

CALIFORNIA ENERGY COMMISSION

1516 NINTH STREET

SACRAMENTO, CA 95814-5512



STATE OF CALIFORNIA
State Energy Resources
Conservation and Development Commission

In the Matter of:)	Docket No. 98-AFC-4C
)	Order No. 01-1119-01
SUNRISE POWER PROJECT)	
)	
Petition for Conversion from Simple-)	COMMISSION ORDER APPROVING
Cycle to Combined-Cycle Operations)	PROJECT MODIFICATIONS

On May 11, 2001, the Sunrise Power Company submitted a Petition to convert the existing simple-cycle power plant to combined-cycle operations. The Commission approves the proposed amendment and the proposed modified conditions in accordance with Title 20, section 1769(a)(3) of the California Code of Regulations.

COMMISSION FINDINGS

Based on staff's analysis, the Energy Commission finds that:

- A. There will be no new or additional unmitigated significant environmental impacts associated with the proposed change.
- B. The facility will remain in compliance with all applicable laws, ordinances, regulations, and standards.
- C. The change will be beneficial to the project owner.
- D. The decision to convert to combined-cycle operations was filed due to a change in circumstances since the time of certification.

CONCLUSION AND ORDER

The California Energy Commission hereby adopts the following changes to the Sunrise Power Project Decision.

NEW AND CHANGES TO EXISTING CONDITIONS OF CERTIFICATION, (added text is underlined, deleted text is shown as ~~strikethrough~~):

AIR QUALITY

AQ-C2 The Project owner shall require as a condition of its construction contracts that its contractors/subcontractors ensure that all heavy earthmoving equipment, that includes but is not limited to bulldozers, backhoes, compactors, loaders, motor graders and trenchers, and cranes, dump trucks and other heavy duty construction related trucks, have been properly maintained and the engines tuned to the engine manufacturer's specifications. ~~The Project owner shall~~

~~further require as a condition of its construction contracts that all heavy construction equipment to the extent practical shall shut down during times of non-use that are expected to exceed 20 minutes.~~

Verification: The Project owner shall submit to the CPM, via the Monthly Compliance Report, documentation which demonstrates that the contractor's/subcontractor's heavy earthmoving equipment is properly maintained and that the engines are tuned to the manufacturer's specifications. The Project owner shall maintain construction contracts on the site for six months following the start of commercial operation.

~~AQ-C3 — The Project owner shall install oxidizing soot filters on all suitable construction equipment used either on the power plant construction site or on associated linear construction sites. Where the oxidizing soot filter is determined to be unsuitable, the owner shall install and use an oxidation catalyst. Suitability is to be determined by an independent California Licensed Mechanical Engineer who will stamp and submit for approval an initial and all subsequent Suitability Reports as necessary containing at a minimum the following:~~

Initial Suitability Report

- ~~— A list of all fuel burning, construction related equipment used,~~
- ~~— A determination of the suitability of each piece of equipment to firstly work~~
- ~~— with an oxidizing soot filter,~~
- ~~— A determination of the suitability of each piece of equipment to secondly~~
- ~~— work with an oxidation catalyst,~~
- ~~— If a piece of equipment is determined to be unsuitable for an oxidizing soot~~
- ~~— filter, an explanation by the independent California Licensed Mechanical~~
- ~~— Engineer as to the cause of this determination,~~
- ~~— If a piece of equipment is determined to be unsuitable for both an oxidizing~~
- ~~— soot filter and an oxidizing catalyst, an explanation by the independent~~
- ~~— California Licensed Mechanical Engineer as to the cause of this~~
- ~~— determination.~~

INSTALLATION REPORT

~~Following the installation of either the oxidizing soot filter or oxidizing catalyst as prescribed in the Initial Suitability Report, a California Licensed Mechanical Engineer will issue an Installation Report that either confirms that the installed device is functioning properly or that installation was not possible and the cause. The owner/operator shall attach to this report a copy of receipts of purchase for the appropriate equipment and payment for labor to install, if applicable.~~

Subsequent Suitability Reports

~~If a piece of construction equipment is subsequently determined to be unsuitable for an oxidizing soot filter or oxidizing catalyst after such installation has occurred, the filter or catalyst may be removed immediately. However, notification must be sent to the CPM for approval containing an explanation for the change in suitability within 10 days. Changes in suitability are restricted to the following three explanations that must be~~

identified in any subsequent suitability report. Changes in suitability may not be based on the use of high pressure fuel injectors, timing retardation and/or reduced idle time.

1. The filter or catalyst is reducing normal availability of the construction equipment due to increased downtime, and/or power output due to increased back pressure by 20% or more.
2. The filter or catalyst is causing or reasonably expected to cause significant damage to the construction equipment engine.
3. The filter or catalyst is causing or reasonably expected to cause a significant risk to nearby workers or the public.

Verification: The Project owner will submit to the CPM for approval, the initial suitability report stamped by an independent California Licensed Mechanical Engineer, 15 days prior to breaking ground on the Project site. The Project owner will submit to the CPM for approval, the installation report, stamped by an independent California Licensed Mechanical Engineer prior to the use of the identified construction equipment. The Project owner will submit to the CPM for approval, subsequent suitability reports as required, stamped by an independent California Licensed Mechanical Engineer no later than 10 working days following a change in the suitability status of any construction equipment.

