

## CALIFORNIA ENERGY COMMISSION

1516 NINTH STREET  
SACRAMENTO, CA 95814-5512**CALPINE GILROY CITY LM6000 PROJECT (01-EP-8)  
STAFF ASSESSMENT FOR EMERGENCY PERMIT****EXECUTIVE SUMMARY**

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The Energy Commission staff has performed a fatal flaw analysis of Calpine Gilroy City LM6000 Project, Docket # 01-EP-08, 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 can verify 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 26, 2001, Calpine Corporation (Calpine) filed an emergency permitting application for the Gilroy City LM6000 Project (Gilroy). Calpine submitted supplemental application information on May 1, 2001, which completed their application. The application is available in Adobe PDF format at the documents portion of the project website at <http://www.energy.ca.gov/sitingcases/peakers/gilroy>.

Calpine proposes to construct a 135 megawatt (MW) natural gas-fired simple-cycle peaking facility consisting of three General Electric LM6000-PC Sprint turbine generators and associated facilities adjacent to their existing Gilroy Co-Gen facility in the City of Gilroy, Santa Clara County.

A PDF file showing the regional location of this facility is included as Figure 1 in the files for this staff assessment. The project vicinity map, Figure 2, as well as 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/gilroy/documents>.

The Gilroy project will require no new off-site linear facilities. The project will interconnect to Pacific Gas & Electric's (PG&E) transmission system through a radial tap to PG&E's 115 kilovolt (kV) transmission line located on the site.

Natural gas for the facility will be provided through a connection to the existing PG&E gas supply located in Route 152 adjacent to the project site. On May 10, Calpine notified staff that the connection would require boring under Route 152. However, upon further examination, Calpine determined that a natural gas line under the highway had been completed as part of the original Gilroy Foods Co-Generation project. Therefore, boring for a new line under Route 152 will not be required for this project.

The Gilroy project will use approximately 462 gallons per minute (gpm) of water at peak use. Water will be obtained from the well that currently serves the existing Co-Gen facility. Calpine states that the well has sufficient capacity to support the facility for the duration of the project. However, Calpine would like to use reclaimed water from the South County Regional Wastewater Authority's (SCRWA) reclaimed water facility. Calpine expects to receive a will serve letter from the City of Gilroy to provide reclaimed water to the project, though that water supply is not necessary for plant operations.

Calpine expects the project to incorporate selective catalytic reduction (SCR) at the start of operations. Use of SCR will reduce the project's emissions of NOx to 5 ppm. In their application Calpine states that, should SCR not be available at start-up, Calpine will seek an emergency variance from the Bay Area Air Quality Management District (BAAQMD). However, recent discussions with Calpine have confirmed that SCR will be installed at the start of operations and a variance will not be required.

Calpine is expected to begin commercial operation of the project by September 30, 2001, following a 2 to 3 month construction period. Calpine states that the facility will obtain an air permit from the BAAQMD to allow the facility to operate for approximately 3,900 full load hours per unit each year. Calpine has guaranteed the annual sale of 2,000 hours of generation from the project under contract to the California Department of Water Resources. The remaining generation will be available for sale into the competitive market.

The Commission held an Informational Hearing and Site Visit for the project on May 10, 2001. During this hearing, residents living near the proposed facility expressed concern for the project's potential noise, visual, water, use of hazardous materials and air impacts. The potential impacts and proposed mitigation, if necessary, are identified in this Staff Analysis in the areas of **Noise, Land Use, Soils and Water, and Hazardous Materials Management**. The air quality impacts of this project have been analyzed by the BAAQMD. At the Information Hearing, Dick Wocasek of the BAAQMD stated that the project's air impacts had been mitigated and that the district had released their proposed Authority to Construct for this project. Staff, therefore, believes that, with the implementation of staff's proposed conditions of certification, the public's concerns have been fully addressed and mitigated.

## **EMERGENCY PERMITTING AUTHORITY**

This project is being considered outside of the Energy Commission's normal power plant permitting process. Under Public Resources Code Section 25705, if the legislature or the Governor declares a state of energy emergency, the Commission has emergency authority to order the construction and use of generating facilities under terms and conditions it specifies to protect the public interest. This authority can be invoked only if the Legislature or Governor declares a state of emergency and the Commission determines that all reasonable conservation, allocation, and service restriction measures may not alleviate an energy supply emergency.

Governor Gray Davis declared a state of emergency on January 17, 2001. On February 8 and March 7, 2001, the Governor issued several executive orders and declared that all reasonable conservation, allocation, and service restriction measures may not alleviate an energy supply emergency.

In Executive Order D-26-01, and Executive Order D-28-01 the Governor ordered the Energy Commission to expedite the processing of applications for peaking and renewable power plants that can be on line by September 30, 2001. The Governor also declared that these projects are emergency projects under Public Resources Code section 21080(b)(4), and are thereby exempt from the requirements of the California Environmental Quality Act (CEQA). A summary of the emergency permitting process, including the proposed schedule, and a checklist showing the information required in an application, can be found on the web at:  
<http://www.energy.ca.gov/sitingcases/peakers/documents/index.html>.

## **NEED FOR EMERGENCY PERMITTING**

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### **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 (Bridgerand and Heland 1968) (Schickele1947) (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**

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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 instate 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<sub>x</sub>/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<sub>x</sub>/MWhr, but few are cleaner than the system NO<sub>x</sub> 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<sub>x</sub>/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<sub>x</sub> emissions are simply a product of the emission rate multiplied by 10,000. Diesel standby engine use would result in 150 tons of NO<sub>x</sub> 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, such as the proposed project, would produce 0.9 tons of NO<sub>x</sub> 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 CALPINE GILROY CITY LM6000 PROJECT

## AIR QUALITY

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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 issued by the Bay Area Air Quality Management District (BAAQMD).

## BIOLOGICAL RESOURCES

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The proposed Calpine, Gilroy LM6000 peaker site is located on seven acres of disturbed ground adjacent to the existing Gilroy Co-Generation facility, and Gilroy Foods warehouse and distribution center. In addition, agricultural fields (row crops), and an access road adjacent to Llagas creek, border the facility site. The proposed site is comprised of three main areas, 1.4 acres that contains a former residential structure ("La Casa de Gilroy Foods") and associated buildings, three acres of experimental row cropland and 2.6 acres of greenhouses, storage buildings and parking areas. The existing vegetation located onsite aside from experimental row crops, is limited to the 1.4 acre "La Casa de Gilroy Foods" area. The vegetation is composed of several native and nonnative ornamental herbaceous species, as well as 18 native and nonnative trees scheduled for removal by the applicant (BIO Table 1). These trees may provide nesting habitat for special status bird species and surveys will need to be conducted prior to their removal.

**BIO Table 1. Tree Species to be Removed for the Gilroy Phase 1 Project  
(Doherty, 2001)**

SPECIES (COMMON NAME)	SPECIES (SCIENTIFIC NAME)	QUANTITY
<b>NATIVE SPECIES</b>		
Western sycamore	<i>Platanus racemosa</i>	3
Box elder	<i>Acer negundo var. californicum</i>	3
Northern California black walnut	<i>Juglans californica var. hindsii</i>	3
Coast live oak	<i>Quercus agrifolia</i>	2
Fremont cottonwood	<i>Populus fremontii ssp. fremontii</i>	2
Blue elderberry	<i>Sambucus mexicana</i>	1
<b>NON-NATIVE SPECIES</b>		
Redwood	<i>Sequoia sempervirens</i> *	1
Fir	<i>Abies sp.</i> *	1
Douglas-fir	<i>Pseudotsuga sp.</i> *	1
Pine	<i>Pinus sp.</i> **	1
		Total: 18

<sup>1</sup> Tree species listed are scheduled to be removed during construction. These species cover the inside of the existing cyclone fencing around the “La Casa de Gilroy Foods” property.

\* Indicates species that are native to California but not native to the Gilroy area.

\*\* Unidentified species – not determined whether native or not.

A site survey conducted by Foster Wheeler Environmental on March 16, 2001 found no Threatened, Endangered or Sensitive (TES) species located on or adjacent to the site. A search of the California Natural Diversity Database (CNDD) (CDFG 2001) indicated a Least Bell’s vireo (*Vireo bellii pusillus*) siting within one (1) mile of the project site. Also based on the habitat located on and around the project site, San Joaquin Kit fox (*Vulpes macrotis mutica*), Western burrowing owl (*Athene cunicularia hypugaea*), and California red-legged frog (*Rana aurora draytonii*) may be encountered.

Least Bell’s vireo is federal and state listed as endangered. Least Bell’s vireo is a summer resident of Southern California, usually migrating from Mexico in March and leaving by the end of August. It inhabits low dense riparian growth and usually nests in low growing willow (*Salix sp.*), baccharis (*Baccharis sp.*) and Mesquite (*Prosopis sp.*) in the vicinity of water. Llagas creek has areas of dense willow and may provide nesting habitat. There was a Least Bell’s vireo siting in 1997 on Llagas Creek between Hwy 152 and the confluence with the Pajaro River. There has not been any subsequent siting of Least Bell’s vireo along Llagas creek since the 1997 siting.

The San Joaquin kit fox is federally listed as endangered and state listed as threatened. It is a subspecies of kit fox, which is the smallest member of the dog family in North America. The San Joaquin kit fox inhabits grasslands and scrub lands, many of which have been extensively modified by activities including; oil and gas exploration and extraction, agricultural (irrigated pastures, orchards, vineyards, grazed annual grasslands), and urbanization. The San Joaquin kit fox construct their own dens but also enlarge or modify burrows made by other animals, such as ground squirrels, badgers and coyotes. They have also been known to utilize manmade structures, such as culverts, abandoned pipes, and banks in roadbeds. San Joaquin kit fox feed primarily on nocturnal rodents, ground squirrels, cottontails, ground-nesting birds, insects and vegetation. No San Joaquin kit fox were observed during site surveys, but San Joaquin kit fox have shown a preference for disturbed and non-disturbed habitat, similar to that found around the Gilroy site. Therefore, the potential exists for San Joaquin kit fox to be encountered on the project site.

The Western burrowing owl is a federal and state species of concern. Burrowing owl habitat is annual and perennial grasslands, deserts, and scrublands characterized by low growing vegetation. Suitable habitat may also include trees and shrubs if the canopy cover is less than 30 percent of the ground surface (The California Burrowing Owl Consortium 1993). Burrowing owls use burrows constructed by other animals and may also use man made structures such as culverts, debris piles, and holes beneath pavement. No Burrowing owls were observed during site surveys. However, due to the habitat on and around the project site, the potential does exist for burrowing owl to be encountered.

The California red-legged frog is federally listed as threatened. Red-legged frogs are associated with aquatic habitats, but may make use of adjacent riparian and upland areas. Primarily red-legged frogs are found near deepwater pools with overhanging vegetation and dense surrounding and emergent vegetation and are known to occur in the Pajaro River approximately five miles from the project site. USFWS has indicated that red-legged frogs have been reported from Llagas creek even though the habitat doesn't appear able to support red-legged frog populations (Brown 2001). While Llagas creek isn't expected to support red-legged frog populations, it may be used as a dispersion corridor by individuals searching for suitable habitat. The use of upland habitat is not well understood, but individuals have been known to travel well out of the riparian area. The proposed project site has a history of heavy disturbance and doesn't currently contain suitable upland habitat. However, red-legged frogs may still enter the area.

Based on the site surveys provided by Foster Wheeler Environmental, the project site and immediately adjacent areas do not contain any critical habitat or TES species. However, surveys for California red-legged frogs were not conducted and will need to be conducted prior to site disturbance. There is also a potential for transient TES species to be encountered during construction (see condition of certification **BIO-8**).

The proposed facility will be comprised of three simple cycle natural gas fired turbines. The exhaust emissions will be discharged to the atmosphere through 80-foot exhaust stacks. The plant will have three main pollutants, NO<sub>x</sub>, sulfur oxides (SO<sub>x</sub>), and

particulate matter less than 10 microns (PM<sub>10</sub>). There will also be emissions of ammonia (NH<sub>3</sub>) as a byproduct of the Selective Catalytic Reduction (SCR) technology used to limit NOx emissions. The emission levels will not be at levels that will adversely affect the vegetation and soils of the facility and adjacent areas. However, the deposition of nitrogen compounds on infertile serpentine soils, from plant emissions could lead to the increase in growth of non-native grasses, thus adversely affecting the native serpentine plant communities and associated endemic species. Serpentine soils are nutrient poor soils that support several TES species. The Gilroy peaker facility will have nitrogen deposition associated with its emissions. However, based on the information supplied, it is unclear whether it will result in any adverse impacts to Serpentine soils, specifically Coyote ridge and its associated TES species. Additional information will need to be supplied prior to plant operation (See condition of certification BIO-9).

Mitigation is required based on the present knowledge of the site. The project owner shall follow the *Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance* (USFWS, April 1997) to minimize the potential for any take of San Joaquin kit fox.

To mitigate these potential impacts, staff has added conditions **BIO-7**, **BIO-8**, and **BIO-9**. **BIO-7** requires the applicant to survey the project site and surrounding areas for kit fox, burrowing owl, and nesting special status bird species prior to site disturbance. **BIO-8** requires a survey for red-legged frogs and verify the absence of suitable habitat prior to site disturbance. **BIO-9** requires, prior to site commissioning, that a nitrogen deposition isopleth be submitted to the U.S. Fish and Wildlife Service and to appropriately mitigate any impacts. BIO-10 requires that the Llagas Creek riparian area be surveyed for Least Bell's vireo prior to construction.

With the implementation of staff's proposed conditions of certification, staff believes the project will not result in any unmitigated impacts to biological resources.

## SOILS AND WATER

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### WATER

#### *Water Supply*

The proposed Gilroy LM6000 peaker facility will use approximately 462 gallons per minute (gpm) of water at peak use. Water will be obtained from the well that currently serves the existing Co-Gen facility. The well is 0.1 miles away from the peaker project site and is permitted by the Santa Clara Valley Water District (#86W0980). According to Calpine, the well has sufficient capacity to support the facility for the duration of the project. However, Calpine would like to use reclaimed water from the South County Regional Wastewater Authority's (SCRWA) reclaimed water facility. Calpine expects to receive a will serve letter from the City of Gilroy to provide reclaimed water to the

project, though that water supply is not necessary for plant operations. Before utilization, all process water will be treated by ion exchange and reverse osmosis membrane filtration. This treatment is necessary to generate demineralized water for use in the various plant systems.

## **Wastewater**

The plant will generate wastewater totaling 70 gpm. The sources can be broken down into process wastewater and domestic/service wastewater.

The plant will have four sources of process wastewater: wastewater from the reverse osmosis process, cooling tower blow down, wastewater from the Oil Water Separators (OWS), and turbine wash water. Total process discharge will be approximately 65 gpm. The reverse osmosis process will generate approximately 32 gpm of wastewater. This wastewater typically has solute concentrations 3 to 4 times that of the freshwater used. There will also be approximately 33 gpm of wastewater from cooling tower blow down. The three cooling tower will be used to provide cooling water for the intake chilling system, fuel gas compressor, recycle gas cooler and the CTG lube oil system. Cooling tower wastewater typically has dissolved solids concentrations four times higher than the freshwater used. Wastewater volume from the OWS process will not be significant.

