DOCKETED

Docket Number:	99-AFC-08C
Project Title:	Blythe Energy Project Compliance & Blythe Transmission Line Modification
TN #:	207076
Document Title:	: BEP Preliminary Determination Title V Federal Operating Permit Significant Modification
Description:	N/A
Filer:	Jerry Salamy
Organization:	CH2M HILL
Submitter Role:	Applicant Consultant
Submission Date:	12/18/2015 12:14:46 PM
Docketed Date:	12/18/2015

Preliminary Determination

Title V Federal Operating Permit Significant Modification

Facility Name: Blythe Energy, Inc.

Facility ID/Federal Operating Permit #: 130202262

Address: 385 N. Buck Blvd., Blythe, CA 92225

New Source Review (NSR): Administrative in nature, not a modification pursuant to 1301(HH) as there is no net emissions increase

Title V Permit Action: Significant Modification

I. Introduction

A. The proposed action:

1. lowers the federally enforceable emission limits for oxides of sulfur (SOx) and particulate matter less than 10 microns in size (PM10) from all permitted equipment at Blythe Energy, Inc.

2. lowers the maximum hourly and maximum daily PM10 emissions from the combustion turbines

3. lowers the annual average sulfur content of the natural gas used to fuel permitted equipment at BEP

B. Facility Description

The plant uses two F-Class Siemens V84.3A combustion turbine generators (CTGs) with dedicated heat recovery steam generators (HRSGs) to produce electricity. Inlet air to the CTGs is filtered and, during seasonally warm conditions, conditioned with chilled air supported by a mechanical draft wet cooling tower (chiller). Compressed air and natural gas are mixed and combusted in the turbine combustion chamber. Lean pre-mixed air and low-NOx combustors are used to minimize NOx formation during combustion. Exhaust gas from the combustion chamber is expanded through a multi-stage power turbine, which drives both the air compressor and electric power generator. Heat from the exhaust gas is then recovered in the HRSG.

Each HRSG is equipped with a duct burner to provide supplementary firing during high ambient temperatures to maintain constant steam production to the condensing steam turbine generator (STG). A Selective Catalytic Reduction (SCR) system is used to reduce NOx emissions. Steam is produced in each HRSG and flows to the STG. The STG drives an electric generator to produce electricity. STG exhaust steam is condensed in a surface condenser with water from the main cooling tower.

The project site has a 303 bhp emergency diesel-fueled internal combustion engine that drives a water pump for fire suppression. It also has a portable 250 bhp emergency diesel-fueled internal combustion engine that drives a water pump for fire suppression. There is also a propane fueled 114 bhp internal combustion engine that drives an emergency electrical power generator.

II. NSR Analysis – Final Decision and Title V – Final Determination/Statement of Basis

This document constitutes the NSR review document and Final Determination on the application pursuant to Rule 1302(C) and 1205(C). The proposed changes do not meet the Rule 1301(HH) definition of a Regulation XIII - New Source Review "Modification" because there is no net emission increase. As required by Rule 1302, this document will review the proposed District permit changes. Because the action does not result in an emissions increase, neither BACT nor offsets and the associated requirements are triggered. The proposed changes constitute a significant modification (Rule 1201(BB)) of the Title V permit therefore the application will be processed pursuant to the procedures specified per Rule 1203(B)(1). The significant modification was publicly noticed and submitted to the California Air Resources Board (CARB) and the United States Environmental Protection Agency (USEPA) as required by Rule 1203(B)(1) on December 18, 2015.

Interested persons are invited to submit written comments and/or other documents regarding the terms and conditions of the proposed changes. To be considered, comments, documents and requests for public hearing must be submitted no later than 5:00 P.M. on Monday, January 18, 2016 to the Attention: Roseana Navarro-Brasington, Mojave Desert Air Quality Management District, 14306 Park Avenue, Victorville, CA 92392, Phone: (760) 245-1661, extension 5706, Facsimile: (760) 245-2022 or at rnbrasington@mdaqmd.ca.gov . The required 45 day EPA comment period will close on Monday, February 1, 2016.