AQ-C3 The project owner shall mitigate, to the extent practical, construction related emission impacts from off-road, diesel-fired construction equipment. Available measures which may be used to mitigate construction impacts include the following:

- Catalyzed Diesel Particulate Filters (CDPF);
- Ultra-Low-Sulfur Diesel fuel, with a sulfur content of 15 ppm or less (ULSD);
- Diesel engines certified to EPA and CARB 1996 or newer off-road equipment emission standards.

Additionally, the project owner shall restrict idle time, to the extent practical, to no more than 10 minutes.

The use of each mitigation measure is to be determined in advance by a Construction Mitigation Manager (CMM), who will be available at the project site(s). The CMM must be approved by the CPM prior to the submission of any reports.

The CMM shall submit the following reports to the CPM for approval:

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

Diesel Construction Equipment Mitigation Plan:

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

1. A list of all diesel fueled, 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. Equipment used less than a total of 10 consecutive days need not be included in this list.
2. Each piece of construction equipment listed under item (1) must demonstrate compliance with the following mitigation requirements:

<u>Engine Size (BHP)</u>	<u>1996 CARB or EPA Certified Engine</u>	<u>Required Mitigation</u>
<u>< or =100</u>	<u>Yes or No</u>	<u>ULSD</u>
<u>>100</u>	<u>Yes</u>	<u>ULSD</u>
<u>>100</u>	<u>No</u>	<u>ULSD and CDPF, if suitable as determined by the CMM</u>

3. If compliance can not be demonstrated as specified under item (2), then the project owner may appeal for relief to the CPM. However, the owner must demonstrate that they have made a good faith effort to comply as specified under item (2).

Report of Change and Mitigation Implementation

Following the initiation of construction activities, and if changes to mitigation measures are necessary, the CMM shall submit a Report of Change and Mitigation Implementation to the CPM for approval. This report must contain at a minimum the cause of any deviation from the Construction Mitigation Plan, and verification of any Construction Mitigation Plan measures that were implemented.

The following is acceptable proof of compliance, other methods of proof of compliance must be approved by the CPM.

1. EPA or CARB 1996 off-road equipment emission standards:
 - a. A copy of the certificate from EPA or CARB.
2. Purchase and use of ultra-low-sulfur fuel (15 ppm or less).
 - a. Receipt or other documentation indicating type and amount of fuel purchased, from whom, where delivered and on what date; and
 - b. A copy of the text included in the contract agreement with all contractors and sub-contractors for use of the ultra-low-sulfur fuel in diesel burning construction equipment as identified in the Construction Mitigation Plan.
3. Installation of CDPF:

- a. The suitability of the use of CDPFs is to be determined by a qualified mechanic or engineer who must submit a report to the CPM for approval.
 - b. Installation is to be verified by a qualified mechanic or engineer.
4. Construction equipment engine idle time:
- a. A copy of the text included in the contract agreement with all contractors and sub-contractors to keep engine idle time to 10 minutes or less to the extent practical.

Report of Emergency Termination of Mitigation

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 terminated immediately. However, notification containing an explanation for the cause of the termination must be sent to the CPM for approval. All such causes are restricted to one of the following justifications and must be identified in any Report of Emergency Termination of Mitigation.

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 is reasonably expected to cause significant engine damage.
3. The measure is causing or is 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 will submit to the CPM for approval the qualifications of the CMM at least 15 days prior to the due date for the Diesel Construction Equipment Mitigation Plan. The project owner will submit the Diesel Construction Equipment Mitigation Plan to the CPM for approval 30 calendar days prior to rough grading on the project site or start of construction on any associated linear facilities. The project owner will 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 will submit a Report of Emergency Termination of Mitigation to the CPM for approval, as required, no later than 10 working days following the termination of the 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.

GENERATOR WITH DRY LOW NOx COMBUSTORS GENERAL ELECTRIC FRAME 7, MODEL PG724FA, NATURAL GAS FIRED COMBINED CYCLE GAS TURBINE ENGINE/ELECTRIC GENERATOR WITH DRY LOW NOX COMBUSTORS, SELECTIVE CATALYTIC REDUCTION, OXIDATION CATALYST, AND STEAM TURBINE LISTED WITH S-3746-2 (585 MW TOTAL PLANT NOMINAL RATING).

SJVUAPCD Permit No. S-3746-2-0: 165 MW NOMINALLY RATED SIMPLE CYCLE PEAK DEMAND POWER GENERATION SYSTEM #2 CONSISTING OF GENERAL ELECTRIC FRAME 7FA, NATURAL GAS FIRED COMBUSTION TURBINE GENERATOR WITH DRY LOW NOx COMBUSTORS GENERAL ELECTRIC FRAME 7, MODEL PG724FA, NATURAL GAS FIRED COMBINED CYCLE GAS TURBINE ENGINE/ELECTRIC GENERATOR WITH DRY LOW NOX COMBUSTORS, SELECTIVE CATALYTIC REDUCTION, OXIDATION CATALYST, AND STEAM TURBINE LISTED WITH S-3746-2 (585 MW TOTAL PLANT NOMINAL RATING).

AQ-14 During startup or shutdown of any combustion turbine generator(s), combined emissions from the two CTGs (S-3746-1 and '-2) shall not exceed the following: Nox- 145.24700 lbs and CO - 364.861580 lbs in any one-hour.

Verification: The Project owner shall provide records of the emissions as part of the quarterly reports of Condition **AQ-31**.

AQ-15 Emission rates from each CTG, except during startup and shutdown events, shall not exceed any of the following:

PM10: 9.017.8 lbs/hr
SOx (as SO2): 3.851.55 lbs/hr
NOx (as NO2): 60.9315.96 lbs/hr and 9.02.0 ppmvd @ 15% O2
VOC: 2.815.51 lbs/hr and 1.32.0 ppmvd @ 15% O2
CO: 29.1419.22 lbs/hr and 7.54.0 ppmvd @ 15% O2
Ammonia: 10 ppmvd @ 15% O2

NOx (as NO2) emission concentration limit is a one-hour rolling average.
Ammonia emission concentration limit is a 24-hour rolling average. All other emission concentration limits are three-hour rolling averages.
[District Rules 2201, 4001, and 4703]

Protocol: Each one-hour period in a one-hour rolling average will commence on the hour. Each one-hour period in a 3-hour rolling average will commence on the hour. The 3-hour average will be compiled from the three most recent 1-hour periods. 24-hour average emissions will be compiled for a 24-hour period starting and ending at twelve-midnight. -[District Rule 2201]

Verification: The Project owner shall provide records of the emissions as part of the quarterly reports of Condition **AQ-31**.

AQ-16 Emission rates from each CTG shall not exceed the following:

PM10: 158,461.2 lbs/day
SOx (as So2): 64,1737.2 lbs/day
NOx (as No2): 1038,881,170.9 lbs/day
VOC: 78,96220.6 lbs/day
CO: 792,242,443.4 lbs/day
[District Rule 2201]

Protocol: Daily emissions will be compiled for a 24-hour period starting and ending at twelve-midnight. [District Rule 2201]

Verification: The Project owner shall provide records of the emissions as part of the quarterly reports of Condition **AQ-31**.

AQ-17 Annual emissions from the CTG calculated on a twelve consecutive month rolling basis shall not exceed any of the following:

PM10: 34,292269,651 lbs/year
SOx (as So2): 13,22224,259 lbs/year
NOx (as No2): 215,060311,337 lbs/year
VOC: 16,71887,674 lbs/year
CO: 166,721507,978 lbs/year
[District Rule 2201]

Protocol: Each calendar month in a twelve consecutive month rolling emissions total will commence at the beginning of the first day of the month. The twelve consecutive month rolling emissions total to determine compliance with annual emission limits will be compiled from the twelve most recent calendar months. [District Rule 2201]

Verification: The Project owner shall provide records of the emissions as part of the quarterly reports of Condition **AQ-31**.

AQ-18 Prior to or upon startup of either S-3476-1-0 or '2-0, emission offsets shall be surrendered for all calendar quarters in the following amounts, at the offset ratio specified in Rule 2201 (6/15/95 version) in the following table at least 30 days prior to the commencement of construction.

	Quarter 1	Quarter 2	Quarter 3	Quarter 4
PM10	3,964	7,584	18,780	3,964
NOx (as NO2)	21,036	41,894	111,094	21,036

[District Rule 2201]

Prior to or upon startup of either S-3746-1-0 or '2-0, the following emissions offsets shall be provided to the District to provide additional environmental benefits during the initial phase of this Project and shall be used towards the offset requirements, if needed, when the next phase of this Project is implemented:

	Quarter 1	Quarter 2	Quarter 3	Quarter 4
PM10	67,364	64,647	51,763	69,001
SOx (as SO2)	14,075	14,231	14,387	14,387
NOx (as NO2)	67,207	0	18,105	26,538
VOC	13,949	14,104	14,259	14,259

Prior to or upon startup of either S-3746-1, '2 and '3, the following emissions offsets shall be provided to the District to provide additional environmental benefits during the initial phase of phase II of the Sunrise Project and shall be used towards the offset requirements:

	<u>Quarter 1</u>	<u>Quarter 2</u>	<u>Quarter 3</u>	<u>Quarter 4</u>
PM10	<u>10,541</u>	<u>8,266</u>	<u>20,637</u>	<u>16,404</u>
NOx (as NO2)	<u>9,157</u>	<u>4,195</u>	<u>0</u>	<u>6,571</u>
VOC	<u>4,983</u>	<u>3,111</u>	<u>5,791</u>	<u>6,648</u>

Verification: The Project owner shall provide copies of all the necessary ERC certificates to the CPM no later than 30 days prior to the commencement of construction.

AQ-44 The project owner shall submit selective catalytic reduction, oxidation catalyst and continuous emission monitor design details to the District and the CPM prior to commencement of construction. [District Rule 4102]

Verification: The Project owner shall provide the information identified in this condition no later than 30 prior to the commencement of construction of permanent structures on the project site.

AQ-45 The project owner shall equip the ammonia injection grid with an operational ammonia flowmeter and injection pressure indicator. [District Rule 2201]

Verification: The Project owner shall make the site available for inspection by representatives of the District, CARB and the Commission.

