

CALIFORNIA ENERGY COMMISSION1516 NINTH STREET
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HANFORD ENERGY PARK PEAKER PROJECT STAFF ASSESSMENT FOR EMERGENCY PERMIT

EXECUTIVE SUMMARY

The Energy Commission staff has performed a fatal flaw analysis of the GWF Hanford Energy Park Peaker Project and recommends that the project be approved by the Energy Commission with the Conditions of Certification proposed by staff. Staff further recommends that the certification be for the life of the project provided that, at the end of the power purchase agreement with the California Department of Water Resources, the project owner verifies that the project meets certain continuation criteria. These recommendations are based on the Energy Commission staff's independent assessment of the emergency permit application, independent studies and site evaluation, and consultation with agencies that would normally have permitting authority over the project except for the Energy Commission's emergency permitting authority provided by the Emergency Executive Orders of the Governor.

On April 9, 2001, the GWF Power Systems (GWF) filed an emergency permitting application for the GWF Hanford Energy Park Peaker Project (Hanford). GWF submitted supplemental application information on April 12. GWF's application was deemed complete on April 12, 2001. On April 26, 2001, GWF filed a supplement to the application to relocate the equipment for the Hanford project on their property, and to incorporate the natural gas and electric transmission lines approved by the Energy Commission on April 11, 2001 as part of the Hanford Energy Park Small Power Plant Exemption (SPPE). GWF also notified the Commission that, as a result of electric transmission constraints, they do not intend to pursue the previously approved SPPE project, Docket 00-SPPE-1. As part of their April 26, 2001 supplement, GWF agreed to incorporate all applicable mitigation measures adopted by the Commission in its decision on the SPPE project. Staff has, therefore, included the appropriate conditions implementing this mitigation in this staff assessment.

The application and its supplement are available, in Adobe PDF format, at the documents portion of the project website, at <http://www.energy.ca.gov/sitingcases/peakers/hanford>.

GWF proposes to construct a 95 megawatt (MW) natural-gas fired simple-cycle peaking facility consisting of two natural-gas fired General Electric LM 6000 PC Sprints turbine generators and associated facilities at their existing Hanford cogeneration plant. The facility is located in the Kings Industrial Park in Hanford, Kings County, California.

A PDF file showing the location of this facility is included as Figure 1 in the electronic files for this staff assessment. A site plan for the proposed facility are also available. These files may be downloaded from the project's web site at: <http://www.energy.ca.gov/sitingcases/peakers/hanford/documents>.

The Hanford project will interconnect to the existing Henrietta-Kingsburg 115 kilovolt (kV) electric transmission line, 1.2 miles south of the project site, via a new double-circuit 115 kV transmission line.

Natural gas for the Hanford facility will be delivered by a new 2.8 mile 16-inch gas pipeline that will be constructed as part of this project.

The facility will need 140 gallons per minute of water during normal operations. The estimated annual water requirement is 103 acre-feet. Water will be supplied from an existing water supply well at the facility.

During the first year of operation the Hanford project will operate with an emission rate of 25 ppm NO_x. By February 1, 2002 GWF will incorporate selective catalytic reduction (SCR) to reduce NO_x emissions to 3.7 ppm. The SCR unit will use aqueous ammonia from the existing facility's storage tank.

Hanford is expected to begin commercial operation by September 1, 2001. Project construction will take approximately three months, beginning on May 15, 2001. The Hanford project will typically operate during the months of May through October when the demand for electricity is high. During this six-month period the facility will likely operate 16 hours per day, six days per week. During 2001 the facility is expected to operate for 2,000 hours. From 2002-2011 the project is expected to operate 4,000 hours per year. The project will sell a portion of its generation under contract to the California Department of Water Resources (DWR). GWF expects to cease operation of the facility in 2011.

NEED FOR EMERGENCY PERMITTING

SUPPLY

The electric generation system must have sufficient operating generating capacity to supply the peak demand for electricity by consumers (including the transmission and distribution losses associated with power delivery). Also, an additional amount of reserve power plant capacity must be operational to act as instantaneous back-up supplies should some power plants or transmission lines unexpectedly fail. According to the Western Systems Coordinating Council (WSCC), to reliably deliver power, control area operators should maintain operating reserves of seven percent of their peak demand (including losses). If operating reserves decline below that level, customers that have agreed to be interrupted in exchange for reduced rates may be disconnected. If operating reserves get as low as one and a half percent, firm load will likely be shed locally, resulting in rotating blackouts, to avoid system-wide blackouts.

Current estimates by Energy Commission staff of consumer peak demand for electricity and reserve requirements, and of the expected availability of electricity capacity supplies for the summer of 2001, indicate that existing capacity supplies are not adequate to maintain a seven percent operating reserve margin particularly if summer

temperatures rise above levels that have as much as a 10 percent chance of occurring. Therefore, additional capacity resources or demand reductions are needed now and by next summer to maintain a seven percent operating reserve margin under temperature conditions that have about a 10 percent chance of occurring.

Many efforts to reduce peak demand and supply new capacity are currently under way. More than 2,500 MW of new generation may be operational by July 2001. These projects include power plants already certified by the Energy Commission that are currently under construction; various upgrades, rerates and returns-to-service of existing power facilities; and new renewable generation responding to Energy Commission incentive programs. The emergency approval of new simple-cycle power plants at numerous locations throughout the state is also important to respond to peak summer demand and provide local electricity system reliability.

Staff assumes that power plant outages of about 3,000 MW will occur throughout the summer. If power plant outages this summer turn out to be greater than assumed, new capacity resources, such as peaking power plants, can help maintain an adequate reserve margin, and help avoid or shorten the duration of rotating blackouts.

PUBLIC HEALTH AND SAFETY

There is a reliability benefit associated with locating generation resources near the significant load centers. When load and generation are seriously out of balance, as they are in most service areas, the potential for system separation, islanding and cascading outages are significantly increased (U.S. Congress, Office of Technology Assessment, June 1990). If additional simple-cycle projects are not licensed and built, this reliability benefit will be foregone until additional larger baseload generation is built in such areas. Although it is impossible to accurately calculate the likelihood of system outages, such outages are certainly plausible and are much greater without new generation resources in most California service areas. Power outages frequently occur during, and are often precipitated by, periods of extreme heat. Extreme summer heat creates extreme demand primarily from air conditioning loads. In fact, it has been demonstrated that demand in California is particularly sensitive to small increases in maximum summer temperature (CEC 1999). In the summer of 1998, the system demand in California increased by 4,000 MW as a result of a five-degree increase in temperature as compared to more typical maximums.

When major outages occur, there is an increased risk of significant public health and safety impacts. Fatalities and injuries associated with many types of accidents may result from outages, such as traffic accidents from signal and lighting failures, falls down unlighted stairways, fires caused by use of candles for lighting and unconventional open-flame cooking, loss of life support equipment in medical clinics, and electrical shock from improper use of portable electric generators. However, a much more serious risk is the potential morbidity and mortality associated with summer heat waves. Behind major epidemics, heat waves in California rank among the worst of all other natural disasters in the history of California for excess mortality. Heat waves have caused more fatalities in individual events than the 1906 earthquake (452 deaths), the

San Francisquito Dam collapse of 1928 (450 deaths) and the Port Chicago explosion in 1944 (322 deaths) (Oechsli and Buechley 1970). The mortality associated with one California heat wave in 1955 resulted in 946 deaths (before air conditioning was in common use). Fortunately the mortality associated with such events is completely preventable (Semenza 1995). One of the most effective ways of avoiding mortality during heat waves is to spend time in air conditioned environments during the hottest parts of the day (CDC 2000). However, artificial climate control (air conditioning) may be mandatory to avoid fatalities when temperatures change abruptly (Bridger and Helfand 1968).

The availability of air conditioning has significantly reduced the mortality associated with heat waves in California and throughout the nation. It was estimated that increased use of air conditioning during the 1963 Los Angeles heat wave saved over 800 lives (Oechsli and Buechley 1970). Sensitive populations are often dependent on air conditioning to avoid aggravation of chronic health conditions such as chronic obstructive pulmonary disease or acute health effects such as heat stroke. It is widely recognized that hot weather conditions can significantly increase both morbidity and mortality, particularly among sensitive populations such as the very young, the elderly, and those with chronic diseases (Bridger and Helfand 1968) (Schickele 1947) (Oechsli and Buechley 1970) (Kalkstein et al 1989, 1993, 1997, 1998). Thus, shortages of electricity can impose risk of very serious impacts on the public, potentially increasing the risk of deaths due to heat waves. The vast majority of those who die in heat waves are at home without air conditioning and are elderly. Based on evaluation of the public health and safety risks associated with new projects, staff concludes that new generating projects are much more likely to reduce public health and safety risks than increase them.

AIR EMISSIONS OF BACK UP GENERATORS COMPARED WITH EMERGENCY PERMIT POWER PLANTS

California generation is among the cleanest in the country. This is due to negligible coal and oil use as generation fuel, the BARCT and Best Available Control Technology (BACT) rules, and a robust mix of geothermal, renewable, nuclear and hydroelectric generation. With the generation shortfalls California has experienced in recent months due to abnormal forced and unforced outage rates and shortages of in-state and out-of-state generation capacity, several options have been considered to supply additional generation without compromising public health and safety.

One option is to utilize the existing fleet of diesel engines that are used as backup or standby generators for facilities such as hospitals, businesses, and essential services such as telephone, water, sewer, police and fire. Most of these generators are exempt from permitting as they are designed to only run when the grid fails to deliver electricity. That fleet is older and uncontrolled. It could represent 11,500 units, producing as much as 5,000 MW. However, as little as 1,200 MW may be compatible with operating in parallel with the grid. Most units are designed to only operate when isolated from the grid, and only with enough power for essential load at the facility.

Another option is to rely on a small number of diesel or natural gas engines that are permitted with emission control equipment as prime engines. Their emissions are in the range of 10 LB NO_x/MWhr. However, they may not be tied to a generator (e.g., they may operate a pump or compressor) or are already operating at or near baseload, so they may not be able to supply much electricity to the grid. Other California generation options are less than 1.0 LB NO_x/MWhr, but few are cleaner than the system NO_x averages with the exception of demand reduction, solar, wind, and expensive fuel cells. The generation system emission averages will continue to decrease as the BARCT rules are fully implemented and the new generation with BACT installed comes online. The generation system emission average should approach 0.1 LB NO_x/MWhr by 2005.

DIFFERENCES IN AIR EMISSIONS

Emission rates, rather than the sheer number of generators of any one type, are key to comparing emissions from different generation sources. For example, if there is a need for 1000 MW over 10 hours, or 10,000 MWhrs, then the NO_x emissions are simply a product of the emission rate multiplied by 10,000. Diesel standby engine use would result in 150 tons of NO_x over 10 hours, versus 1.5 tons from 1000 MW of natural gas-fired generation over the same period of time. A new simple-cycle power plant typically produces 0.9 tons of NO_x during 10 hours of operation.

The location and configuration of a source are also significant factors in assessing the effect on air quality. If the 1000 MW is concentrated in one location (e.g., a 1000 MW combustion turbine or combined cycle project), and then the emission will be of relatively low concentration, will be buoyant, and will be emitted at a relatively high elevation from a stack. If the 1000 MW consists of 1,000 one-MW diesel standby generators, the emissions will be emitted near ground level, at relatively high concentrations, and probably over a wide region or even throughout the state. Similarly, a dispersed set of peakers (e.g., twenty 50MW General Electric LM6000s) could be located throughout the state. Without knowing their exact locations, their effects on air quality are not entirely known. A peaking power plant located next to a hill or mountain, because of the terrain or topography, or in an area that is already heavily polluted, could result in violations whereas the other 1000 MW "configuration" might not.

STAFF ANALYSIS OF THE HANFORD ENERGY PARK PEAKER PROJECT

AIR QUALITY

The analysis of the air quality impacts of emergency permit applications is performed by the California Air Resources Board and the local air pollution control district. Staff has proposed conditions of certification which require the applicant to limit fugitive dust emissions during construction and to comply with the authority to construct (ATC) issued by the San Joaquin Valley Unified Air Pollution Control District (District). A copy of the District's proposed ATC is included as Appendix A

BIOLOGICAL RESOURCES

The Hanford Energy Park Peaker is located on previously disturbed ground surrounded by a mosaic of heavy industry and agriculture. Currently the site contains non-native grassland and ruderal vegetation. Native vegetation is restricted to the Burlington Northern-Santa Fe (BNSF) railroad right-of-way, fallow fields, and agricultural sumps.

Associated with the project are a 16-inch natural gas line, and a 115 kV transmission line. These facilities parallel paved roads and traverse residential, industrial, and agricultural areas.

Three sensitive plant and fourteen sensitive wildlife species occur within the vicinity of the project (California Natural Diversity Database (CNDDDB) query April 2001; Hanford Energy Park Small Power Plant Exemption (HEP SPPE) Application). During surveys conducted June 1999 and February 2000, none of these sensitive species were found on-site. In fact, the area is thought to provide marginal habitat at best for only a few sensitive species. However, the San Joaquin kit fox (SJKF) and the burrowing owl have been known to move into these marginal areas when optimal habitat is unavailable. Surveys show that prey species including California ground squirrel, various other rodents, and insects are available for the SJKF and the burrowing owl. No dens were found during the surveys, however, potential denning sites can be found in the banks of the adjacent BNSF railroad right-of-way, in local agricultural sumps, and along the banks of Lakeside Ditch. The SJKF has a home range of 1-2 square miles providing for the possibility of a local fox not within survey range but within traveling distance. In addition, the area serves as a travel corridor for SJKF dispersing from one population to another.

Two potential raptor nests were located within 500 feet of the transmission line. According to the CNDDDB there were two occurrences of Swainson's Hawks in the surrounding area in July of 2000. One was 7 miles north of Corcoran and the other was 4 miles southeast of Hamblin. The facilities associated with the Hanford provide several potential nesting sites and fields supporting rodent populations for foraging, making it possible for nesting raptors to occur in the vicinity of the project.

Staff recommends a preconstruction survey of the entire project area (project site, gas pipeline, and transmission line) since two potential raptor nests were found near the transmission line route and several nesting Swainson's Hawks are known to use the surrounding area.

There is no designated critical habitat on-site or within the construction impact zone.

The Applicant is reporting habitat impact from construction of the peaker plant and associated facilities as a maximum of 6.1 acres permanently lost. Temporary losses will occur from construction layout, the erection of electrical transmission line, the burial of the natural gas pipeline, and other activities.

The proposed project is located within the range of several listed species (Biological Resources Table 1). Many of these, such as the San Joaquin kit fox, Tipton kangaroo rat, and Fresno kangaroo rat, are known to use fallow fields. This is particularly true in areas such as Kings County where little natural habitat remains. Mammal tracks observed during site visits confirmed the presence of small canids (possibly kit fox) and kangaroo rats. The species of kangaroo rat was not confirmed and could be one of the listed species or the Hermann's kangaroo rat, a more common and widespread species. Nonetheless, the area represents potential habitat for the listed species and the project would result in the permanent and temporary loss of habitat.

Biological Resources Table 1 identifies the project's acreage impacts to wildlife habitat.

Biological Resources Table 1: Estimates of Permanent and Temporary Loss of Habitat (Acres) from the Proposed HEP Facility

	Permanent	Temporary
Plant Site	5.0	0
Laydown Area	0	3.0
Gas pipeline	0	8.4
Switchyard	1.0	0
T-Line	0.1	9.9
Totals:	6.1	21.3

As required by the Commission in the decision for the Hanford SPPE project, loss of habitat should be mitigated by providing compensatory habitat known to support the listed species. Final compensation ratios will be determined through consultation with U.S. Fish and Wildlife Service (USFWS) but are expected to be 1:1 for permanent and 0.5:1 for temporary habitat losses. To avoid a lengthy Section 10(a) formal consultation under the federal Endangered Species Act, the applicant has requested the USFWS to grant coverage under an existing master endangered species permit held by the Kern Water Bank. Under this arrangement, the applicant would purchase habitat credits from an existing Kern Water Bank mitigation bank. Mitigation credits would cost about \$2,375 per acre, including endowment costs, plus a \$5,000 transaction fee. USFWS is currently reviewing this proposal. Condition **BIO-12** has been added to assure the necessary mitigation is obtained.

Additional mitigation for this peaker project involves pre-construction biological surveys along the electrical transmission route servicing the plant, with further mitigation being developed if sensitive species are found in the area. No mitigation has been proposed for construction activity at the peaker plant site, or the natural gas pipeline.

Therefore, Staff has incorporated standard conditions **BIO-1** through **BIO-6** into this certification analysis. Staff has also included conditions **BIO-7** and **BIO-8**. These serve as a way to prevent potential take of any species that have relocated into the area since the last survey in February of 2000. GWF has indicated that it is also incorporating into the application all applicable mitigation measures adopted by the CEC for the Hanford Energy Park SPPE (00-SPPE-1). Staff has included these as measures **BIO 9** through **BIO-12**.

SOILS AND WATER

WATER

Water Supply

Currently the Hanford Co-Generation Plant uses an on-site well to obtain groundwater for its operations. This well will also provide water to the Hanford Energy Park Peaker (HEPP). The HEPP will consume 140 gpm, 16 hours per day during the months of May through October. GWF Power Systems Company, Inc. (GWF) obtained a water banking agreement with the Kings County Water District to provide for a 1:1 acre-foot ratio of groundwater used by its facilities to water banking credit. In the HEPP application, GWF has expressed the intent to honor this agreement by purchasing surface water and making it available for aquifer recharge. Prior to the HEPP application, GWF, as noted in the Hanford Energy Park (HEP) Small Power Plant Exemption (SPPE) application, had established a water purchase agreement with the Angiola Water District at a ratio of 1.76:1 to provide for drought protection. In order to ensure that all water banking and water purchase agreements are in place before groundwater is used by the HEPP, and that adequate aquifer recharge is accomplished **SPPE CONDITION HYDROLOGY & WATER 4** has been incorporated.

Wastewater

Maximum wastewater discharges from the HEPP are estimated at 20 gpm. Plant and equipment drains will be collected, passed through an oil and water separator, and routed to the Hanford Co-generation Plant (HCP) cooling tower basin. The City of Hanford Wastewater Treatment Plant will receive process wastewater from the HEPP through an existing connection. The HCP Industrial Waste Water Discharge Permit with the City of Hanford will be modified to include any additional wastewater discharge exceeding the current limits. Also, Kings Industrial Park Performance and Development Standards require that all stormwater runoff be routed to an on-site drainage basin. Therefore **SPPE CONDITION HYDROLOGY & WATER-3** has been incorporated.

SOILS

Both construction and operation phases of the proposed project present the potential for erosion and sedimentation through ground disturbance and runoff. In order to mitigate for this, the applicant has proposed a draft erosion prevention and sediment control plan that includes:

1. Implementing recommendations from the Natural Resource Conservation Service;
2. Implementing best management practices (BMP) as described in the storm water pollution prevention plan (SWPPP);
3. Conforming to applicable standards from the National Engineering Handbook to protect against accelerated erosion;
4. Grading, compacting, and seeding/mulching exposed soils.

In order to ensure that the necessary erosion and stormwater plans are finalized standard conditions **SOIL & WATER 1** through **4** and **SPPE CONDITION HYDROLOGY & WATER 1 & 2** will be implemented. In addition **SOIL & WATER-5 and 6** will ensure sediment control measures will not impact the area biologically. The City of Hanford has requested dust control measures, including watering and the application of petroleum-based palliatives. The Environmental Protection Agency (EPA) considers chemical palliatives a hazardous material and chemical and petroleum-based palliatives potentially a stormwater and soil contaminant. **SOIL & WATER-7** will ensure that the City's request is complied with, and the EPA's recommended stormwater pollution protection BMP's are met.

Spill Prevention/ Water Quality Protection

The construction phase of the HEPP project will use most if not all products listed in Exhibit 7A Table 8.12-1 of the project application. These include fuels, oils, hydraulic fluid, paints, solvents, cleaners, and sealers. This table also lists each product's storage type and area.

The operational phase will also include the use of a combination of chemicals stored onsite. These are listed in Exhibit 7A Table 8.12-2 of the project application. Onsite storage of the listed chemicals and other hazardous materials will be regulated by California Accidental Release Program requirements. The Applicant has also indicated the intent to use mitigation measures contained in Exhibit 7A Section 8.12.6 of the project application.

Water quality protection will include the use of BMP's as designated in the SWPPP. Also, chemicals stored onsite will be located in closed containers with secondary containment. The Spill Prevention, Control, and Countermeasure plan used for the existing co-generation plant will be modified to include the HEPP.

HAZARDOUS MATERIALS MANAGEMENT

The proposed project will use aqueous ammonia and natural gas. Ammonia will be used for control of NOx emission in a Selective Catalytic Reduction system. The proposed project will utilize the ammonia storage facility associated with the existing GWF facility. The use of aqueous ammonia precludes any potential for significant impact at the nearest residences which are more than 0.5 miles from the proposed project.

Natural gas will not be stored at the site but will be handled in significant quantities. However, the systems used to handle natural gas at the facility will comply with all applicable engineering design codes and fire protection codes. It is staff's opinion that compliance with such standards will preclude the potential for impact on the public as a result of natural gas handling at the proposed facility.

The proposed project will utilize a 2.8 mile long 16 inch diameter natural gas pipeline being constructed as part of the project. The natural gas pipeline will be designed and operated in compliance with all applicable codes. It is staff's opinion that compliance with such codes will reduce the risk of public impact resulting from accidental release to insignificant levels.

CULTURAL RESOURCES

The proposed Hanford Energy Park Peaker (HEPP) is an alternative to a previously submitted application for the Hanford Energy Park (HEP) project, all cultural information included in the HEP application is considered applicable to the HEPP.

A cultural resource analysis for the HEP project was completed in compliance with *Instructions to the California Energy Commission Staff for Review of and Information Requirements for an Application for Certification (1992)*. As part of the resource analysis, URS corporation completed a field survey and record search of the Area of Potential Effects (APE) and its associated linears (i.e. approximately 1.2 miles of transmission line and 2.8 miles of 16-inch natural gas pipeline).

