

CALIFORNIA ENERGY COMMISSION

1516 NINTH STREET



June 23, 2011

Ms. Susan Strachan
Stachan Consulting
P.O. Box 1049,
Davis, CA 95617

DOCKET**02-AFC-4C**

DATE JUN 23 2011

RECD. JUN 23 2011

SUBJECT: WALNUT ENERGY CENTER 02-AFC-4C**DATA REQUESTS #1 THROUGH 10**

Dear Ms. Stachan:

Pursuant to Title 20, California Code of Regulations, section 1769, the California Energy Commission (Energy Commission) staff requests the information specified in the enclosed Data Requests. The information is necessary for Energy Commission staff to more fully understand the project and the proposed amendment and to assess the impacts of the project.

This set of Data Requests #1 through 10 is being made in the area of Water Resources. The Data Requests were developed as a result of staff's review of the proposed Sutter Energy Center Project Amendment Petition (Petition) filed with the Energy Commission on January 21, 2010. Written responses to the enclosed Data Requests are due to the Energy Commission staff on or before July 7, 2011 or at such later date as may be mutually agreed.

If you are unable to provide the information, or object to providing the requested information, please notify me within 14, days of receipt of this request. Any objections to the Data Requests must contain the reasons for not providing the information and the grounds for any objections (see Title 20, California Code of Regulations, section 1769).

If you have any questions, please call me at (916) 654-4745, or e-mail me at cstora@energy.state.ca.us.

Sincerely,

CHRISTINE STORA

Compliance Unit

cc: Jeffery D. Harris: Ellison, Schneider & Harris L.L.P.
Docket Unit

**Walnut Energy Center
(02-AFC-4C)
Data Requests**

Technical Area: **Water Resources**

Authors: Casey Weaver, C.E.G. and Abdel-Karim Abulaban, Ph.D., P. E.

These data requests pertain to the petition filed by the Walnut Energy Center (WEC) on January 11, 2011, seeking to amend Condition of Certification **SOIL&WATER-5**, which limits the use of shallow site groundwater for backup water supply. The owner requests the limitation be changed from an annual maximum of 51 acre-feet (AF) to two million gallons per day (maximum daily rate required for project operation). This change could lead to a maximum annual demand of 1,800 acre-feet per year (AFY).

As stated in the Final Decision, Walnut Energy Center is required to use recycled wastewater produced by the Turlock Wastewater Treatment Plant (WWTP) for power plant cooling. According to the information provided by the petitioner, Turlock WWTP has been having difficulties providing the volume of water needed by WEC, and WEC has needed to use the backup water supply (groundwater). WEC is concerned that at the current rate, the limit of groundwater use defined by **SOIL&WATER-5** will be exceeded.

In the Petition to Amend (petition), the applicant did not submit sufficient information for staff to analyze potential impacts related to the potential of a 40-fold increase in use of groundwater. In addition, the petition did not indicate why Turlock WWTP is not able to deliver the required water supply for which the project was originally licensed to operate. Therefore, staff requests additional information as described below.

BACKGROUND

Three aquifers lie beneath the project site. These aquifers are termed the shallow aquifer (0 – 20 feet below ground surface (bgs)), the upper aquifer (approximately 50 to 200 feet bgs) and the lower aquifer (confined below the Corcoran Clay, + 250 ft bgs). Monitoring wells have been constructed in the shallow aquifer, but no agricultural or domestic water supply wells are screened in the shallow aquifer. Based on information provided by the project owner, groundwater proposed for project use would be pumped from depths between 50 and 250 ft bgs (below the shallow aquifer aquitard).

Staff understands that TID has constructed numerous “drainage” wells in the project vicinity to lower the shallow groundwater surface, effectively draining the saturated soils to allow agricultural production. According to the project owner, these wells were drilled to a depth of approximately 250 feet bgs and are screened in the upper aquifer at depths between 50 and 250 bgs. The petition did not provide analytical test results from samples collected from the “drainage wells”. However, analytical test results conducted on groundwater samples collected from the wells WEC currently is using for backup supply (constructed in the upper aquifer) indicate the groundwater contains 500 to 700 mg/l total dissolved solids (TDS) and 64-149 mg/l nitrates (WEC, 2004; Appendix A).

WEC 2004, Appendix A also discusses the proposed construction of two groundwater wells to be used for water supply. These wells were to be constructed in a manner similar to the “drainage” wells on either the WEC site or the South Washington site. Staff is unsure which wells the project owner is currently considering to supply groundwater to the project. Existing wells on the WEC site currently provide groundwater to the project on a backup basis.

DATA REQUESTS

1. Please identify and locate on a map, the wells proposed to supply groundwater to the WEC power plant.
2. Please provide well construction details of the wells proposed to supply groundwater to the WEC power plant.
3. Please provide documentation of the volume of groundwater used by WEC for the past three years.
4. Please provide all analytical test results of all samples collected from the groundwater used by WEC, as well as water samples from the top five feet of the water table in areas where drawdown is 10 to 50 percent of the maximum modeled drawdown, for the past three years.
5. Please identify and locate on a map all “drainage” wells used for lowering the shallow groundwater surface within 1 mile of the WEC facility.
 - a. Please provide well construction details of these “drainage” wells.
 - b. Please provide all analytical test results for water samples collected from these “drainage” wells over the past three years.

BACKGROUND

The frequency of interruptions of reclaimed water supply and the reason for those interruptions are of particular importance. The reasons for interruption are important to give an indication of how difficult it is to eliminate those reasons so that reclaimed water will be supplied in a reliable fashion. In order for staff to evaluate the WEC's request to remove the annual cap on backup groundwater use, the reliability of delivery of recycled wastewater must be determined.

Recent discussions with WEC staff indicated that the Turlock WWTP is held to certain discharge requirements that may affect the volume of recycled wastewater available for use by WEC. In order to evaluate this potential restriction of recycled water delivery to WEC, staff also needs to understand what restrictions are in place.

DATA REQUEST

6. Please provide documentation of all deliveries of recycled water to WEC and all interruptions in delivery of the recycled water to WEC since the project started receiving recycled water.
7. Please provide a copy of the agreement with the WWTP for delivery of the recycled wastewater to WEC.
8. Regarding the interruptions in delivery of recycled water to WEC, please provide any information offered by the WWTP as to the causes of the interruptions.
9. Please provide any information supplied by the WWTP pertaining to their plans to correct the problems that prevent reliable and adequate delivery of the recycled water to WEC.
10. Please describe what changes could be made at WEC to treat the recycled water that does not currently meet the project water quality requirements for use.