AQ-46 The project owner shall design the heat recovery steam generator to provide space for additional SCR and oxidation catalyst if required to meet NOx and CO emission limits. [District Rule 2201]

Verification: The Project owner shall make the site available for inspection by representatives of the District, CARB and the Commission.

AQ-47 The project owner shall monitor and record the exhaust gas temperature at the SCR and oxidation catalyst inlets. [District Rule 2201]

Verification: The Project owner shall make the site available for inspection by representatives of the District, CARB and the Commission.

AQ-48 The project owner shall inject ammonia into the SCR when the inlet temperature of the SCR exceeds 500 °F. The project owner shall monitor and record the SCR temperature during periods of startup. [District Rule 2201]

Verification: The Project owner shall make the site available for inspection by representatives of the District, CARB and the Commission.

AQ-49 No more than two hours after turbine initial firing, CTG exhaust emissions shall not exceed any of the following:

NO _x (as NO ₂):	10.3 ppmv @ 15% O ₂
CO:	25. ppmv @ 15% O ₂

[District Rule 4703]

Verification: The Project owner shall provide records of the emissions as part of the quarterly reports of Condition **AQ-31**.

AQ-50 Emission rates from BOTH CTGs (S-3746-1 and '2), on days when a startup or shutdown occurs for either or both turbines, shall not exceed any of the following:

PM ₁₀ :	922.3 lbs/day
SO _x (as SO ₂):	74.4 lbs/day
NO _x (as NO ₂):	2,341.8 lbs/day
VOC:	441.2 lbs/day
CO:	4,886.8 lbs/day

[District Rule 2201]

Verification: The Project owner shall provide records of the emissions as part of the quarterly reports of Condition **AQ-31**.

AQ-51 The project owner shall demonstrate compliance with the ammonia slip level by using the following calculation procedure:

Ammonia Slip ppmv @ 15% O₂ = ((a-(bc/1,000,000)) x (1,000,000/b) x d

Where:

a = ammonia injection rate (lbs/hr)/17 (lb/lb mole)

b = dry exhaust gas flow rate (lbs/hr)/29 (lb/lb mole)

c = change in measured NO_x concentration ppmv @ 15% O₂ across the catalyst

d = correction factor.

Protocol: The correction factor shall be derived annually during compliance testing by comparing the measured and calculated ammonia slip. Alternatively, the project owner may utilize a continuous in-stack ammonia monitor, acceptable to the District, to monitor for compliance. [District Rule 4102]

Verification: If the project owner must submit a monitoring plan for District and CPM review at least 60 days prior to its use, if the owner chooses to utilize a continuous in-stack ammonia monitor. The Project owner shall provide records of the emissions as part of the quarterly reports of Condition AQ-31.

S-3746-3: 137,000 GALLON/MINUTE COOLING TOWER WITH UP TO 10 CELLS AND HIGH EFFICIENCY DRIFT ELIMINATORS

AQ-52 No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

Verification: The project owner shall make the site available for inspection by representatives of the District, CARB and the Commission.

AQ-53 The project owner shall submit drift eliminator design details and vendor specific emission justification for the correction factor to be used to correlate blowdown TDS to drift TDS and the amount of drift that stays suspended in the atmosphere in the equation in **Condition AQ-58** to the District. [District Rule 2201]

Verification: 30 days prior to commencement of construction of the cooling towers, the project owner shall submit the information required above to the District and the CPM.

AQ-54 The project owner shall submit cooling tower design details including the cooling tower type and materials of construction to the District at least 30 days prior to commencement of construction, and at least 90 days before the tower is operated. [District Rule 7012]

Verification: 30 days prior to commencement of construction of the cooling towers, the project owner shall submit the information required above to the District and the CPM.

AQ-55 No hexavalent chromium containing compounds shall be added to cooling tower circulating water. [District Rule 7012]

Verification: The project owner shall make the site available for inspection by representatives of the District, CARB and the Commission.

AQ-56 Drift eliminator drift rate shall not exceed 0.0006%. [District Rule 2201]

Verification: The project owner shall submit documentation from the selected cooling tower vendor that verifies the drift efficiency to the CPM 30 days prior to commencement of construction of the cooling towers.

AQ-57 PM10 emission rate shall not exceed 15.78 lb/day. [District Rule 2201]

Verification: Please refer to Condition AQ-58.

AQ-58 Compliance with the PM10 daily emission limit shall demonstrated as follows: PM10 lb/day = circulating water recirculation rate * total dissolved solids concentration in the blowdown water * design drift rate * correction factor. [District Rule 2201]

Verification: The project owner shall compile the required daily PM10 emissions data and maintain the data for a period of five years. The project owner shall make the site available for inspection by representatives of the District, CARB and the Commission.

AQ-59 Compliance with PM10 emission limit shall be determined by circulating water sample analysis by independent laboratory within 90 days of initial operation and weekly thereafter. [District Rule 1081]

Verification: The project owner shall compile the required daily PM10 emissions data and maintain the data for a period of five years. The project owner shall make the site available for inspection by representatives of the District, CARB and the Commission.