The field survey was conducted on Feb.1-2 and Mar. 22, 2000 by URS archaeologists. The survey covered the 10-acre proposed HEP, plus a 100-foot buffer zone. For the linear features of the HEP, a 200-foot corridor (100 feet on either side of the centerline) was surveyed.

The record search was performed at the South San Joaquin Valley Information Center of the California Historic Resources Information System. The search encompassed the HEP site, its associated linear facilities, and a 0.5-mile radius around them. Information sources included the National Register of Historic Places, California Historic Landmarks, California Register of Historic Resources, California Points of Interest, and the Historic American Building Survey/Historic American Engineering Record.

These surveys resulted in the location of an historical telegraph line and an isolate chert flake. The telegraph line due to modernization and age has been deemed significantly disturbed.

Also noted was the “Lakeside Ditch.” Constructed in 1872-1873 as an irrigation canal, the dirt ditch currently crosses 11th avenue from the SW and Idaho Avenue to the NE at a 45° angle. The integrity of this section of the ditch has not been seriously compromised, although it appears that bioturbation and rootlets have impacted the sides. The feature is still in use, is part of the agricultural infrastructure, and is frequently repaired by the county water district. The areas of the ditch which are likely to be affected, are where the natural gas line crosses it on Idaho Ave, and where the transmission route crosses it on 11th Ave.

The Lakeside Ditch appears to be a significant resource. Cultural resource monitoring within 100 ft. of the ditch will ensure there is no impact to that resource. Implementation of Standard Condition of Certification **CUL-2**, ensures that any historical information associated with the Lakeside Ditch would not be inadvertently destroyed during any ground disturbance activity in the immediate vicinity. Due to the absence of cultural material in the remaining Area of Potential Effect **CUL-1** will apply.

PALEONTOLOGICAL RESOURCES

A paleontological resources field survey and sensitivity analysis was conducted by the applicant’s consultant for the proposed power plant expansion and the proposed linear facility improvements to support the expansion. A minor fossil fragment was discovered at the site but is not considered significant. The proposed expansion site has been disturbed in the past and is not likely to contain significant paleontological resources in-situ.

A paleontological resources field survey and sensitivity analysis was conducted by the applicant’s consultant for the adjacent power plant expansion and the proposed linear facility improvements to support the expansion, on February 5, 2000 (GWF 2000a). The quaternary alluvium upon which the project is located has been determined by the applicant to have a high paleontological resources sensitivity rating since the alluvium has yielded vertebrate fossils at other locations.

Ground disturbance of previously undisturbed alluvium will be minimal since the light loads associated with the foundation of the peaker point to shallow foundations and/or piles. The site has been disturbed in the past and is not likely to contain significant paleontological resources in-situ. This indicates that although the intact quaternary alluvium has a high paleontological sensitivity, the project is considered by staff to have a low potential for encountering significant paleontological resources. Condition of Certification **PALEO-1** requires that no significant impact may occur to any paleontological resources.

LAND USE (INCLUDES SITE DESCRIPTION, NOISE, LAND USE, TRAFFIC, AND VISUAL)

SITE DESCRIPTION

The project site at 10550 Idaho Avenue is located within the City of Hanford. The site is north of Idaho Avenue, east of 11th Avenue, and west of the Burlington Northern Santa Fe Railroad line located within the southern San Joaquin Valley. The site is characterized by nearly level, open terrain, with few natural vertical features. Lands to the north of the site also within the City of Hanford, are located in the Kings Industrial Park and are partly developed with industrial uses. Lands to the west, south, and east of the project site are within Kings County and are primarily agricultural with some industrial facilities. The site (Hanford Energy Park) is approximately 10 acres and currently contains the existing GWF Hanford Cogeneration facility. The proposed project would be located on 5 acres east of the current facility. The northern portion of the site will be used for equipment storage and parking during construction.

The proposed natural gas pipeline would be routed within the public right-of-way for Idaho Avenue and 11th Street. The route is adjacent to agricultural uses towards the south and residential uses towards the north.

The electrical substation would be located on vacant land in Kings County that is designated for industrial purposes. The electrical transmission line would be located within the Idaho Avenue and 11th Street right-of-way.

NOISE

The closest sensitive receptor is a residence located approximately 3,200 feet to the east of the facility on 10th Avenue. Ambient noise levels at the residence are 54 dBA (25 hour Leq) and 48 dBA (25 Hour L₉₀).

The proposed project will generate less noise than the recently approved HEP project and would result in a minor increase in area noise levels. Estimated composite noise levels at the project property line would be up to 70 dBA in compliance with the Kings Industrial Park noise standard of 70 dBA at the property line. Estimated noise increases at the nearest residence would be 44dBA Leq and would not be perceptible. Therefore, the proposed project would comply with the Kings Industrial Park noise standards.

Noise would be generated during the construction of the transmission line and natural gas pipeline. This would be temporary and required conditions of certification would reduce noise impacts on adjacent uses.

The City of Hanford has recommended several requirements be incorporated in the Commission Decision. The city recommends:

- That the noise levels produced by the facility meet the noise standards of the Kings Industrial Park Performance and Development Standards, and any revisions thereof.

- That noise level measurements at the location of the nearest sensitive receiver and at the plant property line shall be conducted after the facility is in operation to determine whether or not the city's noise level standards have been met.

Energy Commission staff takes note of these comments, and concludes that the standard Noise Conditions of Certification adequately address these concerns. Therefore, no additional Conditions of Certification are required.

Implementation of Standard Conditions of Certification **Noise-1**, **Noise-2**, **Noise-3**, and **Noise-4**, ensure that project noise impacts.

Conditions of certification **Noise-5** through **Noise-9** have been added because the applicant has stipulated that it will adopt the Conditions of Exemption for the SPPE project.

LAND USE

The project site is designated Heavy Industrial (HI) by the Hanford General Plan Land Use Element, and is located on the 1,000-acre Kings Industrial Park at the southern edge of the city. The land use designation allows for utility operations and so the project is consistent with this designation and the redevelopment plan. The project site is classified as Heavy Industrial (HI) in the City of Hanford Zoning Code. The project is also consistent with the allowable uses within the HI zoning district. This area is also within the boundaries of the City of Hanford Redevelopment Agency. Properties to the west and east of the project site are within Kings County and are designated by the General Plan for agricultural uses. Kings County has zoned properties to the south of the project site for Heavy Industrial uses.

The project site is currently improved with the existing cogeneration facility but is otherwise undeveloped. Transmission lines are located south of the project site along Jackson Avenue. Immediately south of the project site, across Idaho Avenue and within Kings County is the Pirelli tire manufacturing facility. The Del Monte processing facility is located south of the Pirelli tire manufacturing facility. Remaining lands surrounding the project site are occupied by agricultural and industrial uses. Beyond the adjacent uses are undeveloped lands or land used for agricultural purposes. The proposed project would be consistent with the surrounding existing land uses, as the area is used for industrial and agricultural purposes.

The natural gas transmission line would be within the 11th Avenue and Idaho Avenue public utility right-of-way. There are industrial uses and agricultural land towards the southern end of the proposed gas pipeline route. As the pipeline approaches Hanford-Armona Road, adjacent uses become residential in character. Operation of the pipeline would not preclude existing or planned land uses along the pipeline route. The proposed electrical transmission line (within the 11th Avenue and Idaho Avenue right-of-way) in Kings County has Heavy Industrial-MH zoning. The electrical transmission line is an allowed use in this zone. The construction and operation of the transmission line will not interrupt agricultural uses along the route.

With regard to project-related land use issues, the City of Hanford has recommended that several requirements be incorporated in the Commission Decision. The city recommends:

- The project should comply with all the applicable sections of the zoning ordinance, sign ordinance, Public Works standards and permits (e.g., encroachment permit), the King City Industrial Park Performance Standards and any other applicable regulation.
- All approved proposals of the application should be conditions of development
- No expansions or modifications shall be permitted without proper application and approval procedures.
- The developer should pay all applicable water, wastewater, storm water, fire protection, police protection and park system fees.
- The project should conform with the most recent version of the Uniform Building Code.
- The project should conform with the most recent version of the Uniform Fire Code.
- Preliminary and final soil reports should be submitted to the Engineering and Building Department.
- The site should be made accessible and usable by the handicapped according to state regulations.

Energy Commission staff takes note of these comments, and concludes that the standard Land Use Conditions of Certification adequately address these concerns.

The City of Hanford has also recommended that the following requirement be incorporated into the Commission Decision:

- Local gas, electric and telephone companies shall be contacted regarding the exact location of their services. Any alterations or relocation of the utilities shall be the responsibility of the developer.

Energy Commission staff takes note of this comment and has concluded that this condition shall be added as Condition of Certification LAND-3.

The City of Hanford has also recommended that the following requirements be incorporated into the Commission Decision:

- The developer should submit an occupancy application five days prior to completion of the building permit to determine that all conditions have been met to the satisfaction of the City.
- The applicant should submit 24" by 36" plans to the City engineer. The plans should be prepared by a registered civil engineer and include the location and size of all linear facilities and trash enclosures. The plans should be approved by the City and all involved agencies prior to issuance of the building permit.

- Prior to construction, the applicant shall submit blueline plans, reproducible plans, and bound copies of the approved construction specifications to the City engineer. Upon completion of construction the applicant shall submit blueline and reproducible plans marked RECORD DRAWING to the engineer.
- Dimension plans should be submitted to the Commission and City prior to obtaining permits. Plans and calculations should be signed by a California licensed architect or engineer.
- The applicant shall hire and pay for an independent inspector approved by the City to perform all federal, state and local building inspections
- Noncompliance with any provisions of the municipal code not specifically waived shall constitute cause for revocation and/or termination of approvals.

Energy Commission staff takes note of these comments. However, the Energy Commission has authority for permitting and monitoring construction and operation of power plants and related facilities. Proper implementation and monitoring of all conditions of approval is the responsibility of the CEC compliance project manager (CPM) assigned to the project. The CPM makes every effort to coordinate with the City regarding construction and operation of power plants for which the CEC is responsible.

The City of Hanford has also recommended that the following requirements be incorporated into the Commission Decision:

- The applicant should hold the City of Hanford and all of its departments, officers, agent and employees free and harmless of and from all claims of any kind or nature arising out of or by reason of the approval of this project.
- The employer of the facility is encouraged to fill job openings from local sources.
- The application shall lapse and become void one year following the approval date unless a building permit is extended and construction has commenced. Approval may be extended for an additional year upon written application to the Community Development Department.

Energy Commission staff takes notes of these comments, but has concluded that they are not applicable to the emergency permit process as established by the CEC.

Implementation of Standard Conditions of Approval Land-1 and Land-2 ensures that the project is in compliance with applicable LORS. Condition Land-3 has been added to address the City concern that local gas, electric and telephone companies shall be contacted regarding the exact location of their services. Any alterations or relocation of the utilities shall be the responsibility of the developer.

TRAFFIC AND TRANSPORTATION

According to data submitted by the applicant, all of the State roadways that would be used to access the project site are operating at an acceptable Level of Service (LOS). These roadways are State Route 99 (LOS D), State Route 43 (LOS B), and State Route

198 (LOS B and D). LOS D is an acceptable level of service according to Caltrans policy. Local roadways that would be used to access the project site are Idaho Avenue and 11th Avenue. Idaho Avenue has a LOS of A, and 11th Avenue has LOS B or better on some segments.

GWF estimates that the peak construction workforce will be 89 workers on average, with a peak workforce of no more than 129. These workers are expected to generate 178 daily trips (89 round trips) during the average construction period and 258 daily trips (129 round trips) during the peak construction period. This traffic would be temporary and would include trucks transporting building materials and equipment, and vehicles transporting workers to the site. Traffic generated during construction would not be sufficient to appreciably alter the LOS on roadways used to access the project site and would be temporary. Therefore traffic impacts associated with construction workers, materials, and equipment would not be significant.

Construction of the transmission and the natural gas pipeline may result in temporary disruption of traffic and could pose a safety hazard to traffic. This issue can be addressed by requiring the applicant to prepare a Traffic Control Plan (TCP) that minimizes disruption to traffic during construction and ensures that adequate warnings are provided to motorists that construction is in progress.

Equipment and building materials would be stored on the project site. Worker parking is proposed to utilize the project site and areas adjacent to the project site. On street parking on Idaho Avenue is limited. To avoid a shortage of parking, all project related parking should be in designated parking areas on the project site or on improved parking areas in the project area.

Existing employees of the GWF Hanford Cogeneration Plant would operate the proposed project. Therefore, the proposed project would not generate additional traffic for daily operations. Periodic maintenance would generate occasional traffic for equipment and worker transportation. As noted above, the existing roadways used to access the project site have sufficient capacity to accommodate the proposed project. Therefore, traffic associated with periodic maintenance would not significantly impact area roadways.

The City of Hanford has recommended several requirements be incorporated in the Commission Decision. The city recommends:

- That all trucks servicing the facility shall not travel through the city, but instead be routed to the plant via truck routes south of Hanford- Armona Road.
- That the proposed peripheral road shown around the equipment area be an all weather fire lane (width to be approved by the fire department) and an unobstructed vertical clearance of not less than 13'6" as required by Section 10.204 of the 1991 Uniform Fire Code.

Energy Commission staff takes note of this comment, and concludes that the Traffic and Transportation Conditions of Certification adequately address these concerns. Staff recommends that trucks servicing the power plant minimize travel through the city.

Trucks would be required to comply with existing LORS requiring use of truck routes where possible. Staff has added conditions **TRANS-5** to address project parking impacts on area roadways with limited parking capacity; **TRANS-6** to address impacts to traffic due to construction in the right-of-way; and **TRANS-7** to require compliance with city fire road requirements.

VISUAL RESOURCES

The project site cannot be seen from any eligible or designated scenic highways. The project site is located in an area of generally low visual quality. Views of the project site from within a mile are available from parts of 10th and 11th Avenues and from some residences on 10th Avenue (located more than 3,200 feet east of the site). Views from these locations are often screened by intervening structures both around and on the project site. Several large-scale industrial facilities, undeveloped lots, existing transmission lines, the existing switchyard, an existing cogeneration facility, and an existing railroad line characterize the area. The visual character of the area is generally chaotic in a manner typical of industrial landscapes. Landscaping along 11th Avenue north of Jackson Avenue and along Idaho Avenue east of the project site serves to soften views of facilities from those areas.

The proposed project would result in construction of a facility similar in appearance to the existing cogeneration facility. The height and bulk of the power facility proposed by this application would be similar to the existing facility. The stack height would be 85 feet and the SCR would be 56 feet tall. The proposed addition would not result in the transformation of an important visual resource. The applicant has proposed landscaping that would conform to the City of Hanford Kings Industrial Park Master Plan. Given the low quality of the visual environment, the existing development in the project area, the moderate number of available views of the site, and the proposed landscaping the proposed project would not result in significant impacts on area views. Installation of proposed landscaping would reduce the project visual impacts and ensure consistency with local regulations.

The proposed double circuit 60 to 80-foot tall, six-conductor steel poles and associated lines would result in the removal of approximately 2,000 feet of landscape trees located north of Jackson Avenue west of the Del Monte Plant. Although these trees are not yet mature, they would mature in 5 to 10 years resulting in a visually enhancing feature. The loss of the landscaping would result in an impact that will be mitigated to a level less than significant through implementation of Condition of Certification **VIS-5**.

The City of Hanford has recommended several requirements be incorporated in the Commission Decision. The city recommends:

- That all open and unlandscaped portions of the site be maintained in good condition, free from weeds, dust, trash, and debris.
- That all equipment is to be painted, where feasible, and be maintained so as not to show rust or corrosion.
- That all lighting be hooded and directed on site.

- That if the block fencing for the Hanford Energy Park is not constructed with the peaker plant facility, then 6-foot tall solid wall or a 6-foot fence with slats is to be installed around the peaker plant facility.

Energy Commission staff takes note of these comments, and concludes that the proposed Visual Conditions of Certification adequately address these concerns.

ENVIRONMENTAL JUSTICE

For all siting cases, including the emergency permitting process, Energy Commission staff follows the federal guidelines' two-step screening process. The process assesses:

- whether the potentially affected community includes minority and/or low-income populations; and
- whether the environmental impacts are likely to fall disproportionately on minority and/or low-income members of the community.

Year 2000 estimates by Claritas show that Hanford census tracts include less than 50% minority or low income population. Staff has determined that the impacts from this project, with implementation of staff's recommended conditions of certification, will not result in a significant impact in the surrounding community. Staff finds that there are no environmental justice issues associated with this project.

ENGINEERING

FACILITY DESIGN

The project, including its linear facilities, such as water and natural gas pipelines, will be designed and constructed in compliance with the California Building Code (CBC) and all other applicable engineering LORS (see Condition of Certification **GEN-1**). This will be assured by the Commission's delegate Chief Building Official (CBO), whose duties are prescribed under the CBC. These duties include the review of project designs by qualified engineers and the inspection of project construction by qualified inspectors. The CBO's performance, in turn, will be ensured through monitoring by the Commission's Compliance Project Manager.

TRANSMISSION SYSTEM ENGINEERING

The facility will connect to the PG&E system by looping into the Henrietta-Kingsburg 115 kV line via a new approximately 1.2-mile double circuit 115 kV line. The loop will be created with a new, four circuit-breaker switchyard. Based on the results of the interconnection study, there are no significant transmission issues; however, GWF will be required to rerate the Kingsburg-McCall 115 kV line. The rerate of the Kingsburg-McCall 115 kV line will require the replacement of miscellaneous equipment within the

fenceline of existing facilities¹. The operation of the proposed project will not require significant downstream linear electric facilities and will comply with safety standards².

CONCLUSION

The Hanford project, if built and operated in compliance with the proposed conditions of certification included in this staff assessment, will be available in time to help alleviate the current emergency. The proposed conditions of certification serve to protect the public and the environment. Staff recommends approval of this project.

STAFF CHECKLIST

The following Emergency Permit Evaluation Checklist is designed to provide an easy-to-follow guide to the application and staff's analysis of project impacts. Included in the Checklist are the Application Requirements, a determination by staff of whether or not the material was provided, and the location of the information in the applicant's document. The checklist then shows staff's analysis of significant issues, any special conditions needed to resolve those issues, and any required comments or references.

¹ CEC Staff Final Initial Study for the Hanford Energy Park Project SPPE, February 16, 2001.

² CPUC General Order 95, CPUC Rule 21, Title 8, Articles 35, 36 and 37, Title 8 CCR, Sections 2700-2974, CPUC Decision 93-11-013, Federal Communications Commission Part 15, Public Resources Code 4292-4296, and the National Electric Code.

**HANFORD ENERGY PARK PEAKER PROJECT
EMERGENCY PERMIT EVALUATION CHECKLIST
CALIFORNIA ENERGY COMMISSION**

<u>Application Requirement</u>	<u>Y/N</u>	<u>Application pages</u>	<u>Significant Issues</u>	<u>Special Conditions</u>	<u>Comments</u>
1 Project Description					
1.1 Project owner/operator (Name, title, address, phone)	Yes	1-1	None		
1.2 Overview of power plant and linear facilities	Yes	1-1	None		
1.3 Structure dimensions (size and height), plan and profile	Yes	1-1	None		
1.4 Full size color photo of the site and rendering of proposed facility if available	Yes	1-2	None		
1.5 Maximum foundation depth, cut and fill quantities	Yes	1-2	None.		
1.6 Conformance with California Building Code	Yes	1-2	None		
1.7 Proposed operation (hours per year)	Yes	1-2	None		
1.8 Expected on-line date	Yes	1-2	None		
1.9 Proposed duration of operation (years)	Yes	1-3	None		
1.10 Identify transmission interconnection facilities	Yes	1-3	No significant issues		

<u>Application Requirement</u>	<u>Y/N</u>	<u>Application pages</u>	<u>Significant Issues</u>	<u>Special Conditions</u>	<u>Comments</u>
1.11 Transmission interconnection application	Yes	1-3	None		
1.12 "Down-stream" transmission facilities, if known	Yes	1-3	GWF will be required to rerate the Kingsburg-McCall #1 115 kV line through "within the fenceline" equipment upgrades.		
1.13 Fuel interconnection facilities	Yes	1-3	None		
1.14 Fuel interconnection application	Yes	1-4	None		
1.15 Water requirements and treatment	Yes	1-4	None		
1.16 Water interconnection facilities (supply/discharge)	Yes	1-4	None		
1.17 Source and quality of water supply	Yes	1-4	None		
1.18 Water supply agreement/ proof of water supply	Yes	1-4	Groundwater recharge agreement	HYDROLOGY and WATER-4	
2. Site Description					
2.1 Site address (street, city, county)	Yes	Section 2, Page 2-1	None		
2.2 Assessor's parcel number	Yes	Section 2, Page 2-1	None		

<u>Application Requirement</u>	<u>Y/N</u>	<u>Application pages</u>	<u>Significant Issues</u>	<u>Special Conditions</u>	<u>Comments</u>
2.3 Names and addresses of all property owners within 500 feet of the project site or related facilities in both hard copy and electronic mail merge format.	Yes	Section 2, Table 2-1	None		
2.4 Existing site use	Yes	Section 2, Page 2-1, Figure 8.4-3, Table 8.4-1	None		
2.5 Existing site characteristics (paved, graded, etc.)	Yes	Section 2, Page 2-1	None		
2.6 Layout of site (include plot plan)	Yes	Section 2, Fig 2-1	None		
2.7 Zoning and general plan designations of site and linear facilities	Yes	Section 2, Pages 2-1 and Section 9, Page 8.4-24 and Figure 8.4-1	None		
2.8 Ownership of site (Name, address, phone)	Yes	Section 2, Page 2-1	None		
2.9 Status of site control	Yes	Section 2, Page 2-2	None		
2.10 Equipment laydown area – size and location	Yes	Section 2, Page 2-2	None		
3. Construction Description					
3.1 Construction schedule	Yes	3-1	None		
3.2 Workforce requirements (peak, average)	Yes	3-1	None		