Wastewater from the reverse osmosis process and cooling tower blow down will not require any treatment prior to discharge. The City of Gilroy wastewater plant is aware of the high solute concentrations of the effluent and has indicated that it is within acceptable limits. Water from specific plant drains around the combustion turbine generators will be routed to a separation sump with provisions for oil collection by an OWS. Oil will be skimmed off and disposed of offsite at an appropriate facility.

Turbine wash water volumes will be approximately 200 gallons for each turbine for every 250 hours of operation. The turbine will be washed with water and biodegradable soap, and the wastewater collected in an on-site portable water storage tank. This wastewater will be emptied as needed by a licensed contractor for disposal at a public wastewater facility.

The facility will also produce approximately two gpm of sanitary wastewater. This wastewater will consist of normal sanitary sewer system wastes. Likewise, approximately three gpm of service water will also be generated, primarily from general wash down water.

Wastewater discharge from the site will be to initially sent to Gilroy Foods, and then discharged to the City of Gilroy wastewater treatment plant.

The proposed peaker facility does not require a discharge permit for wastewater. The existing Calpine facility sends its wastewater to Gilroy Foods, which operates under a use permit with the City of Gilroy.

## ***NATIONAL POLLUTION DISCHARGE ELIMINATION PERMITS***

### ***GENERAL NPDES FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY***

The total project area exceeds five acres (seven acres) which will require a National Pollution Discharge Elimination System (NPDES) permit to address Storm Water Runoff from Construction Activities. Part of the NPDES permitting process is the submission to the Regional Water Quality Control Board (RWQCB), of a Notice of Intent (NOI) application and the development of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP will include an erosion control and stormwater management plan that identifies Best Management Practices (BMPs) to be implemented during construction activities.

### ***GENERAL NPDES FOR DISCHARGES OF STORM WATER ASSOCIATED WITH INDUSTRIAL ACTIVITIES***

A NPDES permit for Storm Water Discharges Associated with Industrial Activities will be needed for the combined facility (peaker site and Co-Gen facility). Calpine will need to submit a NOI including a separate SWPPP for the expanded facility as well as a Notice of Termination (NOT) for activities under the NPDES construction permit. The SWPPP will include an erosion control and stormwater management plan that identifies BMPs to prevent contamination of stormwater from plant operations. The SWPPP also contains a Storm Water Monitoring and Reporting Plan (SWMRP). The NOT, NOI and supporting documents are submitted to the RWQCB.

## **SOILS**

During project construction and operation, wind and water action can erode unprotected surfaces. Areas of impervious surfaces (paved, compacted, etc.) can create increased runoff conditions, thereby resulting in potential erosion on unprotected down-gradient surfaces. Calpine has identified the need to develop an Erosion and Sediment Control Mitigation Strategy (ESCMS). The ESCMS has several parts that must be addressed at various stages of the project. The first is the design of a drainage control plan. This plan identifies potential areas of erosion, and details the installation of interim and permanent stormwater runoff control measures. The second phase is the preparation of a SWPPP for construction along with the filing of a NOI with the RWQCB for an NPDES general permit for construction activities. The SWPPP has two main functions; the first is to identify sources of pollutants associated with construction activities that may affect the quality of stormwater discharges from the site. The second function is to identify and implement site specific Best Management Practices (BMPs) to reduce or prevent pollutants associated with construction activities from entering stormwater discharge. The last phase of the ESCMS will be the development of a separate SWPPP and Storm Water Monitoring and Reporting Plan (SWMRP) for submission with the NOI for a NPDES permit for General Industrial Activities for the combined facility.

Calpine has not supplied a draft ESCMS. The ESCMS will be completed and various key components approved by the Compliance Project Manager (CPM), prior to ground disturbance (refer to standard conditions of certification).

### ***Spill Prevention/ Water Quality Protection***

The main source of potential spills is from lubricating and hydraulic oil stored and used onsite. The total quantity of oil onsite exceeds the threshold quantity, so a Spill Prevention Control and Countermeasures Plan (SPCC) per 40 CFR 112 is required. Calpine will amend the existing SPCC for the Gilroy Co-Gen plant to include the new sources of oil at the proposed LM6000 peaker plant prior to their installation.

The proposed LM6000 project will also use aqueous ammonia in the Selective Catalytic Reduction (SCR) system to control Nitrogen Oxide (NO<sub>x</sub>) emissions. The ammonia will be stored onsite in a 25,000 gallon storage tank. There will be secondary containment around the ammonia storage tank to capture any accidental releases. All chemicals stored onsite will be in closed containers and will include secondary containment to prevent the flow of chemicals into storm sewers and adjacent waterways.

With the adoption of staff's proposed conditions of certification, staff believes the project will not result in a significant impact to soil and water resources.

## **HAZARDOUS MATERIALS MANAGEMENT**

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The proposed project will involve use of aqueous ammonia and will involve use of natural gas. Aqueous ammonia will be used for control of NO<sub>x</sub> emission in an SCR system. The proposed project will utilize ammonia in 19 percent concentration. The use of 19 percent aqueous ammonia precludes any potential for significant impact at the nearest residences that are located about 1400 feet 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 virtually 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 tap from an existing natural gas pipeline. The natural gas pipeline has been designed and operated in compliance with all applicable codes. It is staff's opinion that compliance with applicable codes and standards reduces the risk of public impact resulting from accidental release to insignificant levels.

## CULTURAL RESOURCES

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The proposed Gilroy City LM6000 Phase 1 Project is an expansion of the existing Calpine Gilroy Co-Generation facility. The proposed facility will be located on a seven acre parcel directly north of Calpine's existing Gilroy Co-Gen facility on property owned by Gilroy Foods.

The proposed project area has been previously used as a research and development area for Gilroy Foods. The majority of the seven acre parcel is planted with agricultural test plots and is also occupied by a few accompanying structures. These structures include a wood frame house, Casa de Gilroy Foods which has been converted for research and office use, and two greenhouses. These structures are of insufficient age to qualify for consideration under historic preservation laws and will be removed as a consequence of this proposed project.

As stated in the application, Foster Wheeler Environmental conducted a records search at the Northwest Information Center of the California Historical Resources Information System at California State University, Sonoma. The search, which included the Area of Potential Effect (APE) and areas within a one-mile of radius of the project area, determined that there are no known cultural resources recorded within the APE.

The records search identified two cultural resource sites outside the APE but within a one-mile radius of the project site. The first is a prehistoric habitation site, CA-SCL-412, located approximately one mile from the project APE. This site is located on private land and is not subject to any adverse effects as a result of the proposed project. The second is a historic structure, P-43-1114, located on private land approximately 0.8 miles from the APE. Likewise, this structure is not subject to any adverse effects as a result of the proposed project. In the greater vicinity of the project area the known prehistoric sites are concentrated along the Llagas Creek and Dexter Creek areas. Foster Wheeler Environmental conducted a pedestrian field survey on March 21, 2001 to identify any potential cultural resources. No cultural resources were identified in the APE during this survey. Staff conducted a site visit on April 11, 2001. No cultural resources were identified during the staff site visit. Two significant observations were made during the staff visit. First, the surface area of the APE has largely been disturbed by previous agricultural and development activity. This disturbance has obscured, if not obliterated, any visible surface remains. Secondly, the proposed project area is in close proximity to Llagas Creek. The proximity to a water source can be an important indicator of the presence prehistoric occupation sites. The proximity of Llagas Creek to the APE therefore indicates a strong possibility of undiscovered subsurface prehistoric resources. Foster Wheeler Environmental corroborates these findings in their report.

The records search and field survey results determined that the project APE is within a medium to high archaeological sensitivity zone. Though archaeological and/or historic sites were not found during field survey for this project, there is a possibility that subsurface excavation for project construction could encounter buried archaeological resources. Due to the locality of the APE, and the occurrence of archaeological sites

along Llagas Creek and other creeks within the area, there is a possibility for buried sites within the proposed APE. Therefore, monitoring for archaeological and historic resources by a qualified cultural resource monitor is required during all construction activities that involve mechanical excavation.

Foster Wheeler Environmental requested a search of the Sacred Lands File at the Native American Heritage Commission (NAHC) to determine whether or not traditional cultural properties are located within the project vicinity. The NAHC response stated that their records search failed to indicate the presence of Native American cultural resources in the immediate project area.

The NAHC also provided Foster Wheeler Environmental with a referral list of Native American groups and individuals that may have knowledge regarding traditional cultural properties and sacred places in the project area. Foster Wheeler Environmental sent letters of notification to all parties on the NAHC referral list. On April 19, 2001, Foster Wheeler received a response telephone call from Jakki Kahl of the Ohlone/Costanoan tribe. Ms. Kahl expressed concern about prehistoric sites near the project area. She knew Native Americans had lived within the project area and felt there is potential for encountering subsurface archaeological material within the APE. As a result of this concern, and the strong possibility of the existence of sensitive subsurface remains, a qualified Native American monitor is required for all construction activities that involve mechanical excavation.

Standard Condition **CUL-2** will apply to this project due to the possibility of subsurface archaeological and historic resources. As a result of this possibility, a qualified cultural resources monitor is required for all construction activities that involve mechanical excavation. As a result of concerns expressed by members of the Ohlone/Costanoan, a qualified Native American monitor will be required for all construction activities involving mechanical excavation. Condition of certification **CUL-3** has been added to address this concern. Implementation of staff's recommended conditions will ensure that impacts to Cultural Resources from the proposed project are insignificant.

## **PALEONTOLOGICAL RESOURCES**

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The Applicant states that the site is underlain by Holocene stream levee deposits derived from Llagas Creek, and concludes that the near-surface sediments are likely to be very recent in age (deposited over the last 1,000 years). The Applicant further states that an archival search was conducted at the University of California Museum of Paleontology in Berkeley, California, and that there are no records of fossil locations within two miles of the project site. Based on the null results of the archival search, and the inferred recent age of the underlying sediments, the Applicant concludes that there is a very low likelihood of disturbing any vertebrate fossils during project construction.

No evidence was provided to indicate that a field survey was performed by a qualified paleontologist. CEC staff recommends that such a survey be performed, as stated in special condition for certification **PALEO-3**.

Staff conducted an independent search of the University of California Publications (Bulletin of the Department of Geology), which is the major venue of publication of vertebrate paleontology research in California (e.g., Savage, 1951). CEC Staff also conducted a search of the GEOREF database, which summarizes papers published in major geology and paleontology professional journals over the last 30 years. These independent searches did not disclose a major fossil locality in the vicinity of Gilroy.

Staff recognizes that the riparian depositional environment of the underlying soils has the potential for preservation of vertebrate fossils (e.g., large vertebrates mired in the muddy banks of the river) and plant fossils. The assumption that the sediments underlying the site were accumulated over the last 1,000 years remains unproved, but is not unreasonable.

Based on these findings, the CEC staff concludes that, even though the likelihood of disturbing major vertebrate fossils during project construction is low, it is reasonable to implement some basic mitigation measures before and during construction. The Applicant has proposed to have a paleontologist or archaeologist monitor construction activities. CEC staff concurs with this mitigation plan and incorporates it as standard condition **PALEO-2** in this staff assessment.

With the implementation of staff's proposed conditions of certification, the project will not have a significant impact on paleontological resources.

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

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### **SITE DESCRIPTION**

The proposed project (Gilroy City LM6000 Phase 1 Project) would occupy a seven-acre site located on two contiguous parcels (APN-841-17-77 and APN-841-17-78) located at 1350 Pacheco Pass Highway (State Route 152) in Gilroy. The site is currently utilized for agricultural research. Improvements associated with this activity include a wood-frame house used for research (dubbed "La Casa de Gilroy Foods"), outbuildings, greenhouses, equipment, and a storage area. Fourteen native trees and numerous ornamental trees are located on the eastern portion of the site in the vicinity of La Casa. These include box elder, California black walnut, western sycamore, Fremont's cottonwood, coast live oak, and blue elderberry.

Surrounding land uses include the existing Gilroy Co-Generation plant to the north, the Gilroy Foods Warehouse and Distribution Center to the west, and agricultural fields (row crops) to the south. Adjacent to and east of the site is unpaved private access road, owned by the Santa Clara Valley Water District (SCVWD); immediately east of the access road is Llagas Creek. The application indicates that a levee separates the site from the creek. However, based on a site visit conducted on April 11, 2001, it appears that the access road represents the top of the levee. Other area uses include row crops

to the south and west, fallow fields to the south and east, open space to the north (west of Llagas Creek), and row crops to the east (east of Llagas Creek). Except for a service station at the nearby US Highway 101/SR Highway 152 interchange, US 101 separates the site from other land uses to the west, and SR 152 separates the site from other land uses to the north. The closest residential area is located north of the site and across SR 152, approximately 1,400 feet from the proposed location of the proposed project's closest noise generating units.

The project site is owned by Basic Foods Energy (Gilroy Foods) and is currently utilized by that company for agricultural research. The applicant owns the existing co-generation plant, and operates it on land controlled under a lease agreement with Gilroy Foods. The applicant is in negotiation to amend the lease to include the extension to include the project site, or to purchase the property, and does not yet have site control. Construction of the proposed facility would require equipment laydown and parking areas. While laydown would likely occur on the proposed project site, the applicant also proposes to include the Gilroy Foods parking lot for laydown and parking. This would require verification of permission from Gilroy Foods to use their property for this purpose.

## **NOISE**

Existing noise sources in the vicinity of the project include the Gilroy Foods plant, the existing co-generation plant, agricultural activities, and traffic from U.S. 101 and S.R. 152.

Noise information provided by the applicant indicates that the nearest sensitive receptor is a residential development located approximately 1,400 feet from the proposed generation units. The residences are located across SR 152 from the project site on Cedar Lane. An aerial photograph and land use map did not indicate the presence of additional sensitive receptors in the immediate vicinity; this was verified during a site visit.

An ambient noise survey was conducted over a 25-hour period on March 23-24, 2001, at the nearest house at 1535 Cedar Lane, located just outside of Gilroy City limits in Santa Clara County. Noise levels at this location would nonetheless be subject to City noise standards, because the noise source is within the City. The city's maximum permissible outdoor noise level for residential is 60 dBA Ldn.

The survey indicated that the existing Ldn at the nearby residences is 66.9 dBA as a result of significant vehicular traffic on SR 152. This noise level is expected to increase, regardless of the proposed plant expansion, because of plans to widen SR 152 (scheduled for late 2002). Because maximum thresholds have already been exceeded, any increase in noise would be considered significant. However, the Ldn measurement represents a weighted average to account for greater sensitivity to noise during the night. In general, 10 decibels are added to noise levels obtained during nighttime hours. Because the proposed power plant's noise generation would be constant, Ldn

does not provide a reliable measurement from which to determine the project's impacts on noise levels.

