

CALIFORNIA ENERGY COMMISSION

1516 NINTH STREET
SACRAMENTO, CA 95814-5512



DATE: July 11, 2007

TO: Interested Parties

FROM: Christopher Meyer, Compliance Project Manager

SUBJECT: **Staff Analysis of the La Paloma Generating Company, LLC Petition to Allow Use of Either the Zero Liquid Discharge System or New Injection Wells for Wastewater Discharge (98-AFC-2C)**

On March 23, 2007, the California Energy Commission received a petition from the La Paloma Generating Company, LLC, requesting approval to amend the Energy Commission Decision for the La Paloma Generating Project (Project) to allow use of injection wells as the primary method of wastewater disposal and use of the zero liquid discharge (ZLD) system as a backup disposal option. The 1,124 megawatt project was certified in October 1999, and began commercial operations in January 2003. The power plant is located east of the community of McKittrick in Kern County.

Energy Commission staff reviewed the petition to assess the impacts of this proposal on environmental quality and public health and safety, and determined that the changes to the various technical areas are minimal, requiring no further staff analysis. The Biological and Cultural Resources staff determined that additional site-specific surveys should be required prior to future injection well development. The review included an evaluation of the consistency of the proposed modifications with the Energy Commission's Decision and whether the project will remain in compliance with applicable laws, ordinances, regulations, and standards (LORS) (*Title 20, California Code of Regulations, section 1769*).

The petition to amend the project is available on the Energy Commission's webpage at <http://www.energy.ca.gov/sitingcases/lapaloma/compliance/index.html>. Staff's analysis is enclosed for your information and review. Staff's analysis and the Energy Commission's Order (if approved), will also be posted on the webpage. Energy Commission staff intends to recommend approval of the petition at the August 1, 2007, Business Meeting of the Energy Commission. If you have comments on this proposed modification, please submit them to me at the following address no later than 5:00 P.M., July 30, 2007.

Christopher Meyer, Compliance Project Manager
California Energy Commission
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Sacramento, CA 95814

Comments may be submitted by fax to (916) 654-3882, or by e-mail to cmeyer@energy.state.ca.us. If you have any questions, please contact me at (916) 653-1639.

Interested Parties

July 11, 2007

Page 2

For further information on how to participate in this proceeding, please contact the Energy Commission's Public Adviser's Office, at (916) 654-4489, or toll free in California at (800) 822-6228, or by e-mail at 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.

Enclosures:

- Staff Analysis

**PETITION TO AMEND THE ENERGY COMMISSION DECISION
TO ALLOW USE OF EITHER THE ZERO LIQUID DISCHARGE SYSTEM OR
NEW INJECTION WELLS FOR WASTEWATER DISCHARGE**

**STAFF ANALYSIS
LA PALOMA GENERATING PROJECT (98-AFC-2C)**

CHRISTOPHER MEYER

JULY 10, 2007

SUMMARY OF ANALYSIS

The 1,124-megawatt La Paloma Generating Project (Project) is a natural gas-fired combined cycle power plant licensed by the California Energy Commission in October 1999, and began commercial operations in January 2003. The power plant is located east of the community of McKittrick in Kern County.

On March 23, 2007, the California Energy Commission received a petition from the La Paloma Generating Company, LLC, requesting approval to amend the Energy Commission Decision for the La Paloma Generating Project (Project) to allow use of injection wells as the primary method of wastewater disposal and use of the zero liquid discharge (ZLD) system as a backup disposal option