<u>Application Requirement</u>	<u>Y/N</u>	<u>Application pages</u>	<u>Significant Issues</u>	<u>Special Conditions</u>	<u>Comments</u>
4. Power Purchase Contract (DWR, ISO, other)					
4.1 Status of negotiations and expected signing date	Yes	4-1	None		MOU with DWR in Negotiation
5. Air Emissions					
5.1 Nearest monitoring station (location, distance)	Yes	5-1	None		
5.2 Provide complete self certification air permit checklist	Yes	5-1	None		
5.3 Provide complete air permit application	Yes	5-1	None		
5.4 Status of air permit application with air district	Yes	5-1	None		
5.5 Status of offsets and/or mitigation fees, as required	Yes	5-1	None		
6. Noise					
6.1 Local noise requirements	Yes	Section 6, Exhibit 6A Page 8.5-4, Table 8.5-1	None		
6.2 Nearest sensitive receptor (type, distance)	Yes	Section 6, Exhibit 6A, Page 8.5-5	None		
6.3 Project noise level at nearest property line	Yes	Section 6, Exhibit 6A, Page 8.5-17, Table 8.5-6	None		

<u>Application Requirement</u>	<u>Y/N</u>	<u>Application pages</u>	<u>Significant Issues</u>	<u>Special Conditions</u>	<u>Comments</u>
6.4 Proposed mitigation if required	Yes	Section 6, Page 6-1	None	NOISE-4 through 8	
7 Hazardous Materials					
7.1 Type and volume of hazardous materials on-site	Yes	7-1, Exhibit 7A	None		
7.2 Storage facilities and containment	Yes	7-1, Exhibit 7A	None		
8 Biological resources					
8.1 Legally protected species* and their habitat on site, adjacent to site and along right of way for linear facilities (*threatened or endangered species on State or federal lists, State fully protected species)	Yes	8.2-7 Table 8.2-1	No legally protected species were found during surveys, however the site and adjacent to the site presents marginal habitat for the San Joaquin kit fox and burrowing owls.	BIO-7 through BIO-9	
8.2 Designated critical habitat on site or adjacent to site (wetlands, vernal pools, riparian habitat, preserves)	Yes	8-2	None		
8.3 Proposed mitigation as required	Yes	8-2	None		
9 Land Use					
9.1 Local land use restrictions (height, use, etc.)	Yes	Section 9, Page 1-1	None		

<u>Application Requirement</u>	<u>Y/N</u>	<u>Application pages</u>	<u>Significant Issues</u>	<u>Special Conditions</u>	<u>Comments</u>
9.2 Use of adjacent parcels (include map)	Yes	Section 9, Page 1-1 And Exhibit 9a Table 8.4-1 And Figure 8.4-3	None		
9.3 Ownership of adjacent parcels – site and linears	Yes	Section 2, Table 2-1	None		
9.4 Demographics of census tract where project is located (most current available)	Yes	Section 9, Page 1-2	None		
10 Public Services					
10.1 Ability to serve letter from Fire District	Yes	10-2	None		
10.2 Nearest fire station	Yes	10-2	None		
11 Traffic and Transportation					
11.1 Level of Service (LOS) measurements on surrounding roads – a.m. and p.m. peaks	Yes	Section 11, Page 11.1 Table 11.1 and Table 8.10-4	None		
11.2 Traffic Control Plan for roads during construction period	Yes	Section 11, Page 11-2	None		
11.3 Traffic impact of linear facility construction	Yes	Section 11, Page 11.2	None		
11.4 Equipment transport route	Yes	Section 11, Page 11-2	None		

<u>Application Requirement</u>	<u>Y/N</u>	<u>Application pages</u>	<u>Significant Issues</u>	<u>Special Conditions</u>	<u>Comments</u>
11.5 Parking requirements – workforce and equipment	Yes	Section 11, Page 11.2	Limited parking available on area roadways would be impacted by use of project employees during construction.	A Condition of Certification limiting the use of on-street parking is proposed.	
12 Soil and Water Resources					
12.1 Wastewater volume, quality, treatment	Yes	12-1	None		
12.2 Status of permits for wastewater discharge or draft permit (WDR/NPDES)	Yes	12-1	None		
12.3 Draft Erosion Prevention and Sedimentation Control Plan or Mitigation Strategy	Yes	12-1	Conditions added to assure completion of Control Plan.	SOIL & WATER-5 through 7	
12.4 Spill Prevention/Water Quality Protection Plans	Yes	12-2	None		
13 Cultural Resources					
13.1 Identification of known historic/prehistoric sites	Yes	13-1	None		
13.2 Proposed mitigation if required	Yes	13-1	None		
14 Paleontological Resources					
14.1 Identification of known paleontologic sites	Yes	14-1	None		
14.-2 Proposed mitigation if required	Yes	14-1	None		

<u>Application Requirement</u>	<u>Y/N</u>	<u>Application pages</u>	<u>Significant Issues</u>	<u>Special Conditions</u>	<u>Comments</u>
15 Visual resources					
15.1 Plan for landscaping and screening to meet local requirements	Yes	Section 15, Page 15-1	None		Landscape plans are proposed to be consistent with City of Hanford's industrial park master plan.
15.2 Full size color photo of the site and rendering of proposed facility with any proposed visual mitigation if available	Yes	Section 1 Figures 1-2A and 1-2d	None		
16 Transmission System Engineering					
16.1 Conformance with Title 8, High Voltage Electrical Safety Orders, CPUC General Order 95 (or NESC), CPUC Rule 21, PTO Interconnection Requirements, and National Electric Code	Yes	Page 6-12	None		

HANFORD ENERGY PARK PEAKER PROJECT GENERAL CONDITIONS INCLUDING COMPLIANCE MONITORING AND CLOSURE PLAN

INTRODUCTION

General conditions (and the Compliance Plan) have been established as required by Public Resources Code section 25532. The plan provides a means for assuring that the facility is constructed, operated and closed in accordance with applicable environmental and public health and safety laws, ordinances, regulations, and standards, and with conditions of certification as approved by the California Energy Commission (Energy Commission).

The Compliance Plan is comprised of general conditions and technical (environmental and engineering) conditions as follows:

General conditions that set forth the duties and responsibilities of the Compliance Project Manager (CPM), the project owner, and delegate agencies; the requirements for handling confidential information and maintaining the compliance record; procedures for settling disputes and making post-certification changes; administrative procedures to verify the compliance status; and requirements for facility closure plans.

Specific conditions for each technical area contain the measures required to mitigate potential adverse impacts associated with construction, operation and closure to an insignificant level. Specific conditions may also include a verification provision that describes the method of verifying that the condition has been satisfied.

DEFINITIONS

To ensure consistency, continuity and efficiency, the following terms, as defined, apply to all technical areas, including Conditions of Certification:

Site Mobilization

Moving trailers and related equipment onto the site, usually accompanied by minor ground disturbance, grading for the trailers and limited vehicle parking, trenching for utilities, installing utilities, grading for an access corridor, and other related activities. Ground disturbance, grading, etc. for site mobilization are limited to the portion of the site necessary for placing the trailers and providing access and parking for the occupants. Site mobilization is for temporary facilities and is therefore not considered construction.

Ground Disturbance

Onsite activity that results in the removal of soil or vegetation, boring, trenching or alteration of the site surface. This does not include driving or parking a passenger vehicle, pickup truck, or other light vehicle, or walking on the site.

Grading

Onsite activity conducted with earth-moving equipment that results in alteration of the topographical features of the site such as leveling, removal of hills or high spots, or moving of soil from one area to another.

Construction

[From Public Resources Code section 25105.] Onsite work to install permanent equipment or structures for any facility. Construction does **not** include the following:

- a. The installation of environmental monitoring equipment.
- b. A soil or geological investigation.
- c. A topographical survey.
- d. Any other study or investigation to determine the environmental acceptability or feasibility of the use of the site for any particular facility.
- e. Any work to provide access to the site for any of the purposes specified in a, b, c, or d.

TERM OF CERTIFICATION

Certification is for the life of the project if at the end of the power purchase agreement with the California Department of Water Resources the project owner can verify that the project meets the following continuation criteria:

- the project is permanent, rather than temporary or mobile in nature;
- the project owner demonstrates site control;
- the project owner has secured permanent emission reduction credits (ERCs) to fully offset project emissions for its projected run hours prior to expiration of any temporary ERCs;
- the project is in current compliance with all Energy Commission permit conditions specified in the final decision;
- the project is in current compliance with all conditions contained in the Permit to Construct and Permit to Operate issued by San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) for the project; and

- the project continues to meet BACT requirements under SJVUAPCD and California Air Resources Board (CARB) requirements.

The project permit shall expire if these continuation criteria are not met. At least six months prior to the expiration of the power purchase agreement with the Department of Water Resources, the project owner shall provide verification that these conditions have been met.

In addition, the project owner shall submit a report after completion of the first three years in operation, as described below.

COMPLIANCE PROJECT MANAGER (CPM) RESPONSIBILITIES

A CPM will oversee the compliance monitoring and shall be responsible for:

1. ensuring that the design, construction, operation, and closure of the project facilities is in compliance with the terms and conditions of the Commission Decision;
2. resolving complaints;
3. processing post-certification changes to the conditions of certification, project description, and ownership or operational control;
4. documenting and tracking compliance filings; and
5. ensuring that the compliance files are maintained and accessible.

The CPM is the contact person for the Energy Commission and will consult with appropriate responsible agencies and the Energy Commission when handling disputes, complaints and amendments.

The Commission has established a toll free compliance telephone number of **1-800-858-0784** for the public to contact the Commission about power plant construction or operation-related questions, complaints or concerns.

Pre-Construction and Pre-Operation Compliance Meeting

The CPM may schedule pre-construction and pre-operation compliance meetings prior to the projected start-dates of construction, plant operation, or both. The purpose of these meetings will be to assemble both the Energy Commission's and the project owner's technical staff to review the status of all pre-construction or pre-operation requirements contained in the Energy Commission's conditions of certification to confirm that they have been met, or if they have not been met, to ensure that the proper action is taken.

Energy Commission Record

The Energy Commission shall maintain as a public record, in either the Compliance file or Docket file, for the life of the project (or other period as required):

1. All documents demonstrating compliance with any legal requirements relating to the construction and operation of the facility;
2. All complaints of noncompliance filed with the Energy Commission; and
3. All petitions for project modifications and the resulting staff or Energy Commission action taken.

PROJECT OWNER RESPONSIBILITIES

It is the responsibility of the project owner to ensure that the general compliance conditions and the conditions of certification are satisfied. The general compliance conditions regarding post-certification changes specify measures that the project owner must take when requesting changes in the project design, compliance conditions, or ownership. Failure to comply with any of the conditions of certification or the general compliance conditions may result in reopening of the case and revocation of Energy Commission certification, an administrative fine, or other action as appropriate.

Access

The CPM, responsible Energy Commission staff, and delegate agencies or consultants, shall be guaranteed and granted unrestricted access to the power plant site, related facilities, project-related staff, and the records maintained on site, for the purpose of conducting audits, surveys, inspections, or general site visits. Although the CPM will normally schedule site visits on dates and times agreeable to the project owner, the CPM reserves the right to make unannounced visits at any time.

Compliance Record

The project owner shall maintain project files on-site or at an alternative site approved by the CPM, for the life of the project. The files shall contain copies of all "as-built" drawings, all documents submitted as verification for conditions, and all other project-related documents for the life of the project, unless a lesser period is specified by the conditions of certification.

Energy Commission staff and delegate agencies shall, upon request to the project owner, be given unrestricted access to the files.

Compliance Reporting

The project owner shall submit status reports to the CPM every two weeks indicating its progress in meeting milestones for procuring necessary project components and all

required approvals for construction and operation of the facility by September 30, 2001. The first of these reports will be due two weeks after certification of the project by the Energy Commission.

Start of Operations

The Hanford Energy Park Peaker Project (Hanford) shall be on-line by not later than September 30, 2001. If Hanford is not operational by September 30, 2001, the Energy Commission will conduct a hearing to determine the cause of the delay and consider what sanctions, if any, are appropriate. If the Energy Commission finds that the project owner failed to proceed with due diligence to have the project in operation by September 30, 2001, the Energy Commission will set a specific date by which the project must be brought on-line as a condition precedent to continue the certification.

Three-Year Review

No later than 15 days after completion of the first three years in operation, the project owner shall submit to the Energy Commission a report of operations that includes a review of the project's compliance with the terms and conditions of certification, the number of hours in operation, and the demand for power from the facility during the three year period.

Compliance Verifications

Conditions of certification may have appropriate means of "verification". The verification describes the Energy Commission's procedure(s) to ensure post-certification compliance with adopted conditions. The verification procedures, unlike the conditions, may be modified, as necessary by the CPM, without full Energy Commission approval.

Verification of compliance with the conditions of certification can be accomplished by:

- reporting on the work done and providing the pertinent documentation in monthly and/or annual compliance reports filed by the project owner or authorized agent as required by the specific conditions of certification;
- appropriate letters from delegate agencies verifying compliance;
- Energy Commission staff audits of project records; and/or
- Energy Commission staff inspections of mitigation and/or other evidence of mitigation.

A cover letter from the project owner or authorized agent is required for all compliance submittals and correspondence pertaining to compliance matters. The cover letter subject line shall identify the involved condition(s) of certification by condition number and include a brief description of the subject of the submittal.

All submittals shall be addressed as follows:

Compliance Project Manager

California Energy Commission
1516 Ninth Street (MS-3000)
Sacramento, CA 95814

Confidential Information

Any information, which the project owner deems confidential shall be submitted to the Energy Commission's Docket with an application for confidentiality pursuant to Title 20, California Code of Regulations, section 2505(a). Any information, which is determined to be confidential, shall be kept confidential as provided for in Title 20, California Code of Regulations, section 2501 et. seq.

Reporting of Complaints, Notices, and Citations

Prior to the start of construction, the project owner must send a letter to property owners living within 500 feet of the project notifying them of a telephone number to contact project representatives with questions, complaints or concerns. If the telephone is not staffed 24 hours per day, it shall include automatic answering, with date and time stamp recording. The telephone number shall be posted at the project site and easily visible to passersby during construction and operation.

The project owner shall report and provide copies of all complaint forms, notices of violation, notices of fines, official warnings, and citations, within 10 days of receipt, to the CPM.

GENERAL CONDITIONS FOR FACILITY CLOSURE

In order to ensure that a planned facility closure does not create adverse impacts, plant closure must be consistent with all applicable laws, ordinances, regulations, standards (LORS), and local/regional plans in existence at the time of closure. To ensure adequate review of a planned project closure, the project owner shall submit a proposed facility closure plan to the Energy Commission for review and approval at least three months prior to commencement of closure activities (or other period of time agreed to by the CPM).

DELEGATE AGENCIES

To the extent permitted by law, the Energy Commission may delegate authority for compliance verification and enforcement to various state and local agencies that have expertise in subject areas where specific requirements have been established as a condition of certification. If a delegate agency does not participate in this program, the Energy Commission staff will establish an alternative method of verification and enforcement. Energy Commission staff reserves the right to independently verify compliance.

In performing construction and operation monitoring of the project, the Energy Commission staff acts as, and has the authority of, the Chief Building Official (CBO). The Commission staff retains this authority when delegating to a local CBO. Delegation

of authority for compliance verification includes the authority for enforcing codes, the responsibility for code interpretation where required, and the authority to use discretion, as necessary, in implementing the various codes and standards.

ENFORCEMENT

The Energy Commission's legal authority to enforce the terms and conditions of its Decision is specified in Public Resources Code sections 25534 and 25900. The Energy Commission may amend or revoke the certification for any facility, and may impose a civil penalty for any significant failure to comply with the terms or conditions of the Commission Decision. The specific action and amount of any fines the Commission may impose would take into account the specific circumstances of the incident(s). This would include such factors as the previous compliance history, whether the cause of the incident involves willful disregard of LORS, inadvertence, unforeseeable events, and other factors the Commission may consider.

Moreover, to ensure compliance with the terms and conditions of certification and applicable laws, ordinances, regulations, and standards, delegate agencies are authorized to take any action allowed by law in accordance with their statutory authority, regulations, and administrative procedures.

NONCOMPLIANCE COMPLAINT PROCEDURES

Any person or agency may file a complaint alleging noncompliance with the conditions of certification. Such a complaint will be subject to review by the Energy Commission pursuant to Title 20, California Code of Regulations, section 1230 et. seq., but in many instances the noncompliance can be resolved by using the informal dispute resolution process. Both the informal and formal complaint procedures, as described in current State law and regulations, are described below. They shall be followed unless superseded by current law or regulations.

INFORMAL DISPUTE RESOLUTION PROCEDURE

The following procedure is designed to informally resolve disputes concerning interpretation of compliance with the requirements of this compliance plan. The project owner, the Energy Commission, or any other party, including members of the public, may initiate this procedure for resolving a dispute. Disputes may pertain to actions or decisions made by any party including the Energy Commission's delegate agents.

This procedure may precede the more formal complaint and investigation procedure specified in Title 20, California Code of Regulations, section 1230 et. seq., but is not intended to be a substitute for, or prerequisite to it. This informal procedure may not be used to change the terms and conditions of certification as approved by the Energy Commission, although the agreed upon resolution may result in a project owner proposing an amendment.

The procedure encourages all parties involved in a dispute to discuss the matter and to reach an agreement resolving the dispute. If a dispute cannot be resolved, then the

matter must be referred to the full Energy Commission for consideration via the complaint and investigation process. The procedure for informal dispute resolution is as follows:

Request for Informal Investigation

Any individual, group, or agency may request the Energy Commission to conduct an informal investigation of alleged noncompliance with the Energy Commission's terms and conditions of certification. All requests for informal investigations shall be made to the designated CPM.

Upon receipt of a request for informal investigation, the CPM shall promptly notify the project owner of the allegation by telephone and letter. All known and relevant information of the alleged noncompliance shall be provided to the project owner and to the Energy Commission staff. The CPM will evaluate the request and the information to determine if further investigation is necessary. If the CPM finds that further investigation is necessary, the project owner will be asked to promptly investigate the matter and within seven (7) working days of the CPM's request, provide a written report of the results of the investigation, including corrective measures proposed or undertaken, to the CPM. Depending on the urgency of the noncompliance matter, the CPM may conduct a site visit and/or request the project owner to provide an initial report, within forty-eight (48) hours, followed by a written report filed within seven (7) days.

Request for Informal Meeting

In the event that either the party requesting an investigation or the Energy Commission staff is not satisfied with the project owner's report, investigation of the event, or corrective measures undertaken, either party may submit a written request to the CPM for a meeting with the project owner. Such request shall be made within fourteen (14) days of the project owner's filing of its written report. Upon receipt of such a request, the CPM shall:

1. Immediately schedule a meeting with the requesting party and the project owner, to be held at a mutually convenient time and place and secure the attendance of appropriate Energy Commission staff and staff of any other agency with expertise in the subject area of concern as necessary;
2. Conduct such meeting in an informal and objective manner; and,
3. After the conclusion of such a meeting, promptly prepare and distribute copies to all in attendance and to the project file, a summary memorandum which fairly and accurately identifies the positions of all parties and any conclusions reached.

FORMAL DISPUTE RESOLUTION PROCEDURE-COMPLAINTS AND INVESTIGATIONS

If either the project owner, Energy Commission staff, or the party requesting an investigation is not satisfied with the results of the informal dispute resolution process, such party may file a complaint or a request for an investigation with the Energy Commission's General Counsel. Disputes may pertain to actions or decisions made by any party including the Energy Commission's delegate agents. Requirements for complaint filings and a description of how complaints are processed are in Title 20, California Code of Regulations, section 1230 et. seq.

The Chairman, upon receipt of a written request stating the basis of the dispute, may grant a hearing on the matter, consistent with the requirements of noticing provisions. The Commission shall have the authority to consider all relevant facts involved and make any appropriate orders consistent with its jurisdiction (Title 20, California Code of Regulations, sections 1232 - 1236).

POST CERTIFICATION CHANGES TO THE COMMISSION DECISION: AMENDMENTS, INSIGNIFICANT PROJECT CHANGES

The project owner must petition the Energy Commission, pursuant to Title 20, California Code of Regulations, section 1769, to 1) delete or change a condition of certification; 2) modify the project design or operational requirements; and 3) transfer ownership or operational control of the facility.

A petition is required for **amendments** and for **insignificant project changes**. In all cases, the petition or letter requesting a change should be submitted to the Commission's Docket in accordance with Title 20, California Code of Regulations, section 1209. The criteria that determine which type of change process applies are explained below.

EXECUTIVE ORDER

Executive Order D-25-01 issued by the Governor of the State of California, which accelerates processing of certain project modifications, will be applied to all qualifying project modifications requested until December 31, 2001.

AMENDMENT

A proposed project modification will be processed as an amendment if it involves a change to a condition of certification, an ownership or operator change, or a potential significant environmental impact.

INSIGNIFICANT PROJECT CHANGE

The proposed modification will be processed as an insignificant project change if it does not require changing the language in a condition of certification, have a potential for

significant environmental impact, and cause the project to violate laws, ordinances, regulations or standards.

VERIFICATION CHANGE

Changes to condition verifications require CPM approval and may require either a written or oral request by the project owner. The CPM will provide written authorization of verification changes.

TECHNICAL AREA CONDITIONS OF CERTIFICATION

AIR QUALITY

AQ-1 Prior to the commencement of project construction, the project owner shall prepare a Construction Fugitive Dust Mitigation Plan that will specifically identify fugitive dust mitigation measures that will be employed for the construction of the project and related facilities.

Measures that should be addressed include the following:

- the identification of the employee parking area(s) and surface of the parking area(s);
- the frequency of watering of unpaved roads and disturbed areas;
- the application of chemical dust suppressants;
- the stabilization of storage piles and disturbed areas;
- the use of gravel in high traffic areas;
- the use of paved access aprons;
- the use of posted speed limit signs;
- the use of wheel washing areas prior to large trucks leaving the project site;
- the methods that will be used to clean tracked-out mud and dirt from the project site onto public roads; and
- for any transportation of borrowed fill material, the use of covers on vehicles, wetting of the material, and insuring appropriate freeboard of material in the vehicles.

Verification: The project owner shall submit to the CPM a letter attesting to compliance with the above and shall report any violations to the CPM.

AQ-2 The project owner shall comply with the terms and conditions of the Authority to Construct and the Permit to Operate issued by San Joaquin Valley Unified Air Pollution Control District.

Verification: In the event that the air district finds the project to be out of compliance with the terms and conditions of the Authority to Construct, the project owner shall notify the CPM of the violation, and the measures taken to return to compliance, within five (5) days.