CEC staff utilized background data provided by the applicant to more accurately determine the project's impact on area noise levels. The calculations were performed by CEC's noise specialist, and are based on practices generally accepted by the US Department of Transportation, the CEC, and noise consultants.

According to the applicant, the average  $L_{90}$  (the noise level exceeded 90 percent of the time) at night was 53.6 dBA. Because this noise level appears to be caused mostly by commute traffic late in the evening and early in the morning, CEC staff has re-calculated this average to be 52 dBA by discounting noise measurements during busy commute times. This would more accurately represent the perceived background noise level. CEC staff then employed a five-decibel increase above this background noise level to represent an  $L_{eq}$  that could represent a significance threshold. Therefore, 57 dBA  $L_{eq}$  ( $52 + 5 = 57$ ) is the noise level that could not be exceeded at the sensitive receptor without creating a significant adverse impact. The plant noise level generated by Phase I of the project is expected to be 54.6 dBA  $L_{eq}$ , which is below the 57 dBA threshold calculated by CEC.

According to the applicant, the highest noise level at the site boundary would be 67.4 dBA on the south boundary, which translates to an  $L_{dn}$  of 73.8 dBA. This is within the City's noise threshold of 76 dBA  $L_{dn}$  for industrial properties.

The applicant did not provide data on construction-related noise levels. However, a pile driver typically generates an  $L_{eq}$  of 100 dBA at a distance of 50 feet, while a diesel truck generates an  $L_{eq}$  of approximately 85 dBA at 50 feet. The majority of construction would occur during daytime hours, when the background noise at the sensitive receptors would be higher because of traffic. Although construction would add to noise impacts, the activity is temporary in nature, and would cease upon completion of the project. The applicant has proposed nighttime construction, and has indicated that the activities performed during nighttime hours (10 PM to 7 AM) would not generate noise in excess of the City's noise standards. The applicant acknowledged during a telephone conversation that construction equipment such as backhoes, tractors, scrapers, graders, heavy trucks, bulldozers, pneumatic tools, pile drivers, jackhammers, and rock drills would be avoided during the above-listed hours of construction. The applicant has also indicated that it would release steam or perform any other excessively loud operation during these hours.

Implementation of condition of certification NOISE-1 would require that the project comply with community noise standards. The proposed construction and operation of the plant expansion would meet community noise standards at the project boundary.

However, since community noise standards are already exceeded at the sensitive receptor site, and because noise levels at the receptor site are influenced by traffic, this condition would not apply at the sensitive receptor site. Staff utilized data provided by the applicant, and generally-accepted noise criteria, to determine a more accurate significance threshold for the power plant expansion. Based on the analysis provided

above, the project's contribution to the noise level at the sensitive receptor site could not exceed 57 dBA Leq or 60 dBA Ldn without creating a significant adverse impact. The proposed construction and operation of the expansion plant would not exceed this criteria.

**NOISE-1** requires that the project owner monitor actual project noise contribution at the nearest residence. If the project noise at that location exceeds 57 dBA Leq or 60 dBA Ldn, the project owner will be required to retrofit the project with mitigation measures that will reduce noise to this level. Such mitigation measures could include, but not be limited to, the addition of mufflers, and the addition of natural or man-made sound barriers, such as berms or sound walls. **NOISE-2** requires that, prior to construction, the applicant notify all residents within one mile of the project site of the construction schedule. **NOISE-3** requires that the project owner document, investigate and mitigate all project-related noise impacts. Implementation of these Conditions of Certification would ensure that impacts associated with noise are less than significant. With regard to construction, **NOISE-4** requires that nighttime construction activities be permitted only if noise levels from construction are consistent with local noise ordinances by limiting construction activities to those that will not exceed local standard during the hours of 10 PM to 7 AM.

With the implementation of staff's proposed conditions of certification, the project will not result in a significant noise impact.

## LAND USE

To date the applicant does not have site control for the proposed facility, but is in negotiation to either lease or purchase the property from Gilroy Foods.

The proposed site is generally level and is currently utilized for agricultural research. Improvements include a wood-frame structure (La Casa), outbuildings, greenhouses, landscaping, equipment, and a storage area. These would be demolished or removed to accommodate development of the proposed project.

The project site and surrounding land uses are designated by the City's General Plan as General Industrial, and are classified by the City of Gilroy Zoning Ordinance as M-2, General Industrial. Although power generation is not a listed use, the City's Planning Department has indicated that the nature of the project is consistent with the permitted uses cited by the code. The project as proposed is also consistent with the building coverage limit of 60 percent of lot size. Since the parcel does not include public street frontage, setbacks would not be required. However, the city would require that setbacks are adequate to accommodate the power plant equipment without disturbing adjacent parcels. The City of Gilroy has development standards for projects in the M-2 zone which include fencing, landscaping, signage and parking. CEC Staff has incorporated the relevant development standards into its proposed condition of certification. The applicant has not proposed signage or fencing, but staff would have to evaluate conformity to the City's standards should such features be proposed at a later

date. Parking is discussed in the **Traffic and Transportation** section of this report; landscaping is addressed in the **Visual Resources** section.

The M-2 zoning limits building height to 75 feet. The applicant has proposed an 80-foot flue stack, which is the same height as the existing flue stacks at the existing co-generation facility. City planning has indicated that normally a variance application is required prior to construction of the stack, a procedure that would include a public hearing before the Planning Commission.

The M-2 zoning is also subject to performance standards. The intent of the performance standards is to “protect the health, safety, and welfare of residents of the City of Gilroy from land uses which would include any dangerous, injurious, noxious, or otherwise objectionable public nuisance”. Further discussion regarding potential nuisances can be found in the **Air Emissions, Noise, Hazardous Materials, Biological Resources, Traffic and Transportation** and **Visual Resources** sections of this report.

A number of large trees are located on the eastern portion of the site, in the vicinity of La Casa. These include the following native trees; box elder, California black walnut, western sycamore, Fremont’s cottonwood, blue elderberry, and coast live oak. The City’s Consolidated Landscape Ordinance, Section 6.0, defines a significant tree as “existing native trees six inches or more in diameter, at a point of four feet above the ground,” or “important to the historical or visual aspect of Gilroy.” Several of the trees could meet these criteria. The City has indicated that it would prefer to preserve the trees, including a large native oak in particular. If significant trees cannot be saved, the City normally requires a three-to-one replacement ratio, with trees in a minimum box size of 36 inches. Calpine proposes to remove all trees from the site. Therefore, staff has proposed condition of certification LAND-3 that requires replacement trees be included in a landscape plan subject to review and comment by the City and approval by the CEC compliance project manager.

The proposed project will connect to existing utilities available on-site, and will not therefore not require off-site construction.

The applicant has indicated that the laydown area and construction parking for the project itself would be located on the northern portion of the site. The applicant also proposes to utilize the adjacent Gilroy Foods parking lot for construction worker parking. This would require permission from Gilroy Foods to utilize the lot.

Further discussion regarding potential construction-related impacts can be found in the **Noise, Cultural Resources, Biological Resources** and **Traffic and Transportation** sections of this report.

The applicant has indicated that all local, state and federal land use requirements would be met. Implementation of Conditions of Certification **LAND-1**, ensures that all applicable laws, ordinances, regulations and standards (LORS) have been met.

The applicant has indicated that they do not yet have control over the project site. Condition of certification **Land-2** requires the applicant to demonstrate site control, via a lease or purchase agreement, prior to the start of construction.

In addition, the City has expressed concern over the fate of the native trees on-site. Staff has proposed Condition of Certification **Land-3** to address this concern.

Implementation of the above Conditions of Certification will ensure that the project's potential impacts on land use are insignificant.

## **PUBLIC SERVICES**

The nearest fire station to the project site is the City of Gilroy Fire Department headquarters, located approximately 1.5 miles west of the site at 7070 Chestnut Street, at the corner of Chestnut and Ninth Street. A second station is located approximately three miles from the plant. Gilroy also has access, through the Santa Clara County Local Mutual Aid Agreement, additional firefighting, hazardous materials, and emergency response resources.

A letter from the Gilroy Fire Department, dated April 26, 2001, indicates the ability by the department to serve the power plant expansion within an adequate response time for firefighting, hazardous materials and emergency response.

## **TRAFFIC AND TRANSPORTATION**

Regional access to the proposed facility is provided by US Highway 101 and SR Highway 152 (SR 152 is scheduled for construction improvements to begin in late 2002). Potential access routes to the proposed project site include US Highway 101 to SR Highway 152 east, with access to the site via the existing Gilroy Foods paved parking lot; or US Highway 101 to SR Highway 152 to an existing SCVWD unpaved access road. The US 101/SR 152 interchange is currently utilized by truck traffic to the Gilroy Foods warehouse and the existing co-generation facility. In addition, there are three roadway intersections that could be impacted by the project. These include U.S. Highway 101 southbound ramps at 10<sup>th</sup> Street, U.S. Highway 101 northbound ramps at SR Highway 152 and Brems Lane-Renz Lane at SR Highway 152.

RBF Consulting conducted a traffic analysis in 2000 for an RV park proposed in the vicinity of the project. The traffic study included a level of service (LOS) analysis (an A-through-F classification based on the amount of traffic and roadway capacity, whereas A represents free flow and F represents gridlock). The study included intersections and roadway segments that could be utilized by the proposed project during construction and operation. The City of Gilroy maintains LOS C or better as an acceptable threshold. Santa Clara County "establishes LOS D as a goal to be achieved whenever practical", although many County roadways and intersections currently operate at LOS E or LOS F.

According to the traffic study, all applicable roadway segments operate at acceptable LOS during peak a.m. and p.m. hours. The southbound US 101/10<sup>th</sup> Street intersection also operates at an acceptable LOS, while the northbound US 101/SR 152 intersection operates at LOS C during the a.m. peak and LOS F during the p.m. peak. The third intersection (Renz-Brem/SR 152) operates at LOS E during the a.m. peak and LOS F during the p.m. peak.

With regard to construction worker transportation and parking, the applicant has indicated that the construction workforce peak is estimated at 225 employees with an average construction workforce of 150. While the workforce transport would increase the number of trips to and from the site, the majority of roadway segments and intersections operate at an LOS that could easily accommodate the additional traffic. The intersections that operate at unacceptable LOS would not be significantly impacted, because worker arrival and departure would not likely occur during peak hours, and would be dispersed among all intersections. Furthermore, this impact would be temporary, lasting only for the duration of construction activities. Workforce parking would be provided on-site as part of the laydown area or within the Gilroy Foods parking lot. A site visit revealed that the Gilroy Foods parking lot is likely to be adequate for both Gilroy Foods and construction. However, permission from Gilroy Foods would be required.

The applicant has included a Traffic Control Plan (TCP) as part of the application. Features of this TCP include: Traffic control measures; coordinating construction and delivery activities; scheduling traffic lane or road closures during off-peak hours; restricting truck and construction traffic to approved access roads, construction yards and construction sites; and, coordinating oversized load delivery with the railroad. The TCP would be implemented in accordance with the California Department of Transportation (Caltrans), County and City requirements. The applicant has also indicated that it would obtain all applicable permits from Caltrans and other agencies, and would label all construction materials in accordance with applicable California Vehicle Codes.

Operational roadway usage (trips) and parking requirements are expected to be minimal throughout the life of the project, with parking to be provided on-site in accordance with the City's parking standards. Increased transportation due to the construction of the proposed project would include deliveries of plant equipment and construction materials by truck. Any ground shipment exceeding designated state or local size and/or weight/load limits would require a Single Trip Transportation Permit. Truck deliveries are not anticipated to significantly affect the traffic/truck ratio on U.S. 101, but could temporarily affect the ratio on SR 152. Since SR 152 is already a truck route, this would not be considered significant.

Implementation of a TCP would reduce most construction traffic impacts to a less than significant level along area roadways. This would be reinforced by the implementation of conditions of certification **TRANS-1** and **TRANS-3**. Conditions of certification **TRANS-2** and **TRANS-4** (which refer to encroachment and damage to public roadways) would also be required because development the project would require off-site improvements to linear facilities.

With implementation of the above conditions of certification, the project's impact on traffic and transportation will be less than significant.

## **VISUAL RESOURCES**

The project site is generally flat, and is utilized for agricultural research and associated structures. A large stand of native trees is located on the eastern portion of the site. Agricultural land is adjacent on the south and west. Llagas Creek is located to the east; to the east of the creek is agricultural land.

Project plans call for the development of a simple-cycle peaking combustion turbine generators, cooling towers, and associated facilities, including three 80-foot flue gas stacks. The plant, particularly the stack, would be visible from the east, west, and south. All area land within City limits (which includes the area south of SR 152) is zoned for industrial development, and future development would therefore be aesthetically compatible with the proposed plant expansion. The view from the north would be of the existing plant and Gilroy Foods, which would shield the new plant visually from the residential property to the north of US 152. The proposed lighting system would provide illumination for normal operating conditions and emergency situations. This would be visible at night, but would not result in a significant increase in lighting above that generated by the existing plant and food operation.

Nighttime lighting for the existing Calpine Gilroy power plant is unshielded and causes significant light trespass off the site and contributes to illumination of nighttime plumes from the cooling tower. Additional nighttime lighting, even shielded, will only add to the illumination of the nighttime sky. To minimize the cumulative impacts of nighttime lighting, staff has proposed condition of certification **VIS-3** to require that lighting for the existing power plant be shielded to eliminate light trespass off the site and that an evaluation be conducted to determine if existing lighting can be minimized consistent with safe working light levels through the use of motion detectors or other controls.

Preliminary landscape plans indicate that plantings would be made along the SCVWD access road immediately east of the project site. This would require the applicant to obtain an easement or some other agreement for usage, as well as an agreement for maintenance of the landscaped areas. On-site landscaping is not proposed, based on the premise that the M-2 zoning does not require setbacks on property boundaries that are not adjacent to public roadways. However, the City's Consolidated Landscape Ordinance requires screening on exposed side and rear yards, and reserves the City's authority to require additional screening for parking lots, storage yards, fences or other features.

The most visible feature of the plant expansion would be the three flue stacks.

The project is also subject to specific Conditions of Certification **VIS-1**, **VIS-2**, and **VIS-3**, which require steps to ensure mitigation of potential visual impacts and the inclusion of a city-reviewed landscaping plan for the project. Implementation of these conditions will reduce the project's visual impacts to a less than significant level.

## ENVIRONMENTAL JUSTICE

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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 all City of Gilroy census tracts within three miles of the project site contain more than 50 percent minority population. Year 1990 Census data show no census tracts within three miles of the project site with a greater than 50 percent low-income population.

The only potential adverse effects of the project on this population would be air quality or public health impacts. Environmental analysis indicates that the proposed project would comply with all regulatory requirements, and thus not have adverse impacts, disproportionate or otherwise. 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

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### FACILITY DESIGN

The project, including its minimal 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** below). This will be assured by the Energy 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 Gilroy City LM6000 Phase 1 project will connect to the existing Gilroy Energy tap of Pacific Gas and Electric Company's Llagas-Gilroy Foods 115 kV transmission line.