BIOLOGIC RESOURCES

Habitat Compensation for the 2.5 mile Wastewater Pipeline and Two Injection Wells

BIO-4 BIO-14 To compensate for temporary and permanent impacts to sensitive wildlife habitat for the additional wastewater pipeline and injection well-related impacts, the project owner will contact the Center for Natural Lands Management (CNLM) so CNLM can calculate the amount of compensation funds that will be required for CNLM to assume responsibility for acquiring and protecting no less an additional 29.1 acres of compensation habitat as part of the Lokern Preserve.

Verification: Within ~~one (1) week~~ 60 (sixty) days of approval of the wastewater pipeline and injection well amendment, the project owner must provide written verification to the CPM that the required compensation funds have been provided to CNLM.

Within 180 days after completion of project construction, the project owner shall provide the CPM aerial photographs taken after construction and an analysis of the amount of any additional habitat disturbance beyond that identified in the Energy Commission Final Staff Assessment. The CPM will notify the project owner of any additional funds required to compensate for any additional habitat disturbances at the adjusted market value at the time of construction to acquire and manage habitat.

Habitat Compensation for the Sunrise II 15.5 mile Water Supply Line and Four Injection Wells

BIO-15 To compensate for additional, Sunrise II-related temporary and permanent impacts to sensitive wildlife habitat, the project owner will consult the Center for Natural Lands Management (CNLM) so CNLM can calculate the amount of additional compensation funds that will be required from the Sunrise II project owner for CNLM to assume responsibility for acquiring and protecting no less than 211.5 acres of compensation habitat as part of the Lokern Preserve.

Verification: Within one (1) week of the Sunrise II project amendment approval, the project owner must provide written verification to the CPM that the required compensation funds have been provided to CNLM.

Within 180 days after completion of project construction, the project owner shall provide the CPM aerial photographs taken after construction and an analysis of the amount of any additional habitat disturbance beyond that identified in the Energy Commission Final Staff Assessment. The CPM will notify the project owner of any additional funds required to compensate for any additional habitat disturbances at the adjusted market value at the time of construction to acquire and manage habitat.

California Condor

BIO-16 During construction of the new Sunrise II and Sunrise Power Project transmission lines, the power plant owner will install USFWS-approved bird flight diverters on the new transmission line ground wire(s), including the new La Paloma transmission line ground wires if Sunrise links directly to that line at the La Paloma Generating project power plant. Bird flight diverters must be:

- installed per manufacturer's specifications;
- replaced when damaged or deemed defective; and
- maintained for the full length of the transmission line for the life of the facility.

Verification: No later than 10 days prior to energizing the new Sunrise transmission line (including the La Paloma transmission line if Sunrise links to that new transmission line), the project owner will provide photographic verification to the Energy Commission CPM that all required bird flight diverters have been installed, according to manufacturer's specifications, for the full length of the new transmission line.

No later than 10 days prior to energizing the new Sunrise II transmission line, the Sunrise II project owner will provide photographic verification to the CPM that all required bird flight diverters have been installed, according to manufacturer's specifications, for the Sunrise II project transmission line. The project's final Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) will provide complete guidance regarding bird flight diverter installation and maintenance.

Federal Nationwide Permit #12

BIO-17 The Sunrise II project owner will acquire and implement the terms and conditions of an Army Corp of Engineers Nationwide Permit #12.

Verification: Fifteen (15) days prior to the start of any Sunrise II project-related ground disturbance activities, or a lesser time as mutually agreed upon by the project owner and the CPM, the project owner shall submit to the CPM a copy of the federal Nationwide Permit #12 from the U. S. Army Corp of Engineers. The terms and conditions of the Nationwide Permit #12 will be incorporated into the revised Biological Resources Mitigation Implementation and Monitoring Plan. See Condition of Certification BIO-9.

CULTURAL RESOURCES

CUL-19 Prior to any ground disturbance along the water supply pipeline within 200 feet of P-15-006488, W-16, W-21, W-23, or W-26 or in the area of the deep injection wells within 200 feet of P-15-006488 or P-15-006327, the project owner shall complete the following:

If any of the aforementioned cultural resources can be avoided, then mitigation measures shall be implemented, if required, to assure the avoidance of the resources.

If any of the aforementioned cultural resources can not be avoided, then an evaluation program shall be initiated by the Cultural Resource Specialist (CRS) and a report documenting the findings including recommendations as to the eligibility of the resource for the California Register of Historical Resources (CRHR) and the National Register of Historic Places (NRHP) shall be provided to the CPM and the Lead Federal Agency. The determination of eligibility to the CRHR will be made by the CPM and eligibility for the NRHP will be made by the Lead Federal Agency. The evaluation report shall contain recommendations for mitigation measures.

If a resource is determined to be eligible for the CRHR by the Compliance Project Manager (CPM), then approved mitigation measures shall be implemented to lessen the impact to less than significant. If a resource is determined to be eligible for the NRHP by the Lead Federal Agency, then mitigation measures approved by the CPM and the lead federal agency shall be implemented that take into account impacts of the activity to historical properties.

A Native American monitor shall be retained when any ground disturbance activity conducted in the vicinity of a sensitive prehistoric cultural resource or during any archeological testing and data recovery efforts, should such activities be undertaken.

An addendum to the CRMMP shall be prepared that identifies all mitigation measures that will be utilized. All monitoring and mitigation measures and associated technical reports shall be incorporated into the CRR.

