



**Pacific Gas and  
Electric Company**  
Power Generation  
Fossil Plant Construction

Gateway Generating Station  
3225 Wilbur Ave.  
Antioch, CA 94509  
(925) 459-7000

February 13, 2007  
GGG-L-00004C

<b>DOCKET</b> <b>00-AFC-1C</b>
DATE <u>FEB 13 2007</u>
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Mr. Christopher Meyer  
Compliance Project Manager  
California Energy Commission  
1516 Ninth Street  
Sacramento, CA 95814

Subject: Gateway Generating Station (Docket 00-AFC-1C)  
Responses to Data Requests 1-8

Dear Mr. Meyer:

Attached are an original and 12 copies of Pacific Gas and Electric Company's responses to the California Energy Commission's Staff Data Requests 1-8 related to the petition to amend the license for the Gateway Generating Station project.

If you have any questions regarding this matter, please contact me at (916) 780-1171 or Jerry Salamy at (916) 286-0207.

Sincerely,

*Andrea Grenier*

Andrea Grenier  
GGG Compliance Manager

Attachment

AEG/aeg

cc: Tom Allen, PG&E  
Scott Galati, Galati & Blek LLP  
Jerry Salamy, CH2MHill

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# **Pacific Gas and Electric's Gateway Generating Station Responses to CEC Data Requests 1-8 (00-AFC-01C)**

Prepared for  
**California Energy Commission**

February 2007

**CH2MHILL**  
2485 Natomas Park Drive  
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Sacramento, CA 95833

**GATEWAY GENERATING STATION (GGS)  
RESPONSES TO CEC DATA REQUESTS 1-8 (00-AFC-01C)**

**BACKGROUND**

Although the GGS proposes to eliminate the use of San Joaquin River water for evaporative cooling and all other nonpotable water purposes, the amendment does not specify the new water supplier or the source of the new water supply. The amendment states: *Instead of using water from the San Joaquin River, this water will now be supplied by the City of Antioch or other purveyor. . . . The City or other water purveyor, will provide approximately 154 gpm versus the 5000 gpm . . . from the San Joaquin River for the original CC8 wet cooling system.*

Additional information on the estimated amount of potable water consumption and the availability of other nonpotable sources is required for staff to conduct a complete analysis of potential impacts to water resources and the project’s compliance with applicable LORS.

1. Please provide an itemized estimate in tabular format of daily and annual average water consumption for plant construction, equipment wash water, hydrostatic testing of all pipelines, plant operation, and landscape irrigation for the GGS project.

**Response:** The GSS project is an air cooled project, which results in a significant reduction in water use over a conventional wet cooled project and avoids the impacts to fresh water resources of the delta. The project, as proposed in PG&E’s License Petition Amendment, would use a small wet surface air cooler (Wetsac) to cool combustion turbine inlet air during warmer ambient conditions. It should be noted that the project as originally licensed also included an evaporative cooler for inlet air chilling in the project design and that water consumption for the evaporative cooler was analyzed as part of the project<sup>1</sup>. This Wetsac system will operate only on warm days when inlet air chilling is needed to maximize efficiency.

Table 1 presents the itemized estimate of the daily and average water consumption for the GGS project.

**TABLE 1**  
*Estimate of Daily and Annual Water Use by Source*

Water Use	Maximum Daily Water Usage  Gallons/Minute	Annual Average Water Usage  Million Gallons/Year
Plant Construction <sup>1</sup>	58	13.4

<sup>1</sup> Final Staff Assessment. Contra Costa Unit 8 Project, 00-AFC-01, page 486.

**TABLE 1**  
*Estimate of Daily and Annual Water Use by Source*

Water Use	Maximum Daily Water Usage	Annual Average Water Usage
	Gallons/Minute	Million Gallons/Year
Equipment Wash Water <sup>2</sup>	2	0.1
Hydrostatic Testing <sup>3</sup>	28	0.8
Plant Operation	233 <sup>4</sup>	81
Landscape Irrigation	0	0

<sup>1</sup> Daily water use assumed 10 hours per day of construction and excludes water required for one time chemical cleaning and steam blowing. Annual water use assumes 220 days of construction per year, 650,000 gallons of water for chemical cleaning, and 5 million gallons for steam blowing.

<sup>2</sup> Wash water estimates assume 1,000 gallons of water per day, 8 hours of washing per day, and 100 days of washing per year.

<sup>3</sup> Hydrostatic testing water use based on 200,000 gallons for testing the HRSGs, 2,000 gallons per day for below grade pipe testing, and 3,000 gallons per day for above grade pipe testing. Annual values assume 120 days of testing for above and below grade pipe testing.

<sup>4</sup> Based on instantaneous average flow rate.

- Please provide the itemized estimates of daily water consumption as an average in gallons per minute and the annual water consumption in acre-feet per year.

**Response:** Table 2 presents an itemized estimate of the daily and annual water use.

**TABLE 2**  
*Estimate of Daily and Annual Water Use by Source*

Water Use	Average Daily Water Usage	Annual Average Water Usage
	Gallons/Minute	Acre-Feet/Year
Plant Construction <sup>1</sup>	25.4	41
Equipment Wash Water	0.2	0.3
Hydrostatic Testing	1.5	2.5
Plant Operation	233 <sup>2</sup>	248
Landscape Irrigation	0	0

<sup>1</sup> Construction average daily water use excludes water required for one time chemical cleaning and steam blowing.

<sup>2</sup> Based on instantaneous average flow rate.

3. Please specify which plant processes will use potable water and which plant processes will use nonpotable water.

**Response:** The GGS will receive potable water from the City of Antioch and all water used onsite will be potable water.

4. Please provide a “Will Serve” letter from the City of Antioch and/or other water purveyors, which commits the City and/or other water purveyors to the long-term (30 – 35 years) delivery of potable and/or other water sources, a discussion of the supply reliability including a backup water source for plant operation, and the potential impact from GGS project use to other municipal and industrial users over a 30 – 35 year delivery period.

**Response:** Existing Condition of Certification **Soil & Water 7** provides that the project owner shall obtain and provide a will serve letter from the City of Antioch to the CPM at least 30 days prior to start of operation. PG&E requested that the condition be modified to include the phrase “or other water purveyor” in order to provide flexibility should the project require more than one water purveyor. PG&E believes that this proposed modification is not a significant change requiring the CEC to modify its approach to require the will serve letter now. PG&E believes that the CEC can support its findings that the project has a viable water source for the small amount of water necessary by relying on the condition that will ensure that such source provides a will-serve letter prior to the start of operation. Without a will serve letter that meets the requirements of Condition of Certification **Soil & Water 7**, establishing that the City of Antioch or other water purveyor has available capacity and will supply the project, the project cannot use that source. Therefore, the CEC can be assured, like it was in the original licensing proceeding, that the project will not negatively affect the water purveyor’s ability to provide the small amount of water necessary to support project operations.

It should be noted that the Commission analyzed the potential use of City of Antioch water for potable use in the Commission proceeding<sup>2</sup> and that the initial project design included City of Antioch water as a back-up water supply.

## **BACKGROUND**

Water Code Section 13551 finds the use of potable water for industrial and irrigation uses is a waste or an unreasonable use of potable water within the meaning of Section 2 of Article X of the California Constitution if recycled water is available.

5. If potable water is proposed for industrial or irrigation purposes, please provide a discussion of recycled water availability and an economic analysis comparing the use of secondary/tertiary treated recycled water versus the use of potable water over a 35 year period that encompasses both the construction and operation phases of the GGS project.

**Response:** The Final Staff Assessment for the licensed project considered the use of freshwater to be an acceptable use for the project and reviewed the potential for recycled water use from the Delta Diablo Sanitation District (DDSD). The Staff

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<sup>2</sup> Commission Decision, Contra Costa Unit 8 Project, 00-AFC-01, P 800-01-18, page 113.

further concluded that alternative water sources (specifically recycled and irrigation return flows) are not readily available. A review of DDSD's Fiscal Year 2006/2007 – 2010/2011 Capital Improvement Program Report<sup>3</sup> shows that no expenditures to expand the recycled water system are planned for the 2007 through 2011 period.

Since the Commission Staff's previous review of DDSD's recycled water system in the FSA, DDSD has proposed (by preparing an initial study/mitigated negative declaration<sup>4</sup>) to expand the recycled water system. This expansion proposed to provide recycled water to parks and golf courses within the City of Antioch. The proposed route of the expanded recycled water system terminates at the Lone Tree Golf Course, with the nearest connection point to the GGS project over 2.6 miles away. The Initial Study shows that the existing recycled water users consume over 90 percent of the recycled water during a small portion of the year, which would require other recycled water users to have alternative water supply during periods where DDSD's recycled water was already committed. Furthermore, the Initial Study identified that the reserve recycled water supply would be consumed by the new recycled water users (City of Antioch Parks and golf courses).

Therefore, PG&E concludes that the same conditions exist now that resulted in the Commission Staff's determination that recycled water was not available during the licensing proceeding.

In addition, the Commission's 2003 Integrated Energy Policy Report (IEPR) directs applicants to minimize the use of fresh water for power plant cooling. The current petition eliminates the use of over 12,975 acre-feet of water per year for power plant cooling, furthering the 2003 IEPR Policy. The IEPR does not address use of fresh or potable water for other industrial purposes. During the 2003 IEPR proceedings, the Commission rejected proposals to expand the water policy to industrial uses other than power plant cooling. In addition, in other siting cases, the Commission has rejected applying the strict reading of 2003 IEPR Policy to intermittent inlet air chilling and has embraced applicants that have taken the bold step to incorporate air cooled condensers in their project design.

6. Data Request #6 was rescinded by Commission Staff.

## BACKGROUND

The GGS project proposes to discharge industrial and sanitary wastewater via a new wastewater pipeline to the Delta Diablo Sanitation District's (DDSD) wastewater treatment facilities east of the project.

7. Please provide a discussion of all DDSD ordinances for the discharge of wastewaters to the DDSD system and identify all discharge permits required by DDSD for acceptance of GGS project wastewaters.

**Response:** Because the GGS site is located outside the DDSD service territory and sphere of influence (SOI), PG&E will be required to request the site be annexed into

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<sup>3</sup> <http://www.ddsd.org/>

<sup>4</sup> <http://www.ddsd.org/index.html>

DDSD's service territory and SOI. Upon receipt of the request, DDSD will request the Contra Costa County Local Agency Formation Commission (LAFCO) process the annexation request. Discussions with the LAFCO indicate that the SOI annexation can be achieved within 5 months, and the service territory annexation the following month (the LAFCO cannot approve both an SOI and service territory annexation at the same board meeting). As the project site is located within the City of Antioch's SOI, the annexation is very likely.

After the SOI and service territory annexation is completed, PG&E would be required to submit a Non-Residential Application for Wastewater service and apply for a waste discharge permit. The waste discharge permit would include wastewater discharge requirements and potentially wastewater pre-treatment criteria.

## **BACKGROUND**

To determine the additional impacts to water and soil resources from the construction of the GGS project, (which will have a larger footprint than the original project) a Drainage Erosion and Sediment Control Plan (DESCP) will be required as a change to Condition of Certification Soil & Water 2. Although the GGS has submitted a Notice of Intent to comply with the terms of the General Permit to discharge stormwater associated with construction activities, a draft DESCP needs to be submitted and is to be a separate document from the Construction SWPPP.

Additionally, Contra Costa County is a Co-Permittee under an NPDES permit regulating discharges from storm drain systems which specifies measures the County must undertake to prohibit non-stormwater discharges to storm drains and to minimize the quantity of pollutants in stormwater. The San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) adopted Order No. 99-058 on July 21, 1999, reissuing waste discharge requirements under the NPDES permit for the Contra Costa Clean Water Program for the discharge of stormwater into the San Joaquin Delta and its tributaries. In February 2003, the SFBRWQCB revised Order No. 99-058 and issued Order No. 03-0022 which added Provision C.3 to the county's stormwater NPDES permit, which requires more stringent Best Management Practices (BMPs) prior to stormwater discharge from new development or redevelopment.