The power produced by the generators will be stepped up to from 13.8 kV to 115 kV through an oil-filled step-up transformer. The operation of this project could result in the emergency (n-1) overload of the Morgan Hill Tap – Green Valley section of the Llagas-Green Valley 115 kV line. This overload can be mitigated by reducing generation from the project or by increasing the capacity of the overloaded transmission line.

Staff expects this emergency overload will be mitigated by reducing the output of the Gilroy Energy Center under the emergency conditions<sup>1</sup>. The California Independent System Operator will prescribe mitigation measures for the project. Based on the results of the interconnection study, the operation of this project will not require significant downstream electric facilities and will comply with safety standards<sup>2</sup>.

The interconnection of the Gilroy city LM6000 Project Phase 1 will not require the construction of linear downstream transmission facilities and there are no significant transmission issues.

## **CONCLUSION**

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The Gilroy City LM6000 Phase 1 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 interest and the environment. Staff recommends approval of this project.

## **STAFF CHECKLIST**

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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.

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<sup>1</sup> California Independent System Operator Letter to Arthur McAuley, RE: Gilroy Peaker Project Transmission Interconnection Study, April 13, 2001.

<sup>2</sup> 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.



**CALPINE GILROY CITY LM6000 PHASE 1 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>
<b>1 Project Description</b>					
1.1 Project owner/operator (Name, title, address, phone)	Yes				
1.2 Overview of power plant and linear facilities	Yes	1-1			
1.3 Structure dimensions (size and height), plan and profile	Yes				
1.4 Full size color photo of the site and rendering of proposed facility if available					
1.5 Maximum foundation depth, cut and fill quantities	Yes	Page 1-8			
1.6 Conformance with California Building Code	Yes	Page 1-8			
1.7 Proposed operation (hours per year)	Yes				
1.8 Expected on-line date	Yes	1-8			
1.9 Proposed duration of operation (years)	Yes				
1.10 Identify transmission interconnection facilities	Yes		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	Y	Attach. A			
1.12 "Down-stream" transmission facilities, if known	Y	Cal-ISO preliminary approval letter 4/13/01	No significant issues. Project will be required to reduce output to mitigate emergency overloads.		
1.13 Fuel interconnection facilities	Yes				
1.14 Fuel interconnection application	Yes	1-9			
1.15 Water requirements and treatment	Yes	1-9			
1.16 Water interconnection facilities (supply/discharge)					
1.17 Source and quality of water supply					
1.18 Water supply agreement/ proof of water supply					
<b>2. Site Description</b>					
2.1 Site address (street, city, county)	Yes	Page 2-1	None		
2.2 Assessor's parcel number	Yes	Page 2-1	None		
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	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>
2.4 Existing site use	Yes	Page 2-1	The site is used for agricultural research and improved with associated structures and equipment. A stand of native trees is also located on-site. Site is adjacent to riparian corridor.	See LAND-1 and LAND-3.	See potential impacts analysis in Section 8, Biological Resources, Section 11 Traffic and Transportation and Section 13, Cultural Resources.
2.5 Existing site characteristics (paved, graded, etc.)	Yes	Page 2-2	See above.		See potential impacts analysis in Section 8, Biological Resources, Section 11 Traffic and Transportation and Section 13, Cultural Resources.
2.6 Layout of site (include plot plan)	Yes	Pages 1-8 and 2-3	None.		See potential impacts analysis in Section 8, Biological Resources, Section 11 Traffic and Transportation and Section 13, Cultural Resources.
2.7 Zoning and general plan designations of site and linear facilities	Yes	Page 2-2	None		
2.8 Ownership of site (Name, address, phone)	Yes	Page 2-2	None		
2.9 Status of site control	Yes	Page 2-2	Applicant does not have site control.	See LAND-2.	Parcel consolidation?

<u>Application Requirement</u>	<u>Y/N</u>	<u>Application pages</u>	<u>Significant Issues</u>	<u>Special Conditions</u>	<u>Comments</u>
2.10 Equipment laydown area – size and location	Yes	Page 2-2	None.		See potential impacts analysis in Section 8, Biological Resources, Section 11 Traffic and Transportation and Section 13, Cultural Resources.
<b>3. Construction Description</b>					
3.1 Construction schedule					
3.2 Workforce requirements (peak, average)	Yes	3-1			
<b>4. Power Purchase Contract (DWR, ISO, other)</b>					
4.1 Status of negotiations and expected signing date	Yes	4-1			
<b>5. Air Emissions</b>					
5.1 Nearest monitoring station (location, distance)	Yes				
5.2 Provide complete self certification air permit checklist	Yes	5-1 Appendix D			
5.3 Provide complete air permit application	Yes	5-1 Appendix D			
5.4 Status of air permit application with air district	Yes	5-1			
5.5 Status of offsets and/or mitigation fees, as required	Yes	5-1			

<u>Application Requirement</u>	<u>Y/N</u>	<u>Application pages</u>	<u>Significant Issues</u>	<u>Special Conditions</u>	<u>Comments</u>
<b>6. Noise</b>					
6.1 Local noise requirements	Yes	Page 6-1	None		
6.2 Nearest sensitive receptor (type, distance)	Yes	Page 6-1	Sensitive receptors would experience increases in noise levels. These are not expected to exceed the noise level thresholds established by the staff.		Mitigation is provided by Conditions of Certification for Noise.
6.3 Project noise level at nearest property line	Yes	Page 6-1	None		
6.4 Proposed mitigation if required	Yes	Page 6-2	None.		
<b>7. Hazardous Materials</b>					
7.1 Type and volume of hazardous materials on-site	Yes				
7.2 Storage facilities and containment	Yes				

<u>Application Requirement</u>	<u>Y/N</u>	<u>Application pages</u>	<u>Significant Issues</u>	<u>Special Conditions</u>	<u>Comments</u>
<b>8. Biological resources</b>					
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	8-1 through 8-12	Potential for special status bird species to be nesting in the trees that will be removed from the site. Red-legged frogs, Least Bell's vireo, San Joaquin Kit Fox and Burrowing Owls could be encountered on site. Nitrogen deposition may adversely affect TES species.	BIO-7 through BIO-10	
8.2 Designated critical habitat on site or adjacent to site (wetlands, vernal pools, riparian habitat, preserves)	Yes	8-12			
8.3 Proposed mitigation as required	Yes	8-12 through 8-13	Use of Standardized protocols for construction of kit fox areas.		

<u>Application Requirement</u>	<u>Y/N</u>	<u>Application pages</u>	<u>Significant Issues</u>	<u>Special Conditions</u>	<u>Comments</u>
<b>9. Land Use</b>					
9.1 Local land use restrictions (height, use, etc.)	Yes	Page 9-1	Site plan and elevations provided are not detailed enough to determine if height requirements, setbacks and lot coverage standards are being met. 80-foot flue gas stack exceeds height limit. Native trees need to be replaced.	LAND-1: Requires that all applicable LORS be met.	
9.2 Use of adjacent parcels (include map)	Yes	Pages 9-2 and 9-3	None		
9.3 Ownership of adjacent parcels – site and linears	Yes	Page 2-1	None		
9.4 Demographics of census tract where project is located (most current available)	Yes	Pages 9-4	None		
<b>10. Public Services</b>					
10.1 Ability to serve letter from Fire District	Yes	Appendix E	None.		
10.2 Nearest fire station	Yes	10-1	None		

<u>Application Requirement</u>	<u>Y/N</u>	<u>Application pages</u>	<u>Significant Issues</u>	<u>Special Conditions</u>	<u>Comments</u>
<b>11. Traffic and Transportation</b>					
11.1 Level of Service (LOS) measurements on surrounding roads – a.m. and p.m. peaks	Yes	Page 11-3,	None		
11.2 Traffic Control Plan for roads during construction period	Yes	Page 11-4	None	TRANS-1 and TRANS-3 reinforce provisions of TCP.	
11.3 Traffic impact of linear facility construction	Yes	Page 11-4			Project does not propose offsite linear construction.
11.4 Equipment transport route	Yes	Page 11-4	None	TRANS-4: Requires owner to return all affected roadways to original condition.	
11.5 Parking requirements – workforce and equipment	Yes	Page 11-4	None		See potential impacts analysis in Section 8, Biological Resources, and Section 13, Cultural Resources.
<b>12. Soil and Water Resources</b>					
12.1 Wastewater volume, quality, treatment	Yes	12-1			
12.2 Status of permits for wastewater discharge or draft permit (WDR/NPDES)	Yes	12-2	Application addresses the need to obtain NPDES permits, and provides a timeline for their acquisition.		

<u>Application Requirement</u>	<u>Y/N</u>	<u>Application pages</u>	<u>Significant Issues</u>	<u>Special Conditions</u>	<u>Comments</u>
12.3 Draft Erosion Prevention and Sedimentation Control Plan or Mitigation Strategy	Yes	12-2 through 12-3	The applicant addressed the need to develop ESCMS.		
12.4 Spill Prevention/Water Quality Protection Plans	Yes	12-3 and Append G	Applicant will amend the existing SPCC. The Applicant also identifies the need to obtain the appropriate NPDES permits that require a SWOO to be drafted.		
<b>13. Cultural Resources</b>					
13.1 Identification of known historic/prehistoric sites	yes	13.1	Foster Wheeler has conducted a record search and field survey, no surface sites have been identified within the APE.		No known sites are recorded within the proposed project area.
13.2 Proposed mitigation if required	yes	13.3	Due to the possibility of subsurface archaeological and historic remains, cultural resource monitoring is required during construction activities involving mechanical excavation.	Standard Condition CUL-1 is not required for this project. Standard Condition CUL-2 is required for this project. Special Condition CUL-3 is required for this project	

<u>Application Requirement</u>	<u>Y/N</u>	<u>Application pages</u>	<u>Significant Issues</u>	<u>Special Conditions</u>	<u>Comments</u>
<b>14. Paleontological Resources</b>					
14.1 Identification of known paleontologic sites	Yes	Page 14-1	A field survey by an experienced paleontologist was not performed	PALEO-3 Paleontologic field reconnaissance	
14.2 Proposed mitigation if required	Yes	Page 14-1		Standard PALEO-2 condition for certification	Applicant has proposed mitigation consistent with standard PALEO-2 condition for certification
<b>15. Visual resources</b>					
15.1 Plan for landscaping and screening to meet local requirements	Yes	Pages 15-1 and 15-4	.		VIS-3: Requires City-reviewed and CPM-approved landscape plan.
15.2 Full size color photo of the site and rendering of proposed facility with any proposed visual mitigation if available	Yes	Figures 15-3			
<b>16. Transmission System Engineering</b>					
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 16-1			

# CALPINE GILROY CITY LM6000 PHASE 1 PROJECT GENERAL CONDITIONS INCLUDING COMPLIANCE MONITORING AND CLOSURE PLAN

## INTRODUCTION

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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 either the California Independent System Operator or 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 Bay Area Air Quality Management District (BAAQMD) for the project; and

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

The project 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 (DWR), 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 Calpine Gilroy City LM6000 Phase 1 project shall be on-line not later than September 30, 2001. If the project 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

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### 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 the Bay Area Air Quality Management 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** Prior to site disturbance, a qualified biologist will survey the project site and surrounding areas to determine if there are active kit fox dens, Burrowing owl burrows, and nesting special status bird species (raptors).

**Verification:** The designated Biologist shall submit a report of the findings to the CPM prior to construction. If San Joaquin kit fox, Burrowing owl, special status nesting birds, or other TES species are found the CPM may recommend additional agency consultation.

**BIO-8** Prior to site disturbance a qualified biologist will survey Llagas Creek to determine the presence or absence of red-legged frogs and to determine habitat suitability. Surveys will be conducted according to protocols published by USFWS.

**Verification:** The Biologist shall submit a report of the findings to the CPM prior to construction. If California red-legged frogs, or suitable habitat are located in Llagas Creek the CPM will recommend additional agency consultation in order to determine appropriate mitigation. If mitigation is required the applicant will need to provide documentation of appropriate mitigation prior to site disturbance.

**BIO-9** Prior to project commissioning, a nitrogen deposition Isopleth will be submitted to the USFWS. The CPM will consult with the USFWS to determine if mitigation credits will need to be purchased. If mitigation is required, the appropriate documentation of mitigation purchase will be submitted to the CPM prior to plant operation.

**Verification:** The applicant shall submit a duplicate report to the CPM and a USFWS contact to verify compliance. Should mitigation be required the applicant will submit the appropriate documentation of the purchase of mitigation credits to the CPM.

**BIO-10** Prior to site disturbance, a qualified biologist will survey the Llagas Creek riparian area to determine the presence or absence of least Bell's vireo. Surveys will be conducted according to protocols published by USFWS.

**Verification:** The Biologist shall submit a report of the findings to the CPM prior to construction. If Least Bell's vireo are sited, the CPM will recommend additional agency consultation in order to determine appropriate mitigation. If mitigation is required, the applicant will provide documentation of appropriate mitigation prior to site disturbance.

## **CULTURAL RESOURCES**

**CUL-1** Standard Condition is not applicable to this project.

**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.

**CUL-3** 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 qualified Native American monitor who will have access to the site and linear rights-of-way at any time prior to and during ground disturbance.
2. The Native American monitor has the authority to halt construction at a location if a significant cultural resource is found. If resources are discovered and the Native American monitor is not present, the project owner will halt construction at that location and will contact the Native American monitor immediately. The Native American monitor 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.

**Verification:** Throughout construction, the project owner shall inform the CPM concerning any substantive activity related to items 1 through 3 above. Should curation be necessary, the project owner informs the CPM as to how and where the resources were curated, as appropriate.

## **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 Certification 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 the start of construction the applicant shall demonstrate that they have established site control over the project site.

**Verification:** Prior to the start of construction the applicant shall provide a copy of a fully executed lease or sales agreement for the project site.

**LAND-3** Applicant shall incorporate measures in their landscape plan for the project which mitigates the removal of fourteen native trees from the site. Replacement of native trees shall be at a 3:1 ratio with trees in a minimum box size of 36 inches.

**Verification:** Applicant shall incorporate mitigation for the removal of native trees, at the specified size and ratio, in the landscape plan to be submitted in response to condition of certification **VIS-3**.

## **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** Prior to the start of rough grading, the project owner shall notify all residents within one mile of the site of the start of construction and will provide a complaint resolution process.

**Verification:** The project owner shall provide the CPM with a statement, attesting that the above notification has been performed.

**NOISE-3** 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-4** Night construction activities may be authorized by the CPM if they are consistent with local noise ordinances. Specific night construction activities will be disallowed by the CPM if it results in significant impact to the surrounding community.

**Verification:** The applicant will not perform construction activities that would exceed the City's noise standards (e.g., steam blows, operation of backhoes, tractors, scrapers, graders, heavy trucks, bulldozers, pneumatic tools, pile drivers, jackhammers, and rock drills, etc.) during the hours of 10 PM to 7 AM. Noise monitoring and surveys may be conducted if complaints are reported by residence in the surrounding area of the project site.

