March 22, 2010

382914

Mr. Craig Hoffman
Project Manager
California Energy Commission
1516 Ninth Street, MS 15
Sacramento, CA 95814-5512

Subject: Mariposa Energy Project (09-AFC-03)
 Additional Modeling Files Submitted to the Bay Area Air Quality Management District for Comparison to the New Federal 1-Hour NO2 Standard

Dear Mr. Hoffman:

Attached please find one hard copy of the correspondence submitted to the BAAQMD regarding the additional dispersion modeling conducted for the Mariposa Energy Project. Five electronic copies of the dispersion modeling files are also included on CD-ROM.

If you have any questions about this matter, please contact me at (916) 286-0348.

Sincerely,

CH2M HILL

Doug Urry
AFC Project Manager

Attachment

cc: B. Buchynsky, Mariposa Energy, LLC.
March 16, 2010

Madhav Patil  
Permitting Engineer  
Bay Area Air Quality Management District  
939 Ellis Street  
San Francisco, CA 94109

Subject: Mariposa Energy Project (09-AFC-03) Additional Dispersion Modeling Files for Comparison to the New Federal 1-Hour NO₂ Standard

Dear Mr. Patil:

Per your request, Mariposa Energy LLC has prepared the attached dispersion modeling files for the Mariposa Energy Project (MEP). The additional dispersion modeling was conducted to show compliance with the new federal 1-hour NO₂ ambient air quality standard, which becomes effective April 12, 2010. According to the Federal Register, the new 1-hour 100 ppb (188 μg/m³) NO₂ standard is based on the 3-year average of the 98th percentile of the annual distribution of daily maximum 1-hour concentrations.

Modeling Approach

The AERMOD dispersion model (Version 09292) was used to predict the 1-hour ground-level concentrations of NO₂ associated with operation of MEP. The AERMOD settings, meteorological data, and source definition for the risk assessment were similar to the air quality impact analysis methodology outlined in the AFC. The 1-hour NO₂ modeling was further refined by using the AERMOD ozone limiting method group function.

The 1-hour NO₂ turbine emission rates were adjusted to match the maximum 1-hour turbine emission rate identified in the MEP permit revision submittal to the Bay Area Air Quality Management District (BAAQMD) on January 27, 2010. As described in the January 27, 2010, submittal, the maximum 1-hour NOx emission rate conservatively assumes each turbine will complete one startup and one shutdown within the same hour with the balance of the hour at full load, steady-state operation with the air inlet chillers operating.

The 1-hr NO₂ dispersion modeling analysis incorporated the modeling guidance presented in the EPA’s “Notice Regarding Modeling for New Hourly NO₂ NAAQS” (Version 02/25/2010). Per the EPA guidance, the Air Quality Modeling Group will be developing an AERMOD post-processor to determine the 8th-highest daily 1-hour maximum concentration from the distribution of 365 or 366 daily 1-hour maximum concentrations at each receptor over 3 years. However, because no such regulatory tool is available at this time, Mariposa Energy LLC combined the 3-year average of the 8th highest 1-hour modeled NO₂ concentration with the 98th percentile background data compiled for the Tracy Airport monitoring station and compared the resulting concentration to the new 1-hour NO₂ standard.
Results

The results of the 1-hour NO₂ dispersion modeling analysis are presented in Table 1. The total predicted concentration represents the maximum 3-year average of the 8th highest modeled concentrations for each turbine operating scenario combined with the 3-year average 98th percentile background concentration compiled for the Tracy Airport monitoring station. The results are presented for all sources (i.e., the four turbines in startup mode and fire pump) and for the turbines only. Based on the results of the modeling analysis, the predicted impacts are below the new federal 1-hour NO₂ standard. A copy of the dispersion modeling files is attached on CD-ROM.

<table>
<thead>
<tr>
<th>Source Group</th>
<th>3-Year Average 8th High 1-Hour Modeled Impact (µg/m³)</th>
<th>98th Percentile 1-Hour NO₂ Background Concentration (µg/m³)*</th>
<th>Total Predicted 1-Hour NO₂ Concentration (µg/m³)</th>
<th>98th Percentile 1-Hour Federal NO₂ Standard (µg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Sources</td>
<td>108.7</td>
<td>77.99</td>
<td>186.7</td>
<td>188</td>
</tr>
<tr>
<td>Turbines Only</td>
<td>69.4</td>
<td>77.99</td>
<td>147.4</td>
<td>188</td>
</tr>
</tbody>
</table>


If you have any questions regarding this information, please contact me at (213) 473-0092, Jerry Salamy (CH2M HILL) at (916) 286-0270 or Keith McGregor (CH2M HILL) at (916) 286-0221.

Sincerely,

Mariposa Energy LLC

Bo Buchynsky
Executive Director

Attachment
APPLICATION FOR CERTIFICATION
FOR THE MARIPOSA ENERGY PROJECT (MEP)

Docket No. 09-AFC-3

PROOF OF SERVICE
(Revised 2/8/2010)

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*indicates change
DECLARATION OF SERVICE

I, Mary Finn, declare that on March 22, 2010, I served and filed copies of the attached Additional Dispersion Modeling Files for Comparison to the New Federal 1-Hour NO2 Standard. The original document, filed with the Docket Unit, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at: [http://www.energy.ca.gov/sitingcases/mariposa/index.html].

The document has been sent to both the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit, in the following manner:

(Check all that Apply)

For service to all other parties:

_x_ sent electronically to all email addresses on the Proof of Service list;

_and_

by personal delivery or by depositing in the United States mail at Sacramento, California, with first-class postage thereon fully prepaid and addressed as provided on the Proof of Service list above to those addresses NOT marked "email preferred."

AND

For filing with the Energy Commission:

_x_ sending an original paper copy and one electronic copy, mailed and emailed respectively, to the address below (preferred method);

OR

_x_ depositing in the mail an original and 12 paper copies, as follows:

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 09-AFC-3
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512
docket@energy.state.ca.us

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

Mary Finn