AQ-3 The project owner shall operate the project in compliance with all Best Available Control Technology (BACT) standards imposed by the Air District in its Authority to Construct. Failure to meet these standards will result in a finding that the project owner is out of compliance with the certification.

BIOLOGICAL RESOURCES

BIO-1 The project permitted under this emergency process will avoid all impacts to legally protected species and their habitat on site, adjacent to the site and along the right of way for linear facilities.

BIO-2 The project permitted under this emergency process will avoid all impacts to designated critical habitat (wetlands, vernal pools, riparian habitat, preserves) on site or adjacent to the site.

BIO-3 The project permitted under this emergency process will avoid all impacts to locally designated sensitive species and protected areas.

BIO-4 The project permitted under this emergency process will reduce risk of large bird electrocution by electric transmission lines and any interconnection between structures, substations and transmission lines by using construction methods identified in "Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 1996" (APLIC 1996).

BIO-5 The project biologist, a person knowledgeable of the local/regional biological resources, and CPM will have access to the site and linear rights-of-way at any time prior to and during construction and have the authority to halt construction in an area necessary to protect a sensitive biological resource at any time.

BIO-6 Upon decommissioning the site, the biological resource values will be reestablished at preconstruction levels or better.

Verification: If the Designated Biologist halts construction, the action will be reported immediately to the CPM along with the recommended implementation actions to resolve the situation or decide that additional consultation is needed. Throughout construction, the project owner shall report on items one through six above if identified resources are found or impacted.

BIO-7 A minimum of 5 days and no more than 30 days prior to the beginning of site mobilization, the project site, the natural gas pipeline route, and the electrical

transmission line route must be surveyed by a qualified biologist in accordance with US Fish and Wildlife Service (USFWS) and California Department of Fish & Game (CDFG) protocol for nesting raptors and the sensitive species listed in Table 8.2-1 of the Hanford California Emergency Peaker Power Plant Permit Application.

Verification: After the survey and prior to site mobilization, documentation of the survey method and mapped results will be submitted to the CPM.

BIO-8 All construction pipes, culverts, or similar structures with a diameter of 4-inches or greater that are stored at a construction site for one or more overnight periods should be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox is discovered inside a pipe, that section of pipe should not be moved until the USFWS has been consulted.

BIO-9 **Designated Biologist:** Site mobilization shall not begin until a Staff approved Designated Biologist is available to be onsite.

Protocol: The Designated Biologist must meet the following minimum qualifications:

- A Bachelor's Degree in biological sciences, zoology, botany, ecology, or a closely related field;
- At least three years of experience in field biology or current certification of a nationally recognized biological society, such as The Ecological Society of America or The Wildlife Society;
- At least one year of field experience with biological resources found in or near the project area; and
- An ability to demonstrate to the satisfaction of the Staff the appropriate education and experience for the biological resources tasks that must be addressed during project construction.

If the Staff determines the proposed Designated Biologist to be unacceptable, the project owner shall submit another individual's name and qualifications for consideration. If the approved Designated Biologist needs to be replaced, the project owner shall obtain approval of a new Designated Biologist by submitting to the CPM the name, qualifications, address, and telephone number of the proposed replacement. No disturbance will be allowed in any designated sensitive areas until the CPM approves a new Designated Biologist and the new biologist is onsite.

Verification: Prior to the start of any site mobilization activities the project owner shall submit to the CPM for approval, the name, qualifications, address and telephone number of the individual selected by the project owner as the Designated Biologist. If a

Designated Biologist is replaced, the information on the proposed replacement, as specified in the condition, must be submitted in writing prior to the termination or release of the preceding Designated Biologist.

BIO-10 The CPM approved Designated Biologist shall perform the following during project construction:

- Advise the Applicant's Construction Manager on the implementation of the Biological Resources Conditions;
- Supervise or conduct mitigation, monitoring and other biological resources compliance efforts, particularly in areas requiring avoidance or containing sensitive biological resources, such as, wetlands and special status species; and
- Notify the Applicants and the CPM of non-compliance with any Biological Resources Conditions.

Verification: During project construction, the Designated Biologist shall maintain written records of the tasks described above, and summaries of these records shall be submitted along with the Monthly Compliance Reports to the CPM.

BIO-11 **BIOLOGICAL RESOURCES MITIGATION IMPLEMENTATION AND MONITORING PLAN:** The Applicant 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. Any changes made to the adopted BRMIMP must be made in consultation with the CPM and USFWS.

Protocol: The final BRMIMP shall identify:

- All biological resources mitigation, monitoring, and compliance conditions included in the Energy Commission's Final Decision;
- All sensitive biological resources to be impacted, avoided, or mitigated by project construction, operation, and closure;
- All mitigation measures identified through consultation with the USFWS;
- All required mitigation measures/avoidance strategies for each sensitive biological resource;
- Required habitat compensation strategy, including provisions for acquisition, enhancement and management, for any temporary and permanent loss of habitat for sensitive biological resources;
- All locations, on a map of suitable scale, of laydown areas and areas requiring temporary protection and avoidance during construction;

- Aerial photographs of all areas to be disturbed during project construction activities – one set prior to site disturbance and one set after completion of mitigation measures. Include planned timing of aerial photography and a description of why times were chosen;
- Performance standards to be used to help decide if/when proposed mitigation is or is not successful;
- All performance standards and remedial measures to be implemented if performance standards are not met;
- A process for proposing plan modifications to the CPM and appropriate agencies for review and approval.

Verification: Prior to the start of any project-related ground disturbance activities, the project owner shall provide the CPM with the final version of the BRMIMP, and the CPM will determine the plan's acceptability. All modifications to the approved BRMIMP must be made only after consultation with the CPM, USFWS, and CDFG. The project owner shall notify the CPM before implementing any CPM approved modifications to the BRMIMP.

Within 30 days after completion of project construction, the applicant 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 mitigation and monitoring plan items are still outstanding.

BIO-12 HABITAT COMPENSATION: To compensate for temporary, permanent, and incremental impacts to sensitive species habitat, the project owner will provide suitable habitat compensation funds at a ratio of 1:1 for all permanent disturbance and a ratio of 0.5:1 for all temporary disturbance to habitats at an amount of \$2,375.00 per acre-credit and a \$5,000.00 up front fee per transaction.

Verification: To account for inflation and other anticipated changes in habitat compensation costs, the project owner will consult with the Kern Water Bank (KWB) and the CPM prior to the start of any project related ground disturbance, and KWB will identify the final cost per acre and total compensation amount. Once the final compensatory mitigation amount has been determined and prior to the start of any project related ground disturbance activities, the project owner will provide a Conservation Credit Certificate to the CPM that all habitat compensation funds (including the endowment and transaction fee) have been provided to the KWB.

Within 90 days after completion of project related construction, the project owner shall provide aerial photographs to the CPM that were taken after construction. The project owner will also provide an analysis of the amount of any additional habitat disturbance. 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 additional credits if necessary.

CULTURAL RESOURCES

CUL-1 The project certified under this emergency process shall not cause any significant impact to cultural resources on the power plant site or linear rights of way.

CUL-2 The project has been determined to have the potential to adversely affect significant cultural resources and the project owner shall ensure the completion of the following actions/activities:

1. Provide a cultural specialist who will have access to the site and linear rights-of-way at any time prior to and during ground disturbance.
2. The cultural specialist will provide training to appropriate construction personnel at the site, will install avoidance measures (as necessary), and will be present during appropriate ground disturbing activities. The cultural specialist has the authority to halt construction at a location if a significant cultural resource is found. If resources are discovered and the cultural specialist is not present, the project owner will halt construction at that location and will contact the specialist immediately. The specialist will consult with the CPM and a decision will be made by the CPM within 24-hours as to how to proceed.
3. The project owner shall allow time for the cultural specialist to recover significant resource finds, and pay all fees necessary to curate recovered significant resources.

FACILITY DESIGN

GEN-1 The project owner shall design, construct and inspect the project in accordance with the 1998 California Building Code (CBC) and all other applicable LORS in effect at the time initial design plans are submitted to the CBO for review and approval.

Verification: Within 30 days (or a lesser number of days mutually agreed to by the project owner and the CBO) after receipt of the Certificate of Occupancy, the project owner shall submit to the CPM a statement of verification, signed by the responsible design engineer, attesting that all designs, construction, installation and inspection requirements of the applicable LORS and the Energy Commission's Decision have been met. The project owner shall provide the CPM a copy of the Certificate of Occupancy within 30 days of receipt from the CBO [1998 CBC, Section 109 – Certificate of Occupancy.] The project owner shall keep copies of plan checks and CBO inspection approvals at the project site.

GEN-2 The project owner shall furnish to the 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 of, and a list of proposed submittal packages for design, calculations, and specifications for major structures and equipment. To facilitate audits by Energy Commission staff, the project owner shall provide designated packages to the CPM when requested.

Verification: Prior to the start of rough grading, the project owner shall submit the schedule, a Master Drawing List, and a 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-1 The project owner shall not use any hazardous material in reportable quantities except those identified by type and quantity in the Application for Emergency Permit unless approved by the CPM.

Verification: The project owner shall provide in the Annual Compliance Report a list of hazardous materials used at the facility in reportable quantities.

HAZ-2 The project owner shall submit both the Business Plan and Risk Management Plan to the CPM for review and comment, and shall also submit these plans and/or procedures to the County Fire Department for approval.

Verification: 30 days (or a CPM-approved alternative timeframe) prior to the initial delivery of any hazardous materials in reportable quantities to the facility, the project owner shall submit the Business and Risk Management Plan to the CPM for review and comment. At the same time, the project owner shall submit these plans to the County Fire Department for approval. The project owner shall also submit evidence to the CPM that the County Fire Department approved of these plans, when available.

LAND USE

LAND-1 The project permitted under this emergency process will conform to all applicable local, state and federal land use requirements, including general plan policies, zoning regulations, local development standards, easement requirements, encroachment permits, truck and vehicle circulation plan requirements, Federal Aviation Administration approval, and the Federal Emergency Management Agency National Flood Insurance Program.

Verification: Prior to start of construction, the project owner will submit to the CPM documentation verifying compliance with the above referenced land use requirements.

LAND-2 Prior to occupying any off-site lay-down or storage facilities the applicant shall provide detailed plans indicating the location of existing and proposed use of the sites to the CPM. Such sites shall be previously disturbed and shall not require any clearing or grading to accommodate the proposed use. To prevent possible impacts to sensitive resources, the applicant shall coordinate with the CPM to determine if biological or cultural surveys are required. This submission shall include written landowner approval and must comply with all local land use requirements. If the proposed site is located within public rights-of-way, appropriate traffic control plans and encroachment permits will be provided to the CPM.

Verification: Prior to the start of construction, the project owner will submit to the CPM documentation verifying compliance with the above referenced land use requirements.

Land-3 The project owner shall ensure that local gas, electric and telephone companies are contacted regarding the exact location of their services. Any alterations or relocation of the utilities shall be the responsibility of the project owner.

Verification: The project owner shall provide written evidence to the CPM to indicate that all utility companies have been notified regarding proposed construction and that these utilities have identified the location of these facilities in the area of construction.

NOISE

NOISE-1 The project permitted under this emergency process shall be required to comply with applicable community noise standards.

Verification: Within 30 days of the project first achieving a sustained output of 80 percent or greater of rated capacity, the project owner shall conduct a 25-hour community noise survey, utilizing the same monitoring sites employed in the pre-project ambient noise survey as a minimum. 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 survey indicate that the project noise levels at the closest sensitive receptor are in excess of 50 dBA between the hours of 10 PM and 7 AM, additional mitigation measures shall be implemented to reduce noise to a level of compliance with this limit.

NOISE-2 Throughout the construction and operation of the project, the project owner shall document, investigate, evaluate, and attempt to resolve all project related noise complaints.

Verification: Within 30 days of receiving a noise complaint, the project owner shall file a copy of the Noise Complaint Resolution Form, or similar instrument approved by the CPM, with the County Environmental Health Department, and with the CPM, documenting the resolution of the complaint. If mitigation is required to resolve a complaint, and the complaint is not resolved within a 30-day period, the project owner shall submit an updated Noise Complaint Resolution Form when the mitigation is finally implemented.

NOISE-3 Night construction activities may be authorized by the CPM if they are consistent with local noise ordinances. Night construction, or specific night construction activities may be disallowed by the CPM if it results in significant impact to the surrounding community.

Verification: Noise monitoring and surveys may be conducted if complaints are reported by residence in the surrounding area of the project site.

NOISE-4 Prior to the start of project-related ground disturbing activities, the project owner shall notify all residents and business owners within one-half mile of the site or adjacent to the pipeline routes, by mail or other effective means, of the commencement of project construction. At the same time, the project owner shall establish a telephone number for use by the public to report any undesirable noise conditions associated with the construction and operation of the project. If the telephone is not staffed 24 hours per day, the project owner shall include an automatic answering feature, with date and time stamp recording, to answer calls when the phone is unattended. This telephone number shall be posted at the project site during construction in a manner visible to passersby. This telephone number shall be maintained until the project has been operational for at least one year.

Verification: The project owner shall transmit to the Compliance Project Manager (CPM) in the first Monthly Construction Report following the start of project-related ground disturbing activities, a statement, signed by the project manager, attesting that the above notification has been performed, and describing the method of that notification. This statement shall also attest that the telephone number has been established and posted at the site.

NOISE-5 Throughout the construction and operation of the project, the project owner shall document, investigate, evaluate, and attempt to resolve all project-related noise complaints.

The project owner or authorized agent shall:

- Use the Noise Complaint Resolution Form (see Exhibit 1 for example), or functionally equivalent procedure acceptable to the CPM, to document and respond to each noise complaint;

- Attempt to contact the person(s) making the noise complaint within 24 hours;
- Conduct an investigation to determine the source of noise related to the complaint;
- Take all feasible measures to reduce the noise at its source if the noise is project related; and
- Submit a report documenting the complaint and the actions taken. The report shall include: a complaint summary, including final results of noise reduction efforts; and if obtainable, a signed statement by the complainant stating that the noise problem is resolved to the complainant's satisfaction.

Verification: Within 30 days of receiving a noise complaint, the project owner shall file a copy of the Noise Complaint Resolution Form, or similar instrument, with the CPM, documenting the resolution of the complaint. If mitigation is required to resolve a complaint, and the complaint is not resolved within a 30-day period, the project owner shall submit an updated Noise Complaint Resolution Form when the mitigation is finally implemented.

NOISE-6 Prior to the start of project-related site mobilization, the project owner shall submit to the CPM for review a noise control program. The noise control program shall be used to reduce employee exposure to high noise levels during construction and also to comply with applicable OSHA and Cal-OSHA standards.

Verification: Prior to the start of project-related mobilization activities, the project owner shall submit to the CPM the above referenced program. The project owner shall make the program available to OSHA upon request.

NOISE-7 Within 30 days after the facility is in full operation, the project owner shall conduct an occupational noise survey to identify the noise hazardous areas in the facility. The survey shall be conducted by a qualified person in accordance with the provisions of Title 8, California Code of Regulations, sections 5095-5099 (Article 105) and Title 29, Code of Federal Regulations, section 1910.95. The survey results shall be used to determine the magnitude of employee noise exposure. The project owner shall prepare a report of the survey results and, if necessary, identify proposed mitigation measures that will be employed to comply with the applicable California and federal regulations.

Verification: Within 30 days after completing the survey, the project owner shall submit the noise survey report to the CPM. The project owner shall make the report available to OSHA and Cal-OSHA upon request.

NOISE-8 Noisy construction work (that which causes offsite annoyance, as evidenced by the filing of a legitimate noise complaint) shall be restricted to the times of day delineated below:

High-pressure steam blows: 8 a.m. to 5 p.m.

Other Noisy Work: 7 a.m. to 7 p.m.

Verification: The project owner shall transmit to the CPM in the first Monthly Construction Report a statement acknowledging that the above restrictions will be observed throughout the construction of the project.

PALEONTOLOGICAL RESOURCES

PALEO-1 The project certified under this emergency process shall not cause any significant impact to paleontological resources on the power plant site or linear rights of way.

SOIL & WATER RESOURCES

SOIL & WATER-1: See **SPPE CONDITION HYDROLOGY & WATER 1**

SOIL & WATER-2: See **SPPE CONDITION HYDROLOGY & WATER 2**

SOIL & WATER-3: Prior to site mobilization, the project owner shall submit to the Compliance Project Manager (CPM), a copy of a valid water service agreement for water supplies for the project from an authorized water purveyor, or a copy of a valid well permit for the project from the appropriate licensing agency.

Verification: A copy of the water service agreement or well permit shall be submitted to the CPM prior to site mobilization.

SOIL & WATER-4: Prior to ground disturbance, the project owner shall submit to the CPM a copy of a valid permit or agreement from the appropriate approving agency for wastewater discharge.

Verification: The permit or agreement for wastewater discharge shall be submitted to the CPM prior to ground disturbance.

SOIL & WATER-5: All straw wattles and straw bales for BMP's will be certified weed free.

Verification: Project owner will provide to the CPM evidence of weed free certification for all straw wattles and bales.

SOIL & WATER-6: All seed mixtures will be approved by the CPM before application.

SOIL & WATER-7: To prevent stormwater and soil contamination the Project Owner shall not use chemical and petroleum based palliatives as dust control.

SPPE CONDITION HYDROLOGY & WATER-1 Prior to beginning any site mobilization, the project owner shall obtain CPM approval of the Storm Water Pollution Prevention Plan (SWPPP) as required under the General Storm Water Construction Activity Permit for the project.

Verification: At least 14 days prior to the start of any site mobilization, the project owner will submit a copy of the SWPPP to the CPM for review and approval. Approval of the plan by the CPM must be received prior to the initiation of any site mobilization activities.

SPPE CONDITION HYDROLOGY & WATER-2 Prior to beginning any site mobilization activities, the project owner shall obtain CPM approval for erosion control and revegetation plans that address all project elements.

Verification: The erosion control and revegetation plan shall be submitted to the CPM prior to start of any site mobilization. Approval of the final plan by the CPM must be received prior to the initiation of any site mobilization activities.

SPPE CONDITION HYDROLOGY & WATER-3 During project operation the project owner will not discharge any stormwater off-site. All stormwater will be collected and directed to the on-site evaporation/infiltration basin. Any stormwater leaving the site during commercial operation will require a General Industrial Activity Storm Water Permit and SWPPP. Approval for the final Industrial Activities SWPPP must be obtained from the CPM prior to commercial operation and/or offsite discharge of stormwater.

Verification: Should stormwater be discharged off-site, the project owner will submit to the CPM a copy of the SWPPP prepared under the requirements of the General Industrial Activity Storm Water Permit prior to the start of commercial operation and/or off-site stormwater discharge.

SPPE CONDITION HYDROLOGY & WATER-4 The HEPP will mitigate all use of groundwater. This Water Mitigation Plan will include the following components:

1. The purchase agreement for 181 acre-feet of Table A Entitlement SWP water between the Angiola Water District and GWF Power Systems.
2. The agreement between the Tulare Lake Basin Water Storage District and GWF which grants GWF the right to utilize the District's facilities to deliver and convey the 181 acre-feet of water from the SWP to J.G. Boswell.
3. The exchange agreement between J.G. Boswell and GWF which allows the 181 acre-feet of SWP water owned by GWF to be delivered to J.G. Boswell in exchange for 181 acre-feet of J.G. Boswell in exchange for 181 acre-feet of J.G. Boswell Kings River entitlement.
4. The water banking and mitigation agreement between KCWD and GWF allows the 181 acre-feet of Boswell Kings River Entitlement to be delivered to the KCWD on behalf of GWF.

Verification: The project owner will submit the complete Water Mitigation Plan at least 30 days prior to the start of operation. The Water Mitigation Plan will discuss all terms and conditions and all parties involved in the agreement, and contain copies of all agreements executed as part of the Water Mitigation Plan. Any changes made to the Water Mitigation Plan will be provided to the CPM for review at least 14 days prior to the effective date of the proposed change. The Water Mitigation Plan will remain in effect for the life of the project, and the project will not operate without the Water Mitigation Plan in effect.

SPPE CONDITION HYDROLOGY & WATER-5 The project owner will record on a monthly basis the amount of groundwater pumped by the project. This information will be supplied to the Energy Commission and the Kings County Water District.

Verification: The project owner will submit a groundwater use summary to both the CPM and the KCWD on an annual basis for the life of the project. The annual summary will include the monthly range, monthly average, and total groundwater use by the project in both gallons-per-minute and acre-feet. For subsequent years the annual summary will also include the yearly range and yearly average groundwater use by the project. Any significant changes in the water supply for the project during construction or operation of the plant will be noticed in writing to the CPM at least 30 days prior to the effective date of the proposed change.

SPPE CONDITION HYDROLOGY & WATER-6 The project owner will obtain a final Industrial Discharge Permit prepared in accordance with the City of Hanford's Pretreatment Program for the project's wastewater discharge to the City's POTW. The project will not operate without a valid permit in place.

Verification: The Applicant will obtain and provide a copy of final Industrial Discharge Permit issued by the City of Hanford for the project's wastewater discharge to

the POTW to the CPM at least 14 days prior to the POTW receiving any wastewater discharge from the project. Any change to either the chemical or physical parameters or volume of the discharge permitted by the Industrial Discharge will be noticed in writing to both the CPM and the City of Hanford during both construction and/or operation. The project owner will notify the Energy Commission in writing of any changes to the Industrial Discharge Permit, either instituted by the project owner or the City of Hanford, including any permit renewal. The project owner will provide the CPM with the annual monitoring report summary required by the Industrial Discharge Permit, and will fully explain any violations, exceedances, enforcement actions, and remedial actions.

TRAFFIC AND TRANSPORTATION

TRANS-1 The project permitted under this emergency process shall comply with Caltrans and City/County limitations on vehicle sizes and weights. In addition, the project owner or its contractor shall obtain necessary transportation permits from Caltrans and all relevant jurisdictions for roadway use.

Verification: The project owner shall keep copies of any oversize and overweight transportation permits received at the project site.

TRANS-2 The project permitted under this emergency process shall comply with Caltrans and City/County limitations for encroachment into public rights-of-way and shall obtain necessary encroachment permits from Caltrans and all relevant jurisdictions.