## **PALEONTOLOGICAL RESOURCES**

**PALEO-1** Standard Condition is not applicable to this project.

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

1. Provide a paleontological specialist who will have access to the site and linear rights-of-way at any time prior to and during ground disturbance.
2. The paleontological 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 paleontological specialist has the authority to halt construction at a location if a significant paleontological resource is found. If resources are discovered and the 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 paleontological specialist to protect significant resource finds and pay all fees necessary to protect any significant resources.

**Verification:** Throughout construction, the project owner shall inform the CPM concerning any substantive activity related to items 1 through 4 above.

**PALEO-3** A qualified paleontologist must conduct a survey of the site and its surrounding area before construction begins. A new literature search is not required.

**Verification:** Prior to construction, the project owner shall submit the paleontologist's report to the CEC. The report should contain specific recommendations regarding construction monitoring.

## **SOIL & WATER RESOURCES**

**SOIL&WATER-1** Prior to ground disturbance, the project owner shall obtain CPM approval of a Storm Water Pollution Prevention Plan (SWPPP) as required under the General Storm Water Construction Activity Permit for the project.

**Verification:** Prior to ground disturbance, the project owner will submit a copy of the Storm Water Pollution Prevention Plan for the project to the CPM

**SOIL&WATER-2** Prior to ground disturbance, the project owner shall obtain CPM approval of an Erosion Prevention and Sedimentation Control Plan.

**Verification:** The Erosion Control and Storm Water Management Plan for the project shall be submitted to the CPM prior to ground disturbance.

**SOIL&WATER-3** Prior to site mobilization, the project owner shall submit to the 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:** The water service agreement or well permit shall be submitted to the CPM prior to site mobilization.

**SOIL& WATER-4** Prior to operation, the project owner shall submit to the CPM a copy of a valid permit or agreement from the appropriate approving agency for closure of the well on site.

**Verification:** The permit or agreement for well closure shall be submitted to the CPM prior to operation.

**SOIL& WATER-5** Prior to operation, 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 operation.

**SOIL& WATER-6** Prior to construction, the project owner shall submit to the CPM, a copy of the completed geo technical report.

**Verification:** The geo-technical report for the project shall be submitted to the CPM prior to ground disturbance.

**SOIL&WATER-7** During construction and plant operation the project owner will adhere to all applicable Federal, State and Local Laws, Ordinances, Regulations and Standards concerning stormwater management and discharge.

**Verification:** Prior to ground disturbance, the project owner will submit a copy of the Storm Water Pollution Prevention Plan for the project to the CPM.

## **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.

## **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** The project owner shall design and install all lighting such that light bulbs and reflectors are not visible from public viewing areas and illumination of the vicinity and the nighttime sky is minimized. Lighting must also be installed consistent with any local requirements.

**Verification:** The project owner shall inform the CPM of any complaints concerning lighting and when measures have been taken to correct the problem.

**VIS-3** To minimize the cumulative impact of lighting for this project, and the existing Gilroy Co-Gen facility, the applicant shall shield existing lighting to eliminate light trespass off the site.

**Verification:** Within 30 days after certification the applicant shall provide the CPM an evaluation of the lighting at the existing Gilroy Co-Gen facility. The evaluation will determine if existing lighting can be minimized, consistent with safe working light levels, through the use of motion detectors or other controls, and indicate the specific measures the applicant will take to reduce the overall lighting of the existing facility and the schedule for their implementation.

**VIS-4** 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.

## **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 AND FIRE 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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**CALPINE GILROY CITY LM6000 PROJECT  
EMERGENCY PERMIT EVALUATION  
PREPARATION TEAM  
CALIFORNIA ENERGY COMMISSION**

Bob Eller ..... Project Manager  
Mary Dyas..... Project Assistant  
Jeff Ogata ..... Legal Counsel  
Christian Huntley..... Compliance Manager  
Paul Shattuck..... Cultural Resources  
Horacio Ferriz, Ph.D. .... Paleontologic Resources  
Nick Kautzman..... Biological Resources  
Tami Borton ..... Land Use, Noise, Transportation, Visual  
Rick Tyler ..... Hazardous Materials Management  
Steve Baker ..... Facility Design  
Mark Hesters..... Transmission Engineering



## **APPENDIX A**

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### **PRELIMINARY DETERMINATION OF COMPLIANCE**



## NOTICE INVITING WRITTEN PUBLIC COMMENT

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Notice is hereby given that the Air Pollution Control Officer of the Bay Area Air Quality Management District plans to issue an Authority to Construct Permit for application number 2686 for the construction of **Three Combustion Gas Turbines** at the **Calpine Gilroy Power Plant** after the close of the public comment period of 30 days. These units will be natural gas fired "peakers" limited to 3900 hours of operation per year. This power plant is located on Pacheco Pass Highway, east of Highway 101, adjacent to Gilroy Foods.

The proposed power plant is projected to emit the following maximum quantities of regulated air pollutants:

<b>NITROGEN OXIDES</b>	<b>39.5 TONS PER YEAR</b>
Carbon Monoxide	36.0 tons per year
Particulate Matter (PM <sub>10</sub> )	14.7 tons per year
<b>PRECURSOR ORGANIC COMPOUNDS</b>	<b>6.9 TONS PER YEAR</b>
Sulfur Dioxide	1.9 tons per year

The emissions of nitrogen oxides, carbon monoxide, particulate matter (PM<sub>10</sub>), precursor organic compounds, and sulfur dioxide associated with this project trigger the Best Available Control Technology (BACT) requirement of District Regulation 2-2-301.1. The emissions of nitrogen oxides and precursor organic compounds associated with this project trigger the emission-offset requirements of District Regulation 2-2-302.

Pursuant to District Regulation 2-2-405, the Air Pollution Control Officer invites written public comment on this project and its intended action.

The District's Preliminary Determination of Compliance document is available for public inspection at the following locations:

P I & E Office  
BAAQMD, 5<sup>th</sup> floor  
939 Ellis Street  
San Francisco, CA 94109

Santa Clara County Permit Assistance Center  
70 West Hedding, East Wing, 6<sup>th</sup> Floor  
San Jose, CA 95110

This document is also available on the District Website at [www.baaqmd.gov](http://www.baaqmd.gov). Written comments should be directed to Dick Wocasek of the District Permit Services Division by June 6, 2001.

Dated at San Francisco, the 1st day of May 2001.

Ellen Garvey  
Executive Officer/Air Pollution Control Officer  
Bay Area Air Quality Management District



# **PRELIMINARY DETERMINATION OF COMPLIANCE ENGINEERING EVALUATION OF APPLICATION NO. 2686**

## **GILROY ENERGY CENTER LM6000 PHASE I PROJECT PLANT #11180**

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### **BACKGROUND**

Gilroy Energy Center LLC (GEC) is proposing to construct a 135-megawatt peaking power plant. The facility will consist of three simple-cycle, gas-fired combustion turbine and will be located at the Calpine Gilroy Power Plant, Gilroy, Santa Clara County, California.

### **FACILITY DESCRIPTION (LOCATION, INDUSTRY, AND OWNERSHIP):**

The Gilroy City LM6000 project site is located on Pacheco Pass Highway, east of Highway 101, adjacent to Gilroy Foods. The existing 120 MW combined cycle cogeneration plant generates electricity and supplies steam to Gilroy Foods for use in its manufacturing processes.

The Gilroy City LM6000 project will generate electricity for sale into the electrical grid. The 135-megawatt peaking facility will be dispatched under contract with the California Independent System Operator (ISO). This plant will supply electricity during times of peak summer and winter demand.

### **PROJECT DESCRIPTION:**

This project is the first phase of the Gilroy City LM6000 project expansion, which will ultimately be a peaking power plant with an electrical generation capacity of approximately 270 megawatts (MW). Gilroy City LM6000 project Phase I will consist of the following equipment proposed for installation/operation at their facility:

- S-3 Gas Turbine with water injection or dry low NOx burners, General Electric LM6000PC, natural gas fired, 45 MW net simple-cycle, maximum heat input rating is 467.6 MMBtu/hour; abated by A-3 Oxidation Catalyst, and A-4 Selective Catalytic Reduction System.
- S-4 Gas Turbine with water injection or dry low NOx burners, General Electric LM6000PC, natural gas fired, 45 MW net simple-cycle, maximum heat input rating is 467.6 MMBtu/hour; abated by A-5 Oxidation Catalyst, and A-6 Selective Catalytic Reduction System.
- S-5 Gas Turbine with water injection or dry low NOx burners, General Electric LM6000PC, natural gas fired, 45 MW net simple-cycle, maximum heat input

rating is 467.6 MMBtu/hour; abated by A-7 Oxidation Catalyst, and A-8 Selective Catalytic Reduction System.

On April 25, 2001, Calpine submitted an Application for Certification (AFC) for Gilroy Energy Center LM6000 project Phase I to the CEC. The CEC has assigned the project Docket No. 01-EP-8.

Calpine is seeking approval to construct Phase I of the Gilroy Energy Center LM6000 project under the expedited permitting process of Section 25705 of the Public Resources Code. The section was enacted in September 2000 and provides for a 21-day certification process for simple-cycle thermal power plants and related facilities that can be put into service by September 30, 2001.

The CEC is reviewing this project under an accelerated schedule in accordance with Executive Order D-26-01 (which requires the CEC to issue a license within 4 months of application) and D-28-01 (which directs all state agencies to: 1) expedite covered application; and 2) follow substantive requirements for environmental protection and protection of public health & safety). Pursuant to these Orders, the District is expediting this permit to the extent possible consistent with a complete review.

The normal CEC site certification process is functionally equivalent to the environmental review required under the California Environmental Quality Act (CEQA). As such, the CEC is the CEQA Lead Agency. The Governor has declared that projects covered by Executive Order D-26-01 and D-28-01, however, are emergency projects under Public Resources Code §21080(b)(4), and are thereby exempt from the requirements of CEQA.

Calpine has requested that fuel use and emissions from the three simple-cycle LM6000 proposed under Gilroy Energy Center LM6000 Phase I project be limited to the equivalent of 3,900 hours of baseload operation per turbine per year. As a result, the project does not trigger federal Prevention of Significant Deterioration (PSD) requirements. The operation has been limited to less than the PSD triggers of 40 tons/yr. on NOx and 15 tons/yr. of PM10

### **Emissions Calculations:**

#### *Worst-Case Hourly Emission Estimates from the Turbine Vendor:*

The baseload emission rates were furnished by the applicant based on BACT concentration levels, vendor guarantees and natural gas sulfur content.

#### *Baseload Hourly Emissions Estimates, lb/hour-turbine*

<b>NOx</b>	<b>POC</b>	<b>PM10</b>	<b>CO</b>	<b>SO2</b>
8.4	1.17	2.5	6.13	0.33

The start-up/shutdown (non-baseload) data is based on information provided by the manufacturer and submitted to the CEC for the United Golden Gate Project which uses

the same make and model gas turbine. A start-up is anticipated to take an average of ten minutes for a simple cycle turbine. S&S Energy Products, a General Electric Power Systems Business provided hourly and start-up emission estimates.

General Electric Start-up/Stop Emissions, lb-turbine/hour-start/stop

<b>NOx</b>	<b>POC</b>	<b>PM10</b>	<b>CO</b>	<b>SO2</b>
7.7	0.68	2.5	7.7	0.33

Theoretical Hourly Emission Rates based on Allowable BACT Concentration Emission Limits (at 100% load):

NOx, CO, POC, and ammonia are all limited by BACT and enforceable permit conditions to not exceed certain exhaust concentrations. BACT for SO2 and PM10 is the exclusive use of clean-burning natural gas. The exhaust concentration, in ppmv, is not specifically limited for SO2 and PM10, so the hourly emission rate will be taken to be those values provided by natural gas composition and General Electric, respectively.

**NOx emissions.** The applicant has requested a NOx emission limit of 5.0 ppmv, which is considered BACT for this size gas turbine. The NOx emissions from the turbine will be limited by permit condition to 5.0 ppmv, dry @ 15% O2. This concentration is converted to a mass emission factor as follows:

$$(5.0 \text{ ppmvd})(20.95-0)/(20.95 - 15) = 17.61 \text{ ppmv NOx, dry @ 0\% O}_2$$

$$(17.61/1,000,000)(1 \text{ lbmol}/385.3 \text{ dscf})(46.01 \text{ lb NOx (as NO}_2\text{)}/\text{lbmol})(8600 \text{ dscf/MMBtu}) = 0.0181 \text{ lb NO}_2\text{/MMBtu}$$

The NOx mass emission rate based on the maximum firing rate of the turbine is calculated as follows:

$$(0.018 \text{ lb NOx/MMBtu})(467.6 \text{ MMBtu/hr}) = \mathbf{8.42 \text{ lb NOx/hr}}$$

**CO emissions.** The CO emissions from each turbine will be limited by permit condition to 6.0 ppmv, dry @ 15% O2. The CO mass emission rate based on the maximum firing rate of the turbine is calculated as follows based on 6.0 ppmvd @ 15% O2:

$$(0.0131 \text{ lb CO/MMBtu})(467.6 \text{ MMBtu/hr}) = \mathbf{6.13 \text{ lb CO/hr}}$$

The POC emission from the turbine will be limited by permit condition to 2.0 ppmv, dry @ 15% O2. The POC mass emission rate based on the maximum firing rate of the turbine is calculated as follows based on 2.0 ppmvd @ 15% O2:

$$(0.0025 \text{ lb POC/MMBtu})(467.6 \text{ MMBtu/hr}) = \mathbf{1.17 \text{ lb POC/hr}}$$

**Ammonia emissions.** The ammonia (NH3) mass emission rate from the turbine will be limited by permit condition to 10.0 ppmv, dry @ 15% O2. The NH3 mass emission rate

based on the maximum firing rate of the turbine is calculated as follows based on 10.0 ppmv @ 15% O<sub>2</sub>:

$$(0.0133 \text{ lb NH}_3/\text{MMBtu})(467.6 \text{ MMBtu/hr}) = \mathbf{6.22 \text{ lb NH}_3/\text{hr}}$$

### **Maximum Daily Emissions, lb/day:**

Maximum daily emissions are estimated based on 24 hours of worst-case emission rates. The worst-case daily emission rate is either: a day, which includes a startup/shutdown, with the balance of the daily operations based on 100% load (33.8 F ambient temperature) or 100% load for 24 hours. The baseload hourly emission estimates are based on allowable BACT concentration emission limits at 100% load. The start/stop hourly emission estimates are based on the emission estimates provided by the turbine vendor. These values are for one turbine.

$$\text{NO}_x = (7.7 \text{ lb/hr-start/stop})(1 \text{ start}) + (8.4 \text{ lb/hr-baseload})(23 \text{ hr}) = 200.9 \text{ lb/day NO}_x$$

$$\text{or } (8.4 \text{ lb/hr-baseload})(24 \text{ hr}) = 201.6 \text{ lb/day NO}_x$$

$$\text{CO} = (7.7 \text{ lb/hr-start/stop})(1 \text{ start}) + (6.13 \text{ lb/hr-baseload})(23 \text{ hr}) = 148.7 \text{ lb/day CO}$$

$$\text{POC} = (0.68 \text{ lb/hr-start/stop})(1 \text{ start}) + (1.17 \text{ lb/hr-baseload})(23 \text{ hr}) = 27.6 \text{ lb/day POC}$$

$$\text{or } (1.17 \text{ lb/hr-baseload})(24 \text{ hr}) = 28.1 \text{ lb/day POC}$$

$$\text{PM}_{10} = (2.5 \text{ lb/hr-start/stop})(1 \text{ start}) + (2.5 \text{ lb/hr-baseload})(23 \text{ hr}) = 60.0 \text{ lb/day PM}_{10}$$

$$\text{SO}_2 = (0.33 \text{ lb/hr-start/stop})(1 \text{ start}) + (0.33 \text{ lb/hr-baseload})(23 \text{ hr}) = 7.9 \text{ lb/day SO}_2$$

### Annual Emissions, tons/year:

Per the application, the applicant is requesting emission limits based on nominal operation limited to 24 hours/day and fuel use equivalent to approximately 3900 hours/year of baseload operation per turbine. The NO<sub>x</sub> emissions have been capped at 39.5 tons/yr. This will be accomplished by the actual emissions being lower than the BACT level of 5.0 ppm or reducing the operating time to less than the assumed 3900 hrs/yr. The accumulated emission totals will be monitored by the Continuous Emission Monitor (CEM) system.

