00	0.00	193.97
006379	IC Engine: W-24	A3	0.450	427.25	Per 1 million Btu input	No	1	1.000	192.26	0.00	0.00	192.26
006380	IC Engine: W-41	A3	0.450	427.25	Per 1 million Btu input	No	1	1.000	192.26	0.00	0.00	192.26
006381	IC Engine: W-36	A3	0.450	427.25	Per 1 million Btu input	No	1	1.000	192.26	0.00	0.00	192.26
006384	IC Engine: W-37	A3	0.450	427.25	Per 1 million Btu input	No	1	1.000	192.26	0.00	0.00	192.26
006387	IC Engine: W-51	A3	0.450	427.25	Per 1 million Btu input	No	1	1.000	192.26	0.00	0.00	192.26
006402	Clark #11 Compressor	A3	6.700	427.25	Per 1 million Btu input	No	1	1.000	2,862.58	0.00	0.00	2,862.58
006388	IC Engine: W-2	A3	1.775	427.25	Per 1 million Btu input	No	1	1.000	758.37	0.00	0.00	758.37
006389	IC Engine: W-3	A3	1.775	427.25	Per 1 million Btu input	No	1	1.000	758.37	0.00	0.00	758.37
006390	IC Engine: W-8	A3	1.775	427.25	Per 1 million Btu input	No	1	1.000	758.37	0.00	0.00	758.37
006391	IC Engine: W-4	A3	1.775	427.25	Per 1 million Btu input	No	1	1.000	758.37	0.00	0.00	758.37
006392	IC Engine: W-12	A3	1.775	427.25	Per 1 million Btu input	No	1	1.000	758.37	0.00	0.00	758.37

006393	IC Engine: W-11	A3	1.775	427.25	Per 1 million Btu input	No	1	1.000	758.37	0.00	0.00	758.37
006394	IC Engine: W-15	A3	1.775	427.25	Per 1 million Btu input	No	1	1.000	758.37	0.00	0.00	758.37
006395	IC Engine: W-42	A3	1.775	427.25	Per 1 million Btu input	No	1	1.000	758.37	0.00	0.00	758.37
006396	IC Engine: B-5	A3	1.229	427.25	Per 1 million Btu input	No	1	1.000	525.09	0.00	0.00	525.09
006397	IC Engine: B-6	A3	1.583	427.25	Per 1 million Btu input	No	1	1.000	676.34	0.00	0.00	676.34
006404	Diesel Fired Air Compressor	A1.a	1.000	56.95	Per equipment	No	1	1.000	56.95	0.00	0.00	56.95
008285	Diesel Fired Firewater Pump	A1.a	1.000	56.95	Per equipment	No	1	1.000	56.95	0.00	0.00	56.95
	Device Fee Sub-Totals =								\$12,625.49	\$0.00	\$0.00	\$12,625.49
	Device Fee Total =											\$12,625.49

Permit Fee

Fee Based on Devices

12,625.49

Fee Statement Grand Total = \$12,625

Notes:

- (1) Fee Schedule Items are listed in APCD Rule 210, Fee Schedule "A".
- (2) The term "Units" refers to the unit of measure defined in the Fee Schedule.

10.4 Internal Combustion Engine Equipment List

Wednesday, April 09, 2008
Santa Barbara County APCD – Equipment List

PT-70/Reeval 08010 R6 / FID: 08916 E & B IC Engines / SSID: 01073

A PERMITTED EQUIPMENT

1 Unmodified Rich Burn Gas Engines Not Subject to Rule 333

1.1 IC Engine: W-40

Device ID #	006338	Device Name	IC Engine: W-40
<i>Rated Heat Input</i>	0.210 MMBtu/Hour	<i>Physical Size</i>	24.00 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	W-40
<i>Model</i>	180GBK	<i>Serial Number</i>	
<i>Location Note</i>	Gas Plant 10		
<i>Device Description</i>	Back-up air compressor engine.		

2 Derated Gas Engines Not Subject to Rule 333

2.1 IC Engine: W-38

Device ID #	006347	Device Name	IC Engine: W-38
<i>Rated Heat Input</i>	0.380 MMBtu/Hour	<i>Physical Size</i>	41.80 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	W-38
<i>Model</i>	195	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Spare engine in storage at Gas Plant 10. Capacity limits: orifice plate at 1.65 inches.		

