

CALIFORNIA ENERGY COMMISSION

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January 22, 2010

DOCKET 08-AFC-3	
DATE	JAN 22 2010
RECD.	JAN 22 2010

Jonathan Sacks, Project Director
Mirant Corporation
1155 Perimeter Center West
Atlanta, GA, 30338

**RE: MARSH LANDING GENERATING STATION (08-AFC-3), DATA REQUESTS
SET 3 (#70-98)**

Mr. Sacks:

Pursuant to Title 20, California Code of Regulations, Section 1716, the California Energy Commission staff seeks the information specified in the enclosed data requests. The information requested is necessary to: 1) more fully understand the project, 2) assess whether the facility will be constructed and operated in compliance with applicable regulations, 3) assess whether the project will result in significant environmental impacts, 4) assess whether the facilities will be constructed and operated in a safe, efficient and reliable manner, and 5) assess potential mitigation measures.

This set of data requests (#70-98) are made as a result of project modifications proposed in the Marsh Landing Generating Station Application for Certification (AFC) Supplemental, filed on September 17, 2009. The data requests are for the following technical areas: Air Quality, Water Resources and Waste Management. Written responses to the enclosed data requests are due to the Energy Commission staff on or before February 23, 2010, or at such later date as may be mutually agreeable.

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 the Committee and me within 20 days of receipt of this notice. 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, Sec.1716 (f)). If you have any questions, please call me at (916) 654-4894 or email me at mike.monasmith@energy.state.ca.us.

Sincerely,

Mike Monasmith
Senior Project Manager

cc: Docket (08-AFC-3)
Proof of Service List

Technical Area: Air Quality
Author: Brewster Birdsall

BACKGROUND

Applicability of Federal Nonattainment New Source Review

The proposed MLGS and existing Contra Costa Power Plant (CCPP) would be within a common property boundary, and they appear to be under common ownership of Mirant California. The Bay Area Air Quality Management District (BAAQMD) will implement New Source Review (NSR) procedures for all criteria pollutants including particulate matter less than 2.5 microns (PM_{2.5}). The PM_{2.5} attainment status of the Bay Area is changing with the final designation as nonattainment being announced by U.S. EPA on October 8, 2009, which introduces the potential that NSR provisions need to be implemented for PM_{2.5} and PM_{2.5} precursors. The effective date of the PM_{2.5} nonattainment designation may occur in November. The original AFC identifies potential requirements of the Prevention of Significant Deterioration (PSD) program, but it does not describe the applicability of federal nonattainment NSR for PM_{2.5}.

DATA REQUESTS

70. Please confirm whether the federal nonattainment NSR requirements of Title 40, Code of Federal Register Part 51 (40 CFR 51, Appendix S) apply to the existing CCPP as a "major source" and the proposed MLGS as a "major modification" for PM_{2.5}.
71. Please describe how compliance would be achieved, if MLGS is classified as a federal major modification for PM_{2.5} under 40 CFR 51, Appendix S.

BACKGROUND

Annual Capacity Factor

The proposed MLGS described in the September 2009 AFC Amendment (p.2-2) would have a maximum "requested" annual hours of operation that corresponds with a 20 percent annual capacity factor. Staff would like information on what types of enforceable operating limitations would be acceptable to MLGS, other than limits on annual emission rates.

DATA REQUEST

72. Please describe the conditions of certification that would be acceptable to MLGS for agencies tracking compliance with the 20 percent annual capacity factor, for example by limiting the combustion turbines in terms of annual heat input rates, annual operating hours, or energy output.

BACKGROUND

Commissioning Screening

The September 2009 AFC Amendment says that commissioning would occur as described in the original AFC. Staff assumes that AFC Table 7.1-18 (July 2008) remains applicable, and consistent with that information the dispersion modeling (on DVD,

September 2009) indicates a single-hour maximum emission rate of nitrogen dioxide (NO₂) at 188.4 pounds per hour (lb/hr). However, it is not clear if this emission rate and its low-velocity stack condition represents the results of a screening analysis for the worst-case commissioning activity. The expected commissioning emissions seem low compared to those being requested by other applicants. For example, the proposal made for Lodi Energy Center (in 08-AFC-10 Supplement D, July 2009) includes a similar Siemens 5000F-type combustion turbine emitting at 0.3 pounds of NO_x per million British thermal units of heat input (0.3 lb NO_x/MMBtu) during commissioning, which would be over 220 lb/hr NO_x per turbine for MLGS.

