

**CALIFORNIA ENERGY COMMISSION**1516 NINTH STREET  
SACRAMENTO, CA 95814-5512**DATE:** December 22, 2005**TO:** Interested Parties**FROM:** Connie Bruins, Compliance Project Manager**SUBJECT: PALOMAR ENERGY CENTER PROJECT (01-AFC-24C)  
NOTICE OF RECEIPT OF PETITION TO MODIFY ALLOWABLE NOISE  
LEVELS AND PUBLIC REVIEW OF STAFF ANALYSIS**

On November 29, 2005, the California Energy Commission received a petition from Palomar Energy, LLC to amend the Energy Commission Decision for the Palomar Energy Center Project.

The 546-megawatt project was certified on August 6, 2003 and construction was initiated on June 1, 2004. The project is currently 98 percent complete and is expected to be in commercial operation by April 1, 2006. The facility is located in the City of Escondido, San Diego County.

**DESCRIPTION OF PROPOSED MODIFICATION**

Palomar Energy, LLC requests that Condition of Certification NOISE-6 be modified to set slightly higher noise limits at two locations during plant operation than are specified in the existing condition.

The modification is required because of an error made during the siting process that led to permissible noise limits that are lower than they should be. Although both background and permitted noise levels at those locations will increase, the significance threshold between background and operating noise levels of 5 dBA will not change, and there will be no new significant noise impacts to sensitive receptors.

**STAFF ANALYSIS**

Energy Commission staff reviewed the petition and assessed the impacts of this proposal on environmental quality, public health and safety, and proposes revisions to Condition of Certification NOISE-6. Noise is the only technical area impacted by this petition. Energy Commission staff determined that changes to NOISE-6 should be approved because a calculation error that occurred during the siting process should be corrected to accurately reflect background and permitted noise levels. Staff's complete analysis is enclosed.

It is Staff's opinion that with the implementation of the revised condition, the project will remain in compliance with applicable laws, ordinances, regulations, and standards pursuant to Title 20, California Code of Regulations, Section 1769, and no significant environmental impacts will result from this change.

**PROPOSED REVISIONS TO CONDITION(S) OF CERTIFICATION**

(Deleted text is in ~~strikethrough~~, new text is **bold double-underlined**):

**NOISE-6** The project design and implementation shall include appropriate noise mitigation measures adequate to ensure that operation of the project will not cause resultant noise levels to exceed an hourly average noise level of:

- 37 dBA at any residence in the vicinity of Site 1 (Live Oak Road Neighborhood)
- ~~41~~**45** dBA at any residence in the vicinity of Site 2 (Oak View Way)
- ~~43~~**45** dBA at any residence east of the project site.

No new pure tone components may be introduced. No single piece of equipment shall be allowed to stand out as a source of noise that draws legitimate complaints. Steam relief valves shall be adequately muffled to preclude noise that draws legitimate complaints.

- A. When the project first achieves a sustained output of 80 percent or greater of rated capacity, the project owner shall conduct a 25-hour community noise survey at Sites 1, 2, and 3. The noise surveys shall also include short-term measurement of one-third octave band sound pressure levels at each of the above locations to ensure that no new pure-tone noise components have been introduced.
- B. If the results from the operational noise survey indicate that the noise level due to the plant operations exceeds the noise standards cited above, mitigation measures shall be implemented to reduce noise to a level of compliance with this limit.
- C. If the results from the operational noise survey indicate that pure tones are present, mitigation measures shall be implemented to eliminate the pure tones.

**Verification:** The operational noise survey shall take place within 30 days of the project first achieving a sustained output of 80 percent or greater of rated capacity. Within 15 days after completing the operational survey, the project owner shall submit a summary report of the survey to the City of Escondido Planning Department, and to the CPM. Included in the survey report will be a description of any additional mitigation measures necessary to achieve compliance with the above listed noise limits, and a schedule, subject to CPM approval, for implementing these measures. When these measures are in place, the project owner shall repeat the operational noise survey.

Within 15 days of completion of the new survey, the project owner shall submit to the CPM and the City of Escondido Planning Department a summary report of a new noise survey, performed as described above and showing compliance with this condition.

## **RECOMMENDATIONS**

Energy Commission staff intends to recommend approval of the petition at the February 1, 2006 Business Meeting of the Energy Commission.