2.2 IC Engine: MM-1

Device ID #	006348	Device Name	IC Engine: MM-1
<i>Rated Heat Input</i>	0.450 MMBtu/Hour	<i>Physical Size</i>	46.30 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	MM-1
<i>Model</i>	336	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Spare engine in storage at Gas Plant 10. Capacity limits: orifice plate at 1.30 inches.		

2.3 IC Engine: MM-3

Device ID #	006350	Device Name	IC Engine: MM-3
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<i>Rated Heat Input</i>	0.450 MMBtu/Hour	<i>Physical Size</i>	46.30 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	MM-3
<i>Model</i>	336	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Engine used for the Perez fresh water well pump. Capacity limits: orifice plate at 1.30 inches.		

2.4 IC Engine: MM-5

Device ID #	006351	Device Name	IC Engine: MM-5
<i>Rated Heat Input</i>	0.450 MMBtu/Hour	<i>Physical Size</i>	46.30 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	MM-5
<i>Model</i>	336	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Spare engine in storage at Gas Plant 10. Capacity limits: orifice plate at 1.30 inches.		

2.5 IC Engine: MM-8

Device ID #	006352	Device Name	IC Engine: MM-8
<i>Rated Heat Input</i>	0.450 MMBtu/Hour	<i>Physical Size</i>	46.30 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	MM-8
<i>Model</i>	336	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Spare engine in storage at Gas Plant 10. Capacity limits: orifice plate at 1.30 inches		

2.6 IC Engine: MM-11

Device ID #	006361	Device Name	IC Engine: MM-11
<i>Rated Heat Input</i>	0.450 MMBtu/Hour	<i>Physical Size</i>	46.30 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	MM-11
<i>Model</i>	336	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Engine located at well 84-35. Capacity limits: orifice plate at 1.30 inches.		

2.7 IC Engine: MM-22

Device ID #	006363	Device Name	IC Engine: MM-22
<i>Rated Heat Input</i>	0.450 MMBtu/Hour	<i>Physical Size</i>	46.30 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	MM-22
<i>Model</i>	336	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Engine drives the Gas Plant 10 compressor water jacket pump. Capacity limits: orifice plate at 1.30 inches.		

2.8 IC Engine: W-24

Device ID #	006379	Device Name	IC Engine: W-24
<i>Rated Heat Input</i>	0.450 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	W-24
<i>Model</i>	140	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Spare engine in storage at Gas Plant 10. Capacity limits: orifice plate at 0.98 inches.		

2.9 IC Engine: W-41

Device ID #	006380	Device Name	IC Engine: W-41
<i>Rated Heat Input</i>	0.450 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	W-41
<i>Model</i>	140	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Spare engine in storage at Gas Plant 10. Capacity limits: orifice plate at 0.98 inches.		

2.10 IC Engine: W-36

Device ID #	006381	Device Name	IC Engine: W-36
<i>Rated Heat Input</i>	0.450 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	W-36
<i>Model</i>	140	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Spare engine in storage at Gas Plant 10. Capacity limits: orifice plate at 0.98 inches.		

2.11 IC Engine: W-37

Device ID #	006384	Device Name	IC Engine: W-37
<i>Rated Heat Input</i>	0.450 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	W-37
<i>Model</i>	145	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Engine drives the Perkins South wastewater injection pump. Capacity limits: orifice plate at 0.922 inches.		

2.12 IC Engine: W-51

Device ID #	006387	Device Name	IC Engine: W-51
<i>Rated Heat Input</i>	0.450 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	W-51
<i>Model</i>	145	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Spare engine in storage at Gas Plant 10. Capacity limits: orifice plate at 0.922 inches.		

3 Controlled Gas Engines Not Subject to Rule 333

3.1 Clark #11 Compressor

Device ID #	006402	Device Name	Clark #11 Compressor
<i>Rated Heat Input</i>	6.700 MMBtu/Hour	<i>Physical Size</i>	792.00 Brake Horsepower
<i>Manufacturer</i>	Clark	<i>Operator ID</i>	HRA #11
<i>Model</i>	HRA-6T	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Engine use: Gas Compressor, Operates less than 200 hours/year, Capacity limits: nameplate/retarded lean burn.		