DATA REQUESTS

73. Please provide or identify the data that shows the various turbine heat input rates, stack exit velocities, exit temperatures, and short-term emission rates corresponding to each commissioning activity identified in AFC Table 7.1-18.
74. Please provide a screening analysis showing how the worst-case combination of stack parameters and emission rates was used to arrive at the ambient air quality impacts of the various commissioning activities reported in AFC Amendment Revised Table 7.1-29 (September 2009).

BACKGROUND

Cumulative Modeling Analysis

The AFC Amendment includes a Revised Data Request Table 9-2 that shows the results of a Cumulative Impact Modeling analysis. The sources modeled in the September 2009 assessment were identified in a December 2008 response to Energy Commission staff Data Request 9, and the emission rates that were assumed for the cumulative sources in December 2008 were carried forward into the September 2009 analysis. Staff needs to confirm that recent operating data from Contra Costa Power Plant and Pittsburg Power Plant do not contradict the emissions assumed in the newer analysis. Gateway Generating Station was included at the proposed amended emissions as of June 2008.

DATA REQUESTS

75. Please provide the existing (most-recent year available) emissions for the existing Contra Costa Power Plant Units 6 and 7, Gateway Generating Station, and the Pittsburg Power Plant.
76. Please confirm that the emission rates assumed in the September 2009 cumulative impact assessment reflect the most-conservative emissions data available.

Technical Area: Water Resources

Author: Vince Geronimo, PE and Rachel Cancienne, EIT

STORMWATER

Background

The applicant has not proposed treatment for surface water runoff collected at the site. The Antioch, CA Code of Ordinances, Title 6: Sanitation And Health, Chapter 9. Storm Water Management and Discharge Control, § 6-9.09 Best Management Practices and Standards, Paragraph G: Development Runoff Requirements, states that “for each new development and redevelopment project subject to the development runoff requirements, every applicant will submit a stormwater control plan and implement conditions of approval that reduce stormwater pollutant discharges through the construction, operation and maintenance of treatment measures and other appropriate source control and site design measures. Similarly, increases in runoff volume and flows shall be managed in accordance with the development runoff requirements.”

Data Request

- 77. Provide a description of the stormwater treatment process or BMP method for discharges to the San Joaquin River.
- 78. Provide applicable details for each proposed source control, or site design measure.

Background

According to the Contra Costa Clean Water Program, Stormwater C.3 Guidebook, Fourth Edition, September 10, 2008 there are several Options for compliance with flow-control requirements, the applicant has adopted “Option 1” for projects on previously developed sites. The Applicant is proposing to develop the MLGS site with less impervious area than the existing quantity of impervious area (82 percent) at the site today. The proposed project imperviousness was estimated at 50 percent (CH2M Hill 2008). The applicant has not demonstrated the change the proposed project will have on the efficiency of drainage collection and conveyance system. This is a requirement of the Contra Costa County, Storm Water Control Plan submittal requirements.

Data Request

- 79. Provide an estimate of the final project site imperviousness, related to the project as proposed in the September 15, 2009 Addendum to the AFC.
- 80. Provide a qualitative comparison of pre- and post-project drainage efficiency.

Background

Clean Water Act Section 402(p) and USEPA regulations (40 CFR 122.26) specify a municipal program of "management practices" to control stormwater pollutants and sets the standard for stormwater controls to a "maximum extent practicable" (MEP). The applicant has not provided evidence in the draft Storm Water Control Plan (SWCP) that Best Management Practices (BMP) will be used to treat stormwater effluent to the San Joaquin River to MEP levels. BMP refers to any kind of procedure or device designed to minimize the quantity of pollutants that enter the storm drain system.

Staff reviewed the permanent BMPs and Integrated Maintenance Practices (IMPs) proposed for MLGS in the SWCP. These BMPs and IMPs do meet the standards in the California Stormwater Quality Association (CASQA 2003b) Stormwater Best Management Practice Handbook: Industrial and Commercial, and the Contra Costa County Clean Water Program Stormwater C.3 Guidebook (CCCWP 2008). No permanent BMPs were proposed to manage the effluent quality of the stormwater conveyance system in Table 1 of the SWCP.

Data Request

81. Please provide a detailed description of the proposed permanent BMPs or IMPs to treat stormwater prior to discharge to the San Joaquin River.