A. Initial Application /Comprehensive Emissions Inventory Review

The District received an application to modify District permits B007953 and B007954 and to modify the facility's Title V permit on August 10, 2015. The application package has been deemed complete. The most current emissions inventory data available is for emissions year 2012.

B. Emissions Calculations – The current permitting action lowers the facility emissions limits for SOx and PM10 as follows:

	PM10 lb/hr (each turbine and duct burner)	PM10 lb/day (total, two turbines and duct burners)	PM10 t/yr (total, all BEP permits units)	SOx lb/hr (each turbine and duct burner)	SOx lb/day (total, two turbines and duct burners)	SOx t/yr (total, all BEP permits units)
Current Limit	11.5	565	97	2.7	130	24

Proposed Limit	6.2	298.5	56.9	2.7	130	12
Net Change	-5.3	-266.5	-40.1	0	0	-12

The proposed modification reduces the hourly, daily from the turbines and associated duct burners and also the annual PM10 limits for all permitted equipment at the BEP facility. Source testing was conducted in July 2014. The source tests showed that the PM10 emission rates for the turbine/duct burner power trains were lower than was proposed at the time that the project was initially permitted. Excerpt from the July 2014 have been provided in Appendix A which demonstrate that the power trains are able to meet the proposed reduced emissions limits.

The FOP modification also lowers the annual average sulfur content of the natural gas used to fuel permitted equipment at BEP. The annual average sulfur content in natural gas used to fuel permitted equipment at the facility is limited to 0.5 grains/dscf. The proposed change will limit the annual average sulfur content to 0.25 grains/dscf. The result of the sulfur content limit decrease is that SOx emissions are reduced from 24 tons/year to 12 tons/year for all permitted equipment at the facility. All annual limits currently apply on a rolling 12-month basis and the new reduced annual limits for PM10 and SOx will apply on the same basis.

Natural Gas Fuel Sulfur Based Emissions of SO2				
Device:		Turbine		
Gas HHV:		1020		
Grains S per 100 scf:		0.5	Long Limit term limit (Current)	
		0.25	Long term limit (Proposed)	
Annual fuel use, MMBtu:		31852800		
Annual fuel use, MMScf:		31228		
SO2 Emissions:	Calculated Value Based on Fuel Throughput Limit (Turbines and Duct Burners)	Facility Emissions Limit		
Current TPY Potential	22	24		
Proposed TPY Potential	11	12		
MW				
S	32.06			
SO2	64.06			

C. Applicable Requirements

The following rules and regulations are applicable to the proposed permitting action:

Regulation XII contains requirements for sources which must have a federal operating permit. The identified changes constitute a significant modification of the Title V permit. Specific requirements of Regulation XII are stipulated as follows;

Rule 1202 – *Applications* designates that official applications will be used as necessary under Regulation XII and outlines the specified information which shall be included on the official application in order for the APCO to determine completeness as well as provides a timeline for that determination. The application was submitted on official District forms. The District determines this permitting action to be a significant modification being processed as such according to the procedure specified in the rule.

Rule 1203 – *Federal Operating Permits (FOP)* defines the permit operating term, stipulates the process by which FOPs, Significant Modifications to FOPs and Renewals of FOPs shall be issued. This rule further identifies restrictions on issuance, permit contents, operational flexibility, compliance certification, permit shield, and violation of permit conditions. The proposed FOP action is considered a significant permit modification. The District will carry out USEPA, State, and public review and comment period in accordance with the procedure outlined in Rule 1203(B)(1).

Rule 1205 - *Modifications of Federal Operating Permits* specifies the process by which FOP are modified. The District has determined that the action constitutes a significant permit modification and will incorporate the changes as required by Regulation XII.

Rule 1300 – *General* ensures that Prevention of Significant Deterioration (PSD) requirements apply to all projects. The facility operates under a PSD permit. The facility emissions limits are below the PSD major source thresholds however the District is not currently delegated authority for PSD permitting and defers any opinion with respect to PSD to USEPA.