Verification: The project owner shall keep copies of any encroachment permits received at the project site.

TRANS-3 The project permitted under this emergency process shall ensure that permits and/or licenses are secured from the California Highway Patrol and Caltrans for the transport of hazardous materials.

Verification: The project owner shall keep copies of all permits/licenses acquired by the project owner and/or subcontractors concerning the transport of hazardous substances at the project site.

TRANS-4 Following completion of construction of the power plant and all related facilities, the project owner shall return all roadways to original or as near original condition as possible.

TRANS-5: During construction of the power plant and all related facilities, the project owner shall manage on-site and off-site construction-period parking.

Verification: Prior to any earth moving or ground disturbance activity the project owner shall submit a parking and staging plan to the CPM for review and approval. The plan shall utilize areas already disturbed and not result in any disturbance of off-site land and shall not utilize on-street parking.

TRANS-6: Linear facility construction impacts on traffic. Prior to initiation of ground disturbance within the public right-of-way, the applicant shall submit a TCP to the CPM for review and approval. The TCP shall provide methods designed to minimize disruption of traffic including the use of the minimum traffic lane area required for construction, delineating only the area that will be under construction in the next 24 hour period, and use of signs and traffic flagmen to direct traffic around construction areas.

Verification: The project owner shall obtain approval for the TCP from the CPM before initiating construction in the public right-of-way. The CPM may periodically inspect the construction to ensure that the plan is being implemented.

TRANS-7: Fire access road requirement of the city. The proposed project shall include a fire access road acceptable to the City of Hanford Fire Department.

Verification: Prior to construction the applicant shall submit plans illustrating the fire road including vertical clearance, load-bearing capacity, minimum radii, and width to the City Fire official for review and approval. The project owner shall submit to the CPM written confirmation that the city has reviewed that plans and that the proposed roadway meets city fire road requirements.

TRANSMISSION SYSTEM ENGINEERING, SAFETY AND RELIABILITY

TSE-1 The project owner shall ensure that the design, construction and operation of the proposed transmission facilities will conform to requirements listed below:

The power plant switchyard, outlet line and termination shall meet or exceed the electrical, mechanical, civil and structural requirements of CPUC General Order 95, CPUC Rule 21, Title 8, California Code of Regulations, Articles 35, 36 and 37 of the, "High Voltage Electric Safety Orders", Title 8 CCR, Sections 2700-2974, CPUC Decision 93-11-013, Federal Communications Commission Part 15, Public Resources Code 4292-4296, and National Electric Code (NEC).

Verification: Within 15 days after cessation of construction the project owner shall provide a statement to the CPM from the registered engineer in responsible

charge (signed and sealed) that the switchyard and transmission facilities conform to the above listed requirements.

VISUAL

VIS-1 Project structures treated during manufacture and all structures treated in the field, that are visible to the public, shall be painted in a neutral color consistent with the surrounding environment.

Verification: Prior to painting exposed services, the project owner shall identify the selected color for CPM approval.

VIS-2 Standard condition replaced with VIS-6.

VIS-3 The project owner shall prepare and submit to the local planning department for review and comment, and to the CPM for review and approval a landscaping plan which provides for any or all of the following, as appropriate, to screen the project from view: berms, vegetation and trees, and slats in fencing.

Verification: Within 30 days of certification, the project owner shall submit the landscaping plan to the local planning department and the CPM.

VIS-4 Proposed Transmission Line Route Tree Replacement. Trees removed as a result of transmission line construction shall be replaced on a one-to-one in-kind basis. Replacement planting shall be monitored for a period of 3 years to ensure 100% survival. During this period all dead plant material shall be replaced. If feasible, this planting shall be located between the project right-of-way and the shoulder of 11th Avenue. The project owner shall submit a plan for the landscape screening and three-year mitigation monitoring program to the CPM for review and approval. If the CPM notifies the project owner that revisions of the plan are needed before the CPM will approve the submittal, the project owner shall submit to the CPM a revised plan. The project owner shall not implement the plan until the project owner receives approval of the submittal from the CPM. The project owner shall notify the CPM within one week after the landscape screening has been installed and is ready for inspection.

Verification: At least 5 days prior to installing the landscape screening, the project owner shall submit the plan to the CPM for review and approval. If the CPM notifies the project owner that revisions of the submittal are needed before the CPM will approve the submittal, within 10 days of receiving that notification, the project owner shall prepare and submit to the CPM a revised submittal. The project owner shall notify the CPM within seven days after completing installation of the landscape screening that the planting is ready for inspection.

VIS-5: The project owner shall ensure that the power plant is enclosed in a 6-foot tall solid wall or a 6-foot fence with slats.

Verification: Prior to operation of the proposed project the CPM shall inspect the project site to ensure that a block wall or slatted fence has been installed.

- VIS-6** Night Lighting. The project owner shall design and install all new project lighting to minimize potential night lighting impacts, as follows:
- a. All new night lighting shall be of minimum necessary brightness consistent with operational safety.
 - b. All new lighting shall be shielded and directed downward to prevent all uplighting and all direct light trespass (direct lighting extending outside the boundaries of the facility).
 - c. Wherever feasible and safe, lighting shall be kept off when not in use.
 - d. A lighting complaint resolution form shall be maintained by plant operations, to record all lighting complaints received and to document the resolution of that complaint.
 - e. Lighting shall be installed consistent with local requirements.

Verification: The project owner shall develop a lighting plan for the project incorporating the above measures and submit it to the CPM for review and approval. If the CPM notifies the project owner that revisions of the plan are needed before the CPM will approve the plan, the project owner shall prepare and submit to the CPM a revised plan. Lighting shall not be installed before the plan is approved. The project owner shall notify the CPM when the lighting has been installed and is ready for inspection. Before ordering the exterior lighting, the project owner shall provide the lighting plan to the CPM for review and approval. If the CPM notifies the project owner that any revisions of the plan are needed before the CPM will approve the plan, within seven days of receiving that notification the project owner shall submit to the CPM a revised plan.

The project owner shall notify the CPM within seven days of completing exterior lighting installation that the lighting is ready for inspection.

WASTE

WASTE-1 The project owner shall obtain a hazardous waste generator identification number from the Department of Toxic Substances Control prior to producing any hazardous waste.

Verification: The project owner shall keep its copy of the identification number on file at the project site.

WASTE-2 The project owner shall have an environmental professional available for consultation during soil excavation and grading activities. The environmental professional shall be given full authority to oversee any earth moving activities that have the potential to disturb contaminated soil. The environmental professional shall meet the qualifications of such as defined by the American Society for Testing and Materials designation E 1527-97 Standard Practice for Phase I Environmental Site Assessments.

Verification: If potentially contaminated soil is unearthed during excavation at either the proposed site or linear facilities, the environmental professional shall inspect the site, determine the need for sampling to confirm the nature and extent of contamination, and make a recommended course of action. The environmental professional shall have the authority to suspend construction activity at that location. If, in the opinion of the environmental professional, remediation is to be required, the project owner shall consult with the CPM and a decision will be made by the CPM within 24 hours as to how to proceed.

WASTE-3 Any hazardous waste resulting from the construction and operation of the project shall be stored, handled, and disposed of as required by federal regulations and federally mandated state and local regulations.

Verifications: Prior to construction the project owner shall provide the CPM documentation that the California Department of Toxic Substances Control has reviewed and approved the proposed practices for storage, handling, and disposal of any hazardous wastes generated by the construction and operation of the facility.

WORKER SAFETY

WORKER SAFETY-1 The project owner must comply with all requirements in Title 8 of the California Code of Regulations, beginning with Part 450 (8 CCR Part 450 et seq).

Verification: The project owner shall submit to the CPM a letter attesting to compliance with the above and shall report any violations to the CPM.

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**HANFORD ENERGY PARK PEAKER PROJECT
EMERGENCY PERMIT EVALUATION
PREPARATION TEAM
CALIFORNIA ENERGY COMMISSION**

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Tricia Hankerson..... Biological Resources
Michael Berman..... Land Use, Noise, Transportation, Visual
Rick Tyler Hazardous Materials Management
Steve Baker Facility Design
Mark Hesters..... Transmission Engineering

APPENDIX A

AUTHORITY TO CONSTRUCT APPLICATION REVIEW

**AUTHORITY TO CONSTRUCT
APPLICATION REVIEW
Gas Turbine Simple Cycle Peaker Plant**

Facility Name: Hanford LP
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Application #s: C-603-11-0 and -12-0
Project #: 1010451

Application Received: 04/09/01

Deemed Complete: 04/12/01

Reviewing Engineer: Samir Sheikh / Errol Villegas
Date: 04/19/01

Lead Engineer: Joven Refuerzo

I. PROPOSAL

The applicant has requested Authority to Construct permits for the installation of two 47.5 MW General Electric LM6000 PC Sprint natural gas fired gas turbine engines (GTEs) with a water spray premixed combustion system, a Selective Catalytic Reduction (SCR) system and a CO & VOC catalyst. The GTEs will be installed in a simple cycle configuration (no heat recovery), will be served by a NO_x Continuous Emissions Monitoring System (CEMS), and will be utilized to generate electric power for a 95.0 MW peaking power plant.

The Hanford Energy Park Peaker (HEPP) is expected to operate as a base-loaded peaking facility. Each LM6000 PC Sprint will have a maximum heat input rate of 459.6 MMBtu/hr (HHV) as a simple cycle operating unit. Construction is expected to begin in May 2001 and the unit will be operational in September 2001. The initial cycle of operation will begin September 2001 and end in December 2001. The GTEs will operate 2,000 hours with 200 startup/shutdown events during the 2001 period. Beginning with the second year of operations, the HEPP will operate a maximum of 8,000 hours per year and a maximum of 300 startup/shutdown events. HEPP does not wish to be restricted to a specific number of hours of operation and startup/shutdown events per quarter. Actual emissions from the facility will vary depending on electricity demand from California. A hypothetical operating scenario has been developed for purposes of demonstrating that the project will comply with SJVAPCD emission offset requirements with the ERC's that have already been obtained for this project.

Table 1. Hypothetical Operating Scenario					
	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Annual
Number of Startups/shutdown events	50	100	100	50	300
Number of Full Load Hours	2,000	2,000	2,000	2,000	8,000

II. APPLICABLE RULES

- Rule 1080 Stack Monitoring (Adopted June 18, 1992, Amended December 17, 1992)
- Rule 1081 Source Sampling (Adopted April 11, 1991, Last Amended December 16, 1993)
- Rule 2010 Permits Required (Adopted May 21, 1992, Amended December 17, 1992)

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- Rule 2201 New and Modified Stationary Source Review Rule (Adopted September 19, 1991, Amended June 15, 1995)
- Rule 2520 Federally Mandated Operating Permits (Adopted June 15, 1995)
- Rule 2540 Acid Rain Program (Adopted November 13, 1997)
- Rule 4001 New Source Performance Standards (Adopted April 11, 1991, Last Amended April 14, 1999)
- Rule 4101 Visible Emissions (Adopted May 21, 1992, Amended December 17, 1992)
- Rule 4102 Nuisance (Adopted May 21, 1992, Amended December 17, 1992)
- Rule 4201 Particulate Matter Concentration (Adopted April 11, 1991, Last Amended May 19, 1994)
- Rule 4301 Fuel Burning Equipment (Adopted May 21, 1992, Amended December 17, 1992) - *Not applicable. The GTEs do not produce power by indirect heat transfer.*
- Rule 4703 Stationary Gas Turbines (Adopted August 18, 1994, Amended October 16, 1997)
- Rule 4801 Sulfur Compounds (Adopted May 21, 1992, Amended December 17, 1992)

California Environmental Quality Act (CEQA)

III. PROJECT LOCATION

The project is located in Hanford, Kings County, CA (a CO attainment area). The peaker site is a 5-acre parcel adjacent to the existing GWF Hanford Cogeneration plant just north of Idaho Avenue, between the existing GWF facility to the west and the Burlington Northern and Santa Fe Railway tracks to the east. The area is situated in U.S. Census tract 0012-02 of Kings County.

This site is not within 1,000 feet of a school. Therefore the notification requirements of CH&SC 42301.6 do not apply.

IV. EQUIPMENT LISTING

C-603-11-0: 47.5 MW General Electric Model LM6000 natural gas fired gas turbine engine (GTE) with water spray premixed combustion systems, served by selective catalytic reduction (SCR) system and oxidation catalyst.

C-603-12-0: 47.5 MW General Electric Model LM6000 natural gas fired gas turbine engine (GTE) with water spray premixed combustion systems, served by selective catalytic reduction (SCR) system and oxidation catalyst.

V. PROCESS DESCRIPTION

Hanford LP proposes to operate a 95.0 MW power plant located adjacent to the existing GWF Hanford Cogeneration plant. The simple-cycle gas turbines firing only natural gas will be used to provide power to California's electricity grid during periods of high electricity demand.

The HEPP will be a nominal 95 MW (gross) natural gas-fired simple cycle gas turbine power plant (consisting of two gas turbine/generators), with a 1.2 mile 115-kV transmission line with an interconnection to the existing Pacific Gas and Electric Company (PG&E) 115-kV Henrietta-Kingsburg transmission line at the corner of 11th Avenue and Jackson Avenue to the south. The dual circuit 115-kV line will be supported on single poles that will leave the plant west along Idaho and turn south on 11th Avenue to Jackson Avenue.

Natural gas for the HEPP will be delivered via a 16" gas line being installed by So-Cal Gas Company from their gas distribution system 2.8 miles northwest of the HEPP at the intersection of 11th Avenue and Hanford-Armona Road. The gas line will follow an easement on 11th Avenue south to Idaho Avenue before turning east toward the plant.

Domestic water will be supplied from the Hanford municipal water system and will be used for industrial purposes. Groundwater from on-site water well at the adjacent Hanford Cogeneration Plant will supply process-cooling water for the gas turbine inlet and NO_x control (during first year of operation). The dual Gas Turbine Engine (GTE) units will use 140 gpm of process water that has been demineralized by a combination water demineralizer and reverse osmosis water treatment unit located at the Hanford Cogeneration facility. Approximately 20 gpm of lowdown from the GTE units will be diverted to the existing cooling tower for the cogen facility.

See plot plan in [Appendix B](#).

VI. CONTROL EQUIPMENT EVALUATION

The new turbines will each be equipped with water spray premixed combustion systems and will exhaust into a Selective Catalytic Reduction [SCR] system, and a CO & VOC catalyst.

Emissions from natural gas-fired turbines include CO, NO_x, PM₁₀, SO_x, and VOC.

NO_x is the major pollutant of concern when combusting natural gas. Virtually all gas turbine NO_x emissions originate as NO. This NO is further oxidized in the exhaust system or later in the atmosphere to form the more stable NO₂ molecule. There are two mechanisms by which NO_x is formed in turbine combustors: 1) the oxidation of atmospheric nitrogen found in the combustion air (thermal NO_x and prompt NO_x), and 2) the conversion of nitrogen chemically bound in the fuel (fuel NO_x).

Thermal NO_x is formed by a series of chemical reactions in which oxygen and nitrogen present in the combustion air dissociate and subsequently react to form oxides of nitrogen. Prompt NO_x, a form of thermal NO_x, is formed in the proximity of the flame front as intermediate combustion products such as HCN, H, and NH are oxidized to form NO_x. Prompt NO_x is formed in both fuel-rich flame zones and dry low NO_x (DLN) combustion zones. The contribution of prompt NO_x to overall NO_x emissions is relatively small in conventional near-stoichiometric combustors, but this contribution is an increasingly significant percentage of overall thermal NO_x emissions in DLN combustors. For this reason prompt NO_x becomes an important consideration for DLN combustor designs, and establishes a minimum NO_x level attainable in lean mixtures.

Fuel NO_x is formed when fuels containing nitrogen are burned. Molecular nitrogen, present as N₂ in some natural gas, does not contribute significantly to fuel NO_x formation. With excess air, the degree of fuel NO_x formation is primarily a function of the nitrogen content in the fuel. When compared to thermal NO_x, fuel NO_x is not currently a major contributor to overall NO_x emissions from stationary gas turbines firing natural gas.

The level of NO_x formation in a gas turbine, and hence the NO_x emissions, is unique (by design factors) to each gas turbine model and operating mode. The primary factors that determine the amount of NO_x generated are the combustor design, the types of fuel being burned, ambient conditions, operating cycles, and the power output of the turbine.

The design of the combustor is the most important factor influencing the formation of NO_x. Design parameters controlling air/fuel ratio and the introduction of cooling air into the combustor strongly influence thermal NO_x formation. Thermal NO_x formation is primarily a function of flame temperature and residence time. The extent of fuel/air mixing prior to combustion also affects NO_x formation. Simultaneous mixing and combustion results in localized fuel-rich zones that yield high flame temperatures in which substantial thermal NO_x production takes place. Injecting water or steam into a conventional combustor provides a heat sink that effectively reduces peak flame temperature, thereby reducing

thermal NO_x formation. Premixing air and fuel at a lean ratio approaching the lean flammability limit (approximately 50% excess air) significantly reduces peak flame temperature, resulting in minimum NO_x formation during combustion. This is known as dry low NO_x (DLN) combustion.

Selective Catalytic Reduction systems selectively reduce NO_x emissions by injecting ammonia (NH₃) into the exhaust gas stream upstream of a catalyst. Nitrogen oxides, NH₃, and O₂ react on the surface of the catalyst to form molecular nitrogen (N₂) and H₂O. SCR is capable of over 90 percent NO_x reduction. Titanium oxide is the SCR catalyst material most commonly used, though vanadium pentoxide, noble metals, or zeolites are also used. The ideal operating temperature for a conventional SCR catalyst is 600 to 750 °F. Exhaust gas temperatures greater than the upper limit (750 °F) will cause NO_x and NH₃ to pass through the catalyst unreacted.

The exhaust from the GTE is too high (~850 °F) to be used with a standard SCR system without first cooling the exhaust. The applicant proposes to introduce fresh air in the GTE exhaust upstream of the SCR system to reduce the exhaust temperature to approximately 750 °F.

A. BEST AVAILABLE CONTROL TECHNOLOGY (BACT) REQUIREMENT

1. APPLICABILITY:

Per Rule 2201 Sections 4.1.1 and 4.1.1.1, BACT shall be applied to a new or modified emissions unit if the new unit or modification results in an increase in permitted emissions (BACT IPE) greater than 2 lb/day for NO_x, CO (non-attainment area), VOC, PM₁₀, or SO_x. In a CO attainment area, the CO NSR balance must also exceed 550 lb/day to trigger BACT.

As seen in Section VII of this evaluation, the applicant is proposing to install two new emissions units with BACT IPEs greater than 2 lb/day for NO_x, CO, VOC, PM₁₀, and SO_x. BACT is triggered for NO_x, CO, VOC, PM₁₀, and SO_x criteria pollutants since there are IPEs greater than 2 lbs/day and the CO NSR Balance is greater than 550 lbs/day.

2. BACT GUIDANCE:

Per Permit Services Policies and Procedures for BACT, a Top-Down BACT analysis shall be performed as a part of the application review for each application subject to the BACT requirements pursuant to the District's NSR Rule. The District BACT Clearinghouse recently included a new BACT Guideline applicable to these turbine installations [Simple Cycle Gas Fired Turbines less than 50 MW, Powering an Electrical Generation Operation]. (See [Appendix I](#)) However, the new BACT guideline did not address Best Available Control Technology for CO emissions since BACT was not

triggered for that specific project. Therefore, this BACT Analysis will revise the new BACT guideline to include BACT for CO emissions. See top down BACT analysis in [Appendix C](#).

3. BACT SUMMARY:

BACT has been satisfied by the following:

- NO_x: 3.7 ppmv @ 15% O₂ (3 hour rolling average) using water injection, SCR with ammonia injection, an oxidation catalyst and natural gas fuel
- CO: 6.0 ppmv @ 15% O₂ (3 hour rolling average), oxidation catalyst, and natural gas fuel
- VOC: 2.0 ppmv @ 15% O₂ (3 hour rolling average)
- PM₁₀: Air inlet filter cooler, lube oil vent coalescer, and natural gas fuel
- SO_x: Natural gas with a sulfur content of 0.25 gr/100 scf

4. TOP-DOWN BEST AVAILABLE CONTROL TECHNOLOGY (BACT) ANALYSIS FOR PERMIT UNITS C-603-11-0 AND -12-0:

See [Appendix C](#).

VII. EMISSION CALCULATIONS

A. ASSUMPTIONS

- Per the applicant, both GTEs will be fired only on natural gas.
- Natural gas F factor is 8,710 dscf/MMBtu (@ 68 F per EPA 40 CFR 60 Appendix B method 19)
- Higher Heating Value of natural gas is 1,000 Btu/scf
- The heat input rating provided by the applicant is 459.6 MMBtu/hr
- All particulate matter is PM₁₀ (Ref. CARB PM Inventory Weight Fractions, 02/13/86).
- Emissions are based on 24 hours per day and 8,000 hours per year of operation. (proposed by Applicant)
- Startup/shutdown events will not exceed 300 events per year. (per applicant)

B. EMISSION FACTORS

For the two new turbines, the emissions factors for NO_x, CO, and VOC are provided by the applicant and are calculated at 15% O₂. The PM₁₀ emission factor is taken from AP-42 Table 3.1-2a (4/00) (Appendix D) and the SO_x emission factor is derived from the guaranteed sulfur limit of 0.25 gr S/100 scf.

Emissions estimates are for one GTE.

TABLE 2. EMISSION FACTORS (@ NORMAL BASELOAD)		
	[ppmv @ 15% O ₂]	[lb/MMBtu]
*NO _x	3.7	0.0136
*CO	6.0	0.0135
*VOC	2.0 (as CH ₄)	0.0026
PM ₁₀	--	0.0066
**SO _x	0.25 gr/100 scf	0.00071

* See Appendix E for conversion spreadsheet.

** 0.25 gr S/100 scf x 1 lb S/7000 gr x 64 lb SO_x/32 lb S x 1 scf/1000 Btu x 10⁶ Btu/MMBtu = 0.00071 lb/MMBtu

Startup/Shutdown Emission Rates

Below is a summary of the maximum expected emissions during an average startup/shutdown event of 1-hour duration.

