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March 7, 2008

Christopher Meyer
Project Manager
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814-5512

Subject: Chula Vista Energy Upgrade Project (07-AFC-4)
Response to California Energy Commission Staff Data Request #6

Dear Mr. Meyer:

Attached please find one original and 12 copies of MMC Energy, Incorporated's response to California Energy Commission Staff Data Request #6, regarding cumulative air quality impact analysis, filed in support of the Application for Certification for the Chula Vista Energy Upgrade Project (07-AFC-04).

If you have any questions about this matter, please contact me at (916) 286-0278 or Sarah Madams at (916) 286-0249.

Sincerely,

CH2M HILL

Douglas M. Davy, Ph.D.
AFC Project Manager

Attachment

cc: S. Madams

Chula Vista Energy Upgrade Project

(07-AFC-4)

Response to CEC Staff Data Request #6

Air Quality

Cumulative Impacts

6. *Please provide details regarding the cumulative impacts to the surrounding community including but not limited to traffic, hazards materials risks, cumulative air quality impact.*

Response: This evaluation was completed to determine whether or not there is a potential for significant localized impacts from the emissions of the Chula Vista Energy Upgrade Project (CVEUP) combined with other facilities in the project area. A dispersion modeling analysis of potential cumulative air quality impacts was performed for SO_2, CO, NO_2, PM10, and PM2.5. A cumulative multisource modeling analysis was performed for the proposed CVEUP emission sources combined with emissions from the Otay Mesa Generating Project (OMGP) and the Otay Water District Cogeneration facility.

Modeled Source Selection

The proposed CVEUP was modeled in conjunction with the impacts of existing facilities and facilities not yet in operation but that are reasonably foreseeable. The San Diego Air Pollution Control District (SDAPCD) provided an inventory of all such sources within 8 miles of the proposed project site. This list of sources used in the analysis is included on a Compact Disk that has been provided to the CEC Staff and is available upon request. Since the impacts of projects that exist and have been in operation are already reflected in the ambient air quality data establishing representative background air quality levels, no dispersion modeling of emissions from this category of facilities is necessary or was performed. The list of sources provided by the SDAPCD was reviewed by the California Energy Commission (CEC) and all but two sources, The Otay Water District Cogeneration Facility, and OMGP were dropped from further consideration. A majority of the SDAPCD-listed sources are emergency generators which, based on CEC recommendations, were not included as cumulative sources. The OMGP was included in the modeling analysis to be conservative, even though the source is well beyond 8 miles from the CVEUP. The cumulative multi-source modeling analysis added the modeled impacts of unconstructed but reasonably foreseeable facilities in the project area to the maximum measured background air quality levels, thus ensuring that the existing and proposed projects were taken into account.

Cumulative Impacts Dispersion Modeling Input Data

Given the wide geographic area over which the dispersion modeling analysis was performed, the AERMOD (v07026) model was used for the cumulative impacts analysis for all pollutants. The detailed modeling procedures, model options, receptor girds, and

meteorological data used in the cumulative impacts dispersion analysis were the same as those used for the CVEUP as described in the AFC Air Quality section.

Cumulative impacts predicted by the dispersion modeling analysis were added to background air quality levels attributable to existing emission sources and then compared to state and federal air quality standards to determine significance. The maximum modeled concentrations were used in the comparison with California ambient air quality standards (CAAQS) and Federal (USEPA) National ambient air quality standards (NAAQS).

For the CVEUP and OMGP projects, the specifications for all sources used in the cumulative modeling analysis, including stack locations and building dimensions used to assess downwash considerations, were taken from their respective air quality permit applications. The Otay Mesa Water District source information was provided by the SDAPCD. For the Otay Mesa Water District building downwash, the Building Profile Input Program (BPIP) was used to generate downwash parameters for a building that has the following dimensions: 18'H x 44'W x 82'L. Worst-case source data identified in the turbine screening analyses for both CVEUP and OMGP were used to define the stack conditions that were analyzed. For 1-hour NO_2 and 1-hour and 8-hour CO worst-case impacts, it was assumed that the CVEUP project would be in startup mode while OMGP would be in base load, as it is unlikely that a base-loaded plant (OMGP) would be started during the same time period as a peaking project (CVEUP). In all cases for all averaging periods, the Otay Mesa Water District emission source was assumed to be in operation. The stack parameters and emission rates modeled for each averaging period are shown in Tables DR6-1 and DR6-2.

