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DOCKET	
09-AFC-4	
DATE	FEB 22 2011
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February 22, 2011

California Energy Commission
Docket Unit
1516 Ninth Street
Sacramento, CA 95814-5512

Subject: **CONTRA COSTA GENERATING STATION, LLC'S SUPPLEMENTAL NOISE INFORMATION**
OAKLEY GENERATING STATION
DOCKET NO. (09-AFC-4)

Enclosed for filing with the California Energy Commission is the original of **CONTRA COSTA GENERATING STATION, LLC'S SUPPLEMENTAL NOISE INFORMATION**, for the Oakley Generating Station (09-AFC-4).

Sincerely,

Marie Mills

Contra Costa Generating Station LLC (CCGS) would like to offer the following additional information in response to the discussion with CEC staff at the PSA workshop held on February 2, 2011.

CEC staff suggested that an increase in noise greater than a 5 dBA increase over the quietest 4-hour nighttime L90 at Location M2 might be acceptable if the plant were a peaker. While the Oakley Generating Station (OGS) is clearly not a peaker, electricity demand and market conditions will likely dictate that the plant either shutdown or run at significantly reduced loads during most nights. At lower operating loads, the plant noise level will also be lower as the combustion turbines and steam turbine will produce less noise and fewer air-cooled condenser (ACC) fans and transformer fans will need to run. Also, the ambient temperature during nighttime hours is typically much less than that during daytime hours. Thus, even during nighttime hours when the OGS is required to operate at full load, noise levels should be less than daytime hours as, again, fewer ACC fans and fewer transformer fans will need to operate.

CCGS's predicted noise levels assume operation of the fuel gas compressors. The OGS will be receiving natural gas from Line 303 and possibly also Line 400, both backbone natural gas transmission lines. Based on historical pressure data for these two pipelines, the gas compressors at the OGS are expected to operate very infrequently.

CEC staff suggested that CCGS could reduce the predicted noise levels 2 dBA by incorporating relatively inexpensive noise attenuation measures into the design of the OGS. As indicated in Section 5.7.3.3.3 of the AFC, the noise modeling performed by Hessler and Associates (Hessler), which predicts a noise level of 51 dBA at Location M2, already assumes numerous noise attenuation measures such as:

- Noise barrier around the combustion turbine
- Lower noise combustion turbine ventilation fans
- Noise barrier along the east, south, and west sides of the steam turbine structure
- Noise barrier on south side of the heat recovery steam generator (HRSG) inlet ducts
- Lower noise air cooled condenser fans
- Noise barriers around transformer

With a standard plant design that does not include these noise attenuation measures, Hessler predicted a noise level of 55.3 dBA at Location M2. By incorporating the above list of noise attenuation measures into the modeling, Hessler was able to balance the noise levels of all equipment. Thus, there remains no single piece of equipment that contributes a significant level of noise above all others. Hessler concluded that it did not appear to be possible to significantly and meaningfully reduce plant noise further without resorting to a large turbine building enclosing the two CTG's and possibly the STG. During the development design phase of the OGS, CCGS examined a number of measures to further reduce the noise at Location M2:

- Stack silencers on the heat recovery steam generators (HRSGs) – Hessler determined that further reduction of the stack noise would not result in a meaningful noise reduction at Location M2. CCGS eliminated HRSG stacks silencers from further consideration given the associated loss in plant efficiency coupled with no significant improvement in noise reduction.

- Ultra low noise ACC fans – Hessler's "standard plant" noise model assumed the use of conventional fans on the ACC (similar to Howden's ENF design). For the highly attenuated design, Hessler assumed the use of lower noise ACC fans (similar to Howden's ELF design). CCGS considered even lower noise ACC fans; however, the use of extremely low-noise ACC fans would require that more cells be added to the ACC. CCGS would be unable to accommodate additional ACC cells without removing the row of existing tall trees to the north. Given the site constraints and the fact that a further reduction of the ACC noise would not result in a significant reduction in noise at Location M2, CCGS eliminated ultra-low noise ACC fans from further consideration.
- Sound wall near Location M2 – CCGS considered constructing a sound wall along the west side of Bridgehead Road, adjacent to Location M2. Hessler modeled this scenario assuming a 40 meter long by 8 meter high sound wall optimally placed at the edge of the Bridgehead Road right-of-way, adjacent to Location M2. While this solution predicted a significant reduction for those residences immediately adjacent to the sound wall, the benefits quickly dissipated for residences further from the sound wall. CCGS did not consider the limited noise reduction benefits of a sound wall in this location to justify the potential visual impacts. In addition, the City of Oakley's Long Range Roadway Plan calls for Bridgehead Road to ultimately become a four-lane divided arterial. In this case, the right-of-way would need to increase from the existing width of 100 feet to a new width of 116 feet, thus occupying the space that currently could be used for a sound wall.