Table 3. Startup/Shutdown Emissions (1-hour duration)*					
	NO _x (lb/eve nt)	CO (lb/eve nt)	VOC (lb/eve nt)	PM ₁₀ (lb/eve nt)**	SO _x (lb/eve nt)**
Mass Emission Rate (perGTE)	7.7	7.7	0.68	3.03	0.33

* Pursuant to the turbine vendor, "A start-up/shutdown event is estimated to be completed in 10 minutes; however, for simplification the emissions for a start-up/shutdown event are calculated as hourly emissions with the 10 minute start-up emissions being added to 50 minutes of base load operating emissions."

** Pursuant to the turbine vendor, "emissions of PM₁₀ and SO_x are a function of the quantity of fuel burned, thus they will be highest when the turbine operates at maximum fuel consumption."

C. POTENTIAL TO EMIT

Example Calculations: (@ normal baseload) (i.e. excluding startup/shutdown)

$$PE_{NO_x} = (459.6 \text{ MMBtu/hr}) * (0.0136 \text{ lb/MMBtu})$$

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$$= 6.25 \text{ lb NO}_x/\text{hr}$$

$$= (459.6 \text{ MMBtu/hr}) * (0.0136 \text{ lb/MMBtu}) * (24 \text{ hr/day})$$
$$= 150.0 \text{ lb NO}_x/\text{day}$$

$$= (459.6 \text{ MMBtu/hr}) * (0.0136 \text{ lb/MMBtu}) * (8,000 \text{ hr/year})$$
$$= 50,004 \text{ lb NO}_x/\text{year}$$

$$\text{PE}_{\text{CO}} = (459.6 \text{ MMBtu/hr}) * (0.0135 \text{ lb/MMBtu})$$
$$= 6.20 \text{ lb CO/hr}$$

$$= (459.6 \text{ MMBtu/hr}) * (0.0135 \text{ lb/MMBtu}) * (24 \text{ hr/day})$$
$$= 148.9 \text{ lb CO/day}$$

$$= (459.6 \text{ MMBtu/hr}) * (0.0135 \text{ lb/MMBtu}) * (8,000 \text{ hr/year})$$
$$= 49,637 \text{ lb CO/year}$$

$$\text{PE}_{\text{VOC}} = (459.6 \text{ MMBtu/hr}) * (0.0026 \text{ lb/MMBtu})$$
$$= 1.19 \text{ lb VOC/hr}$$

$$= (459.6 \text{ MMBtu/hr}) * (0.0026 \text{ lb/MMBtu}) * (24 \text{ hr/day})$$
$$= 28.7 \text{ lb VOC/day}$$

$$= (459.6 \text{ MMBtu/hr}) * (0.0026 \text{ lb/MMBtu}) * (8,000 \text{ hr/year})$$
$$= 9,560 \text{ lb VOC/year}$$

$$\text{PE}_{\text{PM}_{10}} = (459.6 \text{ MMBtu/hr}) * (0.0066 \text{ lb/MMBtu})$$
$$= 3.03 \text{ lb PM}_{10}/\text{hr}$$

$$= (459.6 \text{ MMBtu/hr}) * (0.0066 \text{ lb/MMBtu}) * (24 \text{ hr/day})$$
$$= 72.8 \text{ lb PM}_{10}/\text{day}$$

$$= (459.6 \text{ MMBtu/hr}) * (0.0066 \text{ lb/MMBtu}) * (8,000 \text{ hr/year})$$
$$= 24,267 \text{ lb PM}_{10}/\text{year}$$

$$\text{PE}_{\text{SO}_x} = (459.6 \text{ MMBtu/hr}) * (0.00071 \text{ lb/MMBtu})$$
$$= 0.33 \text{ lb SO}_x/\text{hr}$$

$$= (459.6 \text{ MMBtu/hr}) * (0.00071 \text{ lb/MMBtu}) * (24 \text{ hr/day})$$
$$= 7.8 \text{ lb SO}_x/\text{day}$$

$$= (459.6 \text{ MMBtu/hr}) * (0.00071 \text{ lb/MMBtu}) * (8,000 \text{ hr/year})$$
$$= 2,611 \text{ lb SO}_x/\text{year}$$

Maximum daily emissions are based on 24 hours of worst-case emission rates. For NO_x and CO emissions, the worst-case daily emission rate is maximized on a day, which includes a startup/shutdown event. For VOC, PM₁₀ and SO_x emissions, the maximum daily emissions are equivalent to the operating at normal baseload conditions, since emissions are less than or equal to when including a startup/shutdown event.

Example Calculations: (Worst-case)

$$\begin{aligned} PE_{NO_x} &= [(7.7 \text{ lb NO}_x/\text{hr-event}) * (1 \text{ event})] + [(459.6 \text{ MMBtu/hr}) * (0.0136 \\ &\quad \text{lb/MMBtu}) * (23 \text{ hr/day})] \\ &= 151.5 \text{ lb NO}_x/\text{day} \end{aligned}$$

$$\begin{aligned} PE_{CO} &= [(7.7 \text{ lb CO/hr-event}) * (1 \text{ event})] + [(459.6 \text{ MMBtu/hr}) * (0.0135 \text{ lb/MMBtu}) \\ &\quad * (23 \text{ hr/day})] \\ &= 150.3 \text{ lb CO/day} \end{aligned}$$

Maximum annual emissions will be based upon 8,000 hours of operation and 300 startup/shutdown events per year.

$$\begin{aligned} PE_{NO_x} &= [(7.7 \text{ lb NO}_x/\text{event}) * (300 \text{ event/year})] + [(459.6 \text{ MMBtu/hr}) * (0.0136 \\ &\quad \text{lb/MMBtu}) * (8,000 \text{ hr/yr})] \\ &= 52,314 \text{ lb NO}_x/\text{year} \end{aligned}$$

$$\begin{aligned} PE_{CO} &= [(7.7 \text{ lb CO/event}) * (300 \text{ event/year})] + [(459.6 \text{ MMBtu/hr}) * (0.0135 \\ &\quad \text{lb/MMBtu}) * (8,000 \text{ hr/year})] \\ &= 51,947 \text{ lb CO/year} \end{aligned}$$

$$\begin{aligned} PE_{VOC} &= [(0.68 \text{ lb VOC/event}) * (300 \text{ event/year})] + [(459.6 \text{ MMBtu/hr}) * (0.0026 \\ &\quad \text{lb/MMBtu}) * (8,000 \text{ hr/year})] \\ &= 9,764 \text{ lb VOC/year} \end{aligned}$$

$$\begin{aligned} PE_{PM_{10}} &= [(3.03 \text{ lb PM}_{10}/\text{event}) * (300 \text{ event/year})] + [(459.6 \text{ MMBtu/hr}) * (0.0066 \\ &\quad \text{lb/MMBtu}) * (8,000 \text{ hr/year})] \\ &= 25,176 \text{ lb PM}_{10}/\text{year} \end{aligned}$$

$$\begin{aligned} PE_{SO_x} &= [(0.33 \text{ lb SO}_x/\text{event}) * (300 \text{ event/year})] + [(459.6 \text{ MMBtu/hr}) * (0.00071 \\ &\quad \text{lb/MMBtu}) * (8,000 \text{ hr/yr})] \\ &= 2,710 \text{ lb SO}_x/\text{year} \end{aligned}$$

Summary of emissions: (Worst-case)

Table 4. Potential to Emit (PE) (Each GTE)			
	Hourly Emissions (lb/hr)	Daily Emissions (lb/day)	Annual Emissions (lb/year)
NO _x	7.7*	151.5	52,314
CO	7.7*	150.3	51,947
VOC	1.19	28.7	9,764
PM ₁₀	3.03	72.8	25,176
SO _x	0.33	7.8	2,710

* Based upon startup/shutdown emissions.

Table 5. Potential to Emit (PE) (Combined)			
	Daily Emissions (lb/day)	Annual Emissions (lb/year)	Annual Emissions (Tons/year)
NO _x	303.0	104,628	52.31
CO	300.6	103,894	51.95
VOC	57.4	19,528	9.76
PM ₁₀	145.6	50,352	25.18
SO _x	15.6	5,420	2.71

D. BEST AVAILABLE CONTROL TECHNOLOGY (BACT) REQUIREMENT

For a new emissions unit, the increase in permitted emissions for determining if BACT is triggered is equal to the potential to emit (PE):

$$\text{BACT IPE} = \text{PE}_{\text{new}}$$

Summary of BACT IPE (based on maximum hourly emissions):

TABLE 6. BACT INCREASE IN PERMITTED EMISSIONS					
Permit Unit	NO _x [lb/d ay]	CO [lb/d ay]	VOC [lb/d ay]	PM ₁₀ [lb/d ay]	SO _x [lb/d ay]
C-603-11-0	151.5	150.3	28.7	72.8	7.8
C-603-12-0	151.5	150.3	28.7	72.8	7.8
BACT Triggered?	Yes	Yes	Yes	Yes	Yes

BACT is triggered for NO_x, VOC, PM₁₀ and SO_x for the new turbines. BACT is also required for CO because the Stationary Source NSR Balance for CO exceeds 550

lb/day and the increase in permitted emissions will exceed 2 lb/day. As demonstrated in [Appendix C](#), BACT is satisfied for all criteria pollutants.

E. OFFSETS

1. STATIONARY SOURCE POTENTIAL TO EMIT

The purpose of calculating stationary source potential to emit (SSPE) is to determine if offsets are required for NO_x or VOC. Per Rule 2201 Section 4.2.3, the offset trigger levels are 10 tons/year for NO_x or VOC. Since the proposed project does result in an increase in NO_x and VOC emissions, SSPE calculations are required.

Table 7: Stationary Source Potential to Emit (SSPE)			
Unit	Status	NO _x [lb/year]	VOC [lb/year]
C-603-1-2	Permit	89,425	21,900
C-603-2-0	Permit	0	0
C-603-3-0	Permit	0	0
C-603-6-1	Permit	0	0
Pre-project SSPE		89,425	21,900
C-603-11-0	ATC, Hanford Energy Park Peaker	52,314	9,764
C-603-12-0	ATC, Hanford Energy Park Peaker	52,314	9,764
Post-project SSPE [lb/yr]		194,053	41,428
Post-project SSPE [tons/yr]		97.0	20.7
Offset threshold [tons/yr]		10	10
Offsets required?		Yes	Yes

The offset trigger thresholds for NO_x and VOC emissions were exceeded before this installation. Therefore, offsets for NO_x and VOC are required.

2. NSR BALANCE

New Source Review (NSR) balance is calculated to determine if offsets or public notice are required for CO, PM₁₀, or SO_x. Per Rule 2201 Section 4.2.2, the offset trigger levels are 550 lb/day, 80 lb/day, and 150 lb/day, respectively and the public notice thresholds for CO, PM₁₀ and SO_x are 550 lb/day, 70 lb/day and 140 lb/day respectively. This project results in daily emissions increases in CO, PM₁₀, and SO_x emissions, therefore NSR balance calculations are required.

Table 6. NSR Balance				
Unit	Status	CO [lb/day]	PM ₁₀ [lb/day]	SO _x [lb/day]
C-603-1-2	Permit	544.0	80.0	245.0
C-603-2-0	Permit	0.0	0.5	0.0
C-603-3-0	Permit	0.0	0.8	0.0
C-603-6-1	Permit	0.0	0.0	0.0
Pre-project NSR Balance		544.0	81.3	245.0
C-603-11-0	ATC, Hanford Energy Park Peaker	150.3	72.8	7.8
C-603-12-0	ATC, Hanford Energy Park Peaker	150.3	72.8	7.8
Post-project NSR Balance		844.6	226.9	260.6
Offset threshold		550	80	150
Offsets triggered?		Yes	Yes	Yes
Public Notice Threshold		550	70	140
Public Notice Triggered?		Yes	Yes	Yes

The NSR balance does exceed the offset and public notice thresholds for all of the above criteria pollutants. Therefore, offsets and public notice for CO, PM₁₀, and SO_x will be required.

3. OFFSETS REQUIRED

SSPE:

Per Rule 2201 Section 6.8.2.1, the quantity of offsets in pounds per year for NO_x and VOC is calculated as follows for sources with SSPE greater than 10 tons per year before implementing the project being evaluated.

$$\text{Offset} = [\text{SSPE (after)} - \text{SSPE (before)}] * \text{Offset Ratio}$$

Where, Offset Ratio = Distance and interpollutant ratio of Rule 2201 Section 4.0

NO_x Offset Calculations:

$$\begin{aligned} \text{NO}_x \text{ SSPE}_{\text{after}} &= 194,053 \text{ lb/year} \\ \text{NO}_x \text{ SSPE}_{\text{before}} &= 89,425 \text{ lb/year} \\ \text{Offsets} &= 194,053 - 89,425 \\ &= 104,628 \text{ lb/year} \end{aligned}$$

As discussed in the proposal section of this evaluation, the hypothetical operating scenario for each turbine unit assumes 50 startup/shutdown events in the 1st and 4th Quarters and 100 startup/shutdown events occurring in the 2nd and 3rd Quarters. Calculating the appropriate quarterly emissions to be offset is as follows:

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$$\begin{aligned}
 PE_{1^{st} \text{ Qtr}} &= [(7.7 \text{ lb NO}_x/\text{event}) * (50 \text{ event}/1^{st} \text{ qtr}) + 459.6 \text{ MMBtu/hr}) * (0.0136 \\
 &\quad \text{lb/MMBtu}) * (2,000 \text{ hr/qtr})] + [(7.7 \text{ lb NO}_x/\text{event}) * (50 \text{ event}/1^{st} \text{ qtr}) + \\
 &\quad (459.6 \text{ MMBtu/hr}) * (0.0136 \text{ lb/MMBtu}) * (2,000 \text{ hr/qtr})] \\
 &= 25,772 \text{ lbs of NO}_x
 \end{aligned}$$

$$\begin{aligned}
 PE_{2^{nd} \text{ Qtr}} &= [(7.7 \text{ lb NO}_x/\text{event}) * (100 \text{ event}/2^{nd} \text{ qtr}) + (459.6 \text{ MMBtu/hr}) * (0.0136 \\
 &\quad \text{lb/MMBtu}) * (2,000 \text{ hr/qtr})] + [(7.7 \text{ lb NO}_x/\text{event}) * (100 \text{ event}/2^{nd} \text{ qtr}) + \\
 &\quad (459.6 \text{ MMBtu/hr}) * (0.0136 \text{ lb/MMBtu}) * (2,000 \text{ hr/qtr})] \\
 &= 26,542 \text{ lbs of NO}_x
 \end{aligned}$$

$$\begin{aligned}
 PE_{3^{rd} \text{ Qtr}} &= [(7.7 \text{ lb NO}_x/\text{event}) * (100 \text{ event}/3^{rd} \text{ qtr}) + (459.6 \text{ MMBtu/hr}) * (0.0136 \\
 &\quad \text{lb/MMBtu}) * (2,000 \text{ hr/qtr})] + [(7.7 \text{ lb NO}_x/\text{event}) * (100 \text{ event}/3^{rd} \text{ qtr}) + \\
 &\quad (459.6 \text{ MMBtu/hr}) * (0.0136 \text{ lb/MMBtu}) * (2,000 \text{ hr/qtr})] \\
 &= 26,542 \text{ lbs of NO}_x
 \end{aligned}$$

$$\begin{aligned}
 PE_{4^{th} \text{ Qtr}} &= [(7.7 \text{ lb NO}_x/\text{event}) * (50 \text{ event}/4^{th} \text{ qtr}) + 459.6 \text{ MMBtu/hr}) * (0.0136 \\
 &\quad \text{lb/MMBtu}) * (2,000 \text{ hr/qtr})] + [(7.7 \text{ lb NO}_x/\text{event}) * (50 \text{ event}/4^{th} \text{ qtr}) + \\
 &\quad (459.6 \text{ MMBtu/hr}) * (0.0136 \text{ lb/MMBtu}) * (2,000 \text{ hr/qtr})] \\
 &= 25,772 \text{ lbs of NO}_x
 \end{aligned}$$

Assuming an offset ratio of 1.5: 1, the amount of NO_x ERC credits needed to be surrendered to the District is:

<u>1st</u> <u>Quarter</u>	<u>2nd</u> <u>Quarter</u>	<u>3rd</u> <u>Quarter</u>	<u>4th</u> <u>Quarter</u>
38,658	39,813	39,813	38,658

The applicant has stated that the facility plans to use ERC certificate C-278-2 to offset the increases in NO_x emissions associated with this project. Certificate C-278-2 has available quarterly NO_x credits as follows:

	<u>1st</u> <u>Quarte</u>	<u>2nd</u> <u>Quarte</u>	<u>3rd</u> <u>Quarte</u>	<u>4th</u> <u>Quarte</u>
ERC #C-278-2	19,218	41,221	63,223	41,221

As seen above, the facility is lacking sufficient credits to fully offset the quarterly emissions occurring in the 1st quarter. However, pursuant to District Rule 2201, Section 4.2.5.5, actual emissions reductions for NO_x that occurred from April through November may be used to offset increases in NO_x during any period of the year. Therefore, since the facility has surplus credits available, which occurred within the 3rd quarter, credits from that quarter can offsets the deficient emissions in the 1st quarter.

VOC Offset Calculations:

VOC SSPE_{after} = 41,428 lb/year
 VOC SSPE_{before} = 21,900 lb/year
 Offsets = 41,428 – 21,900
 = 19,528 lb/year

As discussed above, calculating the appropriate quarterly emissions to be offset is as follows:

$$PE_{1st\ Qtr} = [(0.68\ lb\ VOC/event) * (50\ event/1^{st}\ qtr) + 459.6\ MMBtu/hr) * (0.0026\ lb/MMBtu) * (2,000\ hr/qtr)] + [(0.68\ lb\ VOC/event) * (50\ event/1^{st}\ qtr) + (459.6\ MMBtu/hr) * (0.0026\ lb/MMBtu) * (2,000\ hr/qtr)]$$

= 4,848 lbs of VOC

$$PE_{2nd\ Qtr} = [(0.68\ lb\ VOC/event) * (100\ event/2^{nd}\ qtr) + (459.6\ MMBtu/hr) * (0.0026\ lb/MMBtu) * (2,000\ hr/qtr)] + [(0.68\ lb\ VOC/event) * (100\ event/2^{nd}\ qtr) + (459.6\ MMBtu/hr) * (0.0026\ lb/MMBtu) * (2,000\ hr/qtr)]$$

= 4,916 lbs of VOC

$$PE_{3rd\ Qtr} = [(0.68\ lb\ VOC/event) * (100\ event/3^{rd}\ qtr) + (459.6\ MMBtu/hr) * (0.0026\ lb/MMBtu) * (2,000\ hr/qtr)] + [(0.68\ lb\ VOC/event) * (100\ event/3^{rd}\ qtr) + (459.6\ MMBtu/hr) * (0.0026\ lb/MMBtu) * (2,000\ hr/qtr)]$$

= 4,916 lbs of VOC

$$PE_{4th\ Qtr} = [(0.68\ lb\ VOC/event) * (50\ event/4^{th}\ qtr) + 459.6\ MMBtu/hr) * (0.0026\ lb/MMBtu) * (2,000\ hr/qtr)] + [(0.68\ lb\ VOC/event) * (50\ event/4^{th}\ qtr) + (459.6\ MMBtu/hr) * (0.0026\ lb/MMBtu) * (2,000\ hr/qtr)]$$

= 4,848 lbs of VOC

Assuming an offset ratio of 1.5: 1, the amount of VOC ERC credits needed to be surrendered to the District is:

<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
7,272	7,374	7,374	7,272

The applicant has stated that the facility plans to use ERC certificate S-1538-1 to offset the increases in VOC emissions associated with this project. Certificate S-1538-1 has available quarterly VOC credits as follows:

	<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
ERC #S-1538-1	12,029	13,701	14,447	13,112

With the above ERC certificate, the facility has sufficient offset credits, to offset increases in VOC emissions.

NSR Balance:

Per Rule 2201 Section 6.8.1, the quantity of offsets in pounds per year for CO, PM₁₀, and SO_x is calculated as follows:

$$\text{Offset} = \text{Sum of PE} * \text{Offset Ratio}$$

Where, Offset Ratio = Distance and interpollutant ratio of Rule 2201 Section 4.0
Sum of PE = Sum of annual potential to emit from all new or modified emissions units in pounds per year...

CO Offset Calculations:

CO offsets are triggered by CO NSR Balance emissions in excess of 550 lb/day for the facility. As shown previously, the NSR Balance for CO, after this project, is 844.6 lb/day, so offset requirements are triggered.

However, pursuant to Section 4.2.1.1 of Rule 2201, "Offsets shall not be required for: increases in carbon monoxide in attainment areas if the applicant demonstrates to the satisfaction of the APCO, pursuant to Section 4.3.2.1, that the Ambient Air Quality Standards are not violated in the areas to be affected, and such emissions will be consistent with reasonable progress, and will not cause or contribute to a violation of Ambient Air Quality Standards (AAQS)."

The Technical Services Section of the San Joaquin Valley Unified Air Pollution Control District performed a CO modeling run, using the EPA ISCST3 air dispersion model, to determine if the CO emissions from the new turbines would exceed the State and Federal AAQS. Modeling of the worst case 1 hour and 8 hour CO impacts were performed. These values were added to the worst case ambient concentration (background) measured and compared to the ambient air quality standards. Results of the modeling are presented below:

Table 7. Ambient Modeling Results for CO		
	1 hr std	8 hr std
AAQS (ug/m ³)	23,000	10,000
Worst case ambient (background) (ug/m ³)	11,980	8,865.20
Modeled impact (ug/m ³)	0.25	0.14
Modeled ambient CO (ug/m ³)	11,980.25	8,865.34

This modeling demonstrates that the proposed increase in CO emissions will not cause a violation of the CO ambient air quality standards. Therefore, the increase in CO emissions is exempt from offsets by Rule 2201 section 4.2.1.1.

PM₁₀ Offset Calculations:

PM₁₀ offsets are triggered by PM₁₀ NSR Balance emissions in excess of 80 lb/day for the facility. As shown in Table 6, the NSR Balance for PM₁₀, after this project, is 226.9 lb/day, so offset requirements are triggered.