4 Controlled Gas Engines Subject to Rule 333

4.1 IC Engine: W-2

Device ID #	006388	Device Name	IC Engine: W-2
<i>Rated Heat Input</i>	1.770 MMBtu/Hour	<i>Physical Size</i>	195.00 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	W-2
<i>Model</i>	F1197	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Spare engine in storage at Gas Plant 10. Controlled with a Johnson Mathey DuraNOx Model 200 using noble metal catalyst.		

4.2 IC Engine: W-3

Device ID #	006389	Device Name	IC Engine: W-3
<i>Rated Heat Input</i>	1.770 MMBtu/Hour	<i>Physical Size</i>	195.00 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	W-3
<i>Model</i>	F1197	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Spare engine in storage at Gas Plant 10. Controlled with a Johnson Mathey DuraNOx Model 200 using noble metal catalyst.		

4.3 IC Engine: W-8

Device ID #	006390	Device Name	IC Engine: W-8
<i>Rated Heat Input</i>	1.770 MMBtu/Hour	<i>Physical Size</i>	195.00 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	W-8
<i>Model</i>	F1197	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Spare engine in storage at Gas Plant 10 Controlled with a Johnson Mathey DuraNOx Model 200 using noble metal catalyst.		

4.4 IC Engine: W-4

Device ID #	006391	Device Name	IC Engine: W-4
<i>Rated Heat Input</i>	1.770 MMBtu/Hour	<i>Physical Size</i>	195.00 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	W-4
<i>Model</i>	F1197	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Spare engine in storage at Gas Plant 10. Controlled with a Johnson Mathey DuraNOx Model 200 using noble metal catalyst.		

4.5 IC Engine: W-12

Device ID #	006392	Device Name	IC Engine: W-12
<i>Rated Heat Input</i>	1.770 MMBtu/Hour	<i>Physical Size</i>	195.00 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	W-12
<i>Model</i>	F1197	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Engine drives the Machader West wastewater injection pump. Controlled with a Johnson Mathey DuraNOx Model 200 using noble metal catalyst served by an Omnitek air/fuel ratio controller.		

4.6 IC Engine: W-11

Device ID #	006393	Device Name	IC Engine: W-11
<i>Rated Heat Input</i>	1.770 MMBtu/Hour	<i>Physical Size</i>	195.00 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	W-11
<i>Model</i>	F1197	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Spare engine in storage at Gas Plant 10. Controlled with a Johnson Mathey DuraNOx Model 200 using noble metal catalyst served by an Omnitek air/fuel ratio controller.		

4.7 IC Engine: W-15

Device ID #	006394	Device Name	IC Engine: W-15
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<i>Rated Heat Input</i>	1.770 MMBtu/Hour	<i>Physical Size</i>	195.00 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	W-15
<i>Model</i>	F1197	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Spare engine in storage at Gas Plant 10. Controlled with a Johnson Mathey DuraNOx Model 200 using noble metal catalyst.		

4.8 IC Engine: W-42

Device ID #	006395	Device Name	IC Engine: W-42
<i>Rated Heat Input</i>	1.770 MMBtu/Hour	<i>Physical Size</i>	195.00 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	W-42
<i>Model</i>	F1197	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Engine drives the Perkins North wastewater injection pump. Controlled with a Johnson Mathey DuraNOx Model 200 using noble metal catalyst served by an Omnitek air/fuel ratio controller.		

4.9 IC Engine: B-5

Device ID #	006396	Device Name	IC Engine: B-5
<i>Rated Heat Input</i>	0.450 MMBtu/Hour	<i>Physical Size</i>	135.00 Brake Horsepower
<i>Manufacturer</i>	Buda	<i>Operator ID</i>	B-5
<i>Model</i>	6MO-672	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Engine drives the Machader East wastewater injection pump. Controlled with a Johnson Mathey DuraNOx Model 200 using noble metal catalyst served by an Omnitek air/fuel ratio controller.		

