



San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT

SEP 13 2013



HEALTHY AIR LIVING™

Mr. Mike Harnden
AEMETIS Advanced Fuels Keyes, Inc.
P O Box 879
Keyes, CA 95328-0879

Re: Proposed ATC / Certificate of Conformity (Significant Mod)
District Facility #: N-7488
Project #: N-1132213

Dear Mr. Harnden:

Enclosed for your review is the District's analysis of an application for Authority to Construct for the facility identified above. You requested that a Certificate of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. This project is to modify the permit for a decantation process to remove the daily emission limit for fugitive VOC emissions from various components including valves, flanges, pumps, etc. and associated periodic monitoring and recordkeeping requirements in facility's leak detection and repair (LDAR) program.

After addressing all comments made during the 30-day public notice and the 45-day EPA comment periods, the District intends to issue the Authority to Construct with a Certificate of Conformity. Please submit your comments within the 30-day public comment period, as specified in the enclosed public notice. Prior to operating with modifications authorized by the Authority to Construct, the facility must submit an application to modify the Title V permit as an administrative amendment, in accordance with District Rule 2520, Section 11.5.

If you have any questions, please contact Mr. Rupl Gill, Permit Services Manager, at (209) 557-6400.

Thank you for your cooperation in this matter.

Sincerely,

David Warner
Director of Permit Services

Enclosures

cc: Mike Tollstrup, CARB (w/enclosure) via email
cc: Gerardo C. Rios, EPA (w/enclosure) via email

Seyed Sadredin
Executive Director/Air Pollution Control Officer

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**NOTICE OF PRELIMINARY DECISION
FOR THE ISSUANCE OF AUTHORITY TO CONSTRUCT AND
THE PROPOSED SIGNIFICANT MODIFICATION OF FEDERALLY
MANDATED OPERATING PERMIT**

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Air Pollution Control District solicits public comment on the proposed significant modification of AEMETIS Advanced Fuels Keyes, Inc. at 4209 Jessup Road, Ceres, California. This project is to modify the permit for a decantation process to remove the daily emission limit for fugitive VOC emissions from various components including valves, flanges, pumps, etc. and associated periodic monitoring and recordkeeping requirements in facility's leak detection and repair (LDAR) program.

The District's analysis of the legal and factual basis for this proposed action, project #N-1132213, is available for public inspection at http://www.valleyair.org/notices/public_notices_idx.htm and at any District office. There is no emission increases associated with this proposed action. This will be the public's only opportunity to comment on the specific conditions of the modification. If requested, the District will hold a public hearing regarding issuance of this modification. For additional information, please contact the District at (209) 557-6400. Written comments on the proposed initial permit must be submitted by October 21, 2013 to **DAVID WARNER, DIRECTOR OF PERMIT SERVICES, SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT, 4800 ENTERPRISE WAY, MODESTO, CA 95356.**

**San Joaquin Valley Air Pollution Control District
Authority to Construct
Application Review**

Facility Name: AEMETIS Advanced Fuels
Keyes, Inc. Date: July 22, 2013

Mailing Address: P.O. Box 879 Engineer: Jagmeet Kahlon
Keyes, CA 95328 Lead Engineer: Nick Peirce

Contact Person: Mike Harnden
Telephone: (209) 482-2331

Application #(s): N-7488-8-5
Project #: N-1132213

Deemed Complete: June 25, 2013

I. PROPOSAL

AEMETIS Advanced Fuels Keyes, Inc has proposed to modify the permit for a decantation process¹ to remove the daily emission limit for fugitive VOC emissions from various components including valves, connectors, flanges, pumps, etc. and associated periodic monitoring and recordkeeping requirements in the facility's LDAR² program. This proposal was made after testing the content of the whole stillage tank (i.e., the first tank in the decantation process) which indicates the presence of 0.035% (by wt.) of ethanol and 0.0000132% (by wt.) of other VOC species (see Appendix II for lab test results). Since VOC content of processed material is less than 10% by wt., these components are assumed to have negligible VOC emissions per guidance in District Policy SSP-2015 (9/5/05). Therefore, the fugitive VOC emissions requirement and associated periodic monitoring and recordkeeping will be removed from the permit.

This facility is a Major Source for greenhouse gas (GHG) emissions. This project triggers a public notice since the project is a "significant" modification under District Rule 2520. Therefore, this project will be published in the local newspaper, Modesto Bee, for public review and comment. The public comment period will last 30 days from the date of publication. The facility has also proposed to obtain Authority to Construct (ATC) with Certificate of Conformity (COC), which is EPA's 45-day review before the issuance of final ATC. Both COC and public notice will run concurrently.

II. APPLICABLE RULES

Rule 2201 New and Modified Stationary Source Review Rule (4/21/11)
Rule 2410 Prevention of Significant Deterioration (effective on 11/26/12)

¹A process of separating dissolved solids from liquid after extracting almost all ethanol.

²Leak detection and repair (LDAR)

Rule 2520 Federally Mandated Operating Permits (6/21/01)
Rule 4001 New Sources Performance Standards (4/14/99)
Rule 4101 Visible Emissions (2/17/05)
Rule 4102 Nuisance (12/17/92)
Rule 4455 Components at Petroleum Refineries, Gas Liquids Processing,
Facilities, and Chemical Plants (4/20/05)
California Health & Safety Code 41700 Risk Management Review
California Health & Safety Code 42301.6 School Notice
Public Resources Code 21000-21177: California Environmental Quality Act
(CEQA)
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-
15387: CEQA Guidelines

III. PROJECT LOCATION

This facility is located at 4209 Jessup Road, Ceres, California.

The proposed project will not result in an increase in hazardous air pollutants (HAPs). Therefore, the public notice under the California Health and Safety Code 42301.6 is not required.

IV. PROCESS DESCRIPTION

The whole stillage removed from the bottom of the mash stripper column (under distillation process) is conveyed to one of five decanter centrifuges or stored in the fixed-roof whole stillage holding tank. The centrifuges concentrate the slurry to 30% solids Wet Distillers' Grain (WDG). The WDG is stored in a partially enclosed building and shipped to local dairies as a high-value animal feed.

The remaining water, which contains residual amounts of organic material, is collected in a fixed-roof thin stillage storage tank. The thin stillage is then processed in the steam-heated evaporator. The result is organic syrup, which is then combined with the WDG, and process water, which is returned to a cook tank for reuse in the slurry mixing tank.

V. EQUIPMENT LISTING

DECANTATION PROCESS CONSISTING OF FIVE 130 HP ALFA LAVAL MODEL CHNX 944 DECANter CENTRIFUGES (OR EQUAL), ONE WHOLE STILLAGE HOLDING TANK, ONE FIXED-ROOF THIN STILLAGE HOLDING TANK, ONE CENTRATE TANK, THE EVAPORATION SYSTEM WITH ONE THIN STILLAGE FEED TANK, AND AN ENVITECH 2-STAGE PROCESS VENT CONDENSER WITH A 550 GALLON WATER RECIRCULATION TANK (SHARED WITH UNITS N-7488-5 AND -7) SERVED BY A NESTEC 1.68 MMBTU/HR NATURAL GAS-FIRED REGENERATIVE THERMAL OXIDIZER (RTO). THE RTO SERVES UNIT N-7488-5, -6, -7, AND -8.