Prior to the current project being evaluated, the facility's NSR balance exceeded the offset threshold, and the facility offset the pre-project emissions during their previous permitting action. The amount of offsets required will only be the emissions increases associated with this project.

$$\text{Offset} = \text{IPE}_{\text{current project}} * \text{Offset Ratio}$$

Where, $\text{IPE}_{\text{current project}}$ = Annual Increases in Permitted Emissions for the new emissions units (C-603-11-0 & -12-0)

$$\begin{aligned} \text{IPE}_{\text{current project}} &= 25,176 \text{ lb PM}_{10}/\text{year} + 25,176 \text{ lb PM}_{10}/\text{year} \\ &= 50,352 \text{ lb PM}_{10}/\text{year} \end{aligned}$$

As discussed above, calculating the appropriate quarterly emissions to be offset is as follows:

$$\begin{aligned} \text{PE}_{1\text{st Qtr}} &= [(3.03 \text{ lb PM}_{10}/\text{event}) * (50 \text{ event}/1^{\text{st}} \text{ qtr}) + 459.6 \text{ MMBtu/hr}) * (0.0066 \\ &\quad \text{lb/MMBtu}) * (2,000 \text{ hr/qtr})] + [(3.03 \text{ lb PM}_{10}/\text{event}) * (50 \text{ event}/1^{\text{st}} \text{ qtr}) + \\ &\quad (459.6 \text{ MMBtu/hr}) * (0.0066 \text{ lb/MMBtu}) * (2,000 \text{ hr/qtr})] \\ &= 12,436 \text{ lbs of PM}_{10} \end{aligned}$$

$$\begin{aligned} \text{PE}_{2\text{nd Qtr}} &= [(3.03 \text{ lb PM}_{10}/\text{event}) * (100 \text{ event}/2^{\text{nd}} \text{ qtr}) + (459.6 \text{ MMBtu/hr}) * (0.0066 \\ &\quad \text{lb/MMBtu}) * (2,000 \text{ hr/qtr})] + [(3.03 \text{ lb PM}_{10}/\text{event}) * (100 \text{ event}/2^{\text{nd}} \text{ qtr}) + \\ &\quad (459.6 \text{ MMBtu/hr}) * (0.0066 \text{ lb/MMBtu}) * (2,000 \text{ hr/qtr})] \\ &= 12,740 \text{ lbs of PM}_{10} \end{aligned}$$

$$\begin{aligned} \text{PE}_{3\text{rd Qtr}} &= [(3.03 \text{ lb PM}_{10}/\text{event}) * (100 \text{ event}/3^{\text{rd}} \text{ qtr}) + (459.6 \text{ MMBtu/hr}) * (0.0066 \\ &\quad \text{lb/MMBtu}) * (2,000 \text{ hr/qtr})] + [(3.03 \text{ lb PM}_{10}/\text{event}) * (100 \text{ event}/3^{\text{rd}} \text{ qtr}) + \\ &\quad (459.6 \text{ MMBtu/hr}) * (0.0066 \text{ lb/MMBtu}) * (2,000 \text{ hr/qtr})] \\ &= 12,740 \text{ lbs of PM}_{10} \end{aligned}$$

$$\begin{aligned} \text{PE}_{4\text{th Qtr}} &= [(3.03 \text{ lb PM}_{10}/\text{event}) * (50 \text{ event}/4^{\text{th}} \text{ qtr}) + 459.6 \text{ MMBtu/hr}) * (0.0066 \\ &\quad \text{lb/MMBtu}) * (2,000 \text{ hr/qtr})] + [(3.03 \text{ lb PM}_{10}/\text{event}) * (50 \text{ event}/4^{\text{th}} \text{ qtr}) + \\ &\quad (459.6 \text{ MMBtu/hr}) * (0.0066 \text{ lb/MMBtu}) * (2,000 \text{ hr/qtr})] \\ &= 12,436 \text{ lbs of PM}_{10} \end{aligned}$$

Assuming an offset ratio of 1.5: 1, the amount of PM₁₀ ERC credits needed to be surrendered to the District is:

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<u>1st</u> <u>Quarter</u>	<u>2nd</u> <u>Quarter</u>	<u>3rd</u> <u>Quarter</u>	<u>4th</u> <u>Quarter</u>
18,654	19,110	19,110	18,654

The applicant has stated that the facility plans to use ERC certificates C-0366-4 and C-0382-4 to offset the increases in PM₁₀ emissions associated with this project. Certificates C-0366-4 and C-0382-4 have available quarterly PM₁₀ credits as follows:

	<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
ERC #C-0366-4	5,699	5,087	7,081	6,732
ERC #C-0382-4	3,075	3,075	3,075	3,075
Total:	8,775	8,164	10,159	9,811

As seen above, the facility is lacking sufficient credits to fully offset the emissions increases for PM₁₀. As proposed by the applicant, in order to satisfy District offset requirements the applicant has proposed providing SO_x reductions in place of PM₁₀ reductions. District Rule 2201 Section 4.2.5.2 allows such interpollutant substitutions provided the applicant shows that the substitution will not cause or contribute to the violation of an ambient air quality standard and that the appropriate interpollutant offset ratio is utilized.

Hanford LP, has proposed to provide SO_x credits to offset PM₁₀ credits at an offset ratio of 1:1. To support this interpollutant substitution ratio, the facility has provided information from a memo dated March 23, 1998 from a Mr. Terry McGuire, Chief of the Technical Support Division of the California Air Resources Board (CARB) (See [Appendix F](#)). In the memo, it is assumed that the 1:1 ratio is acceptable since one pound of SO_x would convert to two and one half (2.5) pounds of PM₁₀, given a 100% conversion. Mr. McGuire recognizes that the 100% conversion is not likely, but a 40% conversion (equivalent to a 1:1 ratio) is not unreasonable. Therefore, given his knowledge of the matter, he states that a 1:1 interpollutant ratio for SO_x and PM₁₀ is an acceptable ratio. Based upon the above information, the District will accept Hanford LP's proposal and accept SO_x credits in place of PM₁₀ credits at a 1:1 ratio.

To offset the remaining PM₁₀ emissions (1st Qtr: 9,879 lbs; 2nd Qtr: 10,946 lbs; 3rd Qtr: 8,951; and 4th Qtr: 8,843 lbs), the facility has proposed to use ERC certificate C-255-5 and purchase the remaining credits from National Offsets. C-255-5 has available quarterly SO_x credits as follows:

	<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
ERC #C-255-5	6,000	7,000	5,800	5,400

With ERC Certificate C-255-5 and with the facility currently under option with National Offsets, the facility should have sufficient emission reduction credits to fully offset the PM₁₀ emissions associated with this project.

SO_x Offset Calculations:

SO_x offsets are triggered by SO_x NSR Balance emissions in excess of 150 lb/day for the facility. As shown in Table 6, the NSR Balance for SO_x, after this project, is 260.6 lb/day, so offset requirements are triggered.

Prior to the current project being evaluated, the facility's NSR balance exceeded the offset threshold, and the facility offset the pre-project emissions during their previous permitting action. The amount of offsets required will only be the emissions increases associated with this project.

$$\text{Offset} = \text{IPE}_{\text{current project}} * \text{Offset Ratio}$$

Where, $\text{IPE}_{\text{current project}}$ = Annual Increases in Permitted Emissions for the new emissions units (C-603-11-0 & -12-0)

$$\begin{aligned}\text{IPE}_{\text{current project}} &= 2,710 \text{ lb SO}_x/\text{year} + 2,710 \text{ lb SO}_x/\text{year} \\ &= 5,420 \text{ lb SO}_x/\text{year}\end{aligned}$$

As discussed above, calculating the appropriate quarterly emissions to be offset is as follows:

$$\begin{aligned}\text{PE}_{1\text{st Qtr}} &= [(0.33 \text{ lb SO}_x/\text{event}) * (50 \text{ event}/1^{\text{st}} \text{ qtr}) + 459.6 \text{ MMBtu/hr}) * (0.00071 \text{ lb/MMBtu}) * (2,000 \text{ hr/qtr})] + [(0.33 \text{ lb SO}_x/\text{event}) * (50 \text{ event}/1^{\text{st}} \text{ qtr}) + (459.6 \text{ MMBtu/hr}) * (0.00071 \text{ lb/MMBtu}) * (2,000 \text{ hr/qtr})] \\ &= 1,338 \text{ lbs of SO}_x\end{aligned}$$

$$\begin{aligned}\text{PE}_{2\text{nd Qtr}} &= [(0.33 \text{ lb SO}_x/\text{event}) * (100 \text{ event}/2^{\text{nd}} \text{ qtr}) + (459.6 \text{ MMBtu/hr}) * (0.00071 \text{ lb/MMBtu}) * (2,000 \text{ hr/qtr})] + [(0.33 \text{ lb SO}_x/\text{event}) * (100 \text{ event}/2^{\text{nd}} \text{ qtr}) + (459.6 \text{ MMBtu/hr}) * (0.00071 \text{ lb/MMBtu}) * (2,000 \text{ hr/qtr})] \\ &= 1,372 \text{ lbs of SO}_x\end{aligned}$$

$$\begin{aligned}\text{PE}_{3\text{rd Qtr}} &= [(0.33 \text{ lb SO}_x/\text{event}) * (100 \text{ event}/3^{\text{rd}} \text{ qtr}) + (459.6 \text{ MMBtu/hr}) * (0.00071 \text{ lb/MMBtu}) * (2,000 \text{ hr/qtr})] + [(0.33 \text{ lb SO}_x/\text{event}) * (100 \text{ event}/3^{\text{rd}} \text{ qtr}) + (459.6 \text{ MMBtu/hr}) * (0.00071 \text{ lb/MMBtu}) * (2,000 \text{ hr/qtr})] \\ &= 1,372 \text{ lbs of SO}_x\end{aligned}$$

$$\begin{aligned}\text{PE}_{4\text{th Qtr}} &= [(0.33 \text{ lb SO}_x/\text{event}) * (50 \text{ event}/4^{\text{th}} \text{ qtr}) + 459.6 \text{ MMBtu/hr}) * (0.00071 \text{ lb/MMBtu}) * (2,000 \text{ hr/qtr})] + [(0.33 \text{ lb SO}_x/\text{event}) * (50 \text{ event}/4^{\text{th}} \text{ qtr}) + (459.6 \text{ MMBtu/hr}) * (0.00071 \text{ lb/MMBtu}) * (2,000 \text{ hr/qtr})] \\ &= 1,338 \text{ lbs of SO}_x\end{aligned}$$

Assuming an offset ratio of 1.5: 1, the amount of PM₁₀ ERC credits needed to be surrendered to the District is:

<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
2,007	2,058	2,058	2,007

The applicant has stated that the facility plans to use ERC certificate C-392-5 to offset the increases in SO_x emissions associated with this project. Certificate C-392-5 has available quarterly SO_x credits as follows:

	<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
ERC #C-392-5	2,500	2,500	2,500	2,500

With the above ERC certificate, the facility has sufficient offset credits, to offset increases in SO_x emissions.

F. ACTUAL EMISSION REDUCTIONS

There are no actual emissions reductions (AERs) proposed as a result of this application. AER = 0.

G. MAJOR SOURCE/TITLE I MODIFICATION

- 1) A Major Source is defined in Section 3.19 of District Rule 2201 as a stationary source with the potential to emit 50 tons per year of NO_x or VOC, 100 tons per year of CO, or 70 tons per year of PM₁₀ or SO_x. As shown in Table 6, pre-project daily CO emissions are 544 lbs/day. Therefore, the proposed Hanford Energy Park Peaker will cause the facility to exceed the major source threshold for CO and is therefore a new major source for this pollutant.
- 2) A Title I Modification is defined in Section 3.31 of District Rule 2201 as the modification of an existing non-major stationary source that increases its potential to emit to the levels specified in Section 3.19. This modification is considered a Title I modification since this project does create a new Title V facility for CO emissions.

H. NOTIFICATION AND PUBLICATION OF PRELIMINARY DECISION

Per Rule 2201 Section 5.1.3.4.1, public notification is required for new major sources and Title I modifications. The facility will be a new major source for CO and this modification constitutes a Title I modification. Therefore, a new major source and Title I modification notice is required for CO emissions.

Per Rule 2201 Section 5.1.3.4.2, public notification is required for new and modified emission units with an increase in permitted emissions (IPE) greater than 100 lb/day of

NO_x or VOC per emissions unit. As shown in the calculation section above, emissions for each GTE exceeds 100 lbs/day for NO_x emissions.

Per Rule 2201 Sections 5.1.3.4.3 through 5.1.3.4.5, public notification is required for new and modified sources with an IPE for those pollutants reaching the NSR balance notification thresholds for CO (attainment area), PM₁₀, or SO_x (550 lb CO/day, 70 lb PM₁₀/day or 140 lb SO_x/day). As shown in the calculation section above, the facility's NSR Balance does exceed the thresholds for CO, PM₁₀, and SO_x emissions, so public notification is triggered for CO, PM₁₀, and SO_x.

I. DAILY EMISSIONS LIMITATIONS

Daily emissions limitations (DELs) and other enforceable conditions are required by Rule 2201 Section 5.1.9.2 to reflect applicable emission limits including offset requirements. Per Rule 2201 Section 3.13.3, the DEL must be established pursuant to a permitting action occurring after the baseline date and used in calculation of the NSR balance or IPE.

The DELs for NO_x, CO, VOC, PM₁₀, and SO_x will consist of lb/hr emission limits and 24 hr/day of allowed operation.

VIII. COMPLIANCE

Rule 1080 Stack Monitoring:

This rule specifies that specific source types be equipped with CEMs. The proposed powerplant is not one of the listed source types.

Additionally, this rule specifies performance, data reduction, recordkeeping, and reporting criteria for continuous emission monitors. Because this facility will utilize CEMs, the provisions of this are applicable. These requirements will be incorporated in to the ATCs. Compliance is expected.

Rule 1081 Source Sampling:

Source testing of the new turbines will be required to demonstrate compliance with the PM₁₀, NO_x, CO, VOC, PM₁₀, NH₃, and fuel sulfur limits. Compliance with this rule is expected.

Rule 2010 Permits Required:

This rule requires any person building, altering, or replacing any operation, article, machine, equipment, or other contrivance, the use of which may cause the issuance of air contaminants, to first obtain authorization from the District in the form of an ATC. By

the submission of an ATC application, CalPeak Power is complying with the requirements of this rule.

Rule 2201 New and Modified Stationary Source Review Rule:

Section 4.1.1 requires BACT for a new or modified emissions unit if there is an increase in emissions in excess of 2 lb/day. As discussed in Sections VI.A and VII.D of this evaluation, BACT will be triggered for NO_x, VOC, PM₁₀ and SO_x since there will be increases in permitted emissions greater than 2 lbs/day. And as demonstrated in [Appendix C](#), BACT is satisfied for these pollutants.

Sections 4.2.2 and 4.2.3 require offsets for a new or modified stationary source with increases that exceed the established thresholds. As demonstrated in Sections VII.E.1 and VII.E.2 of this evaluation, the offset thresholds were exceeded for NO_x, CO, VOC, PM₁₀, and SO_x emissions, therefore offsets for those pollutants will be required for this project. However, as shown in Section VII.E.3, the increase in CO emissions is exempt from offsets per Rule 2201 section 4.2.1.1. As explained in Section VII.E.3 of this evaluation, the applicant has agreed to provide Emission Reduction Credits in order to offset the NO_x, VOC, PM₁₀, and SO_x emissions increases associated with this project.

Section 5.1.3.4.1 requires public notification for new major sources and Title I modifications. As discussed above, this project is a Title I modification, and this facility is a new major source for CO emissions, therefore public notification is required.

Section 5.1.3.4.2 requires public notification for new sources and modifications with increases in permitted emissions greater than 100 lb/day of NO_x, or VOC. Sections 5.1.3.4.3 and 5.1.3.4.4 require public notification if the NSR balance for CO, PM₁₀, or SO_x exceeds the stated level and there is an increase in permitted emissions. As shown in Sections VII.G & VII.H of this evaluation the thresholds are exceeded for NO_x, VOC, CO, SO_x, and PM₁₀ and public notification is required.

Section 5.1.9.2 requires DELs to be included to reflect applicable emission limits. DELs are established by the turbine's emission limits as discussed in Section VII.I.

Therefore, compliance with this rule is expected.

Rule 2520 Federally Mandated Operating Permits:

This project will be subject to Rule 2520 (Title V) because it will meet the following criteria specified in section 2.0. Section 2.5 states "A source with an acid rain unit for which application for an acid rain permit is required pursuant to Title IV (Acid Rain Program) of the CAA.

Pursuant to Rule 2520 section 5.3.1 Hanford LP must submit a Title V application within 12 months of commencing operations. No action is required at this time.

Rule 2540 Acid Rain Program:

The proposed turbines are subject to the acid rain program as phase II units, i.e. they will be installed after 11/15/90 and have a generator nameplate rating greater than 25 MW.

The acid rain program will be implemented through a Title V operating permit. Federal regulations require submission of an acid rain permit application at least 24 months before the later of 1/1/2000 or the date the unit expects to generate electricity. The facility will be required to submit an acid rain program application for the Hanford LP Power Project. The facility anticipates beginning commercial operation in September of 2001.

The acid rain program requirements for this facility are relatively minimal. Monitoring of the NO_x and SO_x emissions and a relatively small quantity of SO_x allowances (from a national SO_x allowance bank) will be required as well as the use of a NO_x CEM.

Rule 4001 New Source Performance Standards Subpart GG:

40 CFR Part 60 Subpart GG applies to all stationary gas turbines with a heat input greater than 10.7 gigajoules per hour (10.2 MMBtu/hr), that commence construction, modification, or reconstruction after 10/03/77. Therefore, this subpart applies to the new turbine installations.

NO_x Requirement §60.332(a):

Under the standard, NO_x emissions from the turbine with a minimum heat input rating of 250 MMBtu/hr are limited by the following equation:

$$\text{NO}_x (\% \text{ by vol@ } 15\% \text{ O}_2) \text{ 1 hr avg} = 0.0075(14.4/Y) + F$$

$$\begin{aligned} \text{where: } Y &= \text{manufacturers rated heat load (kJ/W-hr)} \\ &= (9,646 \text{ Btu/kW-hr})(\text{kW}/1000\text{W})(1054.2 \text{ J/Btu})(\text{kJ}/1000\text{J})^{(5)} \\ &= 10.16 \text{ kJ/W-hr (less than 14.4 kJ/W hour)} \end{aligned}$$

$$F = 0 \text{ (fuel bound nitrogen for natural gas fuel)}$$

$$\begin{aligned} \text{NO}_x (\% \text{ by vol@ } 15\% \text{ O}_2) &= 0.0075(14.4/10.16) + 0 \\ &= 0.0106 \% \\ &= 106 \text{ ppmv @ } 15\% \text{ O}_2 \end{aligned}$$

⁽⁵⁾ The rated heat load for the ~~FT8-GE LM6000~~ is ~~10,199,646~~ Btu/kW-hr, per ~~CalPeak Power~~ Hanford LP.

Hanford LP is proposing a NO_x concentration limit of 3.7 ppmv @ 15% O₂ (3 hr average) as required by BACT. Therefore, compliance with the NSPS NO_x standard is expected.

SO_x REQUIREMENT §60.333(A) AND (B):

Subpart GG also contains a SO_x standard, which limits fuel sulfur content to less than or equal to 150 ppmv SO₂ and 0.8% by weight. Hanford LP is proposing the use of natural gas fuel with a sulfur content of 0.25 gr/100 dscf, which is less than 0.46 ppmv (see Rule 4801 compliance discussion). Thus, compliance with the SO_x standard is also expected.

SOURCE TESTING AND MONITORING REQUIREMENTS (60.334 & 60.335):

§60.334(a) requires the owner/operator of any stationary gas turbine using water injection to control NO_x to install and operate a continuous emissions monitoring system (CEM) to monitor and record fuel consumption and ratio to water to fuel fired. The turbines are not equipped with water injection.

§60.334(b) requires monitoring of sulfur content and nitrogen content of the fuel being fired in the turbine. In determining the sulfur and nitrogen content of the fuel, §60.335(e) allows the analysis to be performed by the owner/operator, service contractor, fuel vendor, or any other qualified agency. The turbines shall be fired on natural gas as limited by permit condition. Fuel sulfur content sampling and analysis will be required annually. Compliance with this rule is expected.

Rule 4101 Visible Emissions:

Per Section 5.0, no person shall discharge into the atmosphere emissions of any air contaminant aggregating more than 3 minutes in any hour which is as dark as or darker than Ringelmann 1 (or 20% opacity). The visible emissions limit is not expected to be exceeded based on similar operations and the fact that the turbines are fired solely on PUC quality natural gas. Therefore, compliance with this rule is expected.

Rule 4102 Nuisance:

Section 4.0 prohibits discharge of air contaminants which could cause injury, detriment, nuisance or annoyance to the public. Public nuisance conditions are not expected as a result of these operations, provided the equipment is well maintained as required by permit conditions. Therefore, compliance with this rule is expected.

A Health Risk Assessment (HRA) is required for any increase in hourly or annual emissions of hazardous air pollutants (HAPs). HAPs are limited to substances included on the list in CH&SC 44321 and that have an OEHHA approved health risk value. The installation of the new gas turbine engines results in increases in emissions of HAPs.

The risk from this project was reviewed by performing a prioritization in accordance with the requirements of the CAPCOA prioritization guidelines. The resulting prioritization score from this project is 16.75. Pursuant to the District Risk Management Policy for New and Modified Sources, a Health Risk Assessment (HRA) is required for projects with prioritization scores of one or greater. BACT for toxic emission control (T-BACT) is not required for this project because the HRA indicates that the risk is not above the District acute, chronic, and cancer risk thresholds for triggering T-BACT requirements and no further risk analysis is required. Therefore, compliance with this rule is expected.

