MOJAVE DESERT air quality management district

Mojave Desert Air Quality Management District
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Visit our web site: http://www.mdaqmd.ca.gov
Charles L. Fryxell, Air Pollution Control Officer

DOCKET
02-AFC-1
DATE JAN -5 2006
RECD. JAN 10 2006

City of Adelanto
Town of Apple Valley
City of Barstow
City of Blythe
City of Hesperia
City of Needles
County of Riverside
County of San Bernardino
City of Twentynine Palms
City of Victorville
Town of Yucca Valley

January 5, 2006

Gerardo C. Rios
Chief, Air Permits Office
USEPA Region IX
75 Hawthorne Street
San Francisco, CA 94105-3901

Re: Blythe Energy Project II and Requested USEPA Approvals
District Company No.: 1437
District Facility No.: 2472

Dear Mr. Rios:

The Mojave Desert Air Quality Management District (District) provides the following information in response to your November 21, 2005 letter regarding the proposed Blythe Energy Project II (BEPII), and our related conversations. The District requests explicit USEPA approval for selected elements of the BEPII proposal on a project-specific basis.

Specifically, the District formally requests that the USEPA approve: (1) the use of inter-pollutant offsets for this project (NO_x for VOC and PM_{10} for SO_x), (2) the proposed inter-pollutant offset ratio of 1:1 for this project (NO_x for VOC and PM_{10} for SO_x), and (3) the use of real, quantifiable, permanent, surplus and enforceable reductions from road paving to offset PM_{10} emissions from this project.

On December 26, 2002, your office commented on seven elements of the Preliminary Determination of Compliance (PDOC) for BEPII. The District did not respond in writing to those comments, as the District attended a meeting between the project proponent and USEPA in early 2003 where the identified issues were discussed and the District believed they were resolved. The District addressed the identified changes to the proposed project within the Final Determination of Compliance (FDOC). A formal response to comments is provided below:

The first comment addressed the combustion turbine power train NO_x limit, as the PDOC limited BEPII to 2.5 ppmvd NO_x averaged over one hour, and your comment letter requested a limit of 2.0 ppmvd. BEPII was required to meet 2.0 ppmvd NO_x averaged over three hours in the FDOC.

PROOF OF SERVICE (REVISED 12-6-05) FILED WITH
ORIGINAL MAILED FROM SACRAMENTO ON 1-10-06
E Johnson

The second comment addressed the SCR ammonia slip limit, as the PDOC limited BEPII to 10 ppmvd slip and your comment letter recommended 5 ppm. The FDOC retained the 10 ppmvd limit, but the project has subsequently accepted a 5 ppmv ammonia slip limit averaged over 24 hours (reaching 5 ppmv slip will trigger an SCR replace, repair or recondition requirement). This lower slip limit will be placed into the project's local air permits (and the eventual Federal Title V permit).

The third comment addressed the cooling method and required an explicit TDS limit on circulating cooling water. The FDOC includes explicit limits for drift rate, circulation rate and total dissolved solids.

The fourth comment addressed the road paving emission reduction credits, and asked for information to support the credibility, quantification, permanence, surplus and enforceability of the proposed credits. Attached please find the District's discussion of these elements for the proposed road paving actions, including the most current quantification. The District believes the proposed road paving action will meet these criteria once the paving actually occurs.

The fifth comment addressed inter-pollutant offset trading, and required that the proposed trade be shown to be beneficial and affirmatively approved by USEPA. The proposed project is a major modification of the existing Blythe Energy Project, and is located in a federal ozone and PM_{10} attainment area. The Mojave Desert Air Basin (as a region downwind of the greater Los Angeles airshed, and consequently receiving aged ozone precursors) has been previously demonstrated to be VOC-limited. Accordingly the District has previously used VOC for NO_x ratios in excess of one to one (specifically 1.6:1) for similar new power plant offsetting. The proposed source of NO_x offsets is in the immediate vicinity of the proposed project (directly across the interstate within the same community of Blythe). The District believes a 1:1 ratio of NO_x for VOC will be beneficial (574 tons of ozone precursors are offsetting 453 tons of new ozone precursor emissions). The combined offset history and proposal is presented in Figure 1 below.