Background

During construction, approximately 41 acres associated with the MLGS project would be disturbed for proposed project laydown, temporary parking, and the proposed MLGS site. To minimize the potential impacts to water and soil resources from construction activities on the MLGS site and linears, the applicant provided a draft Construction Stormwater Pollution Prevention Plan (SWPPP) in the AFC that corresponds to guidance in the California Stormwater Best Management Practices Construction Handbook (CASQA 2003). The applicant also provided for Staff review the Storm Water Control Plan (SWCP) required by the Contra Costa Clean Water Program. The draft SWPPP and SWCP were not updated to reflect changes identified in the AFC Amendment.

Data Request

82. Please revise the draft Construction SWPPP and the Stormwater Control Plan to reflect changes in the AFC Amendment for the proposed MLGS site design. Modify runoff calculations as needed for changes to the proposed site impervious. Include any BMPs or IMPs proposed in response to the previous Data Request.

Background

California Energy Commission will require a Drainage, Erosion, and Sediment Control Plan (DESCP) as a condition of certification. The DESC is a complement to the

Stormwater Pollution Prevention Plans (SWPPP) required for construction and operation. The DESCP would address all adjacent areas that currently drain toward the MLGS site.

Data Request

83. 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/demolition, construction, and post-construction activities. The level of detail in the draft DESCP should be commensurate with the current level of planning for site grading and drainage.
- a. **Vicinity Map** – Provided map(s) at a minimum scale 1" = 100' indicating the location of all project elements (project site, lay down areas, transmission corridors, and pipeline corridors) with depictions of all significant geographic features including swales, storm drains, outfalls and sensitive areas.
 - b. **Site Delineation** –All MLGS construction areas subject to soil disturbance (project site, lay down areas, recycled water pipeline) 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 draft DESCP shall contain water pollution control drawings (WPCD) at a minimum scale of 1" = 100' showing the location of all nearby watercourses including swales, storm drains, and drainage ditches. On the WPCDs indicate the proximity of those features to the project construction, laydown, and pipeline construction corridor.
 - d. **Drainage Map** – The draft DESCP shall provide a topographic site map(s) at a minimum scale 1" = 100' showing existing, interim and proposed drainage systems and drainage area boundaries. On the map(s), spot elevations are required where relatively flat conditions exist. The spot elevations and contours shall be extended from the project site a minimum distance of 100 feet in flat terrain or sufficiently to identify all offsite areas draining onto the site.
 - e. **Drainage Narrative** – The draft DESCP shall include a narrative of the storm water control measures to be implemented to protect the site and downstream facilities. The narrative shall state the watershed size in acres that is used to calculate storm water flows and volume. The narrative is to include the summary pages from the hydrology and hydraulic analyses to support the selection of BMPs and structural controls to divert onsite drainage around or through the project construction and laydown areas. The drainage narrative shall address surface water from offsite areas that drain onto the site.
 - f. **Clearing and Grading Plans** – The draft DESCP shall provide a delineation of the proposed recycled water and brine return pipeline indicating all areas to be cleared of vegetation and areas to be preserved. The draft DESCP shall provide elevations, slopes, locations, and extent of all proposed grading as shown by contours, cross sections or other

means. The locations of all soil stockpile 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 draft DESCPC shall include a mass balance diagram showing the volume of soil that is to be cut and filled to bring the site to its design elevation and a discussion of the types of soil to be used, the placement method, and the location of the borrow site where the fill will be obtained.
- h. **Best Management Practices Plan** – The draft DESCPC shall identify on the WPCDs the location of the BMPs to be employed during site mobilization, site cleanup and grading, and the foundation and pipeline installation phases of MLGS construction. BMPs shall include measures designed to prevent wind and water erosion in areas with existing soil contamination. Construction and permanent treatment control BMPs should enable testing of storm water runoff prior to discharge to the San Joaquin River.
- i. **Best Management Practices Narrative** – On the WPCDs, the location (as identified in H above), timing, and maintenance schedule of all erosion and sediment control BMPs to be used during the site mobilization, site grading, and foundation and pipeline installation phases are to be shown.

84. For offsite areas that currently allow surface water to drain toward the MLGS site, please describe the expected quality of the surface water runoff. Also describe MLGS efforts to treat impaired stormwater draining onto the site and into the stormwater conveyance system that ultimately drains to the San Joaquin River.

WATER SUPPLY AND USE

Background

Modifications to the proposed MLGS facility in the AFC Amendment include a change to the process water supply source. Mirant proposes the use of brackish groundwater rather than recycled water from the Bridgehead Lift Station (BLS) that was to be built by Delta Diablo Sanitation District (DDSD). This project alteration was suggested due to the significant decrease in process water consumption compared to the previously-submitted MLGS plans. Mirant proposes that while operating at 20 percent annual capacity, required process supply water would total 50 acre-ft per year (AFY) on average, which is significantly less than the 736 AFY proposed for MLGS in Mirant's AFC.

Table 7 in the Aquifer Characterization Report (Revised Appendix I) shows concentrations of TSS ranging from 1,130 to 1,670 and chloride ranging from 250 to 540 mg/L in groundwater samples taken during the aquifer test. Staff is concerned that water quality could change due to project use and other users or uses may be impacted.

Data Request

85. Please identify whether there are any other users that obtain their water supply from the brackish aquifer.
86. Please discuss whether the future projections of the groundwater supply source (source well) quality are expected to remain within the concentration range for TSS and chloride during pumping for the life of the project.
87. Please discuss what groundwater quality monitoring is proposed for the project.

Background

Mirant proposes reducing the capacity of the Raw Water Storage Tank to 300,000 gallons from 1.8 million gallons due to the decreased process water demand. Recycled water in the 1.8 million-gallon process water storage tank was to have had "sufficient capacity for 24 hours of plant operation at full load peak demand" (Section 7.14.1.4, AFC).

Data Request

88. How many hours of plant operation can the new capacity of the process water storage tank support should there be an interruption in water supply service (i.e. multiple pump failure)?

WASTEWATER

Background

Due to a modification of the process water supply source, Mirant proposes the use of a trailer-type treatment system to provide high quality water to the plant's Simple Cycle units. The treatment system would consist of a filtration trailer and an ion exchange (IX) trailer. The filtration trailer would remove suspended solids from the groundwater prior to treatment through the IX trailer, where the dissolved impurities would be removed. Once each trailer is considered "spent," it would be towed to a service center backwashing and rinse-down or regeneration, for the filtration or IX trailer, respectively. Fresh trailers would be brought onto the site with the removal of each "spent" trailer. Mirant suggests in the AFC Amendment that each of the trailers can provide treatment for approximately 24 hours of operation of one Simple Cycle unit, and that during peak operating times, the trailers would need to be exchanged after approximately one day.

Data Requests

89. Provide an estimate for the number of days per year MLGS is expected to replace the treatment trailers.
90. Identify the licensed company that will be supplying and operating the trailers on-site and the facility location for backwashing and preparing the treatment trailers.

Background

The modification to the process water supply source also alters the previous wastewater discharge plans for the MLGS site. Wastewater will now discharge directly to a City of Antioch sanitary sewer line along Wilbur Avenue.

Data Requests

91. Please provide a will-serve letter from the City of Antioch providing confirmation that they will allow the discharge of MLGS process wastewater into their sanitary sewer system.

CONSTRUCTION

Background

Arsenic, chromium, and nickel were found at the MLGS site via groundwater sampling in 2007 (WHPA, 2009). The depth to the groundwater table at the MLGS site ranges from 6 to 10 feet below ground surface (bgs) and dewatering would likely be required during the construction process.

Data Requests

92. Please provide a detailed discussion of construction dewatering procedures.
93. Identify licensed facilities which will handle and dispose of hazardous substances.

Technical Area: Waste Management**Author:** Alvin Greenberg, Ph.D.**BACKGROUND**

A Phase I Environmental Site Assessment (ESA) for the MLGS was prepared and submitted in the AFC and a Phase II ESA was prepared for the entire Contra Costa Power Plant (CCPP) property in 1998. Several areas on the project site and along the water pipeline route were identified in the Phase II ESA as areas with “remedial issues” due to total petroleum hydrocarbons (TPH) or arsenic in soil or groundwater at concentrations exceeding regulatory thresholds. The Phase II also included groundwater samples in locations to the north of the tank farm area of the project site across a channel of the river and above the northwest corner above the tank farm property, however, these samples were taken over ten years ago and none of the samples were located on the stretch of property directly between the river and Tanks 1 and 2. The PG&E Switchyard directly south and east of the project site is reported to have had two circuit breaker explosions in the late 1970s and the dielectric fluid released in the explosions may have contained polychlorinated biphenyls (PCBs) and possibly impacted soil and groundwater. The property is identified as an offsite REC because the proposed project site is adjacent to the switchyard and site soil and/or groundwater may have been impacted by the releases or by migration of impacted ground water. Also, while the Phase I ESA indicated that signs of contamination were not observed at the storm water drains observed near the tank farm berms and in the construction yard, information was not provided regarding storm water run-on/run-off routes and possible signs of contamination coming from offsite storm water run-on. Additional investigation of the site is necessary to check for signs of contamination coming from offsite locations via storm water run-on traversing or pooling on the project site.

Upon review of this data, both Energy Commission staff and DTSC agree that additional review and assessment of these areas is necessary to determine the level of impact and any remediation that may be required and to determine if contaminants are present and moving toward the river from the Fuel Tank Farm. Furthermore, the 1998 Health Risk Assessment is out-dated and inaccurate and cannot be used as a basis for determining site cleanup strategies, goals, or impacts to on-site or off-site receptors. Staff needs the results of additional sampling and analysis and a revised abbreviated HRA in order to properly assess the impacts on worker health and the off-site public posed by hazardous wastes present on this site.

DATA REQUESTS

94. Please provide groundwater sampling and analysis on the property directly between the river and Tanks 1 and 2.
95. Please provide a Sampling and Analysis Workplan (SAP Workplan), in abbreviated outline format, for PCBs in soil and groundwater in the areas of the project site nearest to and/or down-gradient from the locations of the switchyard circuit breaker explosions and associated releases of dielectric fluid.

Also, please provide the results of the sampling and analysis in tabular format showing all values and reporting non-detects in "less-than" values using the Method Detection Limit (MDL), the Reporting Limit (RL) or the Practical Quantitation Limit (PQL).

96. Please provide sampling and analysis of soils near the storm water drains that are located near the tank farm berms and in the construction yard.
97. Please provide an outline Human Health Risk Assessment (HRA) Workplan and a revised short-format HRA based upon data from samples obtained solely from the MLGS site footprint. Both existing data and new data should be used. The revised short-format HRA may be limited to tables showing calculation of the exposure point concentrations (EPCs) of all Chemicals of concern (COCs) using the Upper-Bound Confidence Limit (UCL) of the arithmetic mean as suggested by the U.S. EPA ProUCL program, exposure assumptions for all receptors, cancer risk, and Hazard Indices for acute and chronic non-cancer impacts. Receptors to assess include:
 - the trenching and excavation worker during construction,
 - the off-site public during construction,
 - the on-site worker during operations,
 - the off-site commercial/industrial worker during operations, and
 - the off-site public during operations.
98. Please provide a revised abbreviated HRA that includes the following information:
 - a. The EPCs for all COCs found on the MLGS site;
 - b. A list of all exposure pathways and receptors assessed;
 - c. A table that provides all exposure input values for each receptor assessed;
 - d. A table that includes all physical parameters and toxicity values for all COCs assessed; and
 - e. A table showing the results for cancer risk, acute HI, and chronic HI by COC and by exposure pathway.



BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT
COMMISSION OF THE STATE OF CALIFORNIA
1516 NINTH STREET, SACRAMENTO, CA 95814
1-800-822-6228 – WWW.ENERGY.CA.GOV

**APPLICATION FOR CERTIFICATION
FOR THE MARSH LANDING
GENERATING STATION**

Docket No. 08-AFC-3

PROOF OF SERVICE
(Revised 11/30/2009)

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DECLARATION OF SERVICE

I, J. Mike Monasmith, declare that on January 22, 2010, I served and filed copies of the attached, Marsh Landing Generating Station Data Requests Set 3, dated January 22, 2010. The original document, filed with the Docket Unit, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at: [<http://www.energy.ca.gov/sitingcases/marshlanding/index.html>]. The document has been sent to both the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit, in the following manner:

(Check all that Apply)

For service to all other parties:

sent electronically to all email addresses on the Proof of Service list;

by personal delivery or by depositing in the United States mail at Sacramento, California with first-class postage thereon fully prepaid and addressed as provided on the Proof of Service list above to those addresses **NOT** marked "email preferred."

AND

For filing with the Energy Commission:

sending an original paper copy and one electronic copy, mailed and emailed respectively, to the address below (preferred method);

OR

depositing in the mail an original and 12 paper copies, as follows:

CALIFORNIA ENERGY COMMISSION

Attn: Docket No. 08-AFC-3

1516 Ninth Street, MS-4

Sacramento, CA 95814-5512

docket@energy.state.ca.us

I declare under penalty of perjury that the foregoing is true and correct.