Rule 4201 Particulate Matter Concentration:

Section 3.1 prohibits discharge of dust, fumes, or total particulate matter into the atmosphere from any single source operation in excess of 0.1 grain per dry standard cubic foot. Particulate matter emissions are not expected to exceed 0.1 grain per cubic foot of gas at dry standard conditions with the use of natural gas.

$$PM \text{ Conc. (gr/scf)} = \frac{(PM \text{ emission rate}) \times (7000 \text{ gr/lb})}{(Air \text{ flow rate}) \times (60 \text{ min/hr})}$$

For the GTEs:

PM₁₀ emission rate = 3.03 lb/hr. Assuming 100% of PM is PM₁₀

$$PM \text{ Conc. (gr/scf)} = [(3.03 \text{ lb/hr}) * (7000 \text{ gr/lb})] \div [(599,785 \text{ ft}^3/\text{min}) * (60 \text{ min/hr})]$$

PM Conc. = 0.00059 gr/scf

Calculated emissions are well below the allowable emissions level. It can be assumed that emissions will not exceed the allowable 0.1 gr/scf. Therefore, compliance with Rule 4201 is expected.

Rule 4703 - Stationary Gas Turbines:

Rule 4703 is applicable to stationary gas turbines with a rating greater than 0.3 megawatts. The facility proposes to install two 47.5 MW gas turbines, therefore this rule applies.

Section 5.1.1 of this rule limits the NO_x emissions from stationary gas turbine systems greater than 10 MW, and equipped with Selective Catalytic Reduction (SCR), based on the following equation:

$$\text{When fired on natural gas: } NO_x \text{ (ppmv @ 15\% O}_2\text{)} = 9 * \text{EFF}/25$$

where: EFF = Efficiency (%)

$$= [3,412 \text{ Btu/kW-hr/Actual Heat @ HHV}] * 100$$

The Actual Heat @ HHV for the GE LM6000 turbine is 9,646 Btu/kW-hr as reported by Hanford LP:

$$\begin{aligned} \text{EFF} &= (3,412/9,646) * 100 \\ &= 35.37\% \end{aligned}$$

When gas fired: $\text{NO}_x = 9 * 35.37/25$
 $= 12.7 \text{ ppmv @ 15\% O}_2$

The proposed turbines will be limited to a maximum of 3.7 ppmv NO_x @ 15% O_2 (based on a 3-hour average), therefore compliance is expected.

Section 5.2 limits the CO emissions from stationary gas turbine systems subject to Section 5.1.1 to 200 ppmv CO @ 15% O_2 . The proposed turbines will be limited to a maximum of 6 ppmv CO @ 15% O_2 , therefore compliance is expected.

Sections 6.2 and 6.3 contain the following monitoring, recordkeeping and source testing requirements. These requirements will be included as permit conditions.

- 6.2.1 Install, operate, and maintain equipment that continuously measures elapsed time of operation and exhaust gas NO_x emissions
 - 6.2.1.1 Monitor control system operating parameters.
- 6.2.2 Maintain records for inspection at any time for a period of two years.
- 6.2.3 Correlate control system operating parameters with NO_x emissions. This information may be used by the APCO to determine compliance when the continuous emissions monitoring system not operating properly.
- 6.2.4 Maintain an operating log that includes, on a daily basis, the actual local start-up and stop time, length and reason for reduced load periods, total hours of operation, type and quantity of fuel used (liquid/gas).
- 6.3 Provide source test information annually regarding the exhaust gas NO_x and CO concentrations.

Therefore, compliance with Rule 4703 is expected.

Rule 4801 Sulfur Compounds:

A person shall not discharge into the atmosphere sulfur compounds, which would exist as a liquid or gas at standard conditions, exceeding in concentration at the point of discharge: 0.2 % by volume calculated as SO₂ on a dry basis averaged over 15 consecutive minutes:

The sulfur of the natural gas fuel is 0.25 gr/100 dscf.

The F factor is 8,710 dscf/MMBtu.

The ratio of the volume of the SO_x exhaust to the entire exhaust for one MMBtu of fuel combusted is:

$$\text{Volume of SO}_x: \quad V = \frac{n \cdot R \cdot T}{P}$$

Where:

- n = number of moles of SO_x produced per MMBtu of fuel.
- Weight of SO_x as SO₂ is 64 lb/(lb-mol)
- $n = \frac{0.00071 \text{ lb}}{\text{MMBtu}} \times \frac{1(\text{lb} - \text{mol})}{64 \text{ lb}} = 0.000011(\text{lb} - \text{mol})$
- $R = \frac{0.7302 \text{ ft}^3 \cdot \text{atm}}{(\text{lb} - \text{mol})^\circ \text{R}}$
- T = 500 °R
- P = 1 atm

Thus, volume of SO_x per MMBtu is:

$$V = \frac{n \cdot R \cdot T}{P}$$
$$V = \frac{0.000011(\text{lb} - \text{mol}) \cdot \frac{0.7302 \text{ ft}^3 \cdot \text{atm}}{(\text{lb} - \text{mol})^\circ \text{R}} \cdot 500^\circ \text{R}}{1 \text{ atm}}$$
$$V = 0.004 \text{ ft}^3$$

Since the total volume of exhaust per MMBtu is 8,710 scf, the ratio of SO_x volume to exhaust volume is

$$= \frac{0.0011}{8,710} = 0.00000046 = 0.46 \text{ ppmv} = 0.000046\% \text{ by volume}$$

0.000046 % < 0.05 %, therefore the gas turbine engines are expected to comply with Rule 4801.

California Environmental Quality Act (CEQA):

The California Energy Commission (CEC) is the lead Agency for CEQA. A change to the land use (zoning) is required for the proposed project. The District cannot make its final decision on these ATCs until CEQA has been satisfied.

IX. RECOMMENDATION

Issue ATCs. See draft ATCs in Appendix A.

X. BILLING INFORMATION

Fee Schedule 8 – Electric Generation Schedule, is applicable to the proposed equipment.

ANNUAL PERMIT FEES			
Permit Number	Fee Schedule	Fee Description	Annual Fee
C-603-11-0	3020-8B-A	47,500 kW	\$8,757.00
C-603-12-0	3020-8B-A	47,500 kW	\$8,757.00

Hanford LP; C-603
Project #1010451
April 19, 2001

APPENDIX A

DRAFT AUTHORITIES TO CONSTRUCT

Hanford LP; C-603
Project #1010451
April 19, 2001

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PERMIT NO.: C-603-11-0

LEGAL OWNER OR OPERATOR: HANFORD L P

MAILING ADDRESS: 4300 RAILROAD AVENUE
PITTSBURG, CA 64565

EQUIPMENT LOCATION: 10596 IDAHO AVE
HANFORD, CA 93230

EQUIPMENT DESCRIPTION:

47.5 Mw General Electric Model Lm6000 Sprint Natural Gas Fired Gas Turbine Engine/Generator With Water Spray Premixed Combustion System, Served By Selective Catalytic Reduction (Scr) System And Oxidation Catalyst.

CONDITIONS

1. This Authority to Construct may be revised at the conclusion of the 30-day public comment period required by District Rule 2201 to incorporate responses to timely comments received by the District. [District Rule 2201] N
2. The permittee shall not begin actual onsite construction of the equipment authorized by this Authority to Construct until the lead agency satisfies the requirements of the California Environmental Quality Act (CEQA). [California Environmental Quality Act] N
3. Upon implementation of C-603-11-0 and '-12-0, emission offsets shall be provided to offset emissions increases in the following amounts: PM10 - Q1: 12,436 lb, Q2: 12,740 lb, Q3: 12,740 lb, and Q4: 12,436 lb; SOx (as SO2) - Q1: 1,338 lb, Q2: 1,372 lb, Q3: 1,372 lb, and Q4: 1,338 lb; NOx (as NO2) - Q1: 25,772 lb, Q2: 26,542 lb, Q3: 26,542 lb, and Q4: 25,772 lb; and VOC - Q1: 4,848 lb, Q2: 4,916 lb, Q3: 4,916 lb, and Q4: 4,848 lb. Offsets shall be provided at the appropriate offset ratio specified in Rule 2201 Section 4.2.4. [District Rule 2201] N
4. At least 30 days prior to commencement of construction, the permittee shall provide the District with written documentation that all necessary offsets have been acquired or that binding contracts to secure such offsets have been entered into. [District Rule 2201] N

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5. Selective catalytic reduction (SCR) system and oxidation catalyst shall serve the gas turbine engine. Exhaust ducting shall be equipped with a fresh air inlet and blower to be used to lower the exhaust temperature prior to inlet of the SCR system catalyst. Permittee shall submit SCR and oxidation catalyst design details to the District at least 30 days prior to commencement of construction. [District Rule 2201] N
6. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] N
7. {118} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102] N
8. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] N
9. {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] N
10. Gas turbine engine shall be equipped with an air inlet cooler/filter and lube oil vent coalescer. Visible emissions from lube oil vents shall not exhibit opacity of 5% or greater except for up to three minutes in any hour. [District Rule 2201] N
11. Gas turbine engine shall be equipped with continuous monitoring system to measure and record hours of operation and fuel consumption. [District Rules 2201, 4001, and 4703] N
12. Operation of the turbine shall not exceed 8,000 hours per calendar year. [District Rule] N
13. Gas turbine engine shall be equipped with continuous emission monitor for NO_x (before and after SCR system), CO, and O₂. Continuous emission monitor shall meet the requirements of 40 CFR parts 60 and 75 and shall be capable of monitoring emissions during startups and shutdowns as well as normal operating conditions. [District Rules 2201, 4001, and 4703] N
14. The exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NO_x, CO, and O₂ analyzer during District inspections. [District Rule 1081] N

15. Gas turbine engine shall be fired exclusively on natural gas with a sulfur content no greater than 0.25 grain of sulfur compounds (as S) per 100 dry scf of natural gas. [District Rule 2201] N
16. Emission rates from gas turbine engine, excluding startup and shutdown, shall not exceed any of the following: PM10: 3.03 lb/hr, SOx (as SO2): 0.33 lb/hr, NOx (as NO2): 3.7 ppmvd @ 15% O2 and 6.3 lb/hr, VOC (as methane): 2.0 ppmvd @ 15% O2 and 1.19 lb/hr, CO: 6.0 ppmvd @ 15% O2 and 6.2 lb/hr, or ammonia (NH3): 10 ppmvd @ 15% O2. All emission limits are three hour rolling averages. [District Rules 2201, 4001, and 4703] N
17. Compliance with ammonia slip limit shall be demonstrated by using the following calculation procedure: ammonia slip ppmv @ 15% O2 = $((a-(bxc/1,000,000)) \times 1,000,000/b)$, where a = ammonia injection rate (lb/hr)/17 (lb/lb mol), b = dry exhaust gas flow rate (lb/hr)/29 (lb/lb. mol), and c = change in measured NOx concentration ppmv at 15% O2 across catalyst. [District Rule 4102] N
18. Startup is defined as the period beginning with turbine initial firing until the unit meets the lb/hr and ppmvd emission limits in condition #13. Shutdown is defined as the period beginning with initiation of turbine shutdown sequence and ending with cessation of firing of the gas turbine engine. Startup and shutdown of gas turbine engine shall not exceed a time period of one hour each per occurrence. [District Rule 2201] N
19. Startup and shutdown events shall not exceed 300 occurrences per calendar year and once per day. [District Rule] N
20. During startup or shutdown of any gas turbine engine, combined emissions from the two gas turbine engines (C-603-11 and '-12) shall not exceed the following: NOx - 15.4 lb and CO - 15.4 lb in any one hour. [California Environmental Quality Act] N
21. Maximum daily emissions from gas turbine engine shall not exceed any of the following: PM10 - 72.8 lb/day; SOx (as SO2) - 7.8 lb/day; NOx (as NO2) - 151.5 lb/day; VOC - 28.7 lb/day; and CO - 150.3 lb/day. [District Rule 2201] N
22. Compliance testing to demonstrate compliance with the PM10, NOx (as NO2), VOC, CO, and ammonia emission limits, and fuel gas sulfur content shall be conducted within 60 days of initial operation and at least once every twelve months thereafter. [District Rule 1081] N
23. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a

source test plan must be submitted for approval 15 days prior to testing. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] N

24. The following test methods shall be used PM10: EPA method 5 (front half and back half), NOx: EPA Method 7E or 20, CO: EPA method 10 or 10B, O2: EPA Method 3, 3A, or 20, VOC: EPA method 18 or 25, ammonia: BAAQMD ST-1B, and fuel gas sulfur content: ASTM D3246. Alternative test methods as approved by the District may also be used to address the source testing requirements of this permit. [District Rules 1081, 4001, and 4703] N
25. The permittee shall notify the District of the date of initiation of construction no later than 30 days after such date, the date of anticipated startup not more than 60 days nor less than 30 days prior to such date, and the date of actual startup within 15 days after such date. [District Rule 4001] N
26. The permittee shall maintain the following records: date and time, duration, and type of any startup, shutdown, or malfunction; performance testing, evaluations, calibrations, checks, adjustments, any period during which a continuous monitoring system or monitoring device was inoperative, and maintenance of any continuous emission monitor. [District Rules 2201 and 4703] N
27. The permittee shall maintain the following records: hours of operation, fuel consumption (scf/hr and scf/rolling twelve month period), continuous emission monitor measurements, calculated ammonia slip, and calculated NOx mass emission rates (lb/hr and lb/twelve month rolling period). [District Rules 2201 and 4703] N
28. Results of continuous emissions monitoring shall be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.3.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080] N
29. Audits of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy and total accuracy testing is performed, in accordance with EPA guidelines. The District shall be notified prior to completion of the audits. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rule 1080] N
30. The permittee shall comply with the applicable requirements for quality assurance testing and maintenance of the continuous emission monitor equipment in accordance with the procedures and guidance specified in 40 CFR Part 60, Appendix F. [District Rule 1080] N

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31. The permittee shall submit a written report to the APCO for each calendar quarter, within 30 days of the end of the quarter, including: time intervals, data and magnitude of excess emissions, nature and cause of excess (if known), corrective actions taken and preventive measures adopted; averaging period used for data reporting shall correspond to the averaging period for each respective emission standard; applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred. [District Rule 1080] N
32. All records required to be maintained by this permit shall be maintained for a period of two years and shall be made readily available for District inspection upon request. [District Rule 2201] N
33. Permittee shall submit an application to comply with Rule 2520 - Federally Mandated Operating Permits within twelve months of commencing operation. [District Rule 2520] N
34. Permittee shall submit an application to comply with Rule 2540 - Acid Rain Program. [District Rule 2540] N

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April 19, 2001

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PERMIT NO.: C-603-12-0

LEGAL OWNER OR OPERATOR: HANFORD L P

MAILING ADDRESS: 4300 RAILROAD AVENUE
PITTSBURG, CA 64565

EQUIPMENT LOCATION: 10596 IDAHO AVE
HANFORD, CA 93230

EQUIPMENT DESCRIPTION:

47.5 mw general electric model lm6000 sprint natural gas fired gas turbine engine/generator with water spray premixed combustion system, served by selective catalytic reduction (scr) system and oxidation catalyst.

CONDITIONS

1. This Authority to Construct may be revised at the conclusion of the 30-day public comment period required by District Rule 2201 to incorporate responses to timely comments received by the District. [District Rule 2201] N
2. The permittee shall not begin actual onsite construction of the equipment authorized by this Authority to Construct until the lead agency satisfies the requirements of the California Environmental Quality Act (CEQA). [California Environmental Quality Act] N
3. Upon implementation of C-603-11-0 and '-12-0, emission offsets shall be provided to offset emissions increases in the following amounts: PM10 - Q1: 12,436 lb, Q2: 12,740 lb, Q3: 12,740 lb, and Q4: 12,436 lb; SOx (as SO2) - Q1: 1,338 lb, Q2: 1,372 lb, Q3: 1,372 lb, and Q4: 1,338 lb; NOx (as NO2) - Q1: 25,772 lb, Q2: 26,542 lb, Q3: 26,542 lb, and Q4: 25,772 lb; and VOC - Q1: 4,848 lb, Q2: 4,916 lb, Q3: 4,916 lb, and Q4: 4,848 lb. Offsets shall be provided at the appropriate offset ratio specified in Rule 2201 Section 4.2.4. [District Rule 2201] N
4. At least 30 days prior to commencement of construction, the permittee shall provide the District with written documentation that all necessary offsets have been acquired or that binding contracts to secure such offsets have been entered into. [District Rule 2201] N

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5. Selective catalytic reduction (SCR) system and oxidation catalyst shall serve the gas turbine engine. Exhaust ducting shall be equipped with a fresh air inlet and blower to be used to lower the exhaust temperature prior to inlet of the SCR system catalyst. Permittee shall submit SCR and oxidation catalyst design details to the District at least 30 days prior to commencement of construction. [District Rule 2201] N
6. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] N
7. {118} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102] N
8. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] N
9. {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] N
10. Gas turbine engine shall be equipped with an air inlet cooler/filter and lube oil vent coalescer. Visible emissions from lube oil vents shall not exhibit opacity of 5% or greater except for up to three minutes in any hour. [District Rule 2201] N
11. Gas turbine engine shall be equipped with continuous monitoring system to measure and record hours of operation and fuel consumption. [District Rules 2201, 4001, and 4703] N
12. Operation of the turbine shall not exceed 8,000 hours per calendar year. [District Rule] N
13. Gas turbine engine shall be equipped with continuous emission monitor for NO_x (before and after SCR system), CO, and O₂. Continuous emission monitor shall meet the requirements of 40 CFR parts 60 and 75 and shall be capable of monitoring emissions during startups and shutdowns as well as normal operating conditions. [District Rules 2201, 4001, and 4703] N
14. The exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NO_x, CO, and O₂ analyzer during District inspections. [District Rule 1081] N

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15. Gas turbine engine shall be fired exclusively on natural gas with a sulfur content no greater than 0.25 grain of sulfur compounds (as S) per 100 dry scf of natural gas. [District Rule 2201] N
16. Emission rates from gas turbine engine, excluding startup and shutdown, shall not exceed any of the following: PM10: 3.03 lb/hr, SOx (as SO2): 0.33 lb/hr, NOx (as NO2): 3.7 ppmvd @ 15% O2 and 6.3 lb/hr, VOC (as methane): 2.0 ppmvd @ 15% O2 and 1.19 lb/hr, CO: 6.0 ppmvd @ 15% O2 and 6.2 lb/hr, or ammonia (NH3): 10 ppmvd @ 15% O2. All emission limits are three hour rolling averages. [District Rules 2201, 4001, and 4703] N
17. Compliance with ammonia slip limit shall be demonstrated by using the following calculation procedure: ammonia slip ppmv @ 15% O2 = $((a-(bxc/1,000,000)) \times 1,000,000/b)$, where a = ammonia injection rate (lb/hr)/17 (lb/lb mol), b = dry exhaust gas flow rate (lb/hr)/29 (lb/lb. mol), and c = change in measured NOx concentration ppmv at 15% O2 across catalyst. [District Rule 4102] N
18. Startup is defined as the period beginning with turbine initial firing until the unit meets the lb/hr and ppmvd emission limits in condition #13. Shutdown is defined as the period beginning with initiation of turbine shutdown sequence and ending with cessation of firing of the gas turbine engine. Startup and shutdown of gas turbine engine shall not exceed a time period of one hour each per occurrence. [District Rule 2201] N
19. Startup and shutdown events shall not exceed 300 occurrences per calendar year and once per day. [District Rule] N
20. During startup or shutdown of any gas turbine engine, combined emissions from the two gas turbine engines (C-603-11 and '-12) shall not exceed the following: NOx - 15.4 lb and CO - 15.4 lb in any one hour. [California Environmental Quality Act] N
21. Maximum daily emissions from gas turbine engine shall not exceed any of the following: PM10 - 72.8 lb/day; SOx (as SO2) - 7.8 lb/day; NOx (as NO2) - 151.5 lb/day; VOC - 28.7 lb/day; and CO - 150.3 lb/day. [District Rule 2201] N
22. Compliance testing to demonstrate compliance with the PM10, NOx (as NO2), VOC, CO, and ammonia emission limits, and fuel gas sulfur content shall be conducted within 60 days of initial operation and at least once every twelve months thereafter. [District Rule 1081] N
23. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a

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source test plan must be submitted for approval 15 days prior to testing. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] N

24. The following test methods shall be used PM10: EPA method 5 (front half and back half), NOx: EPA Method 7E or 20, CO: EPA method 10 or 10B, O2: EPA Method 3, 3A, or 20, VOC: EPA method 18 or 25, ammonia: BAAQMD ST-1B, and fuel gas sulfur content: ASTM D3246. Alternative test methods as approved by the District may also be used to address the source testing requirements of this permit. [District Rules 1081, 4001, and 4703] N
25. The permittee shall notify the District of the date of initiation of construction no later than 30 days after such date, the date of anticipated startup not more than 60 days nor less than 30 days prior to such date, and the date of actual startup within 15 days after such date. [District Rule 4001] N
26. The permittee shall maintain the following records: date and time, duration, and type of any startup, shutdown, or malfunction; performance testing, evaluations, calibrations, checks, adjustments, any period during which a continuous monitoring system or monitoring device was inoperative, and maintenance of any continuous emission monitor. [District Rules 2201 and 4703] N
27. The permittee shall maintain the following records: hours of operation, fuel consumption (scf/hr and scf/rolling twelve month period), continuous emission monitor measurements, calculated ammonia slip, and calculated NOx mass emission rates (lb/hr and lb/twelve month rolling period). [District Rules 2201 and 4703] N
28. Results of continuous emissions monitoring shall be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.3.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080] N
29. Audits of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy and total accuracy testing is performed, in accordance with EPA guidelines. The District shall be notified prior to completion of the audits. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rule 1080] N
30. The permittee shall comply with the applicable requirements for quality assurance testing and maintenance of the continuous emission monitor equipment in accordance with the procedures and guidance specified in 40 CFR Part 60, Appendix F. [District Rule 1080] N

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31. The permittee shall submit a written report to the APCO for each calendar quarter, within 30 days of the end of the quarter, including: time intervals, data and magnitude of excess emissions, nature and cause of excess (if known), corrective actions taken and preventive measures adopted; averaging period used for data reporting shall correspond to the averaging period for each respective emission standard; applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred. [District Rule 1080] N
32. All records required to be maintained by this permit shall be maintained for a period of two years and shall be made readily available for District inspection upon request. [District Rule 2201] N
33. Permittee shall submit an application to comply with Rule 2520 - Federally Mandated Operating Permits within twelve months of commencing operation. [District Rule 2520] N
34. Permittee shall submit an application to comply with Rule 2540 - Acid Rain Program. [District Rule 2540] N