4.10 IC Engine: B-6

Device ID #	006397	Device Name	IC Engine: B-6
<i>Rated Heat Input</i>	1.580 MMBtu/Hour	<i>Physical Size</i>	174.00 Brake Horsepower
<i>Manufacturer</i>	Buda	<i>Operator ID</i>	B-6
<i>Model</i>	6MO	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Spare engine in storage at Gas Plant 10. Controlled with a Johnson Mathey DuraNOx Model 200 using noble metal catalyst.		

5 Air/Fuel Ratio Controllers

5.1 Air/Fuel Ratio Controller W-12

Device ID #	109995	Device Name	Air/Fuel Ratio Controller
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W-12

Rated Heat Input
Manufacturer Omnitek
Model
Location Note
Device Description A/F ratio controller installed on APCD Dev No 006392 (E&B ID# W-12) Waukesha F1197 rich burn gas fired engine controlled by a Johnson Mathey Duro NOx Model 200 noble metal catalyst.

5.2 Air/Fuel Ratio Controller W-11

Device ID #	109996	Device Name	Air/Fuel Ratio Controller W-11
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Rated Heat Input
Manufacturer Omnitek
Model
Location Note
Device Description A/F ratio controller installed on APCD Dev No 006393 (E&B ID# W-11) Waukesha F1197 rich burn gas fired engine controlled by a Johnson Mathey Duro NOx Model 200 noble metal catalyst.

5.3 Air/Fuel Ratio Controller W-42

Device ID #	109997	Device Name	Air/Fuel Ratio Controller W-42
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Rated Heat Input
Manufacturer Omnitek
Model
Location Note
Device Description A/F ratio controller installed on APCD Dev No 006395 (E&B ID# W-42) Waukesha F1197 rich burn gas fired engine controlled by a Johnson Mathey Duro NOx Model 200 noble metal catalyst.

5.4 Air/Fuel Ratio Controller B-5

Device ID #	109998	Device Name	Air/Fuel Ratio Controller B-5
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Rated Heat Input
Manufacturer Omnitek
Model
Location Note
Device Description A/F ratio controller installed on APCD Dev No 006396 (E&B ID# B-5) Buda 6MO-672 rich burn gas fired engine controlled by a Johnson Mathey Duro NOx Model 200 noble metal catalyst.

6 Diesel Engines

6.1 Diesel Fired Air Compressor

<i>Device ID #</i>	006404	<i>Device Name</i>	Diesel Fired Air Compressor
<i>Rated Heat Input</i>	0.450 MMBtu/Hour	<i>Physical Size</i>	61.00 Brake Horsepower
<i>Manufacturer</i>	Detroit Diesel	<i>Operator ID</i>	D-1
<i>Model</i>	PTA-111	<i>Serial Number</i>	219266
<i>Location Note</i>			
<i>Device Description</i>	Engine drives an air compressor used throughout the stationary source. Operates less than 200 hours/year. Model year = 1948.		

6.2 Diesel Fired Firewater Pump

<i>Device ID #</i>	008285	<i>Maximum Rated BHP</i>	240.00
<i>Device Name</i>	Diesel Fired Firewater Pump	<i>Serial Number</i>	64Z08229
<i>Engine Use</i>	Fire Water Pump	<i>EPA Engine Family Name</i>	
<i>Manufacturer</i>	Caterpillar	<i>Operator ID</i>	
<i>Model Year</i>		<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	3306 DITA		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	2.00	<i>Annual Hours</i>	20
<i>Location Note</i>			
<i>Device Description</i>	Engine is used as an emergency standby fire water pump engine. Note: previously permitted in PTO 10724 as Device ID# 107044.		

B EXEMPT EQUIPMENT

1 IC Engine: W-17

<i>Device ID #</i>	008284	<i>Device Name</i>	IC Engine: W-17
<i>Rated Heat Input</i>	1.770 MMBtu/Hour	<i>Physical Size</i>	195.00 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	W-17
<i>Model</i>	F1197	<i>Serial Number</i>	
<i>Part 70 Insig?</i>	No	<i>APCD Rule Exemption:</i> 202.F.1.d. Spark ignition piston-type ICEs for emergency electrical power generation	
<i>Location Note</i>			
<i>Device Description</i>	Engine drives the Gas Plant 10 emergency generator.		