NO<sub>x</sub> emissions calculation:

$$[(8.4 \text{ lb/hr})(3900 \text{ hours/yr.})(3 \text{ gas turbines})](1 \text{ ton}/2000 \text{ lb}) = 49.1 \text{ tons/yr. NO}_2$$

limited by permit condition to 39.5 tons/yr. NO<sub>2</sub>

POC emissions calculation:

$$[(1.17 \text{ lb/hr})(3900 \text{ hours/yr.})(3 \text{ gas turbines})](1 \text{ ton}/2000 \text{ lb}) = 6.9 \text{ tons/yr. POC}$$

PM<sub>10</sub> emissions calculation:

$$[(2.5 \text{ lb/hr})(3900 \text{ hours/yr.})(3 \text{ gas turbines})](1 \text{ ton}/2000 \text{ lb}) = 14.7 \text{ tons/yr. PM}_{10}$$

CO emissions calculation:

$$[(6.13 \text{ lb/hr})(3900 \text{ hours/yr.})(3 \text{ gas turbines})](1 \text{ ton}/2000 \text{ lb}) = 36.0 \text{ tons/yr. CO}$$

SO2 emissions calculation:

$$[(0.33 \text{ lb/hr})(3900 \text{ hours/yr.})(3 \text{ gas turbines})](1 \text{ ton}/2000 \text{ lb}) = 1.9 \text{ tons/yr. SO2}$$

Permitted Maximum Annual Emissions, tons/yr.

<b>NO2</b>	<b>POC</b>	<b>PM10</b>	<b>CO</b>	<b>SO2</b>
39.5	6.9	14.7	36.0	1.9

### **Compliance Determination:**

The following section summarizes the applicable District Rules and Regulations and describes how the proposed project will comply with those requirements.

## **A. Regulation 2, Rule 2; New Source Review**

The primary requirements of New Source Review that apply to the proposed Gilroy Energy Center LM6000 project facility are Section 2-2-301; “Best Available Control Technology Requirement”, Section 2-2-302; “Offset Requirements, Precursor Organic Compounds and Nitrogen Oxides, NSR”, and Section 2-2-303; “Offset Requirement, PM<sub>10</sub> and Sulfur Dioxide, NSR” and Section 2-2-304, “PSD Requirements”.

### **Best Available Control Technology (BACT) Determinations**

The following section includes BACT determinations by pollutant for the permitted sources of the proposed project.

#### **Air Pollution Control Strategies and Equipment**

The proposed facility includes sources that trigger the Best Available Control Technology (BACT) requirement of New Source Review (District Regulation 2, Rule 2, NSR) for emissions of nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO), precursor organic compounds (POC), sulfur dioxide (SO<sub>2</sub>), and particulate matter of less than 10 microns in diameter (PM<sub>10</sub>).

The NO<sub>x</sub>, CO and oxygen concentrations will be monitored continuously using a continuous emissions monitor (CEM). Therefore, emission concentrations of NO<sub>x</sub> and CO will be limited to parts per million (ppm) emissions concentrations in the permit conditions. A pound per million Btu emission factor for POC is proposed to limit further limits the emissions.

## Nitrogen Oxides (NO<sub>x</sub>)

District BACT Guideline 89.1.2, dated 8/28/00, specifies BACT1 (technologically feasible/cost-effective) for NO<sub>x</sub> for a simple-cycle gas turbine with a power rating  $\geq$  50 MW as NO<sub>x</sub> emissions  $<$  5.0 ppmvd @ 15% O<sub>2</sub>, achieved through the use of Selective Catalytic Reduction (SCR) with ammonia injection in conjunction with combustion modifications and water injection. BACT2 (achieved in practice) is  $\leq$  5.0 ppmvd @ 15% O<sub>2</sub>.

Two relatively new technologies are capable of controlling NO<sub>x</sub> emissions from a gas turbine to 2 ppmv or below. These are SCONO<sub>x</sub>, manufactured by Goal Line Environmental Technologies, and XONON, manufactured by Catalytica, Inc. The District has reviewed these technologies to determine if they are appropriate for this application. It appears that while both of these innovative approaches to emission control show great promise for the future, and may currently be appropriate for other types of projects, neither option can be considered technologically feasible for the type and operating conditions of equipment to be installed for this project.

SCONO<sub>x</sub> is the more established of the two technologies. This system uses a potassium carbonate coated catalyst to remove both NO<sub>x</sub> and CO, without the use of a reagent such as ammonia. There is one system in commercial operation on a gas turbine of comparable size to this project.

However, SCONO<sub>x</sub> is installed on a combined-cycle electrical generation system, which typically has outlet temperatures below 400 degrees F. This project will be a simple-cycle system, with outlet temperatures exceeding 850 degrees F. We are not aware of any SCONO<sub>x</sub> applications on turbines with outlet temperatures that high, and Goal Line's Technical Paper describing the system lists acceptable temperature range as 300 to 700 degrees F. Based on this information, we do not believe that SCONO<sub>x</sub> represents a technologically feasible control option for this project.

XONON, developed by Catalytica, Inc., is another promising new technology for NO<sub>x</sub> emissions control. This technology uses a flameless catalyst located inside the combustion chamber itself, which allows for the combustion reaction to proceed at a lower temperature than in conventional turbines, thus preventing the formation of NO<sub>x</sub>.

At the present time, the commercial availability of this technology is extremely limited. To date, we are aware of only one application, a 1.5 MW turbine in Santa Clara, California. There is no information available regarding the operation of such a system on a turbine the size of the one to be installed at this project, which is over 30 times larger. Based on this information, we do not believe that XONON represents a technologically feasible control option for this project.

Water will be injected into the turbine combustor to reduce NO<sub>x</sub> emissions at the combustor exhaust. Aqueous ammonia is injected into the SCR catalyst to control exiting stack emissions to less than 5.0 ppmvd NO<sub>x</sub> @ 15% O<sub>2</sub>. The ammonia slip will be limited by permit condition to 10.0 ppmv. This seems acceptable because the applicant is proposing to reduce NO<sub>x</sub> emissions and the averaging times below those

levels required by current District BACT, so some allowance for ammonia slip is appropriate. The applicant has requested a NO<sub>x</sub> limit of 5.0 ppmv. Since SCR, controlling NO<sub>x</sub> emissions to 5.0 ppmv corrected to 15% oxygen, represents a control technology that is technologically feasible, cost-effective, and achieved in practice in a wide variety of applications, it represents BACT for the project. This will comply with BACT.

### **Carbon Monoxide (CO)**

District BACT Guideline 89.1.2, dated 8/28/00, specifies BACT (achieved in practice) for CO for a gas turbine with a power rating > 50 MW as CO emissions < 10.0 ppmvd @ 15% O<sub>2</sub>, achieved through the use of Selective Catalytic Reduction (SCR) with ammonia injection in conjunction with combustion modifications.

The CO emissions from the combustion turbine will be reduced through the use of an oxidation catalyst to less than 6.0 ppmvd CO @ 15% O<sub>2</sub>. CO emissions are also minimized through the use of best combustion practices and "clean burning" natural gas. This will comply with BACT.

### **Precursor Organic Compounds (POCs)**

District BACT Guideline 89.1.2, dated 8/28/00, specifies BACT (achieved in practice) for POC for a gas turbine with a power rating > 50 MW as POC emissions < 2.0 ppmvd @ 15% O<sub>2</sub>, achieved through the use of Selective Catalytic Reduction (SCR) with ammonia injection in conjunction with combustion modifications.

Because CEMs for organic compounds only measure carbon (as C<sub>1</sub>), it is not possible to determine non-methane/ethane hydrocarbon concentrations on a real-time basis. As a result, a continuous emission concentration limitation as BACT for POC is not feasible. Therefore, BACT for POC is deemed to be a mass emission rate limitation to be verified by annual source testing. The POC emissions from the combustion turbine will be reduced to less than 2.0 ppmvd through the use of an oxidation catalyst. POC emissions are also minimized through the use of best combustion practices and "clean burning" natural gas.

### **Sulfur Dioxide (SO<sub>2</sub>)**

District BACT Guideline 89.1.2, dated 8/28/00, specifies BACT (achieved in practice) for POC for a gas turbine with a rated heat input > 2.0 MW and < 50 MW as the exclusive use of clean-burning natural gas. The proposed turbines will utilize natural gas exclusively, which will result in minimal SO<sub>2</sub> emissions. The gas turbines will utilize natural gas exclusively to minimize SO<sub>2</sub> emissions. Because the emission rate of SO<sub>2</sub> depends on the sulfur content of the fuel burned and is not dependent upon the burner type or other combustion characteristics, the use of natural gas will result in the lowest possible emission of SO<sub>2</sub>.

## Particulate Matter (PM<sub>10</sub>)

District BACT Guideline 89.1.2, dated 8/28/00, specifies BACT (achieved in practice) for POC for a gas turbine with a rated heat input  $\geq$  2.0 MW and < 50 MW as the exclusive use of clean-burning natural gas. The proposed turbines will utilize natural gas exclusively, which will result in minimal nitrate and sulfate particulate formation. The gas turbines will utilize natural gas exclusively to minimize PM<sub>10</sub> emissions. PM<sub>10</sub> emissions are minimized through the use of best combustion practices and "clean burning" natural gas.

## Emission Offsets

### General Requirements

Pursuant to Regulation 2-2-302, federally-enforceable emission reduction credits are required for NO<sub>x</sub> and POC increases at a ratio of 1.15. The applicant has demonstrated that it possesses sufficient valid offsets for this project, and will submit certificates before the authority to construct is issued. The applicant has requested that emission reduction credit submittal be postponed in order to allow it to seek local sources of offsets.

### Permitted Maximum Annual Emissions, tons/yr.

<b>Pollutant</b>	<b>NO<sub>x</sub></b>	<b>SO<sub>2</sub></b>	<b>CO</b>	<b>POC</b>	<b>PM<sub>10</sub></b>
Potential to Emit Existing Turbine (tpy)	324	3	52	10	25*
Net Increase in Emissions LM6000 (tpy)	39.5	2.02	36	6.9	14.8
Total Facility Potential to Emit (tpy)	363.5	5	8	17	39.7
Facility Threshold (tpy)	15	100	n/a	15	100
Offsets Required (tpy)	45.4	0	n/a	7.9	0
Offsets available (tpy) Certificate Number	142.21 ERC 727			88.04 ERC 728	

\*From Title V permit.

## Prevention of Significant Deterioration, PSD

Pursuant to Regulation 2-2-221, a PSD air quality analysis is not required because this facility emits less than the trigger levels listed below for NO<sub>x</sub>, POC, PM<sub>10</sub>, CO and SO<sub>2</sub>. As such, the project is not a major modification of a stationary source and will not be subject to PSD review for those pollutants.

<b>Pollutant</b>	<b>Trigger Level (tpy)</b>	<b>Project Emissions (tpy)</b>
NO <sub>x</sub> :	40	39.5
POC:	40	6.9
PM <sub>10</sub> :	15	14.7
CO:	100	36.0
SO <sub>2</sub> :	40	2.0

### Public Nortek, Comment and Inspection

Because the California Energy Commission has accepted an Application for Certification for this plant, the plant is subject to the District Power Plant Regulation 2-3. Per Regulation 2-3-404, this project is required to undergo Public Notice, Comment and Public Inspection. The APCO shall within 10 days of the notification of the applicant, cause to have published in at least one newspaper of general circulation within the District, a prominent notice stating the preliminary decision of the APCO, the location of the information available, and inviting written public comment for a 30 day period.

### **CEQA Analysis**

Per District Regulation 2-1-310, except for permit applications which will be reviewed as ministerial projects under Section 2-1-311 or which are exempt from California Environmental Quality Act (CEQA) pursuant to Section 2-1-312, all proposed new and modified sources for which an authority to construct must be obtained from the District shall be reviewed in accordance with the requirements of CEQA. For this project, the Lead Agency under CEQA is the California Energy Commission (CEC). However, under the present emergency orders this project is exempt from CEQA.

Gilroy Energy Center filed the original Application for Certification (AFC) for Phase I of this project on April 26, 2001. The CEC staff has now begun its independent data discovery and analysis phases. These phases will include a number of public workshops and hearings. Under the terms of present emergency orders, the CEC's review process is expected to be completed within three weeks.

Aqueous ammonia will be used as the reagent in the SCR system. Deliveries will be made by tanker trucks and stored in an aboveground storage tank. Gilroy Energy Center LM6000 project Phase I will use existing connections at the adjacent cogeneration power plant for natural gas supply, transmission interconnection, and water supply. Gilroy Energy Center LM6000 project Phase I will also make use of existing potable water and sanitary water systems.

### **Environmental Impacts of Ammonia Slip from the Use of SCR:**

Gas turbines using SCR have typically been limited to 10 ppmv, however single-digit levels for ammonia slip have been proposed and guaranteed by some control equipment vendors. Use of aqueous ammonia rather than anhydrous ammonia reduces the overall risk to the public. Ammonia for SCR is stored in a tank. An accidental release from storage could pose problems to communities surrounding the plant. Aqueous and

anhydrous ammonia are the two types of ammonia typically used for ammonia injection. The aqueous form is safer and is proposed for this project.

A health risk assessment by the District using air dispersion modeling showed an acute hazard index of 0.006 and a chronic hazard index of 0.0096 resulting from the ammonia slip emissions. In accordance with the District Toxic Risk Management Policy and currently accepted practice, a hazard index of 1.0 or above is considered significant. Therefore, the toxic impact of the ammonia slip resulting from the use of SCR is deemed to be not significant and is not a sufficient reason to eliminate SCR as a control alternative.

