

## CALIFORNIA ENERGY COMMISSION

1516 NINTH STREET  
SACRAMENTO, CA 95814-5512



**STATE OF CALIFORNIA  
ENERGY RESOURCES CONSERVATION  
AND DEVELOPMENT COMMISSION**

<b>In the Matter of:</b>	)	
<b>Palomar Energy Center</b>	)	<b>Docket No. 01-AFC-24C</b>
	)	
<b>San Diego Gas and Electric</b>	)	<b>Order No. 07-1205-5</b>
	)	<b>ORDER APPROVING</b> a Petition to Add a
	)	Turbine Inlet Air Chiller

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San Diego Gas and Electric, the owner/operators of the Palomar Energy Center, has requested to replace the existing combustion turbine air inlet evaporative coolers with refrigeration chillers, and to install a thermal energy storage tank. The modifications will improve inlet air cooling over a broader range of ambient conditions, and allow SDG&E to provide up to approximately 40 MW of additional capacity to serve summer peak load.

The modifications were approved by the San Diego Air Pollution Control District in November 2006. No permit conditions were modified by the District.

### **STAFF RECOMMENDATION**

The Energy Commission staff reviewed the petition and finds that it complies with the requirements of Title 20, Section 1769(a) of the California Code of Regulations and recommends approval of SDG&E's petition to modify the Palomar Energy Center and amend related conditions of certification.

### **ENERGY COMMISSION FINDINGS**

Based on staff's analysis, the Energy Commission concludes that the proposed changes will not result in any significant impact to public health and safety, or the environment. The Energy Commission finds that:

- The petition meets all the filing criteria of Title 20, section 1769(a) of the California Code of Regulations concerning post-certification project modifications;
- The modification will not change the findings in the Energy Commission's Certification pursuant to Title 20, section 1755;
- The project will remain in compliance with all applicable laws, ordinances, regulations, and standards, subject to the provisions of Public Resources Code section 25525;

- The change will be beneficial to the public because the new turbine inlet chiller system will provide up to approximately 40 MW of additional capacity to serve summer peak load.
- There has been a substantial change in circumstances since the Energy Commission certification justifying the changes and that the changes are based on information that was not available to the parties prior to Energy Commission certification in that the existing evaporative coolers are not as effective as expected.

## **CONCLUSION AND ORDER**

The California Energy Commission hereby adopts staff's recommendations and approves the following changes to the Palomar Energy Center's Certification. New language is shown in underline.

## **CONDITIONS OF CERTIFICATION**

**AQ-SC12      Until the California Global Warming Solutions Act of 2006 (AB32) is implemented, the project owner shall either participate in a greenhouse gas (GHG) registry approved by the CPM, or report on an annual basis to the CPM the quantity of greenhouse gases emitted as a result of facility electricity production.**

**The project owner shall maintain a record of fuel types and carbon content used on-site for the purpose of power production. These fuels shall include but are not limited to each fuel type burned: (1) all fuel burned in internal combustion engines; (2) fuel used in fuel gas heaters and emergency equipment; and (3) all fuels used in any capacity for the purpose of facility startup, shutdown, operation, or emission controls.**

**The project owner may perform annual source tests of CO<sub>2</sub> and CH<sub>4</sub> emissions from the exhaust stacks while firing the facility's primary fuel, using the following test methods or other test methods as approved by the CPM. The project owner shall produce fuel-based emission factors in units of lbs. of CO<sub>2</sub> equivalent per mmBtu of fuel burned from the annual source tests. If a secondary fuel is approved for the facility, the project owner may also perform these source tests while firing the secondary fuel.**

<u>Pollutant</u>	<u>Test Method</u>
<u>CO<sub>2</sub></u>	<u>EPA Method 3A</u>
<u>CH<sub>4</sub></u>	<u>EPA Method 18 (precursor organic compound (POC) measured as CH<sub>4</sub>)</u>

Or, as an alternative to performing annual source tests, the project owner may use the Intergovernmental Panel on Climate Change (IPCC) Methodologies for Estimating Greenhouse Gas Emissions (MEGGE). If MEGGE is chosen, the project owner shall calculate the CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O emissions using the appropriate fuel-based carbon content coefficient (for CO<sub>2</sub>) and the appropriate fuel-based emission factors (for CH<sub>4</sub> and N<sub>2</sub>O).

The project owner shall convert the N<sub>2</sub>O and CH<sub>4</sub> emissions into CO<sub>2</sub> equivalent emissions using the current IPCC Global Warming Potentials (GWP). The project owner shall maintain a record of all SF<sub>6</sub> that is used for replenishing on-site high voltage equipment. At the end of each reporting period, the project owner shall total the mass of SF<sub>6</sub> used and convert that to a CO<sub>2</sub> equivalent emission using the IPCC GWP for SF<sub>6</sub>. The project owner shall maintain a record of all perfluorocarbons (PFC) and hydrofluorocarbons (HFC) used for replenishing on-site refrigeration and chillers directly related to electricity production. At the end of each reporting period, the project owner shall total the mass of PFCs and HFCs used and convert that mass to a CO<sub>2</sub> equivalent emission using the IPCC GWP.

On an annual basis, the project owner shall report the CO<sub>2</sub> and CO<sub>2</sub> equivalent emissions from the described emissions of CO<sub>2</sub>, N<sub>2</sub>O, CH<sub>4</sub>, SF<sub>6</sub>, PFCs, and HFCs.

Verification: The project's annual greenhouse gas emissions shall be reported, as a CO<sub>2</sub> equivalent, by the project owner to a climate action registry approved by the CPM, or to the CPM as part of the fourth quarterly operation report (AQ-SC7) or the annual air quality report, until such time that GHG reporting requirements are adopted and in force for the project as part of the California Global Warming Solutions Act of 2006.

**TSE-10            The Palomar Energy Center (PEC) owner shall operate the PEC in accordance with applicable interconnection and operating requirements of the California Independent Operator Corporation (California ISO) and shall provide to the CPM:**

- a) **A copy of the Interconnection Request to the California ISO in accordance with the Amendment petition for a proposed increase in the PEC generating capacity resulting from installation of gas turbine inlet air chillers.**
- b) **The System Impact Study (SIS) and/or final Facility Study (FS) reports performed by SDG&E and/or California ISO based on 2008 system conditions. The reports must include the final selected mitigation plan including a description of facility upgrades, operational mitigation measures, and/or Special Protection System (SPS) sequencing and timing, as applicable.**
- c) **A letter from the California ISO stating that the mitigation measures or projects, if any, selected by SDG&E and/or California ISO for each identified criteria violation are acceptable.**
- d) **The executed Large Generator Interconnection Agreement or a modification of the existing interconnection documentation as approved by the California ISO.**

**Verification: The project owner shall provide to the CPM the documentation as mandated in a through d inclusive above.**

**IT IS SO ORDERED.**

Date: December 5, 2007

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AND DEVELOPMENT COMMISSION

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JACKALYNE PFANNENSTIEL, Chair