Verification: At least 30 days prior to ground disturbance along the water supply pipeline, the project owner shall provide to the CPM for review and approval, an addendum to the CRMMP that identifies all avoidance and monitoring measures being

implemented to assure the protection of resources that can be avoided. At least 30 days prior to ground disturbance within 200 feet of P-15-006488, W-16, W-21, W-23, W-26 or P-15-006327, the project owner shall provide the CPM and BLM with a report for review and approval that evaluates any cultural resources that can not be avoided and recommends mitigation measures, and an addendum to the CRMMP that identifies any cultural resources within the impact area and incorporates all mitigation measures necessary to ensure that the impacts to cultural resources will be less than significant. All technical reports not previously submitted to the CHRIS and SHPO shall be incorporated into the CRR.

FACILITY DESIGN

GEN-2 The project owner shall furnish to the Energy Commission CPM and to the CBO a schedule of facility design submittals, a Master Drawing List, and a Master Specifications List. The schedule shall contain a description and list of proposed submittal packages for design, calculations, and specifications for major structures and equipment (see a list of major structures and equipment below). To facilitate audits by Energy Commission staff, the project owner shall provide designated packages to the CPM when requested.

Table 1: Major Structures and Equipment List

Quantity	Description	Size/Capacity*	Remarks
2	Combustion Turbine (CT).	164.2 MW.	Dry low No _x combustion control and starter package.
2	CT inlet filters.		Two-stage, media type.
2	Inlet air cooling systems.		Evaporative type.
2	Fuel gas scrubbers.	43.80 MMSCFD.	340 psig minimum inlet pressure.
2	Fuel gas heat exchangers	1.4 million gal.	To feed water pumps.
2	CTG stacks		
2	Demineralized water transfer pumps		
1	Demineralized water storage tank.		
1	Wastewater collection basin		
2	Wastewater transfer pumps		
2	Generator transformers		
2 4	Auxiliary transformers		
2	CEMS buildings		
2	Generator enclosure.		
2	Generator breakers.		
2	Step-up transformers.		
1	Common services building		
1	Switchyard, buses and towers.		
1	Feedwater storage tank.		
1	Electrical/equipment building.		
1	Wastewater collection basin		
1	Switchyard control building (Sunrise).		
1	Common Service Building.		
1	Hydrogen storage tank		
2 4	Secondary Unit Substation (SUS) transformers		
2	Continuous emission monitoring buildings		
2	Closed cooling water pumps		

2	<u>Closed cooling water heat exchangers</u>		
1	<u>Steam Turbine Generator (STG) With Pedestal</u>		
2	<u>Heat Recovery Steam Generators (HRSG)</u>		
2	<u>HRSG stacks</u>		
2	<u>Selective Catalytic Reduction (SCR) and skid</u>		
1	<u>Anhydrous ammonia storage tank</u>		
2	<u>Ammonia injection skid</u>		
2	<u>Oxidation catalysts</u>		
1	<u>Cooling Tower</u>		
1	<u>Deaerating surface condenser</u>		
4	<u>HRSG feedwater pumps</u>		
2	<u>Condensate pumps</u>		
1	<u>Wastewater sump</u>		
1	<u>ST Excitation Transfer</u>		
1	<u>Water treatment building</u>		
1	<u>Circulating water chemical feed building</u>		
2	<u>HRSG I/O buildings</u>		
2	<u>Tubular Steel Transmission Pole</u>		
1	<u>HRSG & STG Pipe racks</u>		
1	<u>CW Electrical building</u>		
1	<u>STG Electrical building</u>		

*All capacities and dimensions are approximate and may change during project final design.

Verification: At least 60 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of rough grading, the project owner shall submit the schedule, the Master Drawing List, and the Master Specifications List to the CBO and to the CPM. The project owner shall provide schedule updates in the Monthly Compliance Report.

HAZARDOUS MATERIALS MANAGEMENT

HAZ-2 The project owner shall provide a Risk Management Plan / Process Safety Management plan to the Kern County Environmental Health Department for review and comment, and to the CPM for review, at the time the plans are first submitted to the U.S. Environmental Protection Agency (EPA) and the California Occupational Safety and Health Administration (Cal OSHA). The project owner shall also reflect all recommendations of the Kern County Environmental Health Department and the CPM in the final plans. A copy of the final plans, reflecting all comments, shall be provided to the Kern County Environmental Health Department and the CPM.

Verification: At least sixty (60) days prior to delivery of anhydrous ammonia to the facility, the project owner shall provide the final plans listed above to the CPM for approval.

LAND USE

LAND USE-1 Prior to the start of construction for Sunrise II, the project owner shall submit a site plan for the project to Kern County for their review and comment, and to the California Energy Commission Compliance Project Manager (CPM) for review and approval. The site plan shall comply with all applicable provisions of Chapters 9-12 19.12, 19.86, and 19.82 of the Kern County Zoning Ordinance. The project owner shall provide a letter of comment from the Kern County Planning Director stating that the project is consistent with the provisions of the Kern County General Plan and Zoning Ordinance.

Verification: At least 60 days prior to the start of any ground disturbance related to construction for Sunrise II, the project owner shall submit a copy of the letter of comment from the Kern County Planning Director to the CPM for review and approval. The project owner shall submit any required revisions within 30 days of notification by the CPM.