Rule 1302 – *Procedure* requires certification of compliance with the Federal Clean Air Act, applicable implementation plans, and all applicable MDAQMD rules and regulations. The Authority to Construct (ATC) application package for the proposed project includes sufficient documentation to comply with Rule 1302(D)(5)(b)(iii). Permit conditions for the proposed project will require compliance with Rule 1302(D)(5)(b)(iv).

Rule 1303 – *Requirements* requires offsets for new or modified sources at new or existing major sources of nonattainment pollutants. The project has satisfied the offset requirements associated with the original permitting and facility limits. The current permitting action does not increase emissions and does not require any additional offsets.

Rule 1320 - *New Source Review for Toxic Air Contaminants* applies to new or modified sources on a permit unit basis requiring public notice and/or risk reduction at elevated levels of health risk. This permitting action will not result in an emissions increase therefore the facility is not new or modified pursuant to Rule 1301 therefore Rule 1320 is not applicable.

Rule 1520 - *Control of Toxic Air Contaminants From Existing Sources* applies on a facilitywide basis requiring public notice and/or risk reduction at elevated levels of health risk. This action will not result in an increase risk at the facility as it reduces the emissions caps for two criteria pollutants, SO2 and PM10. A Health Risk Assessment (HRA) was performed for the originally permitting analysis. The HRA calculated a peak 70-year cancer risk of 0.4 per million. The calculated peak 70-year residential cancer risk is less than 1.0 per million (for all receptors). The maximum non-cancer chronic and acute Hazard Indices are both less than the significance level of 1.0 (0.21 and 0.03, respectively). The HRA was based on the facility's PTE not the actual emissions as is required by Rule 1520 therefore the original HRA is a more conservative indicator of the risk that would result from a reassessment based on the actual facility emissions.

D. Toxics

1. Rule 1320 – *New Source Review for Toxic Air Contaminants*

As this permitting action does not result in an emissions increase, it is not a modification therefore New Source Review is not triggered.

2. Rule 1520 – *Control of Toxic Air Contaminants from Existing Sources*

The HRA performed to support the original permits was based on the PTE and resulted in scores less than 1. As the current permitting action does not result in any emissions increases, the resulting risk to receptors would remain the same or decrease as a result of this action.

E. Offsets/Modeling

Because this action does not result in an emissions increase, offsets are not required. Modeling is required for projects triggering offsets pursuant to Rule 1302(C)(2)(b). As offsets are not applicable to the proposed permit changes air dispersion modeling is not required.

The proposed action reduces the Potential to Emit for SOx and PM10. The emissions reduction is not eligible for banking because the rulebook specifically disallows banking of credits resulting from reduction of a facility's PTE per Rule 1305(B)(2)(b). The facility is proposing simultaneous emission increases at the adjacent Sonoran Energy Project therefore the emissions reductions resulting from this action are eligible for use for SEP. This action was publicly noticed on December 18, 2015, see Appendix B for a copy of the published notice.

APPENDIX A

PM10 SOURCE TEST RESULTS

1.0 INTRODUCTION AND SUMMARY

Delta Air Quality Services, Incorporated (Delta) was contracted by Blythe Energy, Inc. (Blythe) to conduct the 2014 Annual compliance emission test program on Unit 1 located at 385 N. Buck Blvd., Blythe, CA 92225. This unit is constructed under Mojave Desert Air Quality Management District (MDAQMD) Authority to Construct (ATC) Number B007953.

Some of the testing is required by the U.S. Environmental Protection Agency (EPA). The review and administration of the test program falls under the jurisdiction of the MDAQMD. This report contains the results of the aforementioned tests. Tests were performed to determine oxides of nitrogen (NO_x), carbon monoxide (CO), oxides of sulfur (SO_x), volatile organic compounds (VOCs), particulate matter (PM), ammonia (NH_3), and opacity emissions.