During the siting process for the Project, the Energy Commission evaluated the use of either a ZLD system or injection wells to address wastewater disposal. Both systems were determined to address the impacts from the operation of the project, and Condition of Certification Soil & Water-4 allowed the project owner to select either technology. During the construction phase of the Project, the project owner notified Energy Commission staff that the ZLD system had been selected and construction of the ZLD system was completed. In August of 2001, after experiencing difficulties operating the Project with the ZLD system, the project owner requested approval from the Energy Commission to drill an injection well as a backup system for wastewater disposal. The request was approved by Energy Commission staff on August 24, 2000, and the project owner proceeded to drill the first injection well 600 feet due south of the project site, across Reserve Road. A 1,650-foot, 8-inch wastewater pipeline was constructed from the northeast section of the power plant site, crossing both Skyline Road and Reserve Road to the injection well site. The injection well was never used due to concerns raised by the U.S. Environmental Protection Agency about the potable quality water in the Tulare formation injection zone (between 385 and 1,000 feet) and the lack of an identifiable confining zone above the injection zone.

The project owner proposes drilling up to five injection wells, into the Olig Formation at a depth of over 4,000 feet, to act as the primary wastewater disposal method for the Project. The newly proposed injection wells would be supplied by the same 8-inch wastewater pipeline constructed for the original injection well. This petition would amend the Energy Commission Decision to allow for the use either of the wastewater disposal technologies as opposed to requiring the project owner to select only one of

the systems. The project owner anticipates that one to two wells will be sufficient for wastewater disposal, with a third well to be used as a backup during maintenance of the other wells. New wells, up to a total of five, would be drilled over the life of the project as the old wells ceased to operate efficiently. The new wells would be located across Reserve Road from the power plant site, on the same parcel as the existing injection well. The location of the individual well pads would be determined in consultation with the Energy Commission staff to minimize impacts to environmental resources, and any impacts would be mitigated as determined in the Commission Decision. The proposed use of injection wells would eliminate the current annual off-site disposal of approximately 285,000 gallons of brine due to inefficiencies in the ZLD system.

This staff analysis addresses the clarification of the Decision to allow the use of either wastewater disposal, but does not recommend the blanket approval for the drilling of the five injection wells at this time. However, the Energy Commission staff has developed a process under which the project owner can request approval from the Energy Commission staff for the development of future injection wells and the associate infrastructure.

STAFF ANALYSIS

Energy Commission staff reviewed the petition to assess the impacts of this proposal on environmental quality and public health and safety, and determined that the changes to the Biology, Cultural, Visual, Paleontological, Soil and Water, and Facility Design technical areas are minimal, requiring no further staff analysis, and that no other technical areas are impacted by the changes proposed in the petition. The Cultural and Biological Resources staff identified the need for site-specific surveys for any future injection well development, which are discussed below. The review included an evaluation of the consistency of the proposed revision with the Energy Commission's Decision and whether the project will remain in compliance with applicable laws, ordinances, regulations, and standards (LORS) (*Title 20, California Code of Regulations, section 1769*).

The approved Cultural Resources Specialist (CRS) and Paleontological Resources Specialist (PRS) for the project performed preliminary pedestrian surveys of the area of potential effect on June 25, 2007 and no significant cultural or paleontological resources were discovered. The survey reports were transmitted to the Energy Commission on July 5, 2007 and have been reviewed by staff.

Staff has reviewed the impacts related to the proposed development of injection wells and the associated infrastructure and has determined that compliance with the existing conditions of certification for Biological, Cultural, and Paleontological Resources for construction will fully mitigate potential impacts of the proposed injection wells and associated infrastructure with the recommended changes to Condition of Certification Soil & Water-4. In addition, staff recommends that the Cultural Resources Monitoring and Mitigation Plan (CRMMP), Biological Resources Monitoring, Implementation, and Mitigation Plan (BRMIMP), and Paleontological Resources Monitoring and Mitigation

Plan (PRMMP) be updated, as necessary, to address the survey of any proposed disturbances related to the injection wells or associated infrastructure.

The use of either wastewater disposal alternative, in compliance with the proposed revisions to Condition of Certification Soil & Water-4, will assure that the project complies with LORS and that the potentially significant environmental impacts of the project are mitigated.