LAND USE-2 Within 90 days of commencement of construction, the project owner shall deposit in trust the sum of \$30,000 to be used for beautification (to include landscaping and/or lighting) in the community of Derby Acres. The money may be received by Kern County or by Derby Acres community non-profit organization for the beautification in Derby Acres by the County in coordination with the community of Derby Acres. After a period of three years from the date of deposit, any sums and accrued interest not used for such beautification shall revert to the project owner.

Verification: Within 90 days following the commencement of construction, the project owner shall submit evidence that \$30,000 has been placed in trust in accordance with the above Condition. The project owner shall include in routine compliance reports a description of the date, amount, and purpose of any disbursements from the trust when made available by the trustee.

LAND USE-3 Immediately following the restoration of the 14.3 acres of land disturbed for construction of the Sunrise II water line route, the project owner shall provide a letter from the owner of the property stating that the 14.3 acres have been restored to their condition prior to construction.

Verification: Within 30 days following the restoration of the 14.3 acres of land disturbed for construction of the Sunrise II water line route, the project owner shall submit a copy of the letter from the property owner to the CPM.

WORKER SAFETY AND FIRE PROTECTION

SAFETY-4 The Sunrise Power Company shall develop an agreement with the Kern County Fire Department to provide for fire hydrants as negotiated with the KCFD. The agreement shall also include a mechanism to provide for reimbursement of costs from future local tax liability.

Verification: At least sixty (60) days prior to operation of the facility, the project owner shall provide the final agreement listed above to the CPM for review and approval.

SOIL AND WATER RESOURCES

SOIL & WATER 1 ~~Prior to beginning any clearing, grading or excavation activities associated with project construction, including any new linear facilities or site expansion, the project owner will develop and implement a Storm Water Pollution Prevention Plan (SWPPP).~~ Prior to site mobilization for the construction of the proposed project and any ground disturbance activities associated with construction of any on and/or off-site project elements, including linear facilities, the Project Owner shall develop a final Storm Water Pollution Prevention Plan (SWPPP) as required under the General NPDES Stormwater Construction Activity Permit for the project. The final plan must be approved by the CPM. The SWPPP shall include final drainage and facility design for all on and off-site SPC project facilities. This includes final site drainage plans, showing all of the detail necessary to evaluate the impacts of stormwater run-on and run-off of the site and associated off-site facilities. The final plan shall also be consistent with all other permit and design documents provided by the Applicant. Approval of the final plan by CPM must be received prior to the initiation of any site mobilization activities associated with construction of any project element.

Verification: ~~Two weeks prior to the start of construction~~ Sixty days prior to the site mobilization, the project owner shall submit to the Energy Commission Compliance Project Manager (CPM) a copy of the Storm Water Pollution Prevention Plan (SWPPP) for review and approval. Site mobilization will not begin prior to notification of a CPM approved plan. This plan shall contain the final project design, and will identify all new linear facilities and site expansion.

SOIL & WATER 2 Prior to the initiation of site mobilization activities associated with any new linear facilities or site expansion, the project owner shall submit a draft erosion control and revegetation plan to the CPM for review and approval. The final plan shall contain all the elements of the draft plan with changes made to address the final design of the project including new linear facilities and site expansion.

Verification: The final erosion control and revegetation plan shall be submitted to the Energy Commission CPM for approval ~~30 days~~ 60 days prior to the initiation of any earth moving activities associated with any new linear facilities or site expansion.

SOIL & WATER 3 The project owner shall provide a copy of the final Underground Injection Control (UIC) permit issued by the U.S. EPA Region IX for the construction and operation of the wastewater disposal injection wells. A copy of the Report of Waste Discharge required by the CVRWQCB to issue a waiver allowing for the UIC permit to be issued by U.S. EPA Region IX, and a copy of the waiver itself will be provided to the Energy Commission CPM. The project shall not construct or discharge wastewater to these wells without the final permit in place, or without emergency/temporary authorization from U.S. EPA Region IX. The project owner shall provide on a continuing basis copies of all monitoring or other reports, and changes to the permit submitted to or received from the U.S. EPA related to the operation of these wells.

Verification: The final UIC permit and/or an emergency/temporary authorization issued by U.S. EPA Region IX for the injection wells, a copy of the ROWD accepted by the CVRWQCB, and a copy of the waiver issued by the CVRWQCB shall be provided to the Energy Commission CPM ~~30-60~~ days prior to the start of construction of the disposal wells and/or receiving any wastewater for injection. Copies of permit changes and monitoring or other reports required by the U.S. EPA shall be provided on a continuing basis to the CPM within 30 days of their submittal to the U.S. EPA.

SOILS & WATER 4: The maximum annual water use shall be limited to 3,900 acre-feet/year. The project owner shall record, on a monthly basis, the amount of groundwater purchased from WKWD by the project. This information shall be supplied to the Energy Commission in the Annual Compliance Reports. Any increase in the water supply needs for the project during construction or operation of the plant shall be noticed in writing to the CPM at least 90-days prior to the effective date of the proposed change.

Verification: The project owner will submit a groundwater use summary to the CPM in the Annual Compliance Reports for the life of the project. The annual summary shall include the monthly range, monthly average, and total groundwater use by the project in both gallons-per-minute and acre-feet. Following the first year of operation, the annual summary will also include the yearly range and yearly average groundwater use by the project.