The testing was conducted according to EPA test procedures described in the 40 CFR Part 60 Appendix A where appropriate. Additional requirements for testing in MDAQMD are described in the MDAQMD Compliance Test Procedural Manual dated March 25, 2002. The test plan (Delta Document Number R0210828) describes the test procedures used for the test program and specific proposed deviations from the EPA methods or the MDAQMD Compliance Test Procedural Manual.

This report contains unit descriptions and operating conditions in Section 2. Section 3 contains a test program overview including the responsible organization for each element of the program, a test schedule, descriptions of sample locations, equipment calibration, test and analytical procedures and the source test reporting format.

The Appendices contain raw and reduced field and laboratory data along with Delta's CARB and VE certifications, quality assurance data, and example calculations.

Table 1-1 below presents a summary of the compliance test results. The results show that the unit was operating within limits given in the ATCS.

TABLE 1-1
RESULTS SUMMARY

Species	Units	Unit 1	Limit
NO_x	lb/hr	14.11	19.80
NO_x	ppm @ 15% O_2	2.1	2.5
CO	lb/hr	0.00	17.5
Particulate Matter	lb/hr	2.5	11.5
SO_x	lb/hr	0.4	2.7
VOCs	lb/hr	1.01	2.9
NH_3	ppm @ 15% O_2	2.84	10
Opacity	%	0	20

TABLE 4-2
UNIT 1
PARTICULATE MATTER TEST RESULTS

Client/Location: Blythe
Unit: 1
Sample Location: Stack

Reference Temp: (°F):68
Fuel: NG
Data By: DMW

Test No.:	1-PM	2-PM	3-PM	Average	Limits
Date	7/30/2014	7/30/2014	7/30/2014		
Start Time	11:40	14:10	16:37		
Stop Time	13:47	16:18	18:43		
Bar Press (in Hg)	29.43	29.43	29.43		
Test Method	EPA 5	EPA 5	EPA 5		
Sample Time (Min)	120	120	120		
Stack O_2 (%)	14.49	14.40	14.40	14.43	
Stack CO_2 (%)	3.73	3.72	3.83	3.76	
Stack Press (iwg)	-1.40	-1.40	-1.40	-1.40	
Stack Temp (°F)	223.9	223.3	223.1	223.43	
Stack Gas Velocity (ft/sec)	96.52	96.40	95.70	96.21	
Isokinetic Ratio (%)	99.5	101.5	99.5	100.2	
Stack Flow Rate (wacfm)	1,238,322	1,236,767	1,227,800	1,234,296	
Stack Flow Rate (dscfm)	861,562	861,797	856,861	860,073	
Particulate Emissions					
Grain Loading, gr/dscf	0.0006	0.0002	0.0002	0.0003	
Grain Loading @ 12% CO_2	0.0020	0.0007	0.0007	0.0011	
Mass Emissions, lb/hr	4.6	1.6	1.5	2.5	**11.5**

TABLE 4-3
UNIT 1
AMMONIA TEST RESULTS

Test Number	**1-NH_3**	**2-NH_3**	**3-NH_3**	**Average**	**Limit**
Test Date	7/30/2014	7/30/2014	7/30/2014		
Test Method	EPA CTM 27	EPA CTM 27	EPA CTM 27		
Start Time	15:33	16:41	17:55		
Stop Time	16:33	17:41	18:55		
Stack O_2 (%)	14.31	14.37	14.33		
O_2 Reference Concentration (%)	15	15	15		
Stack Flow Rate (dscfm)	868,644	856,921	856,921		
PPM NH_3 (flue gas)	3.22	3.21	3.04	3.16	
PPM NH_3 @ Reference O_2	2.88	2.90	2.73	2.84	**10**
lb/hr NH_3	7.41	7.28	6.89	7.19	

1.0 INTRODUCTION AND SUMMARY

Delta Air Quality Services, Incorporated (Delta) was contracted by Blythe Energy, Inc. to conduct the 2014 annual compliance emission test program on Unit 12 located at Blythe Energy, Inc. This unit is constructed under Mojave Desert Air Quality Management District (MDAQMD) Authority to Construct (ATC) Number B007953.