10.5 Comments on the Draft Permit and APCD Responses

The following comments were received in an April 1, 2008 letter from John Deacon of Tracer-EST Inc. in behalf of E&B Natural Resources Management. Each comment is followed by the APCD's response.

1. Page 2 of 53, Figure 1.1-Delete Hallador in the map and replace with E&B.

APCD The APCD will look into updating the map, but it may not be possible prior to the issuance of this permit. This is due to the timelines the APCD must meet to issue the permit.

2. Page 3 of 53, change 8010-R6 to 8010-R5 for the 06/14/05 entry in Table 1.1.

APCD Change made as requested.

3. Page 4 of 53, Section 1.3 titled "Emission Sources"-Should the permit and Rule 333 exempt natural gas fired engine that drives the standby emergency generator be listed for informational purposes?

APCD Section 1.3 addresses the permitted equipment. The emergency generator is listed in the equipment list as exempt.

4. Page 7 of 53, Section 2.1.2, delete 6367, add 6381, and add 6387.

APCD Update made as requested.

5. Page 7 of 53, Section 2.1.3 - This paragraph is confusing. We suggest listing the four engines that utilize air/fuel ratio controllers in a different paragraph.

APCD This section has been reworded and split to make it clearer.

6. Page 7 of 53, Section 2.1.5, change 6402 to 6404.

APCD Update made as requested.

7. Page 7 of 53, Section 2.1.6, the draft permit appears to be using two different device IDs for the diesel firewater pump ICE (8285 and 107044/1 07144). The Equipment List indicates that the 8285 is the current ID. Please update.

APCD References to the firewater pump have been changed to 8285 throughout the permit.

8. Page 10 of 53, Item 3.2.6 change October 1, 2004 to December 14, 2007.

APCD Update made as requested.

9. Page 11 of 53, Item 3.4.2, verify if both instances of Attachment 10.7 are referencing the correct section (section was not found in the existing R5 permit or the draft R6 permit).

APCD References to the equipment list have been changed to Attachment 10.4.

10. Page 14 of 53, should the row with Rule 310 be deleted from Table 3.1 (it was removed from draft permit 9136-R5)?

APCD Rule 310 is applicable to this facility since it deals with hydrogen sulfide or organic sulfides or a combination thereof, which could be in the engine fuel.

11. Page 19 of 53, Section 4.1-If one of the engines equipped with the air/fuel ratio controllers fails, E&B would like the flexibility to swap that engine out with one of the six engines subject to NSCR and have that engine equipped with the air/fuel ratio controller. It would make the permit much simpler and would help E&B insure compliance with the emission requirements of Rule 333.

APCD ATC 12284 was issued to install air/fuel controllers on specific engines. The ATC required a Source Compliance Demonstration Period, source testing, and plan updates. Moving an air/fuel controller to another engine would be an alteration of an air pollution control system and would require a new ATC, as required by Rule 201.

12. Page 19 of 53, Section 4.2.1, first paragraph change 6406 to 6404. Also, the draft permit appears to be using two different device IDs for the diesel firewater pump ICE (8285 and 107044/107144). The Equipment List indicates that the 8285 is the current ID. Please update this device ID.

APCD Change made as requested.

13. Page 19 of 53, Section 4.2.1, first paragraph, the draft permit appears to be using two different device IDs for the diesel firewater pump ICE (8285 and 107044/107144). The Equipment List indicates that the 8285 is the current ID. Please update this device ID.

APCD Change made as requested.

14. Page 19 of 53, Section 4.2.1, third paragraph change "Of these, 4 are 195..." to "Of these, 5 are 195...".

APCD Change made as requested.

15. Page 19 of 53, Section 4.2.1, sixth paragraph, should the first sentence start with "The two diesel-fired engines are controlled ..." instead of "The diesel-fired engine is controlled ..."?

APCD Change made as requested, but the engines are uncontrolled, not controlled.

16. Page 19 of 53, Section 4.2.1, sixth paragraph, should the second sentence start with "The remaining ICEs are ..." instead of "The remaining ICE is ..."?

APCD Change not made. This sentence refers to only one engine.