Figure 1 - Blythe Energy Projects Offsets

all emissions in tons per year

	NOx	CO	VOC	SOx	PM10
BEP I	202	306	24	24	103
BEP II	202	685	25	23	61
Total Proposed	404	991	49	47	164
Offset Threshold	25	---	25	25	15
Required Offsets	404	---	49	47	164
Existing Offset Requirement (BEP I)	202				103
New Offset Obligation	**202**	**---**	**49**	**47**	**61**
VOC Offsets provided (BEP I)		---	323		
NOx Offsets proposed (BEP II)	251	---			
PM10 Offsets proposed (BEP II)		---			108

The sixth comment addressed the malfunction limit exemption and recommended that the term be defined or removed from the permit conditions. The Federal definition will be used for this term.

The seventh comment addressed the carbon monoxide limits for the plant, as the PDOC limited BEPII to 5 ppm (8.4 ppm at lower loads), and your letter required a specific three hour averaging time. The FDOC limits the project to 4 ppmvd averaged over 24 hours in response to our 2003 meeting. The District expects this limit to be acceptable to USEPA.

If you have any questions regarding this letter, please contact me at (760) 245-1661, extension 6726.

Sincerely,

Alan J. De Salvio
Supervising Air Quality Engineer

cc: Bill Pfanner, CEC
Thomas Cameron, BEPII

AJD USEPA review.doc

Discussion of Colorado River Indian Tribe Existing Unpaved Road Paving

REAL. The emission reductions will be real as the level of unpaved road traffic was established prior to the paving and the surface will be paved.

ENFORCEABLE. The road surfaces will be paved by (or on behalf of) the sovereignty (CRIT) with jurisdiction over them; that sovereignty has committed to maintaining the roads in their paved state.[1]

PERMANENT. The roads will be paved. The sovereignty with jurisdiction over the roads have committed to including them in their pavement management system.[2] "Replacement Units" is not an applicable concept in this case since the modification will not change the use (and in any event, will not divert the use to a replacement roadway).

QUANTIFIABLE. The emission reductions are quantified using the methodology required by Rule 1404(A)(2)(c). Historic actual emissions have been calculated by establishing the traffic amount (in vehicle miles traveled or VMT), traffic mean vehicle weight, and road surface material silt content, and surface material moisture content for the road while unpaved. These data were used to calculate entrained unpaved road dust according to the methodology presented in USEPA AP-42 §13.2.2 (December 2003 version). Similar data were used to calculate the substantially smaller amount of entrained paved road dust that will be generated by the same traffic on the road when paved according to the methodology presented in USEPA AP-42 §13.2.1 (December 2003 version). The unpaved entrained PM_{10}, less the paved entrained PM_{10}, represents the emission reduction generated by paving.

Traffic Level (used for unpaved and paved)
Direct vehicle counting through the use of automated vehicle counters was employed for six months during early 2002. This activity was used with on- off-season assumptions to calculate annual activity. Given the activity level and the distance paved, the VMT on the road was calculated. This method gives an average value for the daily traffic on the road, which was used to calculate estimated total annual activity. See below.

Mean Vehicle Weight (used for unpaved and paved)
The District provided an average weight of 3 tons as a default for vehicles other than recreational vehicles, which are assumed to average 10 tons.

Road Surface Material Silt Content (used for unpaved)
This value was determined experimentally for the road while unpaved. Surface soil samples were gathered on January 21, 2002 and analyzed using AP-42 Appendix C (ASTM D 422) to determine silt content.

Surface Material Moisture Content (used for unpaved)
The AP-42 methodology conservative default value of 0.2% was used for this variable.

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[1] "Application for PM_{10} Emission Reduction Credits," August 30, 2002, Colorado River Indian Tribes
[2] Ibid.

Road Surface Silt Loading (used for paved)
The AP-42 methodology default (conservative) value for low average daily traffic roads of 0.4 was used for this variable. Each road is estimated to have considerably less than the high average threshold of 5000 trips per day.