## **PUBLIC REVIEW PROCESS**

The petition to amend the project is available on the Energy Commission's webpage at <http://www.energy.ca.gov/sitingcases/palomar/compliance/index.html>. Staff's analysis is enclosed for your information and review. If you would like to receive a hard copy of the petition, and/or the Energy Commission Order if the changes are approved, please complete the enclosed Information Request Form and return it to the address shown. If you have comments on this proposed modification, please submit them to Connie Bruins, Compliance Project Manager, at the address on this letterhead, or by fax to (916) 654-3882, or by e-mail at [cbruins@energy.state.ca.us](mailto:cbruins@energy.state.ca.us) no later than 5:00 P.M., January 31, 2006. Staff's analysis and the Energy Commission Order (if approved), will also be posted on the webpage.

For further information on how to participate in this proceeding, please contact Margret J. Kim, the Energy Commission's Public Adviser, at (916) 654-4489, or toll free in California at (800) 822-6228, or by e-mail at [pao@energy.state.ca.us](mailto:pao@energy.state.ca.us). If you require special accommodations, please contact Lourdes Quiroz at (916) 654-5146. News media inquiries should be directed to Assistant Director, Claudia Chandler, at (916) 654-4989, or by e-mail at [mediaoffice@energy.state.ca.us](mailto:mediaoffice@energy.state.ca.us).

Enclosures:

Staff Analysis  
Information Request Form

Mail List # 7152

PETITION TO MODIFY NOISE LEVELS  
NOISE AND VIBRATION ANALYSIS  
PALOMAR ENERGY PROJECT (01-AFC-24C)

Steve Baker  
December 22, 2005

Request

Palomar Energy, LLC requests that Condition of Certification **NOISE-6** be modified to allow slightly higher noise levels at two sensitive receptor locations during plant operation than are specified in the existing condition.

Laws, Ordinances, Regulations and Standards (LORS)

Two LORS apply to the Palomar Energy Project:

- City of Escondido General Plan Community Protection and Safety Element, Policy E1.2; and
- City of Escondido Municipal Code, Article XI, Sections 17-226 through 17-260.

Compliance with these LORS will be unaffected by this petition.

Analysis

Since the actual noise impacts of a power plant cannot be known until after the plant is constructed and begins operation, the Commission Decision specifies maximum noise impacts that will be permissible from the completed project. The plant owner then designs the project to meet these noise limits, and verifies compliance with the limits by measuring actual noise levels after the power plant begins operation.

In setting these noise limits, the Commission Decision specifies the maximum noise level permissible at affected sensitive noise receptors (residences, hospitals, etc.) while the plant is operating. This maximum level is determined by allowing the plant to add only an insignificant level of noise (assumed by Energy Commission staff to be 5 dBA) to the previously existing noise level at the sensitive receptors' locations. In addition, these maximum noise limits are set to ensure that the operating power plant will not exceed any maximum noise limits specified in applicable LORS. If the operating power plant does not exceed these limits, then applicable LORS will be complied with, and persons at the receptor locations will not be annoyed by power plant noise, indicating that no significant noise impacts have occurred.

The method employed by Energy Commission staff to account for power plant noise impacts on the nearest sensitive receptors (those most impacted by project noise) is to compare the existing ambient background noise regime with the (calculated) noise regime that will exist when the plant is in operation. In order to evaluate the maximum (worst case) impact, the baseline used is the quietest portion of the night, when most people are trying to sleep. To cancel the effects of short-term anomalies, the quietest four consecutive hours of the night are averaged together to arrive at the baseline.

In preparing its Final Staff Assessment, staff erroneously averaged not just the ambient background noise levels from the quietest four consecutive hours of the night, but rather from several four-hour sets of time throughout the day and night. This led to an assumed background noise regime that is quieter than the nighttime noise regime, due to the fact that at the Palomar Power Plant, daytime noise levels are actually lower than nighttime noise levels. (This difference is due largely to the fact that this neighborhood is in close proximity to a major highway, on which long-haul truck traffic runs at night, elevating nighttime noise levels.) When these daytime measurements are discarded and only the nighttime periods averaged, the background noise level increases. When the insignificant 5 dBA increase due to power plant noise is added to the corrected background noise levels, the permissible noise level that will exist with the power plant in operation becomes that described in Palomar Energy's petition.

### Mitigation Measures and Conditions

Palomar Energy requests, and staff recommends, that the following changes be made to Condition of Certification **NOISE-6**:

**NOISE-6** The project design and implementation shall include appropriate noise mitigation measures adequate to ensure that operation of the project will not cause resultant noise levels to exceed an hourly average noise level of:

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

Within 15 days of completion of the new survey, the project owner shall submit to the CPM and the City of Escondido Planning Department a summary report of a new noise survey, performed as described above and showing compliance with this condition.