Some of the testing is required by the U.S. Environmental Protection Agency (EPA). The review and administration of the test program falls under the jurisdiction of the MDAQMD. This report contains the results of the aforementioned tests. Tests were performed to determine oxides of nitrogen (NO_x), carbon monoxide (CO), oxides of sulfur (SO_x), volatile organic compounds (VOCs), particulate matter (PM), ammonia (NH_3), and opacity emissions.

The testing was conducted according to EPA test procedures described in the 40 CFR Part 60 Appendix A where appropriate. Additional requirements for testing in MDAQMD are described in the MDAQMD Compliance Test Procedural Manual dated March 25, 2002. The test plan (Delta Document Number R0210828) describes the test procedures used for the test program and specific proposed deviations from the EPA methods or the MDAQMD Compliance Test Procedural Manual.

This report contains unit descriptions and operating conditions in Section 2. Section 3 contains a test program overview including the responsible organization for each element of the program, a test schedule, descriptions of sample locations, equipment calibration, test and analytical procedures and the source test reporting format.

The Appendices contain raw and reduced field and laboratory data along with Delta's CARB and VE certifications, quality assurance data, and example calculations.

Table 1-1 below presents a summary of the compliance test results. The results show that the unit was operating within limits given in the ATCS.

TABLE 1-1
RESULTS SUMMARY

Species	Units	Unit 12	Limit
NO_x	lb/hr	15.49	19.80
NO_x	ppm @ 15% O_2	2.3	2.5
CO	lb/hr	0.00	17.5
Particulate Matter	lb/hr	1.9	11.5
SO_x	lb/hr	.02	2.7
VOCs	lb/hr	3.4*	2.9
NH_3	ppm @ 15% O_2	3.5	10
Opacity	%	0	20

*** Discussion regarding results quality follows Table 4-4.**

TABLE 4-2
UNIT 12
PARTICULATE MATTER TEST RESULTS

Test No	1-PM-12	2-PM-12	3-PM-12	Average
Date	7/30/14	7/30/14	7/30/14	
Start/Stop Time	1115-1326	1345-1554	1610-1818	
Stack O_2 (%)	14.67	14.38	14.30	14.45
Stack CO_2 (%)	3.6	3.72	3.84	3.72
Stack Press (iwg)	-1.30	-1.30	-1.30	-1.30
Stack Temp (°F)	227.4	225.6	224.8	225.93
Stack Gas Velocity (ft/sec)	98.51	96.16	97.59	97.43
Isokinetic Ratio (%)	100.7	103.6	99.4	101.2
Stack Flow Rate (wacfm)	1,264,139	1,233,679	1,252,056	1,249,958
Stack Flow Rate (dscfm)	876,129	857,856	872,049	868,678
Particulate Emissions				
Grain Loading, gr/dscf	0.0003	0.0004	0.0001	0.0003
Grain Loading @ 12% CO_2	0.0011	0.0012	0.0003	0.0009
Mass Emissions, lb/hr	2.4	2.7	0.8	1.9

TABLE 4-3
UNIT 12
AMMONIA TEST RESULTS

Test Number	1-NH_3	2-NH_3	3-NH_3	Average	Limit
Test Date	7/30/2014	7/30/2014	7/30/2014		
Test Method	BA ST-1B	BA ST-1B	BA ST-1B		
Start Time	15:10	16:17	17:23		
Stop Time	16:10	17:17	18:23		
Stack O_2 (%)	14.62	14.31	14.28		
O_2 Reference Concentration (%)	15	15	15		
Stack Flow Rate (dscfm)	876,129	857,856	872,049		
PPM NH_3 (flue gas)	3.94	3.87	3.83	3.88	
PPM NH_3 @ Reference O_2	3.70	3.47	3.41	3.52	**10**
lb/hr NH_3	8.95	8.94	8.83	8.90	

