State Of California

The Resources Agency of California

Memorandum

Date : November 6, 2007
Telephone: (916) 654-3913

To : Bill Pfanner

File: Eastshore Energy Center (06-AFC-6)

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From : California Energy Commission - Shahab Khoshmashrab
1516 Ninth Street
Sacramento, CA 95814-5512

Subject : **Response to Applicant's Comments on Noise and Vibration PSA**

The applicant submitted several comments regarding **Noise and Vibration** as described by the PSA (CH2MHill letter from David Stein to Bill Pfanner dated September 19, 2007). Staff has reviewed those comments and incorporated appropriate revisions. The following text summarizes the staff's responses to those comments.

1. On p.4.6-6 and p.4.6-7; staff's calculations that support the values in **NOISE Table 2** and **NOISE Table 3** should be included in an appendix to this section.

   Staff's Response: Staff has included these calculations at the end of this memorandum, in **Staff Calculations**.

2. Top of p.4.6-9; staff's calculations that document the L_{90} should be included in an appendix to this section.

   Staff's Response: Staff has included these calculations at the end of this memorandum, in **Staff Calculations**.

3. Under the discussion of **CEQA Impacts** on p.4.6-9; as the Eastshore project will not be operating continuously during the large majority of days, it will not contribute to elevated background noise levels to the degree staff suggests.

   Staff's Response: As explained above in **CEQA Impacts**, a power plant operates as, essentially, a steady, continuous, broadband noise source, unlike the intermittent sounds that make up most of the noise environment. Power plant noise therefore contributes to, and becomes a part of, background noise levels, or the sound heard when most intermittent noises stop. Where power plant noise is audible, it tends to define the background noise level. For this reason, staff typically compares projected power plant noise to existing ambient background (L_{90}) noise levels at affected sensitive receptors.

   Based on the AFC, the project would be permitted to operate up to 4,000 hours a year. Thus, it is very possible that on a frequent basis the project would operate continuously for several hours at a time. For this length of time, expect during startup and shutdown, the noise will be steady state and will become part of the background noise. Therefore, for the purpose of evaluating the project's noise impacts at the residential receptors, staff remains adamant about treating the project's nighttime operational noise as part of the background levels. However, as explained above (in **Operation Impacts and Mitigation**), because the Bank

operates during the daytime hours, staff has evaluated the project's operational noise impact at this location using the ambient L_{eq} level. Typically, daytime ambient noise consists of both, intermittent and constant noises. The noise that stands out during this time is therefore best represented by the average noise level, or L_{eq}.

4. On p.4.6-13 and p.4.6-14, Condition of Certification **NOISE-4**; the 1st paragraph, should be changed from "...measured near monitoring location R1..." to "...measured at or near monitoring location R1..."

   Staff's Response: **NOISE-4** has been revised to reflect this request.

5. **NOISE-4**, Verification; the applicant requests flexibility on testing with 30 days, e.g., "...or when otherwise approved by the CPM..."

   Staff's Response: **NOISE-4** has been revised to reflect this request.

Staff Calculations:

A. The values of 63 dBA L_{dn} and 67 dBA L_{dn} shown in **NOISE Table 2** are given in the AFC (EEC 2006a, AFC § 8.5.4.1, p.8.5-8) and were not calculated by staff.

B. The average ambient noise level of 44 dBA L_{90} at R1 shown in **NOISE Table 2** is the average noise of the four quietest consecutive hours of the nighttime between midnight and 4:00 a.m. given in Table 8.5-5 of the AFC:
Inverse log of [(log of 44+log of 44+log of 44+log of 45)/4] = 44 dBA

C. The average ambient noise level of 50 dBA L_{90} at R2 shown in **NOISE Table 2** is the average noise in the daytime hours between the hours of 7:00 a.m. and 10:00 p.m. given in Table 8.5-6 of the AFC:
Inverse log of [(log of 51+log of 50+log of 53+log of 50+log of 49+log of 48+ log of 48+log of 49+log of 51+log of 50+log of 50+log of 52+log of 52+log of 49+log of 48+log of 49)/16] = 50 dBA

D. The average ambient noise level of 60 dBA L_{eq} at R1 shown in **NOISE Table 2** is the average noise in the daytime hours between the hours of 7:00 a.m. and 10:00 p.m. given in Table 8.5-5 of the AFC:
Inverse log of [(log of 58+log of 61+log of 60+log of 64+log of 62+log of 60+log of 57+log of 58+log of 60+log of 60+log of 60+log of 60+log of 61+log of 59+log of 59+log of 61)/16] = 60 dBA

E. The average ambient noise level of 62 dBA L_{eq} at R2 shown in **NOISE Table 2** is the average noise in the daytime hours between the hours of 7:00 a.m. and 10:00 p.m. given in Table 8.5-6 of the AFC:
Inverse log of [(log of 59+log of 65+log of 62+log of 60+log of 61+log of 62+ log of 55+log of 58+log of 68+log of 62+log of 62+log of 61+log of 63+log of 60+log of 59+log of 65)/16] = 62 dBA

F. The highest predicted noise level of 62 dBA at R1 shown in **NOISE Table 3**:
$S_2 = S_1 - 20 \log_{10} (r_2/r_1)$

Where S_1 is sound level at distance r_1 from a point source, and
S_2 is sound level at distance r_2 from that point source
$62 = 71 - 20 \log_{10} (1{,}100/375)$
Where 71 dBA is the value at 375 feet, given in Table 8.5-8 of the AFC.

Docket Request Form

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