

**MONTEREY BAY UNIFIED AIR POLLUTION CONTROL DISTRICT  
TITLE V OPERATING PERMIT TV44-04  
APPLICATION 14944**

**EVALUATION REPORT**

24580 Silver Cloud Court  
Monterey, CA 93940  
Telephone: (831) 647-9411

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APPLICATION RECEIVED FROM:

AERA Energy LLC  
P.O. Box 11164  
Bakersfield, CA 93389-1164

PLANT SITE LOCATION:

66893 Sargent Canyon Road  
San Ardo, CA 93450

APPLICATION PROCESSED BY:

Mike Sewell, Air Quality Engineer

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APPROVED FOR RELEASE BY:



Greg Chee  
Engineering Division Supervisor

**MAY 13 2011**

Date

## EVALUATION DATA

Company: AERA Energy LLC  
Address: 66893 Sargent Canyon Road  
San Ardo, CA 93450

Appl #s: TV44-04 & 14944  
UTM Coordinates:  
Horiz: 3980.6  
Vert: 693.3

Contact Person: Tim Parcel (559) 935-7418  
(831) 385-7704

District Engineer: Mike Sewell  
Start: 3/8/11  
Finish: 5/3/11

SIC Code: 1311  
SCC Code: 1-02-006-02  
1-02-006-04

Site Location: 66893 Sargent Canyon Road, San Ardo

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### I. PROJECT DESCRIPTION

Aera Energy LLC has submitted applications for the installation of a new water reclamation plant. This equipment may affect the facilities' Casing Head Gas Processing System, the Central Water Plant & Reclamation Facility, and the Oil Treating Facility permits (PTOs 12979, 12741 & 11548); and the Waste Water Facility on the Facilities' Title V Permit (TV44-03).

### II. APPLICABLE RULES

- 200 ATC & P/O Required
- 207 NSR
- 218 Title V
- 300 Fees
- 400 Visible emissions shall be less than Ringelmann 1
- 402 No emission shall constitute a nuisance
- 424 NESHAPS, Subpart HH - Oil & Natural Gas Production Facilities
- 1000 Toxic Air Contaminants

### III. EQUIPMENT LIST

#### WATER RECLAMATION PLANT:

Installation Of Nine Heat Exchangers;, Four De-Aerators, Four Evaporators, Four Vapor Scrubbers, Four Compressors, Four Distillate Pots, Four Activated Carbon Filters, Waste Flash Tank, One Three Cell Cooling Tower, Two Web Surface Air Coolers, One 205 Bbl Capacity Caustic Tank, One 205 Bbl Capacity Acid Tank, And Associated Pumps And Piping.

**IV. DESIGN REVIEW**

This proposed new equipment is designed to operate, and the applicant has requested that this equipment be permitted, at maximum capacity 24 hours per day, 365 days per year.

**V. EMISSIONS CALCULATIONS**

Rule 207 Review of New or Modified Sources

Emission calculations for this equipment will be based upon the following emission factors:

Emission Factors (lbs/1,000 gallons recirculation rate)		
Equipment	PM <sub>10</sub> <sup>1</sup>	PM <sub>2.5</sub> <sup>2</sup>
Cooling Towers	2.09E-4	1.05E-4

- Notes: <sup>1</sup> - Manufacturers Design Drift Rate of 0.005% and TDS Value of 500 mg/l  
<sup>2</sup> - PM<sub>10</sub> Factor Modified by PM<sub>10/2.5</sub> factor of 50%.

Emissions will be based upon the recirculation rate of 10,800 gallons/minute for the Marley Unit and 1,920 gallons/minute for the WSAC units.

Daily Potential to Emit (Lbs/Day)		
Equipment	PM <sub>10</sub>	PM <sub>2.5</sub>
Marley	3.25	1.63
WSAC	0.58	0.29
Totals	3.83	1.92

**VI. CONCLUSIONS**

Compliance Check

207 NSR

Best Available Control Technology (BACT)

The BACT thresholds from Sections 4.1.1 and 5.2 of the rule, the proposed project's maximum daily emissions, the facilities' "new emissions increase" and the determination as to whether BACT and offsets are required are shown in the following tables.