VI. EMISSION CONTROL TECHNOLOGY EVALUATION

AEMETIS is not proposing any changes to the existing emission control techniques. Therefore, no further discussion is necessary.

VII. EMISSION CALCULATIONS

A. Assumptions

Assumptions will be stated as they are made during the evaluation.

B. Emission Factors

1. Pre-Project Emission Factors (EF1)

Since the potential emissions are available directly from the previous projects, it is not necessary to state these factors.

2. Post-Project Emission Factors (EF2)

The applicant is not proposing any changes to the existing emission factors. Therefore, EF2 would be same EF1.

C. Potential to Emit

1. Pre-Project Potential to Emit (PE1)

N-7488-8-3: Decantation process

Process Emissions:

Natural gas combustion in RTO:

The control equipment, that is, a process condenser and regenerative thermal oxidizer, is shared with permits N-7488-5, '-6, '-7 and '-8. Therefore, the process and natural gas combustion emissions are assessed for all shared units, and are counted toward permit unit N-7488-5.

The summary of these emissions from the application review under project N1121217 is as follows:

Pollutant	PE1 lb/day	PE1 lb/yr
NOx	0.7	268
SOx	0.1	42
PM ₁₀	0.3	112
CO	0.4	162
VOC	15.3	5,121

Fugitive VOC from pumps, valves, flanges, and other similar components:
 Per PTO N-7488-8-3,

$$PE1 = 2.9 \text{ lb-VOC/day (1,059 lb-VOC/yr)}$$

2. Post-Project Potential to Emit (PE2)

N-7488-8-3: Decantation process

Process Emissions:

Natural gas combustion in RTO:

The applicant is not proposing any changes to the process or natural gas combustion emissions. Therefore, PE2 would be same as PE1.

Fugitive VOC from pumps, valves, flanges, and other similar components:

Fugitive VOC emissions from pumps, valves and flanges handling the fluids in the decantation process are zero since the fluids handled by these components contain 10% (or less) VOCs by weight. This determination is consistent with District Policy SSP 2015 (9/15/05). Thus,

$$PE2 = 0.0 \text{ lb-VOC/day (0 lb-VOC/yr)}$$

3. Quarterly Emissions Changes (QECs)

This calculation is required for application's emission profile, which is used for the District's internal tracking purposes. The emissions will be evenly distributed throughout the year as follows:

$$QEC = (PE2 - PE1) \text{ lb/year} \div 4 \text{ quarters/year}$$

Note that the quarterly numbers are rounded to zero decimal place.

Permit #	Quarterly Emissions Changes (lbs)				
	NO _x	SO _x	PM ₁₀	CO	VOC
N-7488-8-5	0	0	0	0	(265)

4. Adjusted Increase in Permitted Emissions (AIPE)

AIPE is used to determine if BACT is required for emission units that are being modified. AIPE is calculated using the equations mentioned in Section 4.3 and 4.4 of Rule 2201.

$$AIPE = PE2 - \left(\frac{EF2}{EF1} \right) (PE1)$$

N-7488-8: Decantation process

Process Emissions:

Natural gas combustion in RTO:

EF2 = EF1 and PE2 = PE1. Therefore, AIPE will be zero for each pollutant.

Fugitive VOC from pumps, valves, flanges, and other similar components:

Fugitive VOC emissions associated with pumps, valves, flanges and other similar components associated with the decantation process are zero since the fluids handled by these components contain 10% (or less) VOCs by weight. Thus, AIPE is set to zero pounds per day.

D. Facility Emissions

1. Pre-Project Stationary Source Potential to Emit (SSPE1)

Pursuant to Section 4.9 of District Rule 2201, the Pre-Project Stationary Source Potential to Emit (SSPE1) is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of emission reduction credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site.

Potential emissions for each permit unit are taken from the application review under project N1121217.

Permit #	SSPE1 (lb/yr)				
	NO _x	SO _x	PM ₁₀	CO	VOC
N-7488-1-2	0	0	258	0	0
N-7488-2-2	0	0	770	0	0
N-7488-3-2	0	0		0	0
N-7488-4-2	0	0		0	0
N-7488-5-3	268	42	112	162	5,121
N-7488-6-3	0	0	0	0	3,505*
N-7488-7-3	0	0	0	0	3,579*
N-7488-8-3	0	0	0	0	1,059*
N-7488-9-3	0	0	0	0	3,179*
N-7488-10-3	0	0	0	0	183*
N-7488-11-3	0	0	0	0	257*
N-7488-12-3	0	0	0	0	183*
N-7488-13-3	0	0	0	0	15*
N-7488-14-3	0	0	0	0	
N-7488-15-3	0	0	0	0	553*
N-7488-16-4	6,938	2,472	3,816	9,540	3,469

SSPE1 (lb/yr) – Continue...					
Permit #	NO _x	SO _x	PM ₁₀	CO	VOC
N-7488-17-4	6,938	2,472	3,816	9,540	3,469
N-7488-18-3	0	0	0	0	0
N-7488-19-3	457	19	54	2,483	423
N-7488-20-2	0	0	6,971	0	0
N-7488-21-3	0	0	0	0	4,840*
N-7488-22-2	325	0	8	66	14
N-7488-23-1	0	0	0	0	0
N-7488-24-1	0	0	0	0	0
SSPE2	14,926	5,005	15,805	21,791	29,849
Fugitives	0	0	0	0	17,353
SSPE2 w/o Fugitives	14,926	5,005	15,805	21,791	12,496

*Fugitive emissions

2. Post-Project Stationary Source Potential to Emit (SSPE2)

Pursuant to Section 4.10 of District Rule 2201, the Post-Project Stationary Source Potential to Emit (SSPE2) is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of emission reduction credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site.

SSPE2 (lb/yr)					
Permit #	NO _x	SO _x	PM ₁₀	CO	VOC
N-7488-1-2	0	0	258	0	0
N-7488-2-2	0	0	770	0	0
N-7488-3-2	0	0		0	0
N-7488-4-2	0	0		0	0
N-7488-5-3	268	42	112	162	5,121
N-7488-6-3	0	0	0	0	3,505*
N-7488-7-3	0	0	0	0	3,579*
N-7488-8-5	0	0	0	0	0*
N-7488-9-3	0	0	0	0	3,179*
N-7488-10-3	0	0	0	0	183*
N-7488-11-3	0	0	0	0	257*
N-7488-12-3	0	0	0	0	183*
N-7488-13-3	0	0	0	0	15*
N-7488-14-3	0	0	0	0	
N-7488-15-3	0	0	0	0	553*

SSPE2 (lb/yr) – Continue...					
Permit #	NO _x	SO _x	PM ₁₀	CO	VOC
N-7488-16-4	6,938	2,472	3,816	9,540	3,469
N-7488-17-4	6,938	2,472	3,816	9,540	3,469
N-7488-18-3	0	0	0	0	0
N-7488-19-3	457	19	54	2,483	423
N-7488-20-2	0	0	6,971	0	0
N-7488-21-3	0	0	0	0	4,840*
N-7488-22-2	325	0	8	66	14
N-7488-23-1	0	0	0	0	0
N-7488-24-1	0	0	0	0	0
SSPE2	14,926	5,005	15,805	21,791	28,790
Fugitives	0	0	0	0	16,294
SSPE2 w/o fugitives	14,926	5,005	15,805	21,791	12,496

*Fugitive emissions

3. Major Source Determination

Rule 2201 Major Source Determination

Pursuant to District Rule 2201, a Major Source is a stationary source with a SSPE2 equal to or exceeding one or more of the following threshold values. For the purposes of determining major source status the following shall not be included:

- Any ERCs associated with the stationary source
- Emissions from non-road IC engines (i.e. IC engines at a particular site at the facility for less than 12 months)
- Fugitive emissions, except for the specific source categories specified in 40 CFR 51.165

The 'chemical process plant' definition in section 40 CFR 51.165 excludes ethanol production facilities that produces ethanol by natural fermentation included in NAICS codes 325193 or 312140.

This facility produces ethanol by natural fermentation and is covered under NAICS code 325193. Therefore, fugitive emissions will be excluded from the facility's total to determine its Major Source status.

Rule 2201 Major Source Determination (lb/year)					
Category	NO _x	SO _x	PM ₁₀	CO	VOC
SSPE1	14,926	5,005	15,805	21,791	12,496
SSPE2	14,926	5,005	15,805	21,791	12,496
Major Source Thresholds	20,000	140,000	140,000	200,000	20,000
Major Source?	No	No	No	No	No

From the above table, the facility is not an existing Major Source and is not becoming a Major Source as a result of this project.

Rule 2410 Major Source Determination

The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(i). Therefore the following PSD Major Source thresholds are applicable.

PSD Major Source Determination (tons/year)							
Category	NO ₂	VOC	SO ₂	CO	PM	PM ₁₀	CO _{2e}
Estimated Facility PE before Project Increase	7.5	6.2	2.5	10.9	7.9	7.9	101,120
PSD Major Source Thresholds	250	250	250	250	250	250	100,000
PSD Major Source?	No	No	No	No	No	No	Yes

From the above table, the facility is an existing major source for PSD.

4. Stationary Source Increase in Potential Emissions (SSIPE)

It is District Practice to define the SSIPE as the difference of SSPE2 and SSPE1. Negative SSIPE values are equated to zero.

Pollutant	SSPE2 (lb/yr)	SSPE1 (lb/yr)	SSIPE (lb/yr)
NO _x	14,926	14,926	0
SO _x	5,005	5,005	0
PM ₁₀	15,805	15,805	0
CO	21,791	21,791	0
VOC	28,790	29,849	0

5. SB-288 Major Modification

The purpose of Major Modification calculations is to determine the following:

A. If Best Available Control Technology (BACT) is triggered for a new or modified emission unit that results in a Major Modification (District Rule 2201, §4.1.3); and

B. If a public notification is triggered (District Rule 2201, §5.4.1).

Per section VII.D.3 of this document, this facility is not a Major Source for any pollutant. Thus, the proposed project is not an SB-288 Major Modification.

6. Federal Major Modification

The purpose of Federal Major Modification calculations is to determine the following:

- A. If a Rule-compliance project qualifies for District Rule 2201's Best Available Control Technology (BACT) and offset exemptions (District Rule 2201, §4.2.3.5); and
- B. If an Alternate Siting analysis must be performed (District Rule 2201, §4.15.1); and
- C. If the applicant must provide certification that all California stationary sources owned, operated, or controlled by the applicant that are subject to emission limits are in compliance with those limits or are on a schedule for compliance with all applicable emission limits and standards; and
- D. If a public notification is triggered (District Rule 2201, §5.4.1).

Per section VII.D.3 of this document, this facility is not a Major Source for any pollutant. Therefore, the proposed project is not a Federal Major Modification.

VIII. COMPLIANCE

Rule 2201 New and Modified Stationary Source Review Rule

1. Best Available Control Technology (BACT)

BACT requirements shall be triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis. Unless exempted pursuant to Section 4.2, BACT shall be required for the following actions:

- Any new emissions unit or relocation from one Stationary Source to another of an existing emissions unit with a Potential to Emit (PE2) exceeding 2.0 pounds in any one day;
- Modifications to an existing emissions unit with a valid Permit to Operate resulting in an Adjusted Increase in Permitted Emissions (AIPE) exceeding 2.0 pounds in any one day;
- Any new or modified emissions unit, in a stationary source project, which results in an SB 288 Major Modification or a Federal Major Modification, as defined in this rule.

N-7488-8-5: Decantation process

Per section VII.C.4 of this document, AIPE is not greater than 2.0 lb/day for any pollutant. Further, the proposed project did not trigger Major Modification (pursuant to section VII.D.4 and VII.D.5 of this document). Thus, BACT is not triggered for this operation.

2. Offsets

Offsets are examined on pollutant-by-pollutant basis. The following table summarizes SSPE2, offset thresholds, and whether or not offsets are triggered.

Category	NO _x	SO _x	PM ₁₀	CO	VOC
SSPE1	14,926	5,005	15,805	21,791	29,849
SSPE2	14,926	5,005	15,805	21,791	28,790
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets Triggered?	No	No	No	No	Yes

Section 4.7.1 states that for pollutants with SSPE1 greater than the emission offset threshold levels, emission offsets shall be provided for all increases in Stationary Source emissions, calculated as the differences of post-project Potential to Emit (PE2) and the Baseline Emissions (BE) of all new and modified emissions units, plus all increases in Cargo Carrier emissions. Thus,

$$EOQ = \Sigma(PE2 - BE) + ICCE, \text{ where}$$

PE2 = Post-Project Potential to Emit (lb/yr)

BE = Baseline Emissions (lb/yr)

ICCE = Increase in Cargo Carrier emissions (lb/yr)

There is no increase in Cargo Carrier emissions from this project. Thus,

$$EOQ = \Sigma(PE2 - BE)$$

This facility is not a Major Source for VOC. Therefore, BE is set equal to PE1 per section 3.8 Rule 2201.

$$EOQ = \Sigma(PE2 - PE1)$$

For conservative estimate, it is assumed that process emissions including natural gas combustion would be emitted by decantation process. Therefore,

$$\begin{aligned} PE2 &= 5,121 \text{ lb-VOC/yr}^3 + 0 \text{ lb-VOC/yr}^4 \\ &= 5,121 \text{ lb-VOC/yr} \end{aligned}$$

³Process and natural gas combustion emissions from N-7488-5, '-6, '-7 and '-8

⁴Fugitive component VOC emissions

$$\begin{aligned} \text{PE1} &= 5,121 \text{ lb-VOC/yr} + 1,059 \text{ lb-VOC/yr} \\ &= 6,180 \text{ lb-VOC/yr} \end{aligned}$$

$$\begin{aligned} \text{EOQ} &= 5,121 \text{ lb-VOC/yr} - 6,180 \text{ lb-VOC/yr} \\ &= -1,059 \text{ lb-VOC/yr} \\ &\approx 0 \text{ lb-VOC/yr} \end{aligned}$$

Summary:

Offsets are not required for the proposed project.

3. Public Notification

District Rule 2201, section 5.4, requires a public notification for the affected pollutants from the following types of projects:

- New Major Sources
- Major Modifications (SB-288 or Federal)
- New emission units with a PE > 100 lb/day of any one pollutant
- Modifications with SSPE1 below an Offset threshold and SSPE2 above an Offset threshold on a pollutant-by-pollutant basis
- New stationary sources with SSPE2 exceeding Offset thresholds
- Any permitting action with a SSPE exceeding 20,000 lb/yr for any one pollutant

The proposed project will not exceed any thresholds listed in above items. Therefore, public notice is not required for this project as a result of the requirements specified in section 5.4.

4. Daily Emission Limits (DEL)

Daily Emissions Limits (DELs) are required by section 3.15. Except for the removal of fugitive component DEL, the existing DELs will be replicated in the permit associated with this project. The DELs are as follows:

Process Emissions:

- VOC emissions from the RTO stack shall not exceed 0.072 lb/1,000 gallons of ethanol produced. [District Rules 2201 and 4623]
- The ethanol production rate shall not exceed 210,000 gallons in any one day. [District Rule 2201]

Natural gas combustion in RTO:

- Emissions rates from natural gas combustion in the RTO burner shall not exceed any of the following limits: 0.0182 lb-NO_x/MMBtu; 0.011 lb-CO/MMBtu; 0.0055 lb-VOC/MMBtu; 0.0076 lb-PM₁₀/MMBtu; or 0.00285 lb-SO_x/MMBtu. [District Rule 2201]

Fugitive VOC from pumps, valves, flanges, and other similar components:

- VOC content in the fluid handled in the decantation process shall be less than or equal to 10% by weight. Compliance with this condition may be verified by sampling fluid from the whole stillage tank rather than sampling fluids from other vessels. [District Rules 2201, 4455, 40 CFR 60.480a (d)(5)]

5. Compliance Assurance

Source Testing

Process Emissions:

Natural gas combustion in RTO:

The existing source testing requirements will be replicated in this permit.

Fugitive VOC from pumps, valves, flanges, and other similar components:

The results of the samples collected from whole stillage tank on January 8, 2013 revealed that the VOC content is 0.035% (by wt.) for ethanol and 0.0000132% (by wt.) for other VOC species. Therefore, no additional testing is required.

Monitoring

Process Emissions:

Natural gas combustion in RTO:

The existing monitoring requirements will be replicated in this permit.

Fugitive VOC from pumps, valves, flanges, and other similar components:

No monitoring is required.

Recordkeeping

Process Emissions:

Natural gas combustion in RTO:

The existing recordkeeping requirements will be replicated in this permit.

Fugitive VOC from pumps, valves, flanges, and other similar components:

The applicant will be required to keep records of the date, vessel or location from where fluid is sampled, name of the person taking and analyzing samples and company affiliation, VOC content (% by wt.) in the sample, and report of the test results.

Reporting

Process Emissions:

Natural gas combustion in RTO:

Fugitive VOC from pumps, valves, flanges, and other similar components:

No additional reporting is required. However, any existing reporting requirement from the PTO will be replicated in this permit.

Compliance is expected with the Rule.

Rule 2410 Prevention of Significant Deterioration

Rule 2410 applies to pollutants for which the District is in attainment or for unclassified, pollutants. The pollutants addressed in the PSD applicability determination are listed as follows:

- NO2 (as a primary pollutant)
- SO2 (as a primary pollutant)
- CO
- PM
- PM10
- Greenhouse gases (GHG): CO2, N2O, CH4, HFCs, PFCs, and SF6

Step1:

The first step of this PSD evaluation consists of determining whether the facility is an existing PSD Major Source or not. Per section VII.D.3 of this document, this facility is an existing PSD Major Source.

Step2:

The second step of the PSD evaluation is to determine if the project results in a PSD significant increase along with the project location relative to Class 1 area.

I. Project Location Relative to Class 1 Area

This facility is an existing major source for PSD. However, it is not located within 10 km of a Class 1 area, which in this case is "Yosemite National Park". Therefore, modeling of the emission increase is not required to determine if the project is subject to the requirements of Rule 2410.

II. Significance of Project Emission Increase Determination

a. Potential to Emit of attainment/unclassified pollutant for New or Modified Emission Units vs PSD Significant Emission Increase Thresholds

As a screening tool, the potential to emit from all new and modified units is compared to the PSD significant emission increase thresholds, and if total potential to emit from all new and modified units is below this threshold, no further analysis will be needed.

PSD Significant Emission Increase Determination: Potential to Emit (tons/year)						
Category	NO ₂	SO ₂	CO	PM	PM ₁₀	CO _{2e} **
N-7488-8-5	0.1	0.0	0.1	0.1	0.1	858
PSD Significant Emission Increase Thresholds	100	100	100	100	100	100,000
PSD Significant Emission Increase?	No	No	No	No	No	No

**CO2e includes only natural gas combustion in the RTO as it is serving the decantation process. Note the decantation process is not expected to have any GHG emissions.

As shown in the table above, the project potential to emit, by itself, does not exceed any of the PSD major source thresholds. Therefore, Rule 2410 is not applicable and no further discussion is required.

Rule 2520 Federally Mandated Operating Permits

This facility is a Major Source for greenhouse gas emissions (GHG), and is subject to the requirements of this rule.

With the proposed project, VOC emissions from valves, connectors, flanges, etc., will no longer be monitored or recorded in facility's LDAR program, and the existing daily emission limit will be omitted from the permit. These changes are considered "significant" per section 3.20.2 and 3.20.3 of Rule 2520 (6/21/01). Therefore, this project triggers a 30-day public notice, which includes publication of this project in a local newspaper "Modesto Bee". In addition, AEMETIS has also requested to receive the ATC with Certificates of Conformity in accordance with the requirements of 40 CFR 70.6(c), 70.7 and 70.8. Therefore, 45-day EPA notice will be conducted prior to the issuance of the ATC. The following conditions will be included in the permit.

- This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201]
- Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4]

In accordance with Rule 2520, the application meets the procedural requirements of section 11.4 by including:

- A description of the change, the emissions resulting from the change, and any new applicable requirements that will apply if the change occurs and
- The source's suggested draft permit (Appendix I of this document) and
- Certification by a responsible official that the proposed modification meets the criteria for use of major permit modification procedures and a request that such procedures be used (Appendix IV of this document).

Section 5.3.4 of this rule requires the permittee shall file an application for administrative permit amendments prior to implementing the requested change except when allowed by the operational flexibility provisions of section 6.4 of this rule. AEMETIS is expected to notify the District by filing TV Form -008 upon implementing the ATC.

Compliance is expected with this Rule.

Rule 4001 New Sources Performance Standards

40 CFR Part 60, Subpart VVa: Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006

Pursuant to Section 60.480a(a), the provisions of this subpart apply to affected facilities in the synthetic organic chemicals manufacturing industry for which construction, reconstruction, or modification occurs after November 7, 2006.

Pursuant to Section 60.481a, Synthetic organic chemicals manufacturing industry is defined as the industry that produces, as intermediates or final products, one or more of the chemicals listed in Section 60.489, which includes ethanol.

Since this facility is constructed after November 7, 2006, and ethanol is considered a synthetic organic chemical, this regulation applies to this facility.

Pursuant to Section 60.480a (d)(5), any facility that has no equipment "in volatile organic compounds (VOC) service" is exempt from §60.482-1a through 60.482-11a. "In VOC service" means that the piece of equipment contains or contacts a process fluid that is at least 10 percent VOC by weight. Records are required to be maintained in accordance with section 60.486a (i).

The lab results included in Appendix II of this document indicate that the material handled in a decantation process contain less than 10% VOC (by wt.). The following conditions will enforce on-going compliance with this regulation:

- VOC content in the fluid handled in the decantation process shall be less than or equal to 10% by weight. Compliance with this condition may be verified by sampling fluid from the whole stillage tank rather than sampling fluids from other vessels. [District Rules 2201, 4455, 40 CFR 60.480a (d)(5)]
- The permittee shall keep records of the following items for VOC content testing: a.) the date, b.) vessel or location from where fluid is sampled, c.) name of the person taking and analyzing samples and company affiliation, d.) VOC content (% by wt.) in the sample, and e.) report of the test results. [District Rules 2201 and 4455, 40 CFR 60.486a (i)(3)]

Compliance is expected with this Rule.

Rule 4101 Visible Emissions

Section 5.0, indicates that no air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour, which is dark or darker than Ringlemann 1 or equivalent to 20% opacity. The following condition will be placed on the permit:

- No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]

Compliance is expected with this Rule.

Rule 4102 Nuisance

Section 4.0 prohibits discharge of air contaminants, which could cause injury, detriment, nuisance or annoyance to the public. The following condition will be placed in the permit:

- No air contaminant shall be released into the atmosphere, which causes a public nuisance. [District Rule 4102]

California Health & Safety Code 41700 (Risk Management Review)

District Policy APR 1905 - Risk Management Policy for Permitting New and Modified Sources (March 2, 2001) specifies that for an increase in emissions associated with a proposed new source or modification, the District must perform an analysis to determine the possible impact to the nearest resident or worksite. There is no increase in facility's potential HAP emissions from the proposed project. Therefore, RMR is not required.

Compliance is expected with this Rule.

Rule 4455 Components at Petroleum Refineries, Gas Liquids Processing, Facilities, and Chemical Plants

Purpose

The purpose of District Rule 4455 is to limit VOC emissions from leaking components at petroleum refineries, gas liquids processing facilities, and chemical plants.

AEMETIS is not a petroleum refinery or a gas liquids processing facility. Pursuant Section 3.4, a chemical plant is defined as an establishment that produces organic chemicals and/or manufactures products by organic chemical processes. The company produces ethanol by fermenting sugars in the corn using yeast, which can be considered an organic chemical process. Therefore, this facility meets the definition of a chemical plant and is subject to the requirements of this Rule.

Applicability

Section 2.0 states that this rule applies to components containing or contacting VOC at petroleum refineries, gas liquids processing facilities, and chemical plants. This rule applies to all of the equipment or piping systems that contains or come in contact with VOC.

Exemptions

Section 4.2 states except for complying with the requirements of Sections 6.1 and 7.3, the requirements of this rule shall not apply the components exclusively handling liquid streams with a VOC content less than ten percent by weight (<10 wt%), as determined by the test methods in Section 6.4.2. Section 6.4.2 requires that the VOC content shall be determined using American Society of Testing and Materials (ASTM) D 1945 for gases and South Coast Air Quality Management District (SCAQMD) Method 304-91 for liquids. The following conditions will be listed in the permit:

- VOC content in the fluid handled in the decantation process shall be less than or equal to 10% by weight. Compliance with this condition may be verified by sampling fluid from the whole stillage tank rather than sampling fluids from other vessels. [District Rules 2201, 4455, 40 CFR 60.480a (d)(5)]
- The permittee shall include in the Operator Management Plan all components exclusively handling liquid streams with VOC content less than 10% by weight. [District Rule 4455]
- The results of any laboratory testing or other pertinent information to demonstrate compliance with the exemption criteria for components exclusively handling liquid streams with VOC content less than 10% by weight shall be submitted with the Operator Management Plan. [District Rule 4455]
- VOC content shall be determined using South Coast Air Quality Management District (SCAQMD) Method 304-91 for liquids, or EPA Method 8260B, or other alternative test methods approved by the District prior to their use. [District Rules 2201 and 4455]

Compliance is expected with this Rule.

California Environmental Quality Act Requirements (CEQA)

The California Environmental Quality Act (CEQA) requires each public agency to adopt objectives, criteria, and specific procedures consistent with CEQA Statutes and the CEQA Guidelines for administering its responsibilities under CEQA, including the orderly evaluation of projects and preparation of environmental documents. The San Joaquin Valley Unified Air Pollution Control District (District) adopted its *Environmental Review Guidelines* (ERG) in 2001. The basic purposes of CEQA are to:

- Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities.
- Identify the ways that environmental damage can be avoided or significantly reduced.

- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible.
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

The District performed an Engineering Evaluation (this document) for the proposed project and found that none of the proposed emission units triggers Best Available Control Technology (BACT) requirements. Furthermore, the project is not expected to pose significant health risks to the public. Therefore, this project does not require discretionary judgment or deliberation. Consequently, this permitting action constitutes a ministerial approval. Section 21080 of the Public Resources Code exempts CEQA for those projects over which a public agency exercises only ministerial approval; therefore, the District finds this project to be exempt from the provisions of CEQA.

IX. RECOMMENDATION

Compliance with all rules and regulations is expected. Therefore, issue the ATC upon addressing comments from the applicant.

X. BILLING INFORMATION

Permit #	Fee Schedule	Fee Description	Previous Fee Schedule
N-7488-8-5	3020-01 H	3,752.5 hp	3020-01 H

APPENDICES:

- Appendix I: Draft Authority to Construct Permit
- Appendix II: VOC Test Results (Whole Stillage Tank)
- Appendix III: Permit to Operate N-7488-8-3
- Appendix IV: Compliance Certification

Appendix I
Draft Authority to Construct Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: N-7488-8-5

LEGAL OWNER OR OPERATOR: AEMETIS ADVANCED FUELS KEYES INC
MAILING ADDRESS: P O BOX 879
KEYES, CA 95328-0879

LOCATION: 4209 JESSUP ROAD
CERES, CA

EQUIPMENT DESCRIPTION:

MODIFICATION OF DECANTATION PROCESS CONSISTING OF FIVE 130 HP ALFA LAVAL MODEL CHNX 944 DECANTER CENTRIFUGES (OR EQUAL), ONE WHOLE STILLAGE HOLDING TANK, ONE FIXED-ROOF THIN STILLAGE HOLDING TANK, ONE CENTRATE TANK, THE EVAPORATION SYSTEM WITH ONE THIN STILLAGE FEED TANK, AND AN ENVITECH 2-STAGE PROCESS VENT CONDENSER WITH A 550 GALLON WATER RECIRCULATION TANK (SHARED WITH UNITS N-7488-5 AND -7) SERVED BY A NESTEC 1.68 MMBTU/HR NATURAL GAS-FIRED REGENERATIVE THERMAL OXIDIZER (RTO). THE RTO SERVES UNIT N-7488-5, -6, -7, AND -8.: REMOVE FUGITIVE VOC LIMITS AND ASSOCIATED RECORDKEEPING AND REPORTING REQUIREMENTS

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. The tanks shall be vented to a closed vapor recovery system that collects all VOCs from the equipment and vents them to the process vent condenser and the RTO system. The vapor recovery system shall be maintained in a leak-free condition. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director, APCO

DRAFT

DAVID WARNER, Director of Permit Services
N-7488-8-5 : Sep 10 2013 11:47AM -- KAHLONJ : Joint Inspection NOT Required

4. A leak-free condition is defined as a condition without a gas leak or a liquid leak. A gas leak is defined as a reading in excess of 100 ppmv for valves and connectors and 500 ppmv for pump seals, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. A reading in excess of 100 ppmv for valves and connectors and 500 ppmv for pump seals, above background, is a violation of this permit and Rule 2201 and shall be reported as a deviation. A liquid leak is defined as the dripping of organic liquid at a rate of more than 3 drops per minute. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
5. Any tank gauging or sampling device on a tank vented to the vapor recovery system shall be equipped with a leak-free cover which shall be closed at all times except during gauging or sampling. [District Rule 2201 and 4623] Federally Enforceable Through Title V Permit
6. VOC content in the fluid handled in the decantation process shall be less than or equal to 10% by weight. Compliance with this condition may be verified by sampling fluid from the whole stillage tank rather than sampling fluids from other vessels. [District Rules 2201, 4455, 40 CFR 60.480a (d)(5)] Federally Enforceable Through Title V Permit
7. VOC content shall be determined using South Coast Air Quality Management District (SCAQMD) Method 304-91 for liquids, or EPA Method 8260B, or other alternative test methods approved by the District prior to their use. [District Rules 2201 and 4455] Federally Enforceable Through Title V Permit
8. The permittee shall include in the Operator Management Plan all components exclusively handling liquid streams with VOC content less than 10% by weight. [District Rule 4455] Federally Enforceable Through Title V Permit
9. The results of any laboratory testing or other pertinent information to demonstrate compliance with the exemption criteria for components exclusively handling liquid streams with VOC content less than 10% by weight shall be submitted with the Operator Management Plan. [District Rule 4455] Federally Enforceable Through Title V Permit
10. The permittee shall keep records of the following items for VOC content testing: a.) the date, b.) vessel or location from where fluid is sampled, c.) name of the person taking and analyzing samples and company affiliation, d.) VOC content (% by wt.) in the sample, and e.) report of the test results. [District Rules 2201 and 4455, 40 CFR 60.486a (i)(3)] Federally Enforceable Through Title V Permit
11. The RTO shall be fired only on PUC-regulated natural gas. [District Rule 2201] Federally Enforceable Through Title V Permit
12. The RTO chamber temperature shall be maintained at a minimum temperature of 1,500 degrees Fahrenheit before incinerating the vapors. [District Rule 2201] Federally Enforceable Through Title V Permit
13. The RTO shall be permanently equipped with a temperature measurement device that detects the combustion chamber temperature. [District Rule 2201] Federally Enforceable Through Title V Permit
14. VOC emissions from the RTO stack shall not exceed 0.072 lb/1,000 gallons of ethanol produced. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
15. The ethanol production rate shall not exceed 210,000 gallons in any one day. [District Rule 2201] Federally Enforceable Through Title V Permit
16. The ethanol production rate shall not exceed 70,000,000 gallons in any 12 consecutive month rolling period. [District Rule 2201] Federally Enforceable Through Title V Permit
17. The overall VOC control efficiency of the process vent condenser and the RTO system shall be at least 99.5% (by weight). [District Rules 2201] Federally Enforceable Through Title V Permit
18. Emissions rates from natural gas combustion in the RTO burner shall not exceed any of the following limits: 0.0182 lb-NO_x/MMBtu; 0.011 lb-CO/MMBtu; 0.0055 lb-VOC/MMBtu; 0.0076 lb-PM₁₀/MMBtu; or 0.00285 lb-SO_x/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Source testing to determine compliance with the VOC emissions rate (lb/1,000 gallon of ethanol produced) and the overall VOC control efficiency (%) shall be conducted at least once every 12 months from the latest source test. [District Rule 2201] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

20. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
21. Sampling ports shall be placed at the appropriate locations (i.e. prior to the condenser, after the condenser, at the inlet of the RTO, and at the exhaust outlet of the RTO) to determine compliance with the overall VOC control efficiency (%) of the condenser and the RTO system and the VOC emissions rate (lb/1,000 gallon of ethanol produced). [District Rule 1081] Federally Enforceable Through Title V Permit
22. Sampling facilities for source testing shall be provided in accordance with the provisions of Rule 1081 (Source Sampling). [District Rule 1081] Federally Enforceable Through Title V Permit
23. All emissions measurements shall be made with the ethanol production equipment operating at conditions representative of normal operations. [District Rule 2201] Federally Enforceable Through Title V Permit
24. During source testing operations and measurements, the actual ethanol production throughput (in gal-ethanol/hr) shall be recorded and submitted as part of the source test results. [District Rule 2201] Federally Enforceable Through Title V Permit
25. VOC emissions shall be measured using EPA Methods 18, 25, or 25A in conjunction with the methodologies specified in the US EPA's "Midwest Scaling Protocol for the Measurement of VOC Mass Emissions and VOC Sampling at Wet and Dry Grain Mills and Ethanol Production Facilities" document. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
26. The permittee shall monitor and record the chamber temperature of the RTO at least once a day while the laden process stream is vented to the RTO. [District Rule 2201] Federally Enforceable Through Title V Permit
27. The permittee shall maintain records of the amount of ethanol produced, in gallons, on daily basis. [District Rule 2201] Federally Enforceable Through Title V Permit
28. The permittee shall maintain records of the amount of ethanol produced, in gallons, in the latest 12 consecutive month period. [District Rule 2201] Federally Enforceable Through Title V Permit
29. Records of RTO inspections and maintenance shall be maintained. These records shall include date of inspection, identification of the individual performing the inspection, and a description of the problem and the corrective action taken. [District Rule 2201] Federally Enforceable Through Title V Permit
30. All records shall be maintained on-site for a period of at least five years, and shall be made readily available to the APCO, ARB and US EPA upon request. [District Rules 1070, 2201, 4455, and 4623] Federally Enforceable Through Title V Permit
31. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit

DRAFT

Appendix II
VOC Test Results (Whole Stillage Tank)

argon laboratories

20 February 2013

Ramsena Karam
Aemetis, Inc.
4209 Jessup Rd.
Keyes, CA 95328

RE: Aemetis, Inc. Project Data

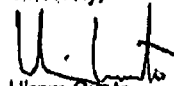
Enclosed are the results for sample(s) received on 01/08/13 13:10 by Argon Laboratories. The sample(s) were analyzed according to instructions in accompanying chain-of-custody. Results are summarized on the following pages.

Please see quality control report for a summary of QC data pertaining to this project.

The sample(s) will be stored for 30 days after completion of analysis, then disposed of in accordance with State and Federal regulations. Sample(s) may be archived by prior arrangement.

Thank you for the opportunity to service the needs of your company.

Sincerely,




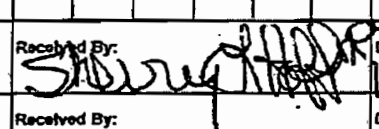
Hiram Cueto
Lab Manager

Argon Labs

2805 Railroad Ave., Ceres, CA 95307

(209)581-9280 Fax (209)581-9282 Data@argonlabs.com

CHAIN OF CUSTODY

Project No: <i>VOC Testing</i> Project Title: Location:					Client: <i>Aemetis</i> Address: <i>4209 Jessup rd. Keyes CA 95328</i> Contact: <i>Ramona Dadesko</i> Phone: <i>968-2217</i> Fax: <i>632-4550</i>									
Sampler's Name: (print) <i>JC Anderson</i>					BIB To:									
Sampler's Signature: 					Client: <i>Aemetis</i> Address: <i>4209 Jessup rd. Keyes CA 95328</i>									
TURN AROUND TIME					ANALYSIS									
RUSH	24 Hour	48 Hour	other	Standard (5 days)	VOC'S					COMMENTS				
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
Sample ID.	Date	Time	# Containers	Matrix	X									
<i>Whole Stillage</i>	<i>1-8-13</i>	<i>1304</i>	<i>3</i>	<i>H2O</i>	<i>X</i>									
Relinquished By: <i>JC Anderson</i>					Date: <i>1-8-13</i>	Time: <i>1310</i>	Received By: 					Date: <i>1-8-13</i>	Time: <i>13:10</i>	SPECIAL INSTRUCTIONS:
Relinquished By:					Date:	Time:	Received By:					Date:	Time:	
Relinquished By:					Date:	Time:	Received By:					Date:	Time:	

Aemetis, Inc.
4209 Jessup Rd.
Keyes, CA 95328

Project Number: VOC Testing
Project Name: Aemetis, Inc.
Project Manager: Ramsena Karam

Work Order No.:
M301012

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Whole Stillage	M301012-01	Slurry	01/08/13 13:04	01/08/13 13:10

Note: Sample matrix has the appearance of a slurry material.

Approved By

Argon Laboratories, Inc. California D.O.H.S. Cert. #2359

Aemetis, Inc. 4209 Jessup Rd. Keyes, CA 95328	Project Number: VOC Testing Project Name: Aemetis, Inc. Project Manager: Ramsena Karam	Work Order No.: M301012
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Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Analyzed	Method	Notes
Whole Stillage (M301012-01RE1) Slurry Sampled: 08-Jan-13 13:04 Received: 08-Jan-13 13:10							
Ethanol	350	25	mg/kg	100	06-Feb-13	EPA 8260B	

Approved By

Argon Laboratories, Inc. California D.O.H.S. Cert. #2359

Aemetis, Inc. 4209 Jessup Rd. Keyes, CA 95328	Project Number: VOC Testing Project Name: Aemetis, Inc. Project Manager: Ramsena Karam	Work Order No.: M301012
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Volatile Organic Compounds by EPA Method 8260B - Quality Control

Argon Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch N300083 - EPA 5030B

Blank (N300083-BLK1)

Prepared & Analyzed: 02/06/13

Ethanol	ND	0.25	mg/kg							
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LCS (N300083-BS1)

Prepared & Analyzed: 02/06/13

Benzene	0.026		mg/kg	0.025		106	80-120			
Chlorobenzene	0.026		"	0.025		105	80-120			
1,1-Dichloroethene	0.027		"	0.025		109	80-120			
Toluene	0.025		"	0.025		99	80-120			
Trichloroethene	0.028		"	0.025		114	80-120			

Approved By

Argon Laboratories, Inc. California D.O.H.S. Cert. #2359

Aemetis, Inc.
4209 Jessup Rd.
Keyes, CA 95328

Project Number: VOC Testing
Project Name: Aemetis, Inc.
Project Manager: Ramsena Karam

Work Order No.:
M301012

Notes and Definitions

DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
dry Sample results reported on a dry weight basis
RPD Relative Percent Difference

Approved By

Argon Laboratories, Inc. California D.O.H.S. Cert. #2359

Appendix III
Permit to Operate N-7488-8-3

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: N-7488-8-3

EXPIRATION DATE: 11/30/2017

EQUIPMENT DESCRIPTION:

DECANTATION PROCESS CONSISTING OF FIVE 130 HP ALFA LAVAL MODEL CHNX 944 DECANTER CENTRIFUGES (OR EQUAL), ONE WHOLE STILLAGE HOLDING TANK, ONE FIXED-ROOF THIN STILLAGE HOLDING TANK, ONE CENTRATE TANK, THE EVAPORATION SYSTEM WITH ONE THIN STILLAGE FEED TANK, AND AN ENVITECH 2-STAGE PROCESS VENT CONDENSER WITH A 550 GALLON WATER RECIRCULATION TANK (SHARED WITH UNITS N-7488-5 AND -7) SERVED BY A NESTEC 1.68 MMBTU/HR NATURAL GAS-FIRED REGENERATIVE THERMAL OXIDIZER (RTO). THE RTO SERVES UNIT N-7488-5, -6, -7, AND -8.

PERMIT UNIT REQUIREMENTS

1. The tanks shall be vented to a closed vapor recovery system that collects all VOCs from the equipment and vents them to the process vent condenser and the RTO system. The vapor recovery system shall be maintained in a leak-free condition. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
2. A leak-free condition is defined as a condition without a gas leak or a liquid leak. A gas leak is defined as a reading in excess of 100 ppmv for valves and connectors and 500 ppmv for pump seals, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. A reading in excess of 100 ppmv for valves and connectors and 500 ppmv for pump seals, above background, is a violation of this permit and Rule 2201 and shall be reported as a deviation. A liquid leak is defined as the dripping of organic liquid at a rate of more than 3 drops per minute. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
3. Any tank gauging or sampling device on a tank vented to the vapor recovery system shall be equipped with a leak-free cover which shall be closed at all times except during gauging or sampling. [District Rule 2201 and 4623] Federally Enforceable Through Title V Permit
4. Fugitive VOC emissions from component leaks shall not exceed 2.9 pounds per day. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Fugitive VOC emissions from component leaks shall be calculated using the SOCOMI Leak Rate/Screening Value Correlations in Table 2-9 of USEPA's Protocol for Equipment Leak Emission Estimates (EPA-453/R-95-017). [District Rule 2201] Federally Enforceable Through Title V Permit
6. The RTO shall be fired only on PUC-regulated natural gas. [District Rule 2201] Federally Enforceable Through Title V Permit
7. The RTO chamber temperature shall be maintained at a minimum temperature of 1,500 degrees Fahrenheit before incinerating the vapors. [District Rule 2201] Federally Enforceable Through Title V Permit
8. The RTO shall be permanently equipped with a temperature measurement device that detects the combustion chamber temperature. [District Rule 2201] Federally Enforceable Through Title V Permit
9. VOC emissions from the RTO stack shall not exceed 0.072 lb/1,000 gallons of ethanol produced. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
10. The ethanol production rate shall not exceed 210,000 gallons in any one day. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

11. The ethanol production rate shall not exceed 70,000,000 gallons in any 12 consecutive month rolling period. [District Rule 2201] Federally Enforceable Through Title V Permit
12. The overall VOC control efficiency of the process vent condenser and the RTO system shall be at least 99.5% (by weight). [District Rules 2201] Federally Enforceable Through Title V Permit
13. Emissions rates from natural gas combustion in the RTO burner shall not exceed any of the following limits: 0.0182 lb-NO_x/MMBtu; 0.011 lb-CO/MMBtu; 0.0055 lb-VOC/MMBtu; 0.0076 lb-PM₁₀/MMBtu; or 0.00285 lb-SO_x/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Source testing to determine compliance with the VOC emissions rate (lb/1,000 gallon of ethanol produced) and the overall VOC control efficiency (%) shall be conducted at least once every 12 months from the latest source test. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
16. Sampling ports shall be placed at the appropriate locations (i.e. prior to the condenser, after the condenser, at the inlet of the RTO, and at the exhaust outlet of the RTO) to determine compliance with the overall VOC control efficiency (%) of the condenser and the RTO system and the VOC emissions rate (lb/1,000 gallon of ethanol produced). [District Rule 1081] Federally Enforceable Through Title V Permit
17. Sampling facilities for source testing shall be provided in accordance with the provisions of Rule 1081 (Source Sampling). [District Rule 1081] Federally Enforceable Through Title V Permit
18. All emissions measurements shall be made with the ethanol production equipment operating at conditions representative of normal operations. [District Rule 2201] Federally Enforceable Through Title V Permit
19. During source testing operations and measurements, the actual ethanol production throughput (in gal-ethanol/hr) shall be recorded and submitted as part of the source test results. [District Rule 2201] Federally Enforceable Through Title V Permit
20. VOC emissions shall be measured using EPA Methods 18, 25, or 25A in conjunction with the methodologies specified in the US EPA's "Midwest Scaling Protocol for the Measurement of VOC Mass Emissions and VOC Sampling at Wet and Dry Grain Mills and Ethanol Production Facilities" document. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
21. The permittee shall monitor and record the chamber temperature of the RTO at least once a day while the laden process stream is vented to the RTO. [District Rule 2201] Federally Enforceable Through Title V Permit
22. The permittee shall maintain records of the amount of ethanol produced, in gallons, on daily basis. [District Rule 2201] Federally Enforceable Through Title V Permit
23. The permittee shall maintain records of the amount of ethanol produced, in gallons, in the latest 12 consecutive month period. [District Rule 2201] Federally Enforceable Through Title V Permit
24. Records of RTO inspections and maintenance shall be maintained. These records shall include date of inspection, identification of the individual performing the inspection, and a description of the problem and the corrective action taken. [District Rule 2201] Federally Enforceable Through Title V Permit
25. All records shall be maintained on-site for a period of at least five years, and shall be made readily available to the APCO, ARB and US EPA upon request. [District Rules 1070, 2201, 4455, and 4623] Federally Enforceable Through Title V Permit
26. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
27. This operation shall comply with the requirements of 40 CFR Part 60, Subpart VVa - Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemical Manufacturing Industry, as specified on facility-wide permit N-7488-0. [40 CFR 60.480, 60.482] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

28. This operation shall comply with the requirements of District Rule 4455, Components at Petroleum Refineries, Gas Liquids Processing Facilities, and Chemical Plants, as specified on facility-wide permit N-7488-0. [District Rule 4455] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

**Appendix IV
Compliance Certification**

San Joaquin Valley Unified Air Pollution Control District

TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

I. TYPE OF PERMIT ACTION (Check appropriate box)

SIGNIFICANT PERMIT MODIFICATION
 MINOR PERMIT MODIFICATION

ADMINISTRATIVE
 AMENDMENT

COMPANY NAME: Aemetis Advanced Fuels Keyes, Inc.	FACILITY ID: N - 7488
1. Type of Organization: <input checked="" type="checkbox"/> Corporation <input type="checkbox"/> Sole Ownership <input type="checkbox"/> Government <input type="checkbox"/> Partnership <input type="checkbox"/> Utility	
2. Owner's Name: Aemetis Advanced Fuels Keyes, Inc.	
3. Agent to the Owner: Mike Hamden	

II. COMPLIANCE CERTIFICATION (Read each statement carefully and initial all circles for confirmation):

- Based on information and belief formed after reasonable inquiry, the equipment identified in this application will continue to comply with the applicable federal requirement(s).
- Based on information and belief formed after reasonable inquiry, the equipment identified in this application will comply with applicable federal requirement(s) that will become effective during the permit term, on a timely basis.
- Corrected information will be provided to the District when I become aware that incorrect or incomplete information has been submitted.
- Based on information and belief formed after reasonable inquiry, information and statements in the submitted application package, including all accompanying reports, and required certifications are true accurate and complete.

I declare, under penalty of perjury under the laws of the state of California, that the forgoing is correct and true:

Michael Hamden
 Signature of Responsible Official

6-18-2013
 Date

Mike Hamden
 Name of Responsible Official (please print)

Environmental Health and Safety Manager
 Title of Responsible Official (please print)