17. Page 25 of 53, end of Section 5.3, the draft permit appears to be using two different device IDs for the diesel firewater pump ICE (8285 and 107044/107144). The Equipment List indicates that the 8285 is the current ID. Please update this device ID.

APCD Update made as requested.

18. In Table 5.1-1, should device number 9387 be changed to 6387 to match the Equipment List?

APCD Change made as requested.

19. Table 5.1-1, footnote e-Please remove the reference to the specific brand and model of catalytic converter to be used. There are notification and testing requirements in the permit for whenever a catalyst is changed that will insure compliance with Rule 333.

APCD Change made as requested.

20. Table 5.2. We were unable to reproduce the values in this table. Assuming that the table from the existing permit is correct, the only increase should have been for the addition of the small diesel engine that drives an air compressor. Also, please delete Hallador and replace with E&B.

APCD There are two changes to the emission calculations. The firewater pump has been added to the tables. Also the emission factors for both diesel engines have been updated to Tier 0 emission factors the APCD currently uses in diesel ICE permits. See section 4.2.1.C of the permit. Hallador has been changed to E&B.

21. Table 5.3. Same comment as 5.2 above.

APCD See response above.

22. In Tables 5.2 and 5.3 can each Totals row be resized so that the totals are easier to read?

APCD Change made as requested.

23. Page 44 of 53, Section C.1, delete 6367, delete 9680, add 6380, add 6381, and add 6387 (see comment above if this is 9387 or 6387) to match Table 5.1-1.

APCD Change made as requested.

24. Page 49 of 53, Table C.3-1 change "HRA-67" to "HRA-6T".

APCD Change made as requested.

25. Page 52 of 53, Section C.8, add 6363 to the list of gaseous fueled ICEs. Should 6402 be added as well to this list?

APCD Change made as requested.

26. Page 52 of 53, Section C.8, the draft permit appears to be using two different device IDs for the diesel firewater pump ICE (8285 and 107044/107144). The Equipment List indicates that the 8285 is the current 10. Please update this device ID.

APCD Change made as requested.

27. Pages 52 to 55 of 53, please verify the section numbering (it appears as though it skips from C.8 to C.11).

APCD The numbering has been corrected.

28. Page 53 of 53, Condition 9.e.16 (b)-As noted above, E&B would like the flexibility of being able to swap "not in service" engines with those subject to the requirement for an air/fuel ratio controller for the reasons previously stated.

APCD See Response #11.

29. Page 55 of 53, Table 9.1-As noted above, E&B would like the flexibility of being able to swap "not in service" engines (6388-6397) with those subject to the requirement for an air/fuel ratio controller (6392, 6393, 6395 and 6396) for the reasons previously stated.

APCD See Response #11.

30. Page 55 of 53, Condition 9.C.17-There should be a provision exempting the requirement for a visible emissions reading if the engine in question doesn't operate in that month.

APCD The following sentence has been added to this condition: "If an engine does not operate during a calendar quarter, no monitoring is required." Note that the conditions in this section have been renumbered.

31. Page 56 of 53, Section D.2, the draft permit appears to be using two different device IDs for the diesel firewater pump ICE (8285 and 107044/107144). The Equipment List indicates that the 8285 is the current ID. Please update this device ID.

APCD Update made as requested.

32. Page 56 of 53, Section 9.D.2(a), please clarify the Table reference (in this case Table 1). There is no table in this subsection. The only Table 1 in the draft permit appears to be in Section 9.C.2 which only applies to the AFRC ICEs. Maybe this is referring to the table on page 60?

APCD The reference to Table 1 has been changed to Table 5.1.

33. Page 57 of 53-Monitoring section should be (c) not (e) and Recordkeeping should be (d) not (f).

APCD The numbering has been corrected.

34. Page 60 of 53, Section D.3(a), please clarify the Table reference (in this case Table 1). There are two tables in this section without table numbers.

APCD The reference to Table 1 has been changed to Table 5.1.

35. Based upon the format of the existing R5 permit, draft R6 did not appear to include the following in the Attachments: Attachment Table of Contents and Attachment 10.1 Emission Calculation Documentation.

APCD These attachments will be included in the public draft of the permit. The key portions of the attachments, the calculation spreadsheets and the equipment list were emailed to you with the draft permit.