**Federal BACT Determination**

Pollutant	BACT Emission Threshold (Lbs/day)	New Emissions Increase (Lbs/day)	BACT Required?
PM <sub>10</sub>	82	Previously Offset <sup>1</sup>	Yes
PM <sub>2.5</sub>	54.79	1.92	No

Notes: 1 - Previously Offset for Applications 12903 - 12913, therefore BACT is required for all new projects.

As can be seen in the table above, this project requires BACT for PM<sub>10</sub>. Additionally, all future projects proposed by Aera Energy will require BACT for PM<sub>10</sub>.

For this equipment, the applicant has proposed the following as BACT.

**BACT Proposals**

Pollutant	Applicant's Proposal	Additional Discussion Required?
PM <sub>10</sub>	0.005% Design Drift Rate	No

Offsets

The facility net emissions increase, which establishes the calculation methodology for offsets is based upon the methodology contained in Section 7.4 of Rule 207.

**Net Emissions Increase (Pounds/Day)**

EQUIPMENT	PM <sub>10</sub>	PM <sub>2.5</sub>
Water Reclamation Plant	3.83	1.92
Prior to Project Baseline	Previously Offset <sup>1</sup>	0.0
Totals	3.83	1.92

Note: 1 - Previously Offset for Applications 12903 - 12913, therefore offsets are required for all new projects.

**Determination if Offsets are Required**

Pollutant	Offset Threshold (Lbs/day)	Net Emissions Increase (Lbs/day)	Offsets Required
PM <sub>10</sub>	Previously Offset	3.83	Yes
PM <sub>2.5</sub>	--	1.92	No

As can be seen in the table above, offsets are required for the PM<sub>10</sub> emissions.

- The offsets provided must fully offset the net emission increase by quarter. The net emissions increase by quarter is shown in the following table.

**Net Emissions Increase (Pounds)**

Pollutant	First	Second	Third	Fourth
PM <sub>10</sub>	344.7	348.53	352.36	352.36

Aera Energy has proposed to fully offset the project by calendar quarter as established above. The offsets proposed to be utilized are those presently held by Aera in the District ERC bank. Since Aera Energy is a *major source* and the District is presently nonattainment with the State Ambient Air Quality Standards for ozone and PM<sub>10</sub>, offsets for PM<sub>10</sub> are required to be supplied at a 1.15:1 ratio as specified in Section 4.3 of Rule 207. Therefore, the required offsets for this project are shown in the following table.

**Offsets Required (Pounds)**

Pollutant	First	Second	Third	Fourth
PM <sub>10</sub>	396.4	400.8	405.2	405.2

The offsets required for this project equate on an annual basis to 0.8104 tons of PM<sub>10</sub> based upon the maximum quarterly emissions from the 3<sup>rd</sup> and 4<sup>th</sup> quarter.

The permits will be conditioned such that the required offsets will be surrendered prior to

operation of the water reclamation plant.

Air Quality Impact Analysis

In their application, Aera Energy provided a SCREEN3 modeling run which addressed the Air Quality Impacts of the PM<sub>10</sub> emissions. The project impacts were combined with background concentrations to verify that the project would not contribute to violations of the Ambient Air Quality Standards.

The first table addresses the Air Quality Increment in Area E and the second table is a comparison of the project impacts combined with background concentrations versus the ambient air quality standards.

**Increment Analysis - Area E**

Pollutant	Maximum Modeled Impact Area E (ug/m <sup>3</sup> )	Designated Area E (ug/m <sup>3</sup> )	Averaging Period	Below Allowable Increment Consumption
PM <sub>10</sub>	5.572	10.8	annual	yes
	13.71	21.1	24-hour	yes
PM <sub>2.5</sub>	2.786	4	annual	yes
	6.855	9	24-hour	yes

The table above indicate that the project does not exceed any air quality increment. Therefore, the project complies with the air quality increment provisions of Rule 207.