SURPLUS. There is no SIP or other paving requirement that applies to this region (the region is federal attainment for PM_{10}, and there is no state PM_{10} planning requirement). In any case, no road-paving obligation applied to these roads.

Vehicle Type	Daily Trips	Days per Year	Trip length	Vehicle Weight	Daily VMT	Annual VMT	Annual Ton-Miles
Lost Lake Road:							
Off Season Vehicles	234	182	0.57	3	133	24275	72825
On Season Vehicles	135	183	0.57	3	77	14082	42246
On Season RVs	141	183	0.57	10	80	14708	147077
					Totals:	**53065**	262148
					Average Fleet Weight (tons):		**4.94**
Hidden Valley Road:							
Off Season Vehicles	136	182	1.0	3	136.0	24752	74256
On Season Vehicles	89	183	1.0	3	89.0	16287	48861
On Season RVs	62.0	183	1.0	10	62.0	11346	113460
					Totals:	**52385**	236577
					Average Fleet Weight (tons):		**4.52**
Roadrunner Avenue:							
Off Season Vehicles	62	182	0.18	3	11.2	2031	6093
On Season Vehicles	57	183	0.18	3	10.3	1878	5633
On Season RVs	10.0	183	0.18	10	1.8	329	3294
					Totals:	**4238**	15020
					Average Fleet Weight (tons):		**3.54**

Net PM10 ERC Issuance Calculation (subtracting paved road emissions)

Variable or Result	Values LL	HV	RR	Units	Source/Notes
Roads Unpaved:					
Silt Content (s)	12	6	5	%	Samples
Mean Vehicle Weight (W)	4.94	4.52	3.54	tons	Calculated
Mean Vehicle Speed (mph)	35	35	35	mph	Default
Moisture Content (M)	0.2	0.2	0.2	%	Default
Annual VMT	53065	52385	4238	miles	Calculated
Annual Unpaved Emissions	123920	61166	4124	lbs	AP-42 Section 13.2.2
Total Unpaved Emissions:	**189209**			lbs PM10	
Roads Paved:					
Silt Loading (sL)	0.4	0.4	0.4	factor	Default
Mean Vehicle Weight (W)	4.94	4.52	3.54	tons	Calculated
Annual VMT	53065	52385	4238	miles	Calculated
Annual Paved Emissions	630	544	31	lbs	AP-42 Section 13.2.1
Total Paved Emissions:	**1205**			lbs PM10	

Net ERC PM10 Emissions	**188005**	lbs
	94.00	tons

Notes:

Unpaved Road travel emissions calculated using AP-42 Section 13.2.2 equation 1b (December 2003 version)

Paved Road travel emissions calculated using AP-42 Section 13.2.1 equation 1 (December 2003 version)

BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA

IN THE MATTER OF:

APPLICATION FOR CERTIFICATION FOR THE BLYTHE II ENERGY PROJECT

DOCKET NO. 02-AFC-1
PROOF OF SERVICE LIST
[REVISED 12/6/05]

DOCKET UNIT

Instructions: Send an original signed document plus 12 copies and/or and electronic copy plus one printed copy to the address below:

CALIFORNIA ENERGY COMMISSION
DOCKET UNIT, MS-4
Attn: Docket No. 02-AFC-1
1516 Ninth Street
Sacramento, CA 95814-5512
docket@energy.state.ca.us

Also send a printed ***or*** *electronic copy of all documents to each of the following:*

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**Revisions to POS List, i.e. updates, additions and/or deletions.*

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DECLARATION OF SERVICE

I **Evelyn M Johnson**, declare that on **January 10, 2006**, I deposited copies of the attached **Letter from Mojave AQMD re: comments on the EPA**, in the United States mail at Sacramento, CA with first class postage thereon fully prepaid and addressed to those identified on the Proof of Service list above. Transmission via electronic mail was consistent with the requirements of California Code of Regulations, title 20, sections 1209, 1209.5, and 1210.

I declare under penalty of perjury that the foregoing is true and correct.

Evelyn M Johnson
[signature]

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