TABLE DR6-1
CVEUP Stack Parameters and Emission Rates For Cumulative Modeling*

	Stack Height (m)	Stack Diam (m)	Stack Temp (deg K)	Exhaust Velocity (m/s)	Emission Rates (g/s)			
					NO_X	SO_2	CO	PM10/2.5
Averaging Period: 1-hour for Normal Operating Conditions for CO and NOx Emissions								
Turbines (each)	21.336	3.9624	684.8	22.75	2.432	N/A	1.802	N/A
Averaging Period: 1-hour for Normal Operating Conditions for SO_2 Emissions								
Turbines (each)	21.336	3.9624	681.5	14.92	N/A	0.139	N/A	N/A
Averaging Period: 3-hours for Normal Operating Conditions								
Turbines (each)	21.336	3.9624	681.5	14.92	N/A	0.139	N/A	N/A
Averaging Period: 8-hours for Normal Operating Conditions								
Turbines (each)	21.336	3.9624	684.8	22.75	N/A	N/A	0.981	N/A
Averaging Period: 24 hours for Normal Operating Conditions								
Turbines (each)	21.336	3.9624	681.5	14.92	N/A	0.139	N/A	0.378
Averaging Period: Annual for Normal Operating Conditions[1]								
Turbines (each)	21.336	3.9624	707.6	22.32	0.467	0.070	N/A	0.190

[1]Short term and annual averaging periods include start-up/shutdown emissions, where applicable.

TABLE DR6-2
Stack Parameters and Emission Rates for OMGP*

	Stack Height (meter)	Stack Diam. (meter)	Stack Temp (deg K)	Exhaust Velocity (m/s)	Emission Rates (g/s) for each turbine/HRSG and WETSAC cell			
					NO_x	SO_2	CO	PM10/ PM2.5
Averaging Period: 1-hour								
Turbines/HRSGs	48.768	5.639	354.11	19.255	2.0097	0.2016	3.6703	N/A
Auxiliary Boiler	25.91	0.762	435.9	27.005	0.1215	0.0076	0.4109	N/A
Averaging Period: 3-hours								
Turbines/HRSGs	48.768	5.639	354.11	19.255	N/A	0.2016	N/A	N/A
Auxiliary Boiler	25.91	0.762	435.9	27.005	N/A	0.0076	N/A	N/A
Averaging Period: 8-hours								
Turbines/HRSGs	25.91	5.639	354.11	19.255	N/A	N/A	86.1547	N/A
Auxiliary Boiler	48.768	0.762	435.9	27.005	N/A	N/A	0.4109	N/A
Averaging Period: 24 hours								
Turbines/HRSGs	48.768	5.639	354.11	19.255	N/A	0.2016	N/A	1.449
Auxiliary Boiler	25.91	0.762	435.9	27.005	N/A	0.0076	N/A	0.2083
WETSAC	11.582	4.877	301.2	9.398	N/A	N/A	N/A	0.0066
Averaging Period: Annual								
Turbines/HRSGs	48.768	5.639	354.11	19.255	1.9298	0.1802	N/A	1.3138
Auxiliary Boiler	25.91	0.762	435.9	27.005	0.1215	0.0076	N/A	0.2083
WETSAC	11.582	4.877	301.2	9.398	N/A	N/A	N/A	0.0066

*Annual averaging periods include startup/shutdown emissions, where applicable.

The Otay Mesa Water District facility source information is listed in Tables DR6-3 and DR6-4 and was included in the cumulative impact modeling assessment.

TABLE DR6-3
Modeled Stack Parameters for Otay Mesa Water District (provided by SDAPCD)

Facility Name	Stack Height (meter)	Stack Diam. (meter)	Stack Temp (deg K)	Exhaust Velocity (m/s)	Stack Coordinates (meters)–NAD27		
					X	Y	Z
Otay Mesa Water District	7.62	0.2545	763.56	34.586	498204.7	3606446	64.31

TABLE DR6-4
Modeled Emissions for Otay Mesa Water District (provided by SDAPCD)

Facility Name	Emission Rates (g/s)			
	NO_x	SO_2	CO	PM10/PM2.5
Otay Mesa Water District Short Term	0.0958	0.0007	1.0269	0.0527
Otay Mesa Water District Annual	0.0362	0.0003	N/A	0.0198

Cumulative Impacts Dispersion Modeling Results

Table DR6-5 summarizes the results of the cumulative modeling analysis.

TABLE DR6-5
Cumulative Impacts Modeling Results (µg/m3)

Pollutant	Averaging Time	Maximum Multisource Concentration ($\mu g/m^3$)	Background ($\mu g/m^3$)	Total Ambient Concentration ($\mu g/m^3$)	State Standard ($\mu g/m^3$)	Federal Standard ($\mu g/m^3$)
NO_2	1-hour	37.54	192.0	229.54	338	-
	Annual	0.234	0.34	0.574	56	100
SO_2	1-hour	2.85	110.0	112.85	655	-
	3-hour	1.94	55.0	56.94	1300	1300
	24-hour	0.608	39.0	39.61	105	365
	Annual	0.047	11.0	11.05	-	80
CO	1-hour	214.48	7886.0	8,100.5	23,000	40,000
	8-hour	114.56	6000.0	6,114.6	10,000	10,000
PM10	24-hour	2.75	65.0	67.75	50	150
	Annual	0.136	27.0	27.136	20	50
PM2.5	24-hour	2.75	41.0	43.75	-	35
	Annual	0.136	14.0	14.136	12	15

As Table DR6-5 shows, maximum modeled concentrations without background are less than the CAAQS and NAAQS for all pollutants and all averaging times. Maximum total ambient (modeled plus background) concentrations are greater than the CAAQS for 24-hour and annual PM10. Maximum total ambient (modeled plus background) concentrations are also greater than the CAAQS for annual PM2.5. Maximum total ambient (modeled plus background) concentrations for all other pollutants and averaging times are less than the CAAQS and NAAQS.

Maximum ambient (modeled plus background) concentrations exceed the applicable PM10 and PM2.5 CAAQS because the background concentrations already are very nearly equal to or exceed the applicable standards (e.g., there were no modeled PM10 or $PM_{2.5}$ concentrations without background greater than the CAAQS or NAAQS). The project is located in a state non-attainment area for PM2.5 and PM10. Since the modeled multisource impacts by themselves, without considering background, are less than the PM_{10} or PM2.5 ambient air quality standards, the projects do not cause or contribute to the regional non-attainment status. Because the projects are located in a state non-attainment area project emissions of nonattainment pollutants will be mitigated.

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

Application for Certification for the
CHULA VISTA ENERGY
UPGRADE PROJECT

Docket No. 07-AFC-4

PROOF OF SERVICE
(Revised 01/03/08)

INSTRUCTIONS: All parties shall 1) send an original signed document plus 12 copies OR 2) mail one original signed copy AND e-mail the document to the web address below, AND 3) all parties shall also send a printed OR electronic copy of the documents that shall include a proof of service declaration to each of the individuals on the proof of service:

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 06-AFC-07
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DECLARATION OF SERVICE

I, Haneefah Walker, declare that on March 7, 2008, I deposited the required copies of the attached Response to CEC Staff Data Request #6, filed in support of the Chula Vista Energy Upgrade Project (07-AFC-4) in the United States mail at Sacramento, California with first-class postage thereon fully prepaid and addressed to those identified on the Proof of Service list above. I declare under penalty of perjury that the foregoing is true and correct.

OR

Transmission via electronic mail was consistent with the requirements of California Code of Regulations, title 20, sections 1209, 1209.5, and 1210. All electronic copies were sent to all those identified on the Proof of Service list above.

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

Haneefah Walker