**Cumulative Impacts Vs. Ambient Air Quality Standards**

Pollutant	Avg. Period	Max. Project Impact (ug/m <sup>3</sup> )	Bckgnd Conc. (ug/m <sup>3</sup> )	Total Impact (ug/m <sup>3</sup> )	State Standard (ug/m <sup>3</sup> )	Federal Standard (ug/m <sup>3</sup> )	Below Applicable Standard(s)
PM <sub>10</sub>	24-hour	13.71	56.0	69.71	50	150	no
	annual <sup>(1)</sup>	5.572	24.9	30.47	30	--	no
	annual <sup>(2)</sup>	5.572	25.9	31.47	--	50	yes
PM <sub>2.5</sub>	24-hour	6.855	24.5	31.36	--	65	yes
	annual	2.786	5.7	8.49	12	15	yes

- (1) Annual Arithmetic Mean.
- (2) Annual Geometric Mean.

This table above identifies that the project emission concentrations when combined with background concentrations from calendar year 2004 exceeds the State ambient air quality standards for PM<sub>10</sub>. Although the table identifies an exceedance of the State PM<sub>10</sub> standard, the District has determined that this project will not cause or contribute to a violation of an ambient air quality standard. The basis for this determination is the fact that existing PM<sub>10</sub> concentrations at the Moss Landing and King City stations already exceed the standard, the fact that the localized emissions from this project will not impact the Moss Landing nor the King City stations, and the fact that the District is implementing a PM<sub>10</sub> Plan that will reduce background emissions to below the State standard. Therefore, the project as proposed complies with the Ambient Air Quality Standard provisions of Rule 207.

#### Visibility Impacts

A visibility analysis of the project's gaseous emissions is required under Rule 207. The applicant provided a "Visibility Screening Analysis" to address the contributions of gaseous emissions (primarily NO<sub>x</sub>) and particulate (PM<sub>10</sub>) emissions to visibility impairment on the nearest Class I area, the Pinnacles National Monument which is 60 kilometers northeast of the project site. This "Level 1" analysis from EPA Workbook for Estimating Visibility Impairment (EPA 450/4-80-031) calculated the contrast parameters as:

<u>Contrast Parameter</u>	<u>Absolute Value</u>
C <sub>1</sub>	0.000
C <sub>2</sub>	0.000
C <sub>3</sub>	0.000163797

Since the absolute value of each contrast parameter is less than 0.1, this project's visibility impacts on the Pinnacles National Monument is considered insignificant.

#### Soil & Vegetation Impacts

The proposed project is not expected to have any adverse impacts on soils and vegetation in the District.

#### Public Notice

Since this project triggers the requirements for offsets, this project will be public noticed inviting written public comments for a 30-day period following publication.

218 Title V

The facility presently holds a Title V permit. The Title V permit will be revised to incorporate this new equipment and appropriate conditions prior to operation.

300 ARF

Emissions from this new equipment will be less than 1 ton per year of PM.

400 (Visible Emissions) & 402 (Nuisances)

No visible or nuisance type emissions are expected from this installation. Permit will be conditioned with these requirements.

424 - NESHAPS

**Subpart HH - Oil and Natural Gas Production Facilities**

This subpart is applicable to: 1) each glycol dehydration unit; 2) each storage vessel with the potential for flash emissions; 3) the group of all ancillary equipment, except compressors, intended to operate in volatile hazardous air pollutant service at natural gas processing plants; and 4) compressors intended to operate in volatile hazardous air pollutant service. The equipment proposed in this application are not listed in the above 4 categories; therefore, this application is not subject to this subpart.

1000 Toxic Air Contaminants

The applicant did not include in their application an analysis to address the requirements of Rule 1000. However, since no Unit Risk Values, RELs, nor RFCs exist for PM, a Rule 1000 analysis would be an empty analysis without a result. Therefore, this proposed project is in compliance with the requirements of this rule.

Conclusions

This equipment as proposed has the ability to comply with all District Rules and Regulations.

**VII. RECOMMENDATION**

Issue the attached Authority to Construct 14944 and Title V Permit TV44-04 after public notification and EPA review: