CALIFORNIA ENERGY COMMISSION
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STATE OF CALIFORNIA
ENERGY RESOURCES CONSERVATIO]
AND DEVELOPMENT COMMISSION

In the Matter of:	)	**Docket No. 00-AFC-1C**
GATEWAY GENERATING	)	**Order No. 07-0801-2**
STATION	)	
PACIFIC GAS AND ELECTRIC	)	**ORDER AMENDING THE ENERGY**
COMPANY	)	**COMMISSION DECISION TO**
	)	**ELIMINATE THE USE OF SAN JOAQUIN**
	)	**RIVER WATER AS THE COOLING**
	)	**WATER SOURCE AND COMPLETE TEN ASSOCIATED PROJECT DESIGN CHANGES**

On December 19, 2006, Pacific Gas and Electric Company (PG&E) filed a petition with the California Energy Commission requesting to amend the Energy Commission Decision to eliminate the use of San Joaquin River water as the cooling water source for the Gateway Generating Station Project (formerly known as the Contra Costa Power Plant Unit 8 Project). The petition also proposes ten associated project design changes at the project. The 530-megawatt project was certified by the Energy Commission on May 30, 2001. Construction of the facility started late in 2001 and was suspended in February of 2002 due to financial difficulties, with approximately 7 percent of construction completed. On July 19, 2006, the Energy Commission approved the addition of PG&E as co-owner of the project with Mirant Delta, LLC. On December 4, 2006, PG&E filed a petition to remove Mirant as a co-owner and change the name of the facility to the Gateway Generating Station. The facility is located east of the City of Antioch, in Contra Costa County.

STAFF RECOMMENDATION

The Energy Commission staff reviewed the petition and finds that it complies with the requirements of Title 20, Section 1769(a) of the California Code of Regulations. Staff recommends approval of the PG&E petition to amend the Energy Commission Decision to eliminate the use of San Joaquin River water as the cooling water source for the project and complete the following ten associated project design changes at the facility in support of this change in cooling technology:

- Replace the wet cooling tower and surface condenser with an air cooled condenser (ACC)
- Replace the water treatment building with a trailer mounted water treatment system and relocate the system to the south side of the project
- Revise the discharge source for the oil/water separator

- Incorporate a condensate polishing system associated with the ACC
- Eliminate the use of steam power augmentation
- Replace the combustion turbine inlet evaporative cooling system with inlet chilling systems for each combustion turbine
- Incorporate two electric firewater pumps
- Incorporate a 500,000 gallon fire water storage tank
- Incorporate a new fire water tank fill line and potable water supply pipeline
- Incorporate a new wastewater/sewer pipeline

The closed cycle cooling water system will be redesigned with the elimination of the wet cooling tower. The closed cycle system is independent from the ACC, and PG&E will use a fin-fan heat exchanger in addition to a wet surface air cooled (WSAC) heat exchanger to provide the heat rejection capacity.

COMMISSION FINDINGS

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, PG&E, by allowing for operation of the facility without use of San Joaquin River water.

D. There has been a substantial change in circumstances since the Commission certification justifying the elimination of San Joaquin River water for cooling that was not contemplated during the certification process.

CONCLUSION AND ORDER

The California Energy Commission hereby adopts staff's recommendations and approves revisions to the Decision, and the following changes to the Gateway Generating Station Decision. Except for "**Verification**" below, deleted text from the Decision is shown in ~~strikethrough~~ and added text is underlined.

AQC-1 During construction of this facility, the following fugitive emission control measures shall be implemented at the plant site:

a. Suspend all land clearing, grading, earth moving, or excavation activities when winds (including instantaneous gusts) exceed 20 miles per hour.

b. Apply water to active construction sites and unpaved roads ~~at least twice daily~~ as frequently as necessary to control fugitive dust. The frequency of watering can be reduced or eliminated during periods of precipitation.
c. Apply sufficient water or dust suppressants to all material excavated, stockpiled, or graded to prevent fugitive dust from leaving the property boundaries and causing a public nuisance or a violation of an ambient air standard.
d. Apply a non-toxic solid stabilizer to all inactive construction areas (previously graded areas which remain inactive for 96 hours).
e. No on-site vehicle shall exceed a speed of 15~~0~~ miles per hour on unpaved roads or areas.
f. All trucks hauling dirt, sand, soil, or other loose material will be watered or covered and will maintain at least two feet of freeboard to prevent a public nuisance.
g. Install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash off trucks and any equipment leaving the site each trip.
h. ~~Sweep streets with a water sweeper at the end of each day if~~ At least the first 500 feet of any public roadway exiting from the construction site shall be swept at least twice daily (or less during periods of precipitation) on days when construction activity occurs or on any other day when visible soil materials are carried onto adjacent public or private paved roads.
i. Re-establish ground cover on the construction site through seeding and watering as soon as possible, but no later than final occupancy.
j. Implement all dust control measures in a timely and effective manner during all phases of project development and construction.
k. Place sandbags adjacent to roadways to prevent run off to public roadways.
l. Install wind breaks at the windward sides of construction areas prior to the soil being disturbed. The wind breaks shall remain in place until the soil is stabilized or permanently covered.
~~m. Limit construction vehicles and equipment idle time to no more than 5 minutes.~~
m. Provide gravel ramps of at least 20 feet in length at the tire washing/cleaning station.
n. Gravel or treat all unpaved exits from the construction site to prevent track-out to public roadways.
o. Ensure that all construction vehicles enter the construction site through the treated entrance roadways, unless an alternative route has been submitted to and approved by the CPM.
p. Sweep all paved roads within the construction site at least twice daily (or less during periods of precipitation) on days when construction activity occurs to prevent the accumulation of dirt and debris.

Verification: The project owner shall maintain a daily log of water truck activities, including record of the frequency of public road cleaning. These logs and records shall be available for inspection by the CPM during the construction period. The project owner shall identify in the monthly construction reports, the area(s) that the project owner shall cover or treat with dust suppressants. The project owner shall make the construction site available to the District and the City of Antioch inspection staff and the CPM for inspection and monitoring.

AQC-2 The project owner shall employ the following measures to mitigate, to the extent practical, construction-related emission impacts from off-road, Diesel-fired construction equipment. These measures include the use of oxidizing soot filters, oxidizing catalysts, Diesel fuel certified to CARB low sulfur fuel standards (sulfur content less than 15 ppm) and Diesel engines that are either equipped with high pressure fuel injection, employ fuel injection timing retardation or are certified to EPA Tier 2 off-road equipment emission standards. Additionally, the project owner shall restrict idle time, to the extent practical, to no more than 5 minutes.

The use of each mitigation measure is to be determined by an Air Quality Construction Mitigation Manager (AQCMM) ~~qualified independent California Licensed Mechanical Engineer (ME)~~. The AQCMM ~~ME~~ is to be approved by the CPM prior to the submission of any reports. The AQCMM ~~ME~~ will determine the mitigation measures to be used within the following framework.

Construction Mitigation Framework

1. No measure or combination of measures shall be allowed to significantly delay the project construction or construction of related linear facilities.
2. No measure or combination of measures shall be allowed to cause significant damage to the construction equipment or cause a significant risk to on site workers or the public.
3. Engines certified to Tier 2 off-road equipment emission standards and CARB certified low sulfur Diesel fuel may be used in lieu of oxidizing soot filter and oxidizing catalyst.

The AQCMM will, in consultation with the California Air Resources Board (CARB), submit the following reports to the CPM for approval:

- Construction Mitigation Plan
- Reports of Change and Mitigation Implementation
- Emergency Termination of Mitigation Reports (as necessary)

Construction Mitigation Plan

The Construction Mitigation Plan shall be submitted to the CPM for approval ~~prior to rough grading on the project site~~ and will include:

1. A list of all Diesel fuel burning, off-road stationary or portable construction related equipment to be used either on the project construction site or the construction sites of the related linear facilities.

~~2. All equipment listed under (1) shall be identified as either using engines certified to EPA and CARB 1996 or better off-road equipment emission standards, using diesel engines that are equipped with high pressure fuel injection, or using Diesel engines that employ fuel injection timing retardation.~~

~~3. The determination of the suitability of all equipment listed under (1) to work appropriately with an oxidizing catalyst shall be identified except as provided for in item 2 of the Construction Mitigation Framework above. If a piece of equipment is determined to be unsuitable for an oxidizing catalyst, the ME will provide an explanation as to the cause of this determination.~~

~~4. The determination of the suitability of all equipment listed under (1) to work appropriately with an oxidizing soot filter shall be identified except as provided for in item 2 of the Construction Mitigation Framework above. If a piece of equipment is determined to be unsuitable for an oxidizing soot filter, the ME will provide an explanation as to the cause of this determination.~~

2. All construction Diesel engines, which have a rating of 100 hp or more, shall meet, at a minimum, the Tier 2 California Emission Standards for Off-Road Compression-Ignition Engines as specified in California Code of Regulations, Title 13, section 2423(b)(1) unless certified by the on-site AQCMM that such engine is not available for a particular item of equipment. In the event a Tier 2 engine is not available for any off-road engine larger than 100 hp, that item of equipment shall be equipped with a Tier 1 engine. In the event a Tier 1 item of equipment is not available for any off-road engine larger than 100 hp, that engine shall be equipped with a catalyzed Diesel particulate filter (soot filter), unless certified by engine manufacturers or the on-site AQCMM that the use of such devices is not practical for specific engine types. For purposes of this condition, the use of such devices is "not practical" if, among other reasons:

    a) There is no available soot filter that can be installed and operated in a safe and effective manner; or
    b) The construction equipment is intended to be on-site for ten (10) days or less.
    c) The CPM may grant relief from this requirement if the AQCMM can demonstrate that they have made a good faith effort to comply with this requirement and that compliance is not possible.

3. All heavy earthmoving equipment and heavy-duty construction related trucks with engines meeting the requirements of (2) above shall be properly maintained and the engines tuned to the engine manufacturer's specifications.

~~5~~4. ~~Maximum idle times shall be identified for all equipment listed under (1).~~ All Diesel heavy construction equipment shall not remain running at idle for more than five minutes, to the extent practical.

~~6~~5. The sulfur content of all Diesel fuel to be burned in any equipment ~~listed under (1) shall be identified~~ used at the construction site shall be ultra-low sulfur Diesel, which contains no more than 15 ppm sulfur.

Report of Change and Mitigation Implementation

The ~~ME~~ AQCMM shall submit a Report of Change and Mitigation Implementation for approval to the CPM following the initiation of construction activities, which contains at a minimum the cause of any deviation from the Construction Mitigation Plan, and verification of the Construction Mitigation Plan measures that were implemented. Verification includes, but shall not be limited to, the following:

1. EPA or CARB engine certifications for item 2 of the Construction Mitigation Plan.
2. A copy of the contract agreement requiring subcontractors to comply with the elements under item 2 of the Construction Mitigation Plan.

3. Confirmation of the installation of either oxidizing catalysts or oxidizing soot filters as identified in items 2 and 3 ~~and 4~~ of the Construction Mitigation Plan or the cause preventing the identified installations.
4. A copy of the contract agreement requiring subcontractors to comply with the elements under item 4 ~~5~~ of the Construction Mitigation Plan.
5. A copy of receipts of purchase of Diesel fuel indicating the sulfur content as identified in item 5 ~~6~~ of the Construction Mitigation Plan.

Emergency Termination of Mitigation Report

If a specific mitigation measure is determined to be detrimental to a piece of construction equipment or is determined to be causing significant delays in the construction schedule of the project or the associated linear facilities, the mitigation measure may be eliminated or terminated immediately. However notification must be sent to the CPM for approval containing an explanation for the cause of the termination. All such causes are restricted to one of the following justifications and must be identified in any Emergency Termination of Mitigation Report:

1. The measure is excessively reducing normal availability of the construction equipment due to increased downtime for maintenance, and/or power output due to an excessive increase in back pressure.
2. The measure is causing or reasonably expected to cause significant damage to the construction equipment engine.
3. The measure is causing or reasonably expected to cause a significant risk to nearby workers or the public.
4. Any other seriously detrimental cause which has approval by the CPM prior to the change being implemented.

Verification: The project owner shall submit the qualifications of the ~~ME~~ AQCMM and the Construction Mitigation Plan to the CPM for approval ~~at least 30 calendar days prior to rough grading on the project site~~. The project owner shall submit the Report of Change and Mitigation Implementation to the CPM for approval no later than 10 working days following the use of the specific construction equipment on either the project site or the associated linear facilities. The project owner shall submit any Emergency Termination of Mitigation Reports to the CPM for approval, as required, no later than 10 working days following the termination of any identified mitigation measure. The CPM will monitor the approval of all reports submitted by the project owner in consultation with CARB, limiting the review time for any one report to no more than 20 working days.

AQ-45 The ~~cooling towers~~ wet surface air cooler (WSAC) shall be properly installed and maintained to minimize drift losses. The ~~cooling towers~~ WSAC shall be equipped with ~~high efficiency mist~~ drift eliminators with a maximum guaranteed drift rate of 0.00~~05~~3%. The maximum total dissolved solids (TDS) measured at the base of the ~~cooling towers~~ WSAC or at the point of return to the wastewater facility shall not be higher than ~~5,666~~ 2,500 ppmw (mg/l). The owner/operator shall sample the water at

least ~~once per day~~ once in the month of July, once in the month of August and once in the month of September each year while the WSAC is in operation. (PSD)

Verification: At least 30 days prior to commencement of ~~cooling tower~~ WSAC construction, the project owner/operator shall provide to the ~~District and~~ CEC CPM a copy of the ~~cooling tower~~ WSAC manufacturer's specifications demonstrating the 0.00~~05~~3 percent drift rate. The project owner/operator shall submit the water sample test results with the Quarterly Emissions Report required by Condition of Certification AQ-14.

AQ-46 The owner/operator shall perform a visual inspection of the wet surface air cooler (WSAC) drift eliminators at least once per calendar year, and repair or replace any drift eliminator components which are broken or missing. Prior to the initial operation ~~of the CCPP Unit 8,~~ of the WSAC the owner/operator shall have the WSAC vendor's field representative inspect the ~~cooling tower~~ drift eliminators and certify that the installation was performed in a satisfactory manner. ~~The CPM may, in years 5 and 15 of the cooling tower operation, require the owner/operator to perform a source test to determine the PM10 emission rate from the cooling tower to verify continued compliance with the vendor guaranteed drift rate specified in conditions AQ-45. (PSD)~~ The owner operator shall verify that the PM10 emissions from the WSAC do not exceed 4.7 lbs/day based on the most recent total dissolved solids, measured in compliance with Condition of Certification AQ-45, and by the use of the following formula:

PM10 (lb/day) = 24*water flow rate (lbm/hour) * design drift rate (percent)

* total dissolved solids (ppm)/10^8.

Verification: The project owner/operator shall keep records of all ~~cooling tower~~ WSAC inspections and shall make them available for the ~~District and~~ CEC CPM upon request. The project owner/operator shall report the calculated PM10 emissions from the WSAC to the CPM in the Quarterly Emissions Report required in Condition of Certification AQ-14.

BIO-5 The project owner will implement the mitigation measures proposed in the Application for Certification regarding biological resources (Southern 2000a, pages 8.2-13 to 8.2-14) and Phase II Environmental Site Assessment (Southern 2000c, pages 5-9). The project owner's proposed mitigation measures will be incorporated into the final Biological Resources Mitigation Implementation and Monitoring Plan (see Condition of Certification **BIO-8**, below) ~~unless the mitigation measures conflict with mitigation required by the U. S. Fish and Wildlife Service, National Marine Fisheries Service, and the California Department of Fish and Game that is contained in their respective Biological Opinions and Incidental Take Permit, or in the State Streambed Alteration Permit~~.

Protocol: The project owner will make certain the following are completed:

1. Upon completion of construction, all areas subject to temporary ground disturbance will be subject to post-construction cleanup.

2. All grass areas subject to temporary disturbance due to construction activities will be seeded with an appropriate grassland seed mix.

3. In accordance with the Contra Costa tree ordinance, Tree Protection and Preservation (chapter 816-6), all oak trees removed will be replaced onsite with a minimum replacement ratio of 2:1. Removal of trees will be conducted during the non-breeding season for local birds (September-January).

4. The applicant shall establish erosion control measures to minimize the terrestrial and airborne movement of soils, sediments, and other substances into the San Joaquin River or connected waterways, as described in the AFC pages 8.9-4 and 8.9-5.

5. The applicant shall conduct pre-construction surveys for active raptor nests at least 30 days prior to the beginning of site preparation.

6. To ensure the likelihood of successful completion of required mitigation, the applicant shall designate a qualified biologist to advise the project owner or its project manager on the implementation of these Conditions of Certification, and to supervise and/or conduct mitigation, monitoring, and other biology compliance efforts.

~~7. The applicant shall construct, monitor, maintain and evaluate the effectiveness of the Aquatic Filter Barrier.~~

8. Implement a Worker Environmental Awareness Program (see **BIO-4**).

Verification: At least sixty (60) days prior to start of any project related ground disturbance activities, the project owner shall provide the CPM with the final version of the BRMIMP for this project, and the CPM will determine the plan's acceptability within fifteen (15) days of receipt of the final plans. Implementation details for the above measures shall be included in the BRMIMP.

BIO-6 The project owner will implement the following staff proposed mitigation measures and the project owner shall include them in their BRMIMP submittal. The BRMIMP shall include implementation measures for each of the following protocol measures.

Protocol: The project owner will:

1. implement all mitigation, monitoring and compliance conditions included in the Commission's Final Decision;

~~2. implement all terms and conditions contained in the USFWS, NMFS, and CDFG Biological Opinion(s) (HCP/2081);~~

~~3. implement all terms and conditions contained in the State Streambed Alteration permit;~~

4. build new above-ground transmission lines and connections to reduce the risk of electrocution for large birds;

5. describe in detail the monitoring methodologies, duration, and frequency for each type of monitoring established for mitigation actions;

6. describe performance standards to be used to help decide if/when proposed mitigation is or is not successful~~, including the effectiveness of the Aquatic Filter Barrier~~;

~~7. implement a monitoring and evaluation program that will determine the effectiveness of the Aquatic Filter Barrier. The project owner will determine the effectiveness of the Aquatic Filter Barrier by conducting impingement and entrainment sampling (day and night) for eggs and larvae of fish, crabs and clams (as possible) for a minimum of three months following Aquatic Filter Barrier installation and operation. Source water shall be sampled inside and outside the Aquatic Filter Barrier enclosed water area, for eggs and larvae of fish, crabs and clams (as possible), at the same time as impingement and entrainment (day and night) sampling in order to determine the effectiveness of the Aquatic Filter Barrier. The project owner will submit an Impingement and Entrainment Study Plan for CPM approval prior to certification.~~

8. identify all remedial measures to be implemented if performance standards are not met;

9. reduce exterior lighting on all structures to the minimum except for those required for aviation warning, all other required exterior lighting on structures will be shielded to direct light downward;

10. reduce soil erosion during construction and operation by applying mitigation measures identified in the AFC and comply with State Water Resources Control Board/Regional Water Quality Control Board standards;

11. reduce the potential for animals falling into trenches or other excavated sites by covering them at the end of the work day if left unattended, or provide wildlife escape ramps for construction areas that contain steep-walled holes or trenches, and inspect trenches each morning for trapped animals prior to the beginning of construction. Construction will be allowed to begin only after trapped animals are able to escape voluntarily;

12. clearly mark construction area boundaries with stakes, flagging, and/or rope or cord to minimize inadvertent degradation or loss of adjacent habitat during facility construction. All equipment storage will be restricted to designated construction zones or areas that are currently not considered sensitive species habitat;

13. post signs and/or fence the power plant construction site and laydown areas to restrict vehicle access to designated areas;

~~14. designate a specific individual as a contact representative between the project owner, USFWS, NMFS, Energy Commission, and CDFG to oversee compliance with mitigation measures detailed in the Biological Opinion;~~

15. provide a post-construction compliance report, within forty-five (45) calendar days of completion of the project, to the ~~USFWS, CDFG, and the~~ Energy Commission;

16. make certain that all food-related trash will be disposed of in closed containers and removed at least once a week. Feeding of wildlife shall be prohibited; and

17. prohibit firearms except for those carried by security personnel.

Verification: At least 60 days prior to the start of surface disturbing activities at the project site and/or at ancillary facilities, the project owner shall provide the CPM with the final version of the BRMIMP for this project, and the CPM will determine the plans acceptability within 15 days of receipt of the final plan. Within 30 days after completion of construction, the project owner shall provide to the CPM for review and approval, a written report identifying which items of the BRMIMP have been completed, a summary of all modifications to mitigation measures made during the project's construction phase, and which condition items are still outstanding.

~~**BIO-7** Prior to the operation of CCPP Unit 8 by itself, the project owner shall provide final copies of the Biological Opinions/HCP obtained from the USFWS, NMFS, and the 2081 permit and the Streambed Alteration Permit from CDFG and incorporate the terms of the agreement(s) into the BRMIMP.~~

~~**Verification:** At least 90 days prior to the start of CCPP Unit 8 operation, the project owner shall submit to the project CPM copies of the final Biological Opinions/HCP/2081.~~

BIO-8 The project owner shall submit to the CPM for review and approval a copy of the final Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) and shall implement the measures identified in the plan.

Protocol: The final BRMIMP shall identify:

1. all mitigation, monitoring, and compliance measures proposed by the Applicant, as well as those contained in, Condition of Certification **BIO-4**;

2. all mitigation, monitoring, and compliance measures proposed by the CEC staff, as well as those contained in, Condition of Certification **BIO-5**;

3. all mitigation, monitoring, and compliance measures included in other Biological Resources Conditions of Certification; and

4. a process for proposing plan modifications to the CPM and appropriate agencies for review and approval.

Verification: At least sixty (60) days prior to start of any project related ground disturbance activities, the project owner shall provide the CPM with the final version of the BRMIMP for this project, and the CPM will determine the plan's acceptability within fifteen (15) days of receipt of the final plan. The project owner shall notify and get approval from the CPM five (5) working days before implementing any modifications to the BRMIMP.

BIO-9 The project owner shall incorporate into the facility closure plan a Biological Resources Element that includes measures to address current local biological resources issues. The biological resource facility closure measures shall also be incorporated into the BRMIMP for this project.

Protocol: For permanent closure, biological resource-related measures shall include:

1. Removal of all power plant site facilities~~, including the AFB~~ or proposed alternatives actions;

2. Measures to restore wildlife habitat and promote the re-establishment of native plant and wildlife species, and

3. Updating the plan to address current biological resources issues.

For temporary, but prolonged closure, biological resource-related measures shall include:

1. Notifying the CPM of the project owner's decision to initiate a temporary, but prolonged closure~~;~~ *and*

~~2. Turning off the once-through cooling water system pumps; and~~

3. Updating the plan to address current biological resources issues.

Verification: At least twelve months (or a mutually agreed upon time) prior to the commencement of permanent closure activities a Biological Resources Element will be incorporated into the Facility Closure Plan and the BRMIMP and submitted to the CPM for review and comment. The CPM will be notified within two weeks of the project owner's decision for a temporary, but prolonged closure and provide an updated plan of action.

~~**BIO-10:** The project owner shall obtain a California Fish and Game Code Division 2, Chapter 6, Sections 1600-1607, Section 1603 Streambed Alteration Agreement as part of the Aquatic Filter Barrier installation and operation.~~

~~**Verification:** The project owner will submit copies of the final CDFG Streambed Alteration Agreements to the CPM at least 60 days prior to the start of project operation. The project owner shall notify the CPM in writing of any changes to and/or renewal of these permits/agreements at least 30 days prior to the effective date of the change.~~

~~**BIO-11:** The project owner will submit a work plan that discusses in detail the installation of the proposed Aquatic Filter Barrier (AFB), also known as the Gunderboom™. This work plan will identify all principal materials, methods, and equipment that will be used for the installation of the AFB. The work plan will also identify and demonstrate compliance with all LORS associated with the Gunderboom™ project including the California Fish and Game Code Division 2, Chapter 6, Sections 1600-1607, Section 1603 Streambed Alteration Agreement administered by the California Department of Fish and Game.~~

~~**Verification:** The AFB work plan will be submitted to the CPM and all other agencies issuing permits for the project at least 90 days prior to the start of construction activities. The work plan will contain copies of all final draft or final permits required for the installation of the AFB, and the Applicant will adhere to all conditions specified in these permits. The project owner will provide a summary report of the AFB installation that details and explains any activities, events, or incidents that deviate from those described in the work plan. The summary report will be sent to the CPM, and all other agencies issuing permits for the project within 30 days after completion of the AFB installation project, and prior to the start of plant operations.~~

SOIL & WATER 1 ~~Prior to site mobilization of the proposed project and any ground disturbance activities associated with construction of any project linear element, the project owner shall obtain Energy Commission staff approval for a Storm Water Pollution Prevention Plan (SWPPP) as required under the General Stormwater Construction Activity Permit for the project (see Condition of Certification SOIL & WATER 3).~~ The project owner shall comply with the requirements of the General National Pollutant Discharge Elimination System (NPDES) Permit for Discharges of Storm Water Associated with Construction Activity. The project owner shall

develop and implement a Storm Water Pollution Prevention Plan (Construction SWPPP) for the construction activities on the GGS site, laydown area, and all linear facilities. The Construction SWPPP shall include all requirements of Contra Costa County's (County) Municipal Storm Water (MS4) permit, including any future requirements to the (MS4) permit per Provision D.11 of the Central Valley Regional Water Quality Control Board (CVRWQCB) Order No. 5-00-120. The project owner shall keep the CPM informed of any modification to the permits.

Verification: ~~Thirty days prior to the start of any site mobilization activities associated with the construction of the project and/or ground disturbing activities associated with construction of any project linear element, the project owner shall submit a copy of the Storm Water Pollution Prevention Plan (SWPPP) to the Energy Commission Compliance Project Manager (CPM) for review and approval. Approval of the plan by the Energy Commission CPM must be received prior to the initiation of any site mobilization activities associated with construction of any project element.~~ The project owner shall submit to the CPM a copy of the Construction SWPPP that includes all the requirements of the County's MS4 permit per Order No. 5-00-120 prior to earth moving or construction activities associated with the project and retain a copy on-site. The project owner shall submit to the CPM copies of all correspondence between the project owner and the County about the County's MS4 permit and the CVRWQCB about the General NPDES permit for the Discharge of Stormwater Associated with Construction Activity within 10 days of its receipt or submittal. This information shall include a copy of the Notice of Intent for the project.

SOIL & WATER 2: ~~Prior to beginning any site mobilization activities associated with construction of the project and/or ground disturbance activities associated with construction of any project linear element, the~~ The project owner shall obtain ~~staff~~ CPM approval for a site-specific Drainage, Erosion and Sedimentation Control Plan (DESCP) ~~final erosion control and revegetation plan~~ that addresses all project elements. The DESCP shall be consistent with the grading and drainage plan as required by Condition of Certification CIVIL-1 and may incorporate by reference any Storm Water Pollution Prevention Plans (SWPPP) developed in conjunction with any state or municipal NPDES permit. ~~The final plan to be submitted for Energy Commission's approval shall contain all the elements of the draft plan with changes made to address any staff comments and the final design of the project (see Condition of Certification SOIL & WATER 3).~~ The DESCP shall contain the following elements:

A. **Vicinity Map** – A map(s) at a minimum scale 1"=100' shall 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 area and the

location of all existing and proposed structures, pipelines, roads, and drainage facilities.

C. **Watercourses and Critical Areas** – The DESCP 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 DESCP shall include 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 and contours shall be extended off-site for a minimum distance of 100 feet.

E. **Drainage Narrative** – The DESCP shall include a narrative of the drainage measures to be taken to protect the site and downstream facilities and shall include of how the DESCP complies with SFBRWQCB Order No R2-2003-0022. 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 used in the calculation of drainage control 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 DESCP 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 DESCP 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 demolition, whether such excavations or fill is temporary or permanent, and the amount of such material to be imported or exported.

H. **Best Management Practices** – The DESCP 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, excavation and construction, and final grading/stabilization). BMPs shall include measures designed to prevent wind and water erosion. Treatment control BMPs used during construction should enable testing of groundwater and stormwater prior to discharge to the San Joaquin River.

I. **Best Management Practices Narrative** – The DESCP 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 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.

Verification: As determined by the CPM, the project owner shall submit a copy of the DESCP to Contra Costa County (County) for review and comment. As determined by the CPM, the project owner shall submit the DESCP and the County's comments to the CPM for review and approval. The CPM shall consider comments received from the County on the DESCP before issuing approval. The DESCP shall be consistent with the grading and drainage plan as required by Condition of Certification **CIVIL-1** and relevant portions of the DESCP shall clearly show approval by the Chief Building Official. The DESCP shall be a separate plan from the SWPPP(s). The project owner shall provide in the monthly compliance report a narrative on the effectiveness of the drainage, erosion, and sediment control measures; the results of monitoring and maintenance activities; and the dates of any dewatering activities. ~~The erosion control and revegetation plan shall be submitted to the Energy Commission CPM no later than thirty days prior to site mobilization and/or ground disturbance associated with construction of linear facilities. Approval of the final plan by the Energy Commission CPM must be received prior to the initiation of site mobilization activities associated with construction of any project element.~~

SOIL & WATER 3: The project owner shall comply with the requirements of the General NPDES Permit for Discharges of Storm Water Associated with Industrial Activity. The project owner shall develop and implement a Storm Water Pollution Prevention Plan (Industrial SWPPP) for the operation of the GGS. The Industrial SWPPP shall include all requirements of Contra Costa County's (County) Municipal Storm Water (MS4) permit, including any future requirements of the MS4 permit per Provision D.11 of the Central Valley Regional Water Quality Control Board (CVRWQCB) Order No. 5-00-120. The project owner shall keep the CPM informed of any modification to the permits. ~~Prior to commercial operation, the project owner, as required under the General Industrial Activity Storm Water Permit, will develop and implement a Storm Water Pollution Prevention Plan (SWPPP). Approval for the final Industrial Activities SWPPP must be obtained from Energy Commission staff prior to commercial operation of the power plant. The SWPPP will contain the following:~~

~~1. Erosion Control and Stormwater Management drawings need to accompany the narrative portion of the SWPPP. Both the drawings and the narrative need to be detailed and specific and include the following amendments and additions for the proposed CCPP project:~~

~~2. The topographic features of the proposed project including areas involving all proposed pipeline construction, laydown (staging) area, and stockpile location(s). The mapping scale should be 1"=100' or less (1"=50' recommended). The drawings should depict the~~

surrounding area (east of site) including the topography and existing features should be provided on the drawings. The drawings should also show existing structures, drainage pipes, and diversion swale(s).

3. Soil use limitations associated with construction and revegetation need to be acknowledged and resolutions provided to assist the contractor in overcoming any limitation (refer to the soil survey for specific soils information).

4. Proposed contours should be shown tying in with existing ones. All proposed utilities including stormwater facilities should be shown on the plan drawings. All erosion and sedimentation control facilities should be shown on the mapping. The drawings should contain a complete mapping symbols legend that identifies all existing and proposed features including the soil boundary and a limit of construction. The limit of construction boundary should include the project facility, pipeline areas, stockpile areas and laydown areas. The limit of construction ensures all work is confined to the proposed CCPP Unit 8 project in order to protect all surrounding areas not involved in construction or operation of the proposed project.

5. A detailed and specific construction sequence that addresses all sequence of events from initial mobilization until final stabilization (i.e., vegetation/asphalt) is achieved. Silt fence and haybales, installed on level grade and parallel to the existing contour. If the slope length to the silt fence and haybales exceeds 250 feet, other erosion and sediment control facilities should be used. Silt fence and haybales should be used to trap sediment, and not as runoff conveyance or control facilities.

6. All site specific Best Management Practices (BMPs) on the erosion and sediment control plan and the stormwater management plan. Provide all proposed vegetative areas on the drawings and soil amendment specifications with regards to excessive drainage, low pH, and high salinity characteristics of the site soil types. The stormwater management plan should provide the entire drainage area along with supporting calculations that include a curve number, time of concentration, and rainfall intensity. These calculations should be provided to demonstrate that the existing stormwater pipes and additional pipes, if required, are of sufficient size to handle the runoff from the proposed project. All final plans approved for adequacy are to be implemented by the contractor. The CPM should be contacted before any revisions are made to the approved plans.

7. Dewatering facilities, in the event of groundwater contact during excavation activities.

8. Stormwater inlet protection during construction.

9. Disturbed areas including stockpiles treated with dust suppressors to reduce fugitive dust pollution.

10. The erosion control drawings and narrative, designed and sealed by a professional engineer/erosion control specialist and not by the contractor.

1.

Verification: Thirty days prior to the start of commercial operation, the project owner will submit to the CPM a copy of the Storm Water Pollution Prevention Plan (SWPPP) prepared under requirements of the General Industrial Activity Storm Water Permit. The

~~final plan shall contain all the elements of the draft plan with changes made to address staff comments and the final design of the project.~~ The project owner shall submit to the CPM a copy of the Industrial SWPPP that includes all requirements of the County's MS4 permit per CVRWQCB Order No. 5-00-120 prior to commercial operation and retain a copy on-site. The project owner shall submit to the CPM copies of all correspondence between the project owner and the County about the County's MS4 permit and CVRWQCB about the General NPDES permit for the Discharge of Stormwater Associated with Industrial Activity within 10 days of its receipt or submittal. The Industrial SWPPP shall include a copy of the Notice of Intent for the project.

SOIL & WATER 4: ~~The project owner shall obtain the National Pollutant Discharge Elimination System Permit from the CVRWQCB for the Contra Costa Power plant prior to operation of CCPP Unit 8. The project owner shall comply with all provisions of the National Pollutant Discharge Elimination System Permit. Based on the draft NPDES permit conditions, and subject to adoption of the final NPDES permit by the CVRWQCB, the wastewater discharge from Unit 8 could be affected by new more stringent effluent limitations, primarily as a result of the promulgation of the California Toxics Rule by the USEPA. The San Joaquin river is listed as a impaired water body under the Clean Water Act Section 303(d), meaning that it does not meet ambient water quality standards for several constituents. Until the final NPDES permit is issued, it is unknown at this time how this status will affect the combined wastewater discharge. The project will be required to meet all conditions contained in the NPDES permit, and will not operate without the permit in place.~~ Prior to commercial operation, the project owner shall provide the CPM and the Delta Diablo Sanitation District (DDSD) with all information and data necessary to satisfy DDSD's requirements for the discharge of sanitary and plant wastewater (wastewater) into DDSD's sewer system. During operation, any monitoring reports provided to DDSD shall be provided to the CPM. The CPM shall be notified of any violations of discharge limits or amounts.

Verification: At least 60 days prior to commercial operation, the project owner shall submit all information and data required by DDSD for the discharge of wastewater to DDSD's sewer system to DDSD for review and comment, and to the CPM for review and approval. During operation, the project owner shall submit any water quality monitoring required by DDSD to the CPM in the annual compliance report. The project owner shall submit any notice of violations from DDSD to the CPM within ten days of receipt and fully explain the corrective actions taken in the annual compliance report. ~~The project owner will provide a copy of the final National Pollutant Discharge Elimination System Permit from the CVRWQCB to the CEC CPM at least 30 days prior to the start of construction. The project owner shall submit to the Energy Commission CPM in the annual compliance report a copy of the annual monitoring report submitted to the CVRWQCB. The project owner shall notify the Energy Commission CPM in writing of any changes to and/or renewal of this permit at least 30 days prior to the effective date of the change.~~

~~**SOIL & WATER 5:** The project owner shall obtain the Section 10 Rivers and Harbors permit/authorization from the USCOE as part of the Aquatic Filter Barrier installation and operation.~~

~~**Verification:** The project owner will submit copies of the final USCOE Section 10 permit/authorization at least 30 days prior to the start of construction. The project owner shall notify the Energy Commission CPM in writing of any changes to and/or renewal of the authorization/agreements at least 30 days prior to the effective date of the change.~~

~~**SOIL & WATER 6:** The project owner will submit a workplan that discusses in detail the installation of the proposed Aquatic Filter Barrier (AFB), also known as the Gunderboom™. This workplan will identify all principal materials, methods, and equipment that will be used for the installation of the AFB. The workplan will also identify and demonstrate compliance with all LORS associated with the Gunderboom™ project to include Section 10 of the Rivers and Harbors Act.~~

~~**Verification:** The AFB workplan will be submitted to the CEC CPM and all other agencies issuing permits for the project at least 90 days prior to the start of installation activities. The workplan will contain copies of all final draft or final permits required for the installation of the AFB, and the Applicant will adhere to all conditions specified in these permits. The Applicant will provide a summary report of the AFB installation that details and explains any activities, events, or incidents that deviate from those described in the workplan. The summary report will be sent to the CEC CPM, and all other agencies issuing permits for the project within 30 days after completion of the AFB installation project, and prior to the start of plant operations.~~

SOIL & WATER 7: ~~The project owner will obtain a final "will serve" letter, agreement, or contract signed by an authorized agent of the City of Antioch that indicates that the City has available capacity and will supply the potable water needs of the project. The "will serve" letter, agreement, or contract will contain any conditions, restrictions or requirements related to the supply and/or use of this water by the project. The project owner shall restrict the use of water supplied by the City of Antioch to potable and sanitary uses. Such water shall be specifically prohibited from being used for such purposes as process wash water, turbine inlet cooling make-up, cooling tower makeup, and other nonpotable uses. The project will not operate without a potable water supply in place.~~ The project owner shall provide the CPM with two (2) copies of an executed and final will-serve letter for the long-term supply of potable water from the City of Antioch (City) for the construction and operation of the GGS project. The project owner shall not connect to City's water supply system without final approval from the City. The project owner shall provide the CPM copies of all monitoring or other reports required by the will-serve letter. The project owner shall comply with all mandatory water conservation measures mandated in the will-serve letter with the City. The project owner shall notify the CPM of all mandatory water conservation measures and those restrictions on potable water consumption by GGS mandated in the will-serve letter with the City. The

project owner shall notify the CPM of all water conservation measures taken and the impact on GGS generation. The project owner shall notify the CPM of any violations of the agreement's terms and conditions, the actions taken or planned to bring the project back into compliance with the agreement and the date compliance was reestablished.

Verification: ~~A copy of the final "will serve" letter and/or signed agreement or contract will be provided to the CPM at least 30 days prior to the start of project operation.~~ No later than 6 months from the date of the Decision, the project owner shall submit to the CPM two (2) copies of the executed long-term potable will-serve letter and any other service agreement between the project owner and the City for the construction and operation of the GGS. During construction and operation, the project owner shall submit any water quality monitoring reports for potable water use required by the City to the CPM in the monthly and annual compliance reports. The project owner shall comply with all mandatory potable water use restrictions required in the will-serve letter with the City for the operation of GGS. The project owner shall submit any notice of violation of the will-serve letter's terms and conditions and all notices of mandatory potable water conservation measures to the CPM within ten days of receipt and shall fully explain the corrective actions taken and/or the impact on GGS operation/generation in the next monthly compliance report or annual compliance report.

~~**SOIL & WATER 9:** The project owner will submit a workplan for a study designed to characterize both the sediment deposition rate and pattern within and in the immediate vicinity of the Sportsmen Yacht Harbor. The workplan will also discuss methods to characterize the rate of deposition of any leaf or other litter associated with the use of trees or other vegetation for visual or other barriers associated with the project, and discuss any landscape maintenance and/or best management capable of reducing impacts to the harbor. All materials, sampling methods, sampling locations, data quality assessment, and use of the data produced shall be discussed in the workplan. The study shall be designed to provide information on pre-project (prior to installation of the AFB) and post-project (after the installation of the AFB) sedimentation such that any changes related to the project can be quantified. If adequate pre-project data can not be generated due to time constraints/other reasons, an alternative method of determining project-related impacts should be provided.~~

~~The workplan will include a scheme for compensating the harbor for any project-related increase in maintenance dredging costs. To the extent possible and practicable, the project owner will consult the harbor owner(s) to obtain any available information on the historical maintenance dredging of the harbor.~~

~~**Verification:** The project owner will provide the workplan to the owners of the yacht harbor for review and comment, and to the Energy Commission CPM for review and approval at least 60 days prior to start of construction of the AFB.~~

SOIL & WATER 10 The project owner shall use potable water supplied by the City of Antioch for construction and operation of the GGS. Potable water consumption shall not exceed 120 acre feet (AF) for any consecutive 12-month period of operation. The initial 12-month period will start on the first full month of commercial operation. The project owner shall install and maintain metering devices as part of the water supply and distribution system to monitor and record in gallons per day the total volume of potable water supplied to the GGS during construction and operation. Those metering devices shall be operational for the life of the project.

The project owner shall prepare an annual Water Use Summary, which will include the monthly range and monthly average of daily potable water usage in gallons per day, and total water used by the project on a monthly and annual basis in acre-feet. Any use of potable water that exceeds 100-AFY shall be documented in the Water Use Summary, along with an explanation of the necessity for potable water use in excess of 100-AFY. In addition, the CPM shall be notified within 48 hours if the potable water use for the project exceeds 100-AFY. On-site potable water use shall be recorded on a monthly basis and reported in the next monthly compliance report or annual compliance report. For subsequent years, the annual Water Use Summary shall also include the yearly range and yearly average potable water use by the project. The annual Water Use Summary shall be submitted to the CPM as part of the Annual Compliance Report.

Verification:–At least 30 days prior to connection of the potable water line to the City's water main, the project owner shall submit to the CPM evidence that metering devices have been installed and are operational on the potable water supply and distribution system.

The GGS project owner shall submit a Water Use Summary to the CPM in the next monthly compliance report or annual compliance report. Potable water consumption for the 12 month period identified in the annual compliance report shall not exceed 120-AF. The project owner shall provide a report on the servicing, testing and calibration of the metering devices in the annual compliance report. The CPM shall be notified within 48 hours of the project exceeding 100-AFY of potable water use.

VIS-4 At the earliest feasible time during facility construction, the project owner shall install permanent aesthetic screening on-site along the south, east, and north boundaries of the power plant site that will screen views of the facility from neighbors and the public to the maximum feasible extent, as follows:

a. Landscape screening shall consist of redwoods, ~~Eucalyptus globules 'Compacta~~ or other evergreen trees species that will achieve rapid and healthy growth, not produce a level of leaf debris problematic to harbor management, and provide the tallest growth possible, achieving an uninterrupted visual screen of at least ~~50~~'30' in height above existing grade at maturity in the vicinity of the Sportsmen Yacht Club. Optimal screening in a reasonable short time frame may be achieved either by selection of rapidly growing species, or a larger sized plant material at time of installation, or both. However, the selected plant material shall be no less than 15 gallon at the time of planting.

b. In addition to tree planting, the planting area along the eastern site boundary shall be seeded with attractive groundcover.

c. The selected tree species shall be chosen in consultation with ~~the San Joaquin Yacht Harbor,~~ the Sportsmen Yacht Club, the City of Antioch, and the CPM.

d. Trees shall be irrigated until a height of ~~25~~'15' is achieved.

e. Other plants that are native to the local region such as oaks may also be used but only in a way that will not interfere with complete, uninterrupted screening.

f. The planting of screening trees shall be initiated as soon as practical during facility construction to begin tree establishment at the earliest feasible time.

g. At a minimum, the project owner shall conduct monthly tree and landscape maintenance to remove tree debris build-up and obstruction of the access road, for the life of the project.

~~h. If requested by resident caretakers at San Joaquin Yacht Harbor, off-site tree planting shall be provided to screen views of the proposed cooling tower from these residences. Such screening shall consist of plantings of sufficient size to ensure substantial screening within a period of five (5) years.~~

Protocol: The project owner shall submit an aesthetic screening plan to the Sportsmen Yacht Club ~~and San Joaquin Yacht Harbor~~, and the City of Antioch, for review and comment, and to the CPM for review and approval. The plan shall include, but not be limited to:

1. A detailed landscape, grading, and irrigation plan, at a reasonable scale, which includes a list of proposed tree and shrub species and installation sizes, and a discussion of the suitability of the plants for the site conditions and mitigation objectives. The plan shall explain how the screening conditions called for above shall be met, including evidence provided by a qualified professional arborist that the growth requirements specified above shall be met by the proposed plan.
2. Elevation views of the aesthetic screening projected for five (5) years and ten (10) years from the time of startup of operation of the facility that show the extent of screening that the landscaping is expected to achieve.
3. Maintenance procedures, including any needed irrigation and a plan for routine annual or semi-annual debris removal; and
4. A procedure for replacing unsuccessful plantings.

The landscaping and any other plan features shall not be installed before the plan is approved.

Verification: ~~No later than 90 days after certification~~ Prior to project startup and at least 90 days prior to installing the landscaping, the project owner shall submit the proposed aesthetic screening plan to the Sportsmen Yacht Club, ~~San Joaquin Yacht Harbor,~~ and the City of Antioch for review and approval, and to the CPM for review and approval. The project owner shall submit any required revisions within 30 days of notification by the CPM. The project owner shall complete installation of the screening at the earliest feasible opportunity to begin tree establishment. ~~but not later than 180 days after certification.~~ The project owner shall notify the CPM within seven days after implementing the approved plan that the aesthetic screening installation is ready for inspection. In the Annual Compliance Report, the project owner shall verify that the maintenance has been performed.

~~**VIS-6** The project owner shall design the cooling tower with a flow rate of no less than 7,500 kg/sec.~~

~~**Verification:** Thirty (30) days prior to cooling tower construction, the project owner shall submit final cooling tower design specifications to the CPM for review and approval.~~

~~**VIS-7** The project owner shall mitigate potential driving hazards on local roads due to ground level cooling tower plumes from the project.~~

~~**Verification:** Ninety (90) days prior to commercial operation, the project owner shall submit to the CPM for review and approval a plan to mitigate driving hazards on adjacent roads (e.g., Wilber Avenue) due to ground level plumes from the project.~~

Table 1: Major Equipment List

Equipment/System	Quantity Plant	Size/Capacity*	Remarks
Combustion Turbine (CT) Generator	2	170 MW each	Dry Low NOx combustion control. Either train can operate independently
Steam Turbine (ST)	1	250 MW	Single shaft HPT, IPT and LPT (2x1 configuration
Generators	3		Included with CT and ST
CTG Step-up Transformers	2	230-18 kV 129/172/215 MVA, ONAN/ONAF/ONAF	To electrical grid
STG Main Step-up Transformer	1	230-18kV 153/204/255 MVA, ONAN/ONAF/ONAF~~3600000 lb/hr~~	To electrical grid~~1 @ 100%~~
CT Inlet Air Filter	2		
Inlet Air Cooling	2		~~Evaporative/Refrigeration/Fogging~~Inlet Chiller
Air Compressor	3	~~1~~250~~,000 lb/hr~~ cfm	3 @ 50%
Fuel Gas Compressor	1		1 @ 100%
Fuel Gas Filter – Separator	2	~~550~~204,000 lb/hr	
Heat Recovery Steam Generator (HRSG)	2		HP, IP, LP with reheat
HRSG Stack	2		~~18'~~16'-7 1/8" dia.x195' high
Ammonia Injection Skid	2		Two blowers per HRSG
Ammonia Storage Tank	1	20,000 gal	~~Double walled~~
HP/IP HRSG feedwater pumps	2	1,700 gpm	HP with interstage bleed
~~Make up~~Fire Water Storage Tank	1	~~2,3~~500,000 gal	Includes ~~firewater~~200,000 gal for service water storage
Service Water Pumps	2		2 @ 100%
Demineralized Water Pumps	2	~~170~~ gpm	2 @ 100%
Demineralized Water Treatment Package	1	~~350~~225 gpm	Trailer-mounted water treatment equipment
Demineralized Water Storage Tank	1	250~~0~~,000 gal	
Condensate Pump	~~2~~3	~~1~~2300 gpm	~~1 spare per condenser~~3 @ 50%
~~Circulating Water Pumps~~	~~3~~	~~60,000 gpm~~	
Condensate Polisher	1	3500 gpm	Powdered resin polisher
~~Cooling Tower Bank~~Air Cooled Condenser (ACC)	1		~~Ten~~Thirty Six-celled ~~mechanical draft design~~ACC
~~Fire Water Pump Skid~~	~~1~~	~~3,000 gpm~~	

Equipment/System	Quantity Plant	Size/Capacity*	Remarks
Fire Water Pumps	2	2,500 gpm	2 @ 100%
Auxiliary Cooling Water Pumps	2	~~7~~58,000 gpm	2 @ 100%
Plant Air Compressor Dryers	2	~~75~~500 cfm	2 @ 100%
Main Unit Auxiliary~~Step up~~ Transformers	2	18-4.16/4.16 kV H: 27/36/45 MVA, X,Y:13.5/18/22.5MVA,ONAN/ONAF/ONAF~~18/20 kV~~	To MV switchgear~~electrical grid~~

~~**PUBLIC HEALTH-1** The project owner shall perform a visual inspection of the cooling tower drift eliminators once per calendar year, and repair or replace any drift eliminator components which are broken or missing. Prior to initial operation of the project, the project owner shall have the cooling tower vendor's field representative inspect the cooling tower drift eliminator and certify that the installation was performed in a satisfactory manner. The CPM may, in years 5 and 15 of the project operation, require the project owner to perform a source test of the PM10 emissions rate from the cooling tower to verify continued compliance with the vendor guaranteed drift rate.~~

~~**Verification:** The project owner shall include the results of the annual inspection of the cooling tower drift eliminators and a description of any repairs performed in the next required quarterly compliance report. The initial compliance report w2ill include a copy of the cooling tower vendor's field representative's inspection report of the drift eliminator installation. If the CPM requires a source test as specified in Public Helath 1, the project owner shall submit to the CPM for approval a detailed source test procedure 60 days prior to the test. The project owner shall incorporate the CPM<'s comments, conduct testing, and submit test results to the CPM within 60 days following the tests~~.

NOISE-6 ~~Prior to initiating construction, the project owner shall conduct a 25-hour community noise survey at the closest noise sensitive receptor (applicant's OML5 location), and shall conduct short-term noise measurements during daytime, evening and nighttime hours at locations OML6 and OML7.~~

The project design and implementation shall include appropriate noise mitigation measures adequate to ensure that the project will not cause resultant noise levels to exceed the ambient background noise level (L_{90}) at ~~residential receivers~~ OML5 (64 dBA), OML6 (64 dBA) and OML7 (62 dBA) (results of July 2001 noise monitoring by Black and Veatch) by more than ~~3~~ 5 dBA.

Within 30 days of the project first achieving a sustained output of 90 ~~80~~ percent or greater of rated capacity, the project owner shall conduct 25-hour community noise survey ~~short-term survey noise measurements~~ at OML5, OML6 and OML7. ~~Based upon the survey noise measurements, the applicant shall conduct an additional 25-hour community noise survey at the site which experiences the highest project-related noise levels.~~ The measurement of power plant noise for purposes of demonstrating compliance with this Condition of Certification may alternatively be made at a location, acceptable to the CPM and the applicant, closer to the plant (e.g., 400 feet from the plant boundary) and this measured level then mathematically extrapolated to determine the plant noise contribution at the nearest residence. However, notwithstanding the use of this alternative method for determining the noise level, the character of the plant noise shall be evaluated at OML5, OML6 and OML7 to determine the presence of pure tones or other dominant sources of plant noise. ~~The survey during power plant operations shall also include measurement of one-third-octave band sound pressure levels to ensure that no new pure-tone noise components have been introduced.~~ No single piece of equipment shall be

allowed to stand out as a source of noise that draws legitimate complaints. Steam relief valves shall be adequately muffled to preclude noise that draws legitimate complaints.

If the results from the ~~two~~ noise surveys ~~(pre-construction vs. operations)~~ indicate that the background noise level (L_{90}) ~~at~~ attributable to the project ~~the most affected receptor has~~ increased by more than ~~3~~ 5 dBA for the average nighttime (10:00 p.m. - 7:00 a.m.) L_{90} during the 25-hour period, additional mitigation measures shall be implemented to reduce noise to a level of compliance with this limit.

Verification: Within 15 days after completing the survey, the project owner shall submit a summary report of the survey to the Contra Costa County Community Development Department, to the City of Antioch, and to the CPM. Included in the report will be a description of any additional mitigation measures necessary to achieve compliance with the above listed noise limits, and a schedule, subject to CPM approval, for implementing these measures. Within 15 days of completion of installation of these measures, the project owner shall submit to the CPM a summary report of a new noise survey, performed as described above and showing compliance with this condition.

Allowable Noise Levels at residential receptors (dBA)	
Location	**Cumulative Noise Level**
OML5	**69**
OML6	**69**
OML7	**67**

TSE-4 The project owner shall be responsible for the inspection of the transmission facilities during and after project construction and any subsequent CPM approved changes thereto, to ensure conformance with the CPUC General Order 95; Title 8, California Code of Regulations; Article 35, 36 and 37 of the "high Voltage Electric Safety Orders"; ~~the NEC~~; PG&E Interconnection Handbook; CPUC Rule 21 and related industry standards. In case of non-conformance, the project owner shall inform the CPM in writing within 10 days of discovery such non-conformance and describe the corrective actions to be taken.

Verification: Within 60 days after first synchronization of the project, the project owner shall transmit to the CPM:

1. "As built" engineering description(s) and one-line drawings of the electrical portion of the facilities signed and sealed by the registered electrical engineer in responsible charge. A statement attesting to conformance with the CPUC General Order 95; Title 8, California Code of Regulations Articles 35, 36 and 37 of the "high Voltage Electric Safety Orders"; ~~the NEC~~; PG&E Interconnection Handbook; CPUC Rule 21 and related industry standards, and these conditions shall be concurrently provided.

2. An "as built" engineering description of the mechanical, structural, and civil portion of the transmission facilities signed and sealed by the registered engineer in responsible charge.
3. A summary of inspections of the completed transmission facilities, and identification of any nonconforming work and corrective actions taken, signed and sealed by the registered engineer in responsible charge.

IT IS SO ORDERED.

Date: August 1, 2007

STATE OF CALIFORNIA
ENERGY RESOURCES CONSERVATION
AND DEVELOPMENT COMMISSION

JAMES D. BOYD, Vice Chair