The ammonia emissions resulting from the use of SCR may have another environmental impact through its potential to form secondary particulate matter such as ammonium nitrate. Because of the complex nature of the chemical reactions and dynamics involved in the formation of secondary particulate, it is difficult to estimate the amount of secondary particulate matter that will be formed from the emission of a given amount of ammonia. However, it is the opinion of the Research and Modeling section of the District Planning Division, that the formation of ammonium nitrate in the Bay Area air basin is limited by the formation of nitric acid and not driven by the amount of ammonia in the atmosphere. Therefore, ammonia emissions from the proposed SCR system are not expected to contribute significantly to the formation of secondary particulate matter. This potential environmental impact is not considered adverse enough to justify the elimination of SCR as a control alternative.

A second potential environmental impact that may result from the use of SCR involves the storage and transport of ammonia. Although ammonia is toxic if swallowed or inhaled and can irritate or burn the skin, eyes, nose, or throat, it is a commonly used material that is typically handled safely and without incident. The applicant will be required to maintain a Risk Management Plan (RMP) and implement a Risk Management Program to prevent accidental releases. The RMP provides information on the hazards of the substance handled at the facility and the programs in place to prevent and respond to accidental releases. The accident prevention and emergency response requirements reflect existing safety regulations and sound industry safety codes and standards. Therefore, the potential environmental impact due to aqueous ammonia storage at this facility does not justify the elimination of SCR as a control alternative.

## **B. TOXIC RISK SCREEN**

Pursuant to the BAAQMD Risk Management Policy, a health risk screening must be executed to determine the potential impact on public health resulting from the worst-case emissions of toxic air contaminants (TACs) from the project. In accordance with the requirements of the BAAQMD Risk Management Policy and California Air Pollution Control Officers Association (CAPCOA) guidelines, the impact on public health due to the emission of these compounds was assessed utilizing air pollutant dispersion models.

A review of the health risk assessment submitted by the applicant for operation of a gas turbine generator peaking unit was performed by the District's Toxics Evaluation Section (see attached May 5, 2001, B. Bateman memo). The emission rates are calculated based on a total annual fuel use by the three turbines of 5,494,300 MMBtu (5,376 MMscf/yr.) and are presented in the May 5, 2001, memo. The ammonia emissions shown are based upon a worst-case ammonia emission concentration of 10 ppmvd @ 15% O<sub>2</sub> due to ammonia slip from the SCR systems. The rest of the pollutant emissions are calculated using the maximum emission factors from the California Air Toxics Emission Factor (CATEF) database available from the California Air Resources Board (CARB 1996) for gas turbines with COC/SCR controls.

The results of the District's risk screen are as follows:

Cancer Risk	Chronic Hazard Index	Acute Hazard Index
less than one in a million	0.16	0.51

These levels of risk are not considered significant. Thus, in accordance with the BAAQMD Risk Management Policy, the screen passes. Therefore, the facility is deemed to be in compliance with the BAAQMD Risk Management Policy.

## **C. OTHER APPLICABLE DISTRICT RULES AND REGULATIONS**

### ***REGULATION 1, SECTION 301: PUBLIC NUISANCE***

None of the project's proposed sources of air contaminants are expected to cause injury, detriment, nuisance, or annoyance to any considerable number of persons or the public with respect to any impacts resulting from the emission of air contaminants regulated by the District. In part, the air quality impact analysis is designed to insure that the proposed facility will comply with this Regulation.

### ***REGULATION 2, RULE 1, SECTIONS 301 AND 302:***

#### **AUTHORITY TO CONSTRUCT AND PERMIT TO OPERATE**

Pursuant to Regulation 2-1-301 and 2-1-302, the applicant has submitted an application to the District to obtain an Authority to Construct and Permit to Operate for the proposed S-3, 4 and 5 Gas Turbine.

### ***REGULATION 2, RULE 2, SECTION 307:***

#### **COMPLIANCE CERTIFICATION**

Pursuant to BAAQMD Regulation 2-2-307, prior to the District issuing the Authority to Construct Permit the applicant is required to submit a certified list of California facilities owned or operated by the applicant and must further certify that these facilities are either in compliance or are on a Schedule of Compliance with all applicable state and

federal emissions limits and standards. The applicant has submitted this certification to the District.

## **REGULATION 2, RULE 3:**

### **POWER PLANTS**

Pursuant to Regulation 2-3-101, this rule applies to power plants for which the California Energy Commission (CEC) has accepted a Notice of Initiation or Application for Certification. On April 26, 2001, Calpine submitted an Application for Certification (AFC) for Gilroy Energy Center LM6000 project Phase I to the CEC. The CEC has assigned the project Docket No. 01-EP-8.

These procedural requirements in Regulation 2, Rule 3 will be met before issuance.

## ***REGULATION 2, RULE 6:***

### **MAJOR FACILITY REVIEW**

Title V of the 1990 Clean Air Act Amendments (CAAA) required states to implement and administer a source-wide operating permit program consistent with the provisions of Title 40, Code of Federal Regulations (CFR), Part 70. The BAAQMD has been delegated authority to administer the Title V program through Rule 2-6.

Pursuant to 40 CFR 72, the new units may not be operated before either the acid rain permit is issued, or 24 months after the acid rain permit application is submitted whichever is first. Because the acid rain permit will be issued as a modification of the Title V permit, the new units may not be operated before the modified Title V permit is issued. The application to modify the existing Title V permit has not yet been submitted as of May 8, 2001.

## ***REGULATION 2, RULE 7:***

### **ACID RAIN**

Per the definition of Phase II Acid Rain Facility in Regulation 2-6-217.1, this facility is a Phase II Acid Rain Facility. This project will be subject to the requirements of Title IV of the federal Clean Air Act. The requirements of the Acid Rain Program are outlined in 40 CFR Part 72, 73, and 75. The specifications for the type and operation of continuous emission monitors (CEMs) for pollutants that contribute to the formation of acid rain are given in 40 CFR Part 75.

District Regulation 2, Rule 7 incorporates by reference the provisions of 40 CFR Part 72 and administers the program in concert with the Title V Operating Permits Program (Rule 2-6).

*The facility must obtain an Acid Rain Permit from the BAAQMD prior to the date on which the unit commences operation.* The District has been delegated authority to issue Acid Rain permits.

The project will be subject to the following general requirements under the acid rain program:

- Duty to apply for a modification to the Acid Rain Permit.
- Compliance with SO<sub>2</sub> and NO<sub>x</sub> emission limits.
- Duty to obtain required SO<sub>2</sub> allowances.
- Duty to install, operate and certify Continuous Emission Monitoring Systems (CEMs) to demonstrate compliance with the acid rain requirements.

The applicant will secure the required SO<sub>2</sub> allowances and will perform the required emission monitoring. Monitoring plans will be submitted as required by EPA rules.

### ***REGULATION 6:***

#### **PARTICULATE MATTER AND VISIBLE EMISSIONS**

Through the use of dry low-NO<sub>x</sub> burner technology and proper combustion practices, the combustion of natural gas at the proposed gas turbine is not expected to result in visible emissions. Specifically, the facility's combustion sources are expected to comply with Regulation 6, including sections 301 (Ringelmann No. 1 Limitation), 302 (Opacity Limitation) with visible emissions not to exceed 20% opacity, and 310 (Particulate Weight Limitation) with particulate matter emissions of less than 0.15 grains per dry standard cubic foot of exhaust gas volume.

### ***REGULATION 7:***

#### **ODOROUS SUBSTANCES**

Regulation 7-302 prohibits the discharge of odorous substances, which remain odorous beyond the facility property line after dilution with four parts odor-free air. Regulation 7-302 limits ammonia emissions to 5000 ppm. Because the ammonia emissions from the proposed SCR system will each be limited by permit condition to 10 ppmvd @ 15% O<sub>2</sub>, the facility is expected to comply with the requirements of Regulation 7.

### ***REGULATION 8:***

#### **ORGANIC COMPOUNDS**

This facility is exempt from Regulation 8, Rule 2, "Miscellaneous Operations" per 8-2-110 since natural gas will be fired exclusively at the project.

## **REGULATION 9:**

### **INORGANIC GASEOUS POLLUTANTS**

#### Regulation 9, Rule 1, Sulfur Dioxide

This regulation establishes emission limits for sulfur dioxide from all sources and applies to the combustion sources at this facility. Section 301 (Limitations on Ground Level Concentrations) prohibits emissions which would result in ground level SO<sub>2</sub> concentrations in excess of 0.5 ppm continuously for 3 consecutive minutes, 0.25 ppm averaged over 60 consecutive minutes, or 0.05 ppm averaged over 24 hours. Section 302 (General Emission Limitation) prohibits SO<sub>2</sub> emissions in excess of 300 ppm (dry). The gas turbine is not expected to contribute to noncompliance with ground level SO<sub>2</sub> concentrations and should easily comply with section 302.

#### Regulation 9, Rule 3, Nitrogen Oxides from Heat Transfer Operations

The proposed combustion gas turbine shall comply with the Regulation 9-3-303 NO<sub>x</sub> limit of 125 ppm with nitrogen oxide emissions of 5.0 ppmvd @ 15% O<sub>2</sub>.

#### Regulation 9, Rule 9, Nitrogen Oxides from Stationary Gas Turbines

Because the proposed combustion gas turbine will be limited by permit condition to NO<sub>x</sub> emissions of 5.0 ppmvd @ 15% O<sub>2</sub>, it is expected to comply with the Regulation 9-9-301.3 NO<sub>x</sub> limitation of 9 ppmvd @ 15% O<sub>2</sub>.

#### Regulation 9, Rule 11, Nitrogen Oxides and Carbon Monoxide from Electric Power Generating Steam Boilers

This rule does not apply because this project does not utilize a boiler.

## **REGULATION 10:**

### **NEW SOURCE PERFORMANCE STANDARDS (NSPS)**

This regulation incorporates the federal NSPS.

Subpart A General Provisions provides the general framework for NSPS. Subpart Db Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units does not apply because this project does not utilize duct burners.

Subpart GG Standards of Performance for Stationary Gas Turbines – contains NO<sub>x</sub> and SO<sub>x</sub> emission limits, as well as monitoring and testing requirements for combustion turbines. The project emissions will be well below the applicable NO<sub>x</sub> and SO<sub>2</sub> emissions limits. The Applicant will comply with emission and fuel monitoring requirements, and monitoring plans will be submitted, as required. The applicable requirements will be incorporated into the Title V permit.

## Section 112 of the Clean Air Act, National Emission Standards for Hazardous Air Pollutants (NESHAP)

These standards are contained in 40 CFR Parts 61 and 63 and are not applicable to the proposed project.

### IV PERMIT CONDITIONS

#### ***DEFINITIONS:***

Clock Hour:	Any continuous 60-minute period beginning on the hour.
Calendar Day:	Any continuous 24-hour period beginning at 12:00 AM or 0000 hours.
Year:	Any consecutive twelve-month period of time
Heat Input:	All heat inputs refer to the heat input at the higher heating value (HHV) of the fuel, in Btu/scf.
Firing Hours:	Period of time, during which fuel is flowing to a unit, measured in fifteen-minute increments.
MM Btu:	million British thermal units
Gas Turbine Start-up Mode:	The time beginning with the introduction of continuous fuel flow to the Gas Turbine until the requirements listed in Condition 19 are met, but not to exceed 60 minutes.
Gas Turbine Shutdown Mode:	The time from non-compliance with any requirement listed in Condition 19 until termination of fuel flow to the Gas Turbine, but not to exceed 30 minutes.
Corrected Concentration:	The concentration of any pollutant (generally NO <sub>x</sub> , CO or NH <sub>3</sub> ) corrected to a standard stack gas oxygen concentration. For an emission point (exhaust of a Gas Turbine) the standard stack gas oxygen concentration is 15% O <sub>2</sub> by volume on a dry basis
Commissioning Activities:	All testing, adjustment, tuning, and calibration activities recommended by the equipment manufacturers and the construction contractor to insure safe and reliable steady state operation of the gas turbines, heat recovery steam generators, steam turbine, and associated electrical delivery systems.
Commissioning Period:	The Period shall commence when all mechanical, electrical, and control systems are installed and individual system start-up has been completed, or when a gas turbine is first fired, whichever occurs first. The period shall terminate when the plant has completed performance testing, is available for commercial operation, and has initiated sales to the power exchange.

Precursor Organic  
Compounds (POCs): Any compound of carbon, excluding methane, ethane,  
carbon monoxide, carbon dioxide, carbonic acid, metallic  
carbides or carbonates, and ammonium carbonate

CEC: California Energy Commission

### EQUIPMENT DESCRIPTION:

This Authority To Construct Is Issued And Is Valid For This Equipment Only While It Is  
In The Configuration Set Forth In The Following Description:

Installation of Three Simple-Cycle Gas Turbine Generators Consisting Of:

1. Simple Cycle Gas Turbine, General Electric, LM6000PC, Maximum Heat Input  
467.6 MMBtu/hr, Nominal Electrical Output 45 MW, Natural Gas-Fired.
2. Selective Catalytic Reduction NOx Control System.
3. Ammonia Injection System.  
(including the ammonia storage tank and control system)
4. Oxidation Catalyst System.
5. Continuous emission monitoring system (CEMS) designed to continuously record  
the measured gaseous concentrations, and calculate and continuously monitor  
and record the NOx and CO concentrations in ppmvd corrected to 15% oxygen  
on a dry basis.

### **PERMIT CONDITIONS:**

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#### **CONDITIONS FOR THE COMMISSIONING PERIOD**

1. The owner/operator of the Gilroy Energy Center shall minimize emissions of  
carbon monoxide and nitrogen oxides from S-3, S-4 and S-5 Gas Turbines to the  
maximum extent possible during the commissioning period. Conditions 1 through  
11 shall only apply during the commissioning period as defined above.
2. At the earliest feasible opportunity in accordance with the recommendations of the  
equipment manufacturers and the construction contractor, the S-3, S-4 & S-5 Gas  
Turbine combustors shall be tuned to minimize the emissions of carbon monoxide  
and nitrogen oxides.
3. At the earliest feasible opportunity in accordance with the recommendations of the  
equipment manufacturers and the construction contractor, the A-4, A-6 and A-8  
SCR Systems and A-5, A-7 & A-9 OC Systems shall be installed, adjusted, and

operated to minimize the emissions of nitrogen oxides and carbon monoxide from S-3, S-4 & S-5 Gas Turbines.