SOILS & WATER 5: This condition of certification applies only if the project uses West Kern Water District water bank groundwater, and does not secure or purchase out-of-basin equivalent water (3,900 acre-feet plus 5% to account for evaporation losses) that would not otherwise be used, for recharge within the basin. Otherwise, the project owner shall submit a draft groundwater monitoring plan designed to monitor and report the groundwater levels within in the WKWD well field/groundwater basin on a monthly basis. The plan shall include and discuss in detail the application of the critical groundwater level for pumping, or trigger, of 230 feet bgs to the implementation of the groundwater monitoring plan. The plan will include the determination of the critical level under the following conditions:

- Groundwater levels during pumping shall be measured for all eight WKWD wells.
- Groundwater levels shall be measured monthly.
- The pumping rate during the tests shall be monitored continuously and recorded.
- Tests must be conducted after 24 hours of continuous pumping.
- Tests must be conducted at a constant rate equal to the system-wide peak rate/6 (WKWD proposes to operate with 6 active wells plus 2 wells on standby).

The critical level will be reached when a pumping level of 230 feet bgs is measured in any three of the eight WKWD wells during monthly monitoring. This threshold is based on the requirement that WKWD must maintain at least five wells at full pumping capacity to provide a sufficient water supply to all its customers.

The CPM shall confirm or revise the trigger level at the time the draft plan is reviewed based on further analysis of any available data. The groundwater monitoring plan shall discuss all materials, methods, information, and data used in its development. The project shall not operate without a final plan approved by the CPM in place.

Definitions:

- a. Pumping level is defined as the groundwater level measured while a well is actively pumping.
- b. The system-wide peak rate is defined as the peak historic summer production rate plus the peak rate for all 3 new power plants, including Sunrise II.

Verification: The project owner shall submit a draft Groundwater Monitoring Plan to the CPM that implements a procedure that uses the "trigger" or critical level of groundwater where significant impacts begin to occur for review and approval no later than 180 days prior to the start of commercial operation. A final plan must be approved by the CPM prior to the start of commercial operation.

SOILS & WATER 6: This condition of certification applies only if the project uses West Kern Water District water bank groundwater, and does not secure or purchase out-of-basin equivalent water (3,900 acre-feet plus 5% to account for evaporation losses) that would not otherwise be used, for recharge within the basin. Otherwise, the project owner shall submit for review and approval a draft "Alternative Cooling Plan" at the end of the second full year of operation that sets forth: (1) the alternative water source (e.g., reclaimed) or (2) cooling technology option (e.g., dry cooling), or (3) other equally effective option that the project owner shall implement if pumping induced groundwater levels exceed the threshold of significant impact or trigger level. The final Alternative Cooling Plan satisfying the above options, must be approved by the CPM. An effective option shall eliminate impacts on groundwater levels causing levels to exceed the threshold and, therefore, precludes using water that would otherwise be used (consumed or used for recharge) in the groundwater basin. The "significant impact" level shall be detected using the monthly well monitoring information required by the plan designed to monitor the groundwater levels within the WKWD well field/groundwater basin in Soils and Water Condition 5.

If the critical level(s) is reached in the groundwater basin, the project owner shall have one year from the date of that determination to cease using water from this source and have a new alternative source of cooling water, or two years if an alternative cooling technology is placed in operation, or the project shall be shutdown until the new alternative is in place and operating.

Verification: The project owner shall submit a draft Alternative Cooling Plan by the last day of the end of the second full year of operation for review and final CPM approval. One year following a determination of "significant impact" notification based on the critical level trigger, the project owner shall implement the "Alternative Cooling Plan" if it includes an alternative source of cooling water, or in two years if an alternative cooling technology is placed in operation, or cease operation until such a time as the Alternative Cooling Plan is in effect.

SOILS & WATER 7: The project owner shall include in the project design and operational plan, water conservation measures which result in either direct or indirect reduction (on-site or off-site), of wastewater volume in some verifiable means, capable of reducing the project's total combined wastewater stream by a factor of 75 to 90 percent. If conservation methods are implemented onsite, they shall conserve a minimum of 75% (e.g.: at peak – 303 gpm/450 afy) of the wastewater stream, or if offsite, a minimum of 90% (363 gpm/600 afy) shall be conserved. The project shall report both the pre-conservation and post-conservation volumes of flow of the wastewater discharge on a monthly basis. The water conservation measures shall be installed and operating, if onsite, and implemented if offsite, within one year following the start of commercial power plant operation.

Verification: The project owner shall submit a wastewater discharge summary to the CPM in the Annual Compliance Reports for the life of the project. The annual summary shall include the monthly volume of pre-conservation and post-conservation wastewater discharged by the project in both gallons-per-minute and acre-feet per year. Following the first year of operation, the annual summary will also include the yearly range and yearly average wastewater discharged by the project. The project owner will provide proof that the selected water conservation measure is installed and operating, or implemented if offsite, as required within one year following the start of commercial operation.

IT IS SO ORDERED.

Date: November 19, 2001

STATE OF CALIFORNIA
ENERGY RESOURCES
CONSERVATION AND
DEVELOPMENT COMMISSION



WILLIAM J. KEESE
Chairman