

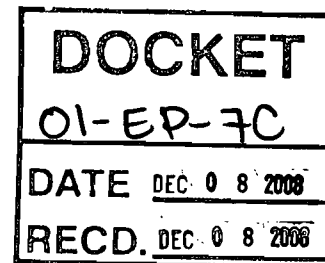
## CALIFORNIA ENERGY COMMISSION

1516 NINTH STREET  
SACRAMENTO, CA 95814-5512



December 8, 2008

Doug Wheeler  
Vice President  
GWF Energy LLC  
4300 Railroad Avenue  
Pittsburg, CA 94565



Dear Mr. Wheeler,

**HANFORD PEAKER PROJECT AMENDMENT (01-EP-7) DATA REQUESTS**

Pursuant to Title 20, California Code of Regulations, section 1769, the California Energy Commission staff requests the information specified in the enclosed data requests. The information requested is necessary to more fully understand the modifications proposed in the amendment petition filed on October 1, 2008 by GWF Energy, LLC, project owner, for the Hanford Combined-Cycle Power Plant Project.

Specifically, the requested information will assist Energy Commission staff to determine whether implementation of the proposed modifications will: 1) allow the Hanford Combined-Cycle Power Plant to operate in a safe, efficient and reliable manner, 2) comply with applicable laws, ordinances, and regulations, or 2) result in significant environmental impacts.

This set of data requests is being made in the areas of cultural resources, public health, transmission system engineering, waste management, and visual resources. Written responses to the enclosed data requests are due to the Energy Commission staff on or before January 9, 2009 or at such later date as may be mutually agreed.

If you are unable to provide the information requested, need additional time, or object to providing the requested information, you must send a written notice to both Commissioner Jeffrey Byron, Presiding Siting Committee Member for the Hanford Combined-Cycle Power Plant Amendment Petition, and to me, within 20 days of receipt of this letter.

The notification must contain the reasons for not providing the information, the need for additional time, and the grounds for any objections (see Title 20, California Code of Regulations, section 1716).

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If you have any questions, please call me at (916) 654-4748 or E-mail me at [mtrask@energy.state.ca.us](mailto:mtrask@energy.state.ca.us).

Sincerely,

Mathew Trask  
Amendment Project Manager  
Energy Facility Siting Division

Enclosures

**GWF Hanford Combined Cycle Power Plant (01-EP-7)  
Data Requests, Round 1**

**Technical Area: Cultural Resources**  
**Author: Beverly E. Bastian**

**BACKGROUND**

Staff's review of the GWF Energy LLC Hanford Combined Cycle Power Plant (GWF Hanford) Petition for Amendment indicated that several pipelines running from GWF's adjacent 29.4 MW cogeneration power plant called Hanford LP (a petroleum coke-fired plant that was not permitted by the Energy Commission) would connect to the proposed GWF Hanford facility to supply water, start-up steam, and sewer and wastewater disposal. In order to consider all ground disturbances in relation to potential impacts to buried archaeological deposits, staff needs more information on these pipelines.

**DATA REQUESTS**

1. If the pipelines for these utilities do not already exist for the Hanford Energy Park Peaker (HEPP), please provide the lengths, widths, and depths of the trenches that would have to be excavated to install them.
2. Please provide a project site plan showing the routes of these pipelines, either extant or proposed.

**BACKGROUND**

The previous construction of the HEPP probably resulted in the disturbance of the upper soil layers of the entire site. The present GWF Hanford Petition for Amendment does not provide information on the depth of that disturbance, nor do any of the other, prior information sources provided by GWF Energy LLC in support of the petition.

Staff, however, is concerned that undisturbed soils may exist at depths the previous excavations did not reach in the locations where the proposed new equipment would be installed. The GWF Hanford's project description (pp. 1-1–1-2) lists several equipment installations that appear to require foundations capable of considerable weight-bearing. Staff assumes that such foundations would have to extend to some depth in the ground and additionally that overexcavation of the holes for these foundations and filling with engineered fill could be required to ensure the stability of the foundations. Thus it is possible that excavations associated with the new installation could reach previously undisturbed soil layers where intact archaeological deposits could exist.

To assess potential project impacts to possible buried archaeological resources, staff needs information on the locations and on the greatest depths to which the excavations for the previously installed equipment extended and on the greatest depths to which the proposed new equipment foundations would extend.

**DATA REQUESTS**

3. Please provide the depths of the excavations required for the following features and foundations for proposed equipment:

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- a. once-through steam generators (OTSGs)
  - b. steam turbine-generator (STG)
  - c. air-cooled condenser (ACC)
  - d. modified water piping system, fire protection system, natural gas piping system, and stormwater drainage collection system
  - e. stormwater retention basin expansion
4. Please provide a project site plan showing the locations of equipment for whose foundations excavation would exceed four feet below the surface. A site plan such as Petition Figure 2-1 with the appropriate equipment indicated by shading or other such convention would be acceptable.