The Energy Commission CPM conferred with the technical staff and it was agreed that no further analysis was necessary to clarify the procedure under which the project owner would request CPM approval of future injection well development. Since Soil and Water staff analyzed the impacts of either ZLD or injection wells in the Final Staff Assessment for the Commission Decision, staff agrees that the following changes to Soil & Water-4 can be handled as administrative changes, requiring no further analysis.

SOIL&WATER-4: ~~Prior to completion of rough grading, the~~ The project owner shall notify the Energy Commission Compliance Project Manager (CPM) which of the wastewater disposal methodologies, either injection wells and/or a zero liquid wastewater discharge system, will be used by the facility. If injection wells are the selected wastewater disposal option, the project owner shall provide a copy of the approved final Underground Injection Control Permit from the EPA for the proposed injection wells to Staff and notify the Energy Commission CPM of any changes to the permit. If the zero liquid wastewater discharge system is the selected methodology, the project owner shall submit to the CPM a description and schematic of the system. Within sixty (60) days (or within a timeframe approved by the CPM) of beginning operation of the project, the project owner shall submit to the CPM the results of Waste Extraction Test of the residual cake solid waste from the zero discharge system.

Verification: ~~Within sixty (60) days of certification, the~~ The project owner shall submit in writing a description of the selected wastewater disposal methodology to the Energy Commission CPM. If injection wells are selected, this notification shall include a copy of the approved final Underground Injection Control Permit from the EPA. The project owner shall notify the Energy Commission CPM in [writing] of any proposed changes to this permit, either initiated by the project owner or by the EPA. The project owner shall work with the Energy Commission staff and the resource agencies to locate all injection wells and associated infrastructure to avoid biological, cultural and paleontological resources. The project owner shall coordinate with the United States Fish and Wildlife Service and the California Department of Fish and Game to determine if any additional habitat compensation or mitigation is necessary for future injection wells. The project owner shall provide the CPM with documentation of the coordination and any required habitat compensation or mitigation. Prior to the development of each injection well and associated infrastructure, the project owner shall conduct protocol level surveys for biological, cultural, and paleontological resources for any new injection wells and associated facilities. The results of these surveys shall be submitted to the Energy Commission Compliance Project Manager

(CPM) for review and approval 60-days prior to any ground disturbance related to the injection wells and associated infrastructure.

The Cultural Resources Monitoring and Mitigation Plan (CRMMP), Biological Resources Monitoring, Implementation, and Mitigation Plan (BRMIMP), and Paleontological Resources Monitoring and Mitigation Plan (PRMMP) shall be amended, as determined by Energy Commission staff, to address the necessary survey protocols for the biological, cultural, and paleontological resource surveys that will be completed prior to the development of any injection wells or associated infrastructure.

The project owner shall provide a status report on injection well construction and operation to the Energy Commission CPM in the annual compliance report. If a the zero liquid discharge system is the ~~selected~~ operating disposal methodology, then within sixty (60) days of beginning operation of the project, or within a timeframe approved by the CPM, the project owner shall submit to the CPM the results of the Waste Extraction Test of the residual cake solid waste from the zero liquid wastewater system. A status report on construction and operation of the system, including the volume of residual cake solids generated and the landfills used for disposal, shall also be included in the annual compliance report submitted to the CPM.

CONCLUSIONS AND RECOMMENDATIONS

As mandated by Title 20, section 1769(a)(3) of the California Code of Regulations, the Energy Commission may only approve project modifications if specific findings are met. Following staff's review of the proposed amendment, Energy Commission staff recommends approval based on the following findings:

- A. There will be no new or additional unmitigated significant environmental impacts associated with the proposed changes.
- B. Adherence to the proposed conditions and stipulations will ensure the facility's compliance with all applicable LORS.
- C. The facility design changes will be beneficial to the project owner by avoiding energy curtailment in the event of a breakdown in the ZLD system.
- D. There has been a substantial change in circumstances since the Commission certification justifying the changes to the wastewater disposal system. The complexity of maintaining and operating the ZLD system was not fully understood at the time of the Decision.