APPENDIX B

PUBLIC NOTICE – PROOF OF PUBLICATION

NOTICE of TITLE V PERMIT SIGNIFICANT MODIFICATION - BLYTHE ENERGY PROJECT & PRELIMINARY DETERMINATION OF COMPLIANCE – SONORAN ENERGY PROJECT

NOTICE IS HEREBY GIVEN THAT the Mojave Desert Air Quality Management District (MDAQMD) has completed the preliminary decision pertaining to an Application for New Source Review for the Sonoran Energy Project (SEP), an electrical generating facility. The SEP has been proposed for a 76 acre site five miles east of the City of Blythe, California and located adjacent to the existing Blythe Energy Project (BEP). The MDAQMD has prepared a Preliminary Determination of Compliance (PDOC) for SEP pursuant to MDAQMD Rule 1306. The PDOC finds that, subject to specified permit conditions, the proposed project will comply with all applicable MDAQMD rules and regulations.

BEP and SEP are owned by Blythe Energy, Inc. and Altagas Sonoran Energy, Inc. which are subsidiaries of the same parent company, Altagas Power Holdings. Because BEP and SEP are under common control and located on contiguous property they are considered one stationary source. Although under common control, BEP and SEP are owned by different subsidiaries and therefore maintain separate District permits. BEP operates under federal operating permit 130202262. SEP has applied for a federal operating permit which will be processed separately from these current permitting actions.

Blythe Energy, Inc., operating their facility at 385 N. Buck Blvd. in Blythe California has applied for a Significant Modification to their Federal Operating Permit (FOP) pursuant to the provisions of MDAQMD Regulation XII. The applicant is a facility engaged in electric power generation and is of a size requiring a Title V Permit. The applicant is required to submit this change to their FOP because the facility will be reducing the lb/hr PM10 limit for the combustion turbines and also reducing the ton/year facility PM10 and SOx emission limits. Because BEP and SEP are one stationary source and because the emission reductions are occurring simultaneously with the permitting of SEP, the reductions will be used to meet the offset burden of the SEP. The proposed changes constitute a major modification of the BEP FOP pursuant to Rule 1201(T)(3) in that they change a case-by-case determination of an emissions limitation imposed pursuant to District Regulation XIII – New Source Review.

AVAILABILITY OF DOCUMENTS: Copies of the BEP/SEP Applications, the Statement of Basis, New Source Review Preliminary Determination / FOP Modification Preliminary Determination, the Proposed Draft BEP FOP, and other supporting documentation are available from the MDAQMD by mail, in person, via the following link on the MDAQMD website:

http://www.mdaqmd.ca.gov/index.aspx?page=416

or by contacting Roseana Brasington, Mojave Desert Air Quality Management District, 14306 Park Avenue, Victorville, CA 92392, Phone: (760) 245-1661, extension 5706, Facsimile: (760) 245-2022 or at rnbrasington@mdaqmd.ca.gov . Traducción esta disponible por solicitud.

REQUEST FOR COMMENTS: Interested persons are invited to submit written comments and/or other documents regarding the terms and conditions of the proposed changes. If you submit written comments, you may also request a public hearing on the proposed modification of the FOP. To be considered, comments, documents and requests for public hearing must be submitted no later than

5:00 P.M. on Monday, January 18, 2016 to the MDAQMD, Attention: Roseana Navarro-Brasington, at the address listed above.

RIGHT TO PETITION USEPA FOR RECONSIDERATION: Title V Permits are also subject to review and approval by USEPA. If USEPA has not objected to a proposed permit modification and District has not addressed a public comment in a satisfactory manner, the public may also petition USEPA, Region 9, Operating Permits Section at 75 Hawthorne Street, San Francisco, CA 94105, within 60 days after the end of the 45-day USEPA review period, to reconsider the decision to not object to the permit modification. The USEPA review period expires on February 1, 2016.