**BACKGROUND**

If a geotechnical study is planned, staff believes that it could present an opportunity for the applicant to reduce the amount of archaeological monitoring that staff recommends in the revised conditions for certification that would accompany a decision from the Commission to allow the proposed project change. While it has not yet been established that the proposed project change would disturb previously undisturbed ground (which is the purpose of the previous two Data Requests), if the applicant were to provide factual field data on the archaeological potential of the undisturbed geological deposits that underlie the portions of the proposed project area subject to ground disturbance, staff would have a more objective basis for reducing possible archaeological monitoring requirements. If this possibility interests the applicant, staff recommends that a professional geoarchaeologist participate in any future geotechnical study and collect the data needed for an analysis of the potential for buried archaeological deposits at the proposed GWF Hanford plant site. ("Professional geoarchaeologist" means an archaeologist who is able to demonstrate the completion of graduate-level coursework in geoarchaeology, Quaternary science, or a related discipline.)

Involving a geoarchaeologist in a future geotechnical study is strictly voluntary. Staff offers two options below for this participation. The greater involvement the geoarchaeologist has in the geotechnical study, the more likely that the resulting cultural resources information would either reduce the project's archaeological monitoring requirements or focus them more efficiently and cost effectively than would otherwise be possible.

**DATA REQUEST**

5. Please choose one of the following options for the participation of a geoarchaeologist in the planned geotechnical study at the GWF Hanford project site.
- a. Please provide a professional geoarchaeologist the opportunity to observe, in the field, the removal of any sediment cores by the geotechnicians, to

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examine the cores in the field or a laboratory for physical and chemical indices of human activity, and, where feasible, to collect chronometric dating samples from the cores. At least one of the cores should be drilled to a depth that exceeds, by approximately one meter, the deepest construction excavations planned for the project. Prior to the field work, the geoarchaeologist should conduct background research on the geology and geomorphology of the project area to be able to place the stratigraphic units observed in the cores into a meaningful local sequence. The geoarchaeologist should write a brief letter report for staff that describes the fieldwork and the stratigraphic units observed, that estimates the probable age of those units, that interprets the depositional history of the units, and that assesses the likelihood that the units contain buried archaeological deposits.

- b. Or, please have a trench excavated to the specifications of a professional geoarchaeologist in the part of the proposed project site where project excavations are expected to extend to the greatest depth. Prior to the field work, the geoarchaeologist should conduct background research on the geology and geomorphology of the project area to be able to place the stratigraphic units observed in the trench into a meaningful local sequence. Have the geoarchaeologist record reasonably detailed written descriptions of the lithostratigraphic and pedostratigraphic units in one profile of the trench. The recordation of that profile should include a measured drawing of the profile, a profile photograph with a metric scale and north arrow, and the screening of a small sample (three 5-gallon buckets) of sediment from the major lithostratigraphic or pedostratigraphic units in the profile, or from two arbitrary levels in the profile, through ¼-inch hardware cloth. Soil humate samples for dating the profile's stratigraphic sequence should also be collected, as appropriate. Have the soil humate samples assayed at a professional radiocarbon laboratory, per the geoarchaeologist's instructions, and have the results provided to the geoarchaeologist. The geoarchaeologist should write a brief letter report for staff that describes the fieldwork and the stratigraphic units observed, estimates the probable age of those units, interprets the depositional history of the units, and assesses the likelihood that the units contain buried archaeological deposits.

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**Technical Area: Public Health  
Author: Alvin Greenberg**

**BACKGROUND**

The Petition to Amend states that the cumulative impacts of GWF Hanford are not expected to exceed those analyzed in the 21-day Emergency Power Plant License application process conducted in 2001 and that the facility will not contribute to any significant cumulative public health impacts. However, the cumulative impacts of emissions from this proposed modification combined with emissions from the adjacent GWF Hanford LP power plant was not quantitatively assessed.

Staff has consistently found that cumulative impacts on public health from power plants and other sources of toxic air contaminant emissions are not significant unless the sources are either very close to each other – within a block or two - or the incremental risk of one of the sources is almost at the level of significance. However, in this case, the two emission sources are indeed very close to each other, most likely within a few hundred feet. Staff therefore needs this information to fully assess the cumulative health impacts potentially posed to the off-site public.

Also, the Petition to Amend did not provide a health risk assessment for the diesel emissions from construction activities nor did it provide diesel particulate matter (DPM) emission factors for the equipment that will be used. While staff understands that project construction emissions are short-term and may indeed pose an insignificant risk to public health as the Petition states, staff needs to verify this by reviewing the DPM emission factors for construction activities.

**DATA REQUESTS**

1. Please provide a cumulative health risk assessment for the combined emissions from the project modification and the existing Hanford LP power plant.
2. Please provide DPM emission factors for construction activities in pounds per day and tons per year. This value can be submitted as a single number estimate of total emissions from all sources.