4. Coincident with the steady-state operation of A-4, A-6 & A-8 SCR Systems and A-5, A-7 & A-9 OC Systems pursuant to condition 3 the Gas Turbines (S-3, S-4 & S-5) shall comply with the NO<sub>x</sub> and CO emission limitations specified in conditions 19.1 and 19.3.
5. The owner/operator of the Gilroy Energy Center shall submit a plan to the District Permit Services Division at least two week prior to first firing of S-3, S-4 & S-5 Gas Turbines describing the procedures to be followed during the commissioning of the turbines. The plan shall include a description of each commissioning activity, the anticipated duration of each activity in hours, and the purpose of the activity. The activities described shall include, but not be limited to, the tuning of the steam or water injection or Dry-Low-NO<sub>x</sub> combustors, the installation and operation of the required emission control systems, the installation, calibration, and testing of the CO and NO<sub>x</sub> continuous emission monitors, and any activities requiring the firing of the Gas Turbines (S-3, S-4 & S-5) without abatement by their respective SCR Systems. Gas Turbines (S-3, S-4 & S-5) shall be fired no sooner than fourteen days after the District receives the commissioning plan.
6. During the commissioning period, the owner/operator of the Gilroy Energy Center LM6000 project shall demonstrate compliance with conditions 8 through 10 through the use of properly operated and maintained continuous emission monitors and data recorders for the following parameters:
  - a. firing hours
  - b. fuel flow rates
  - c. stack gas nitrogen oxide emission concentrations,
  - d. stack gas carbon monoxide emission concentrations
  - e. stack gas oxygen concentrations.

The monitored parameters shall be recorded at least once every 15 minutes (excluding normal calibration periods or when the monitored source is not in operation) for the Gas Turbines (S-3, S-4 & S-5). The owner/operator shall use District-approved methods to calculate heat input rates, nitrogen dioxide mass emission rates, carbon monoxide mass emission rates, and NO<sub>x</sub> and CO emission concentrations, summarized for each clock hour and each calendar day. All records shall be retained on site for at least 5 years from the date of entry and made available to District personnel upon request.

7. The District-approved continuous monitors specified in condition 6 shall be installed, calibrated, and operational prior to first firing of the Gas Turbines (S-3, S-4 & S-5). After first firing of the turbines, the detection range of these continuous emission monitors shall be adjusted as necessary to accurately measure the resulting range of CO and NO<sub>x</sub> emission concentrations. The type, specifications, and location of these monitors shall be subject to District review and approval.

8. The combined number of firing hours of S-3, S-4 & S-5 Gas Turbines without abatement by SCR or CO Systems shall not exceed 300 hours during the commissioning period. Such operation of S-3, S-4 & S-5 Gas Turbines without abatement shall be limited to discrete commissioning activities that can only be properly executed without the SCR or CO system in place. Upon completion of these activities, the owner/operator shall provide written notice to the District Permit Services and Enforcement Divisions and the unused balance of the 300 firing hours without abatement shall expire.
9. The total mass emissions of nitrogen oxides, carbon monoxide, precursor organic compounds, PM<sub>10</sub>, and sulfur dioxide that are emitted by the Gas Turbines (S-3, S-4 & S-5) during the commissioning period shall accrue towards the consecutive twelve-month emission limitations specified in condition 22.
10. Combined pollutant mass emissions from the Gas Turbines (S-3, S-4 & S-5) shall not exceed the following limits during the commissioning period. These emission limits shall include emissions resulting from the start-up and shutdown of the Gas Turbines (S-3, S-4 & S-5).

NO <sub>x</sub> (as NO <sub>2</sub> )	1200 pounds per calendar day	168 pounds per hour
CO	900 pounds per calendar day	92 pounds per hour
POC (as CH <sub>4</sub> )	97 pounds per calendar day	
PM <sub>10</sub>	180 pounds per calendar day	
SO <sub>2</sub>	24 pounds per calendar day	

11. Prior to the end of the Commissioning Period, the Owner/Operator shall conduct a District approved source test using external continuous emission monitors to determine compliance with condition 10. The source test shall determine NO<sub>x</sub>, CO, and POC emissions during start-up and shutdown of the gas turbines. The POC emissions shall be analyzed for methane and ethane to account for the presence of unburned natural gas. The source test shall include a minimum of three start-up and three shutdown periods. Twenty working days before the execution of the source tests, the Owner/Operator shall submit to the District a detailed source test plan designed to satisfy the requirements of this condition. The District will notify the Owner/Operator of any necessary modifications to the plan within 20 working days of receipt of the plan; otherwise, the plan shall be deemed approved. The Owner/Operator shall incorporate the District comments into the test plan. The Owner/Operator shall notify the District within seven (7) working days prior to the planned source testing date. Source test results shall be submitted to the District within 30 days of the source testing date.

**THE EQUIPMENT FOR WHICH THIS AUTHORITY TO CONSTRUCT IS ISSUED MAY BE OPERATED ONLY WHEN IN COMPLIANCE WITH THE FOLLOWING CONDITIONS:**

1. Consistency with Analyses: Operation of this equipment shall be conducted in accordance with all information submitted with the application (and supplements

thereof) and the analyses under which this permit is issued unless otherwise noted below.

2. Conflicts Between Conditions: In the event that any condition herein is determined to be in conflict with any other condition contained herein, then, if principles of law do not provide to the contrary, the condition most protective of air quality and public health and safety shall prevail to the extent feasible.
3. Reimbursement of Costs: All reasonable expenses, as set forth in the District's rules or regulations, incurred by the District for all activities that follow the issuance of this permit, including but not limited to permit condition implementation, compliance verification and emergency response, directly and necessarily related to enforcement of the permit shall be reimbursed by the owner/operator as required by the District's rules or regulations.
4. Access to Records and Facilities: As to any condition that requires for its effective enforcement the inspection of records or facilities by representatives of the District, the Air Resources Board (ARB), the U.S. Environmental Protection Agency (U.S. EPA), or the California Energy Commission (CEC), the owner/operator shall make such records available or provide access to such facilities upon notice from representatives of the District, ARB, U.S. EPA, or CEC. Access shall mean access consistent with California Health and Safety Code Section 41510 and Clean Air Act Section 114A.
5. Notification of Commencement of Operation: The owner/operator shall notify the District of the date of anticipated commencement of turbine operation not less than 10 days prior to such date. Temporary operations under this permit is granted consistent with the District's rules and regulations.
6. Operations: The gas turbine, emissions controls, CEMS and associated equipment shall be properly maintained and kept in good operating condition at all times when the equipment is in operation.
7. Visible Emissions: 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 or darker than Ringelmann 1 or equivalent 20% opacity.
8. Emissions Limits:
  - 19.1 Oxides of nitrogen (NO<sub>x</sub>) emissions from the gas turbine shall not exceed 5 ppmvd @ 15% O<sub>2</sub> (1-hour rolling average), except during periods of startup and shutdown as defined in this permit. The NO<sub>x</sub> emission concentration shall be verified by a District-approved continuous emission monitoring system (CEMS) and during any required source test. (basis: BACT)
  - 19.2 Ammonia emissions from the gas turbine shall not exceed 10 ppmvd @ 15% O<sub>2</sub> (1-hour rolling average), except during periods of startup and

shutdown as defined in this permit. The ammonia emission concentration shall be verified by the continuous recording of the ratio of the ammonia injection rate to the NO<sub>x</sub> inlet rate to the SCR control system (molar ratio). The maximum allowable NH<sub>3</sub>/NO<sub>x</sub> molar ratio shall be determined during any required source test, and shall not be exceeded until reestablished through another valid source test. (basis: BACT)

- 19.3 Carbon monoxide (CO) emissions from the gas turbine shall not exceed 6 ppmvd @ 15 % O<sub>2</sub> (1-hour rolling average), except during periods of startup and shutdown as defined in this permit. The CO emission concentration shall be verified by a District-approved CEMS and during any required source test. (basis: BACT)
- 19.4 Volatile organic compound (VOC) emissions from the gas turbine shall not exceed 2 ppmvd @ 15% O<sub>2</sub> (1-hour rolling average), except during periods of startup and shutdown as defined in this permit. The VOC emission concentration shall be verified during any required source test. (basis: BACT)
- 19.5 Particulate matter emissions less than ten microns in diameter (PM<sub>10</sub>) from the gas turbine shall not exceed 2.5 pounds per hour, except during periods of startup and shutdown as defined in this permit. The PM<sub>10</sub> mass emission rate shall be verified during any required source test. (basis: BACT & cumulative increase)
- 19.6 Oxides of sulfur emissions (SO<sub>x</sub>) from the gas turbine shall not exceed 0.33 pounds per hour, except during periods of startup and shutdown as defined in this permit. The SO<sub>x</sub> emission rate shall be verified during any required source test. (basis: BACT & cumulative increase)
9. Turbine Startup: Startup of the gas turbine shall not exceed a time period of 60 minutes each per occurrence, or another time period based on good engineering practice and approved in advance by the District. The startup clock begins with the turbine's initial firing and continues until the unit meets the emission concentration limits. (Basis: Cumulative increase)
10. Turbine Shutdown: Shutdown of the gas turbine shall not exceed a time period of 30 minutes each per occurrence, or another time period based on good engineering practice and approved in advance by the District. Shutdown begins with initiation of the turbine shutdown sequence and ends with the cessation of turbine firing. (Basis: Cumulative increase)
11. Mass Emission Limits: Total mass emissions from the three gas turbines shall not exceed the daily, and annual mass emission limits listed in Table 1 below.

**TABLE 1 – MASS EMISSION LIMITS (INCLUDING STARTUPS AND SHUTDOWNS)**

Pollutant	Daily (lb.)	Annual (tons)
NOx (as NO <sub>2</sub> )	201.6	39.5
VOC	28.1	6.9
CO	148.7	36.0
SOx (as SO <sub>2</sub> )	7.9	1.9
PM10	60.0	14.7

The daily and annual mass limits are on a calendar basis. Compliance shall be based on calendar average one-hour readings through the use of process monitors (e.g., fuel use meters), CEMS, and source test results; and the monitoring, recordkeeping and reporting conditions of this permit. (Basis: Cumulative increase & record keeping)

12. Operational Limits: In order to comply with the emission limits of this rule, the owner/operator shall comply with the following operational limits:

A. The heat input to each gas turbine shall not exceed:

Hourly: 468 MMBtu/hr  
Daily: 11,222 MMBtu/day  
Annual: 4,069,176 MMBtu/year

The heat input to the three gas turbines shall not exceed:

Annual: 5,494,300 MMBtu/year

B. Only PUC Quality natural gas (General Order 58-a) shall be used to fire the gas turbine. The natural gas shall not contain total sulfur in concentrations exceeding 0.25 gr./100 scf.

C. The owner/operator of the gas turbine shall comply with the daily and annual emission limits listed in Table 1 by keeping running totals based on CEM data. (Basis: Cumulative increase)

13. Monitoring Requirements: The owner/operator shall comply with the following monitoring requirements for each gas turbine:

- a. The gas turbine exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods.
- b. The ammonia injection system shall be equipped with an operational ammonia flowmeter and injection pressure indicator accurate to plus or minus five percent at full scale and calibrated once every twelve months.

- c. The gas turbine exhaust shall be equipped with continuously recording emissions monitor(s) for NO<sub>x</sub>, CO and O<sub>2</sub>. Continuous emissions monitors shall comply with the requirements of 40 CFR Part 60, Appendices B and F, and 40 CFR Part 75, and shall be capable of monitoring concentrations and mass emissions during normal operating conditions and during startups and shutdowns.
  - d. The fuel heat input rate shall be continuously recorded using District-approved fuel flow meters along with quarterly fuel compositional analyses for the fuel's higher heating value (wet basis).
  - e. The total sulfur and hydrogen sulfide content of the fuel gas shall be analyzed on a quarterly basis. (Basis: Monitoring & record keeping)
14. Source Testing/RATA: Within sixty days after startup of the gas turbines, and at a minimum on an annual basis thereafter, a relative accuracy test audit (RATA) must be performed on the CEMS in accordance with 40 CFR Part 60 Appendix B Performance Specifications and a source test shall be performed. Additional source testing may be required at the discretion of the District to address or ascertain compliance with the requirements of this permit. The written test results of the source tests shall be provided to the District within thirty days after testing. A complete test protocol shall be submitted to the District no later than 30 days prior to testing, and notification to the District at least ten days prior to the actual date of testing shall be provided so that a District observer may be present. The source test protocol shall comply with the following: measurements of NO<sub>x</sub>, CO, VOC, and stack gas oxygen content shall be conducted in accordance with ARB Test Method 100; measurements of PM<sub>10</sub> shall be conducted in accordance with ARB Test Method 5; and measurements of ammonia shall be conducted in accordance with Bay Area Air Quality Management District test method ST-1B. Alternative test methods, and source testing scope, may also be used to address the source testing requirements of the permit if approved in advance by the District. The initial and annual source tests shall include those parameters specified in the approved test protocol, and shall at a minimum include the following:
- a. NO<sub>x</sub> (as NO<sub>2</sub>) – ppmvd at 15% O<sub>2</sub> and lb/MMBtu;
  - b. Ammonia – ppmvd at 15% O<sub>2</sub> (Exhaust);
  - c. CO – ppmvd at 15% O<sub>2</sub> and lb/MMBtu (Exhaust);
  - d. VOC – ppmvd at 15% O<sub>2</sub> and lb/MMBtu (Exhaust);
  - e. PM<sub>10</sub> – lb/hr (Exhaust);
  - f. SO<sub>x</sub> – lb/hr (Exhaust);
  - g. Natural gas consumption, fuel High Heating Value (HHV), and total fuel sulfur content;
  - h. Turbine load in megawatts;
  - i. Stack gas flow rate (SDCFM) calculated according to procedures in U.S. EPA Method 19.

- j. Exhaust gas temperature (°F)
  - k. Ammonia injection rate (lb/hr or moles/hr)  
(Basis: source test requirements & monitoring)
15. A written quality assurance program must be established in accordance with 40 CFR Part 75, Appendix B and 40 CFR Part 60 Appendix F. (Basis: continuous emission monitoring)
16. The owner/operator shall comply with the applicable requirements of 40 CFR Part 60 Subpart GG. (Basis: NSPS)
17. The owner/operator shall notify the District of any breakdown condition consistent with the District's breakdown regulations. (Basis: Regulation 1-208)
18. The District shall be notified in writing in a timeframe consistent with the District's breakdown regulations following the correction of any breakdown condition. The breakdown condition shall include a description of the equipment malfunction or failure, the date and cause of the initial failure, the estimated emissions in excess of those allowed, and the actions taken to restore normal operations. (Basis: Regulation 1-208)
19. Recordkeeping: The owner/operator shall maintain the following records:
- a. hourly, daily, quarterly and annual quantity of fuel used and corresponding heat input rates;
  - b. the date and time of each occurrence, duration, and type of any startup, shutdown, or malfunction along with the resulting mass emissions during such time period;
  - c. emission measurements from all source testing, RATAs and fuel analyses;
  - d. daily, quarterly and annual hours of operation;
  - e. hourly records of NO<sub>x</sub> and CO, emission concentrations and hourly ammonia injection rates and ammonia/NO<sub>x</sub> ratio.
  - f. for the continuous emissions monitoring system; performance testing, evaluations, calibrations, checks, maintenance, adjustments, and any period of non-