Therefore, these additional measures along with full enclosure of the turbines are not considered feasible.

CCGS recently selected our EPC contractor who has confirmed via their own noise modeling that all of the measures identified in Hessler's highly attenuated design are necessary and will be included in their design of the OGS. Thus, and taking into consideration that the location of M2 is a nonconforming land use, CCGS suggests that NOISE-4 be modified as follows to allow CCGS's predicted plant noise level of 51 dBA at Location M2 while requiring the project owner to include the specific noise attenuation measures identified by Hessler in the design of the OGS.

NOISE-4 The project design and implementation shall include appropriate noise mitigation measures adequate to ensure that the noise levels due to operation of the project alone will not exceed an hourly average of ~~49~~***51*** dBA, measured at or near monitoring location M2 (approximately 900 feet south of the project site boundary), and an hourly average of 41 dBA, measured at or near monitoring location M3 (approximately 4,000 feet southeast of the project site boundary).

No new pure-tone components shall be caused by the project. No single piece of equipment shall be allowed to stand out as a source of noise that draws legitimate complaints.

The project owner shall design and construct the project with the following noise attenuation measures:

- ***Noise barriers around the noisy portions of the combustion turbines***
- ***Lower noise combustion turbine ventilation fans***
- ***Noise barriers along the east, south, and west sides of the steam turbine structure***
- ***Noise barriers on south side of the inlets to the heat recovery steam generators***
- ***Lower noise air cooled condenser fans***
- ***Noise barriers around the generator step-up transformers***

A. When the project first achieves a sustained output of 85 percent or greater of rated capacity, the project owner shall conduct a 25-hour (continuously) community noise survey at monitoring locations M2 and M3, or at a closer location acceptable to the CPM. This survey during the power plant's fullload operation shall also include measurement of one-third octave band sound pressure levels to ensure that no new pure-tone noise components have been caused by the project. The measurement of power plant noise for the purposes of demonstrating compliance with this condition of certification may alternatively be made at a location, acceptable to the CPM, closer to the plant (e.g., 400 feet from the plant boundary) and this measured level then mathematically extrapolated to determine the plant noise contribution at the affected residence. The character of the plant noise shall be evaluated at the affected receptor locations to determine the presence of pure tones or other dominant sources of plant noise.

B. If the results from the noise survey indicate that the power plant noise at the affected receptor sites exceeds the above values, mitigation measures shall be implemented to reduce noise to a level of compliance with these limits.

C. If the results from the noise survey indicate that pure tones are present, mitigation measures shall be implemented to eliminate the pure tones.

Verification: The survey shall take place within 30 days of the project first achieving a sustained output of 85 percent or greater of rated capacity. Within 15 days after completing the survey, the project owner shall submit a summary report of the survey to the CPM. Included in the survey report shall be a description of any additional mitigation measures necessary to achieve compliance with the above listed noise limit, and a schedule, subject to CPM

approval, for implementing these measures. When these measures are in place, the project owner shall repeat the noise survey.

Dated: February 22, 2011

BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA
1516 NINTH STREET, SACRAMENTO, CA 95814
1-800-822-6228 – WWW.ENERGY.CA.GOV

APPLICATION FOR CERTIFICATION
FOR THE *OAKLEY GENERATING STATION*

Docket No. 09-AFC-4
PROOF OF SERVICE
(Revised 1/25/2011)

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*indicates change

DECLARATION OF SERVICE

I, Marie Mills, declare that on February 22, 2011, I served and filed copies of the attached CONTRA COSTA GENERATING STATION, LLC'S SUPPLEMENTAL NOISE INFORMATION, dated February 22, 2011. 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/contracosta/index.html]. The documents have 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;

_____ by personal delivery;

__X__ by delivering on this date, for mailing with the United States Postal Service with first-class postage thereon fully prepaid, to the name and address of the person served, for mailing that same day in the ordinary course of business; that the envelope was sealed and placed for collection and mailing on that date 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

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

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 09-AFC-4
1516 Ninth Street, MS-4
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I declare under penalty of perjury that the foregoing is true and correct, that I am employed in the county where this mailing occurred, and that I am over the age of 18 years and not a party to the proceeding.

Marie Mills

*indicates change