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**Technical Area: Transmission System Engineering  
Author: Sudath Arachchige and Mark Hesters**

## **INTRODUCTION**

Staff needs to determine the system reliability impacts of the project interconnection and to identify the interconnection facilities including downstream facilities needed to support the reliable interconnection of the proposed Hanford Combined-Cycle Power Plant (Hanford Plant). The interconnection must comply with the Utility Reliability and Planning Criteria, North American Electric Reliability Council (NERC) Planning Standards, NERC/Western Electricity Coordinating Council (WECC) Planning Standards, and California Independent System Operator (California ISO) Planning Standards. In addition the California Environmental Quality Act (CEQA) requires the identification and description of the "Direct and indirect significant effects of the project on the environment."

For the compliance with planning and reliability standards and the identification of indirect or downstream transmission impacts, staff relies on the System Impact Study (SIS) and Facilities Study (FS) as well as review of these studies by the agencies responsible for insuring the adjacent interconnecting grid meets reliability standards, in this case, Pacific Gas and Electric (PG&E) and/or California ISO. The studies analyze the effect of the proposed project on the ability of the transmission network to meet reliability standards. When the studies determine that the project will cause the transmission to violate reliability requirements the potential mitigation or upgrades required to bring the system into compliance are identified. The mitigation measures often include modification and construction of downstream transmission facilities. The CEQA requires environmental analysis of any downstream facilities for potential indirect impacts of the proposed project.

## **BACKGROUND**

- Staff requires the SIS, (and or FS), and one line diagrams to identify potential downstream transmission facilities that may require due to interconnection of the Hanford Plant to the California ISO grid and to determine the interconnection would comply with the NERC/WSCC and /or Utility planning standards and reliability criteria.

## **DATA REQUESTS**

1. Please provide a System Impact Study for the proposed GWF Hanford Combined Cycle Power Plant. The Study should analyze the system impact with and without the project during peak and off-peak system conditions, which will demonstrate conformance or non-conformance with the utility reliability and planning criteria with the following provisions:

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- a. Identify major assumptions in the base cases including imports to the system, major generation and load changes in the system and queue generation.
  - b. Analyze system for N-0, important N-1 and critical N-2 contingency conditions and provide a list of criteria violations in a table showing the loadings before and after adding the new generation.
  - c. Analyze the PG&E system for Short Circuit currents with and without the GWF Hanford Combined-Cycle Power Plant at strategic buses for three-phase and single line to ground faults. Submit the following along with a summary of the results.
  - d. Analyze system for Transient Stability and Post-transient voltage conditions under critical N-1 and N-2 contingencies, and provide related plots, switching data and a list for voltage violations in the studies. Provide a list of contingencies evaluated for each study.
  - e. List mitigation measures considered (required) and those selected for all criteria violations.
  - f. Provide electronic copies of \*.sav and \*.drw PSLF files.
  - g. Provide power flow diagrams (MW, % loading & P. U. voltage) for base cases with and without the project. Power flow diagrams must also be provided for all N-0, N-1 and N-2 studies where overloads or voltage violations appear.
2. Provide a one-line diagram for the existing PG&E 115 kV Hanford Substation after interconnection of the modified project. Show the existing bay arrangement of the equipments with ratings such as breakers, disconnect switches and relays, etc. which are required to interconnect the project.



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**Technical Area: Visual Resources**  
**Author: Marie McLean**

**BACKGROUND:**

To comply with Appendix B (g) (6) (F) of the Energy Commission's siting regulations as well as to ensure a comprehensive visual review of the existing site, applicants are required to provide full-page color photographic reproductions of the existing site.

According to Section 3.12.1, Environmental Baseline Information, in the Petition for License Amendment, the exiting site will be expanded within the existing site fence line.

**DATA REQUEST**

1. Please provide full-page color photographic reproductions of the existing site, including expansions. Please clearly identify all expansion areas as to their use; for example, construction, laydown, and parking.

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**Technical Area: Waste Management**  
**Author: Suzanne Phinney**

**BACKGROUND**

Staff reviews the capacity available at off-site treatment and disposal sites and determines whether or not the proposed power plant's waste would have a significant impact on the volume of waste a facility is permitted to accept. Staff uses a waste volume threshold equal to 10 percent of a disposal facility's remaining permitted capacity to determine if the impact from disposal of project wastes at a particular facility would be significant. The California Integrated Waste Management Board provides guidance in their "Construction and Demolition and Inert Debris Tools and Resources Kit" which provides information on waste materials, densities, and methods for calculating waste volumes. This guidance can be found at <http://www.ciwmb.ca.gov/leatraining/Resources/CDI/Tools/Calculations.htm>.

Landfill capacities, in cubic yards, are identified in Amendment Section 3.13.1.2. Although Tables 3.13-1, 3.13-2, and Table 3.13-3 of Section 3.13 from the Amendment provide information on the estimated quantities of wastes generated during construction and operation, they do not provide a total volume of waste that would be generated during construction and operation. Therefore, staff cannot compare the volume of waste associated with the proposed GWF Hanford Combined-Cycle Power Plant with the remaining volumetric capacity at potential landfill disposal sites.

**DATA REQUESTS**

1. Please provide information on the total volume of waste, in cubic yards, that will be generated during construction and operation.