### Proposed Hospital

The Palomar Power Project is located within an industrial park known as the Escondido Research and Technology Center (ERTC). The City of Escondido is currently evaluating a Specific Plan Amendment for the ERTC which would allow the construction of a hospital in the ERTC. The proposed location of those facilities is across Citricado Parkway from the power plant. Staff has considered possible noise and vibration impacts of the power plant on a hospital at that location and believes that there will be no significant impacts.

The Palomar noise impacts were evaluated upon the nearest residential receptors, single-family dwellings 1,800 feet to the west along Live Oak Road and other streets. At this distance, the power plant is expected to produce noise levels no greater than 30 dBA  $L_{eq}$ . Staff estimates that the hospital buildings would be located at least 900 feet from the noise-producing portions of the Palomar project. At this distance, power plant noise emissions would not exceed approximately 36 dBA  $L_{eq}$ . This is equivalent to a loud whisper, and represents noise on the exterior of the hospital buildings.

Typical residential construction results in noise attenuation, from outside to inside of the building, typically exceeding 20 dBA. That is, any outside noise is commonly reduced at least 20 dBA on the inside of the dwelling. Hospital construction is more robust than such residential construction, resulting in noise attenuation significantly exceeding 20 dBA, perhaps as much as 30 dBA. The expected power plant noise level of 36 dBA on the outside of the hospital buildings would likely be attenuated to between 6 and 16 dBA on the inside. Such a level is right at the threshold of hearing or, in effect, inaudible. Therefore, staff believes the Palomar project would not cause any adverse noise impacts on a hospital constructed nearby.

### Conclusions

Incorporating the above changes into Condition of Certification **NOISE-6** will not result in any significant adverse noise impacts on sensitive receptors, nor will it cause any applicable noise LORS to be violated. Incorporating these changes will achieve the original intent of the Commission Decision regarding power plant noise impacts on surrounding neighborhoods. In addition, the power plant would not be expected to cause any adverse noise impacts on a proposed nearby hospital project. Staff recommends that this Petition be approved. This recommendation is based on the following conclusions:

1. There will be no new or additional significant environmental impacts associated with this action. The operation noise levels will remain in compliance with the applicable noise LORS and will not result in a significant increase in the ambient noise levels.
2. The proposed modification retains the intent of the original Energy Commission Decision and conditions of certification.

3. The amendment is based on new information that was not available during the licensing proceedings.

### References

Baker, Steve. 2005. Report of Conversation with Michael Theriault, Michael Theriault Acoustics, Inc., dated 10/19/05 12:00 noon, titled "Palomar Operational Noise Monitoring."

Buntin, Jim. 2005a. E-mail to Steve Baker, CEC staff, dated 09/28/05 3:41 p.m., titled "Palomar Noise."

Buntin, Jim. 2005b. E-mail to Steve Baker, CEC staff, dated 09/28/05 4:33 p.m., titled "Palomar Noise."

California Energy Commission. 2003. Final Staff Assessment, Palomar Power Project (01-AFC-24). Dated January 25, 2003.

Stanhope, Roger. 2005. E-mail to Connie Bruins, CEC staff, dated 09/26/05 11:35 a.m., titled "Palomar Energy Project, Noise Monitoring."

Palomar Pomerado Healthcare District. 2005. Draft Addendum to the Escondido Research and Technology Center Specific Plan Final Environmental Impact Report. Dated December 2, 2005.

Privacy Policy: You will receive only the information requested, and the Energy Commission will make no additional use of your personal information and it will not be provided to any other entity.

# INFORMATION REQUEST FORM

**COMPLETE & MAIL TO:** CALIFORNIA ENERGY COMMISSION  
COMPLIANCE UNIT  
ATTN: CONNIE BRUINS  
1516 NINTH STREET, MS-2000  
SACRAMENTO, CA 95814

**OR FAX TO:** (916) 654-3882

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NAME AND/OR TITLE (AS IT IS TO APPEAR ON MAIL LABEL)

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ORGANIZATION (IF APPLICABLE)

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STREET ADDRESS OR P.O. BOX

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CITY

STATE

ZIP CODE

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PROPOSED AMENDMENT TO THE COMMISSION DECISION FOR THE PALOMAR ENERGY CENTER PROJECT TO MODIFY CONDITION OF CERTIFICATION NOISE-6

**PLEASE CIRCLE THE DOCUMENTS YOU WOULD LIKE TO RECEIVE:**

- PETITION TO AMEND
- ENERGY COMMISSION ORDER

**PROJECT:** PALOMAR ENERGY

CENTER PROJECT

**DOCKET NO:** 01-AFC-24C

**MAIL LIST NO:** 7152