8. Please provide a draft DESCP containing elements A through I below outlining site management activities and erosion/sediment control BMPs to be implemented during site mobilization, excavation, construction, and post-construction activities. Within the draft DESCP, please provide a discussion of those additional requirements of Order No. 03-0022 as they relate to construction and post-construction BMPs. The level of detail in the draft DESCP should be commensurate with the current level of planning for additional site grading, trenching, paving, and drainage. Please provide all conceptual erosion control information for those phases of construction and post-construction that have been developed or provide a statement when such information will be available.

- A. Vicinity Map** – A map(s) at a minimum scale 1"=100' will be provided indicating the location of all project elements with depictions of all significant geographic features including swales, storm drains, and sensitive areas.
- B. Site Delineation** – All areas subject to soil disturbance for the GGS project (project site, lay down area, all linear facilities, landscaping areas, and any other project elements) shall be delineated showing boundary lines of all construction areas and the location of all existing and proposed structures, pipelines, roads, and drainage facilities.
- C. Watercourses and Critical Areas** – The DESCPC shall show the location of all nearby watercourses including swales, storm drains, and drainage ditches. Indicate the proximity of those features to the GGS project construction, lay down, and landscape areas and all transmission and pipeline construction corridors.
- D. Drainage Map** – The DESCPC shall provide a topographic site map(s) at a minimum scale 1"=100' showing all existing, interim and proposed drainage systems and drainage area boundaries. On the map, spot elevations are required where relatively flat conditions exist. The spot elevations and contours shall be extended off-site for a minimum distance of 100 feet in flat terrain.
- E. Drainage of Project Site Narrative** – The DESCPC shall include a narrative of the drainage measures to be taken to protect the site and downstream facilities and shall include a discussion of how the DESCPC complies with Order No. 03-0022 . The narrative should include the summary pages from the hydraulic analysis prepared by a professional engineer/erosion control specialist. The narrative shall state the watershed size(s) in acres that was used in the calculation of drainage measures. The hydraulic analysis should be used to support the selection of BMPs and structural controls to divert off-site and on-site drainage around or through the GGS project construction and laydown areas.
- F. Clearing and Grading Plans** – The DESCPC shall provide a delineation of all areas to be cleared of vegetation and areas to be preserved. The plan shall provide elevations, slopes, locations, and extent of all proposed grading as shown by contours, cross sections or other means. The locations of any disposal areas, fills, or other special features will also be shown. Illustrate existing and proposed topography tying in proposed contours with existing topography.
- G. Clearing and Grading Narrative** – The DESCPC shall include a table with the quantities of material excavated or filled for the site and all project elements of the GGS project (project site, lay down areas, transmission corridors, and pipeline corridors) to include those materials removed from the site due to



contamination, whether such excavations or fill is temporary or permanent, and the amount of such material to be imported or exported.

- H. Best Management Practices Plan** – The DESCOP shall identify on the topographic site map(s) the location of the site specific BMPs to be employed during each phase of construction (initial grading/demolition, project element excavation and construction, and final grading/stabilization). BMPs shall include measures designed to prevent wind and water erosion in areas with existing soil contamination. Treatment control BMPs used during construction should enable testing of groundwater and/or stormwater runoff prior to discharge to the San Joaquin River.
- I. Best Management Practices Narrative** – The DESCOP shall show the location (as identified in H above), timing, and maintenance schedule of all erosion and sediment control BMPs to be used prior to initial grading/demolition, during project element excavation and construction, final grading/stabilization, and post-construction. Separate BMP implementation schedules shall be provided for each project element for each phase of construction. The maintenance schedule should include post-construction maintenance of structural control BMPs, or a statement provided when such information will be available

**Response:** A Drainage, Erosion and Sedimentation Control Plan for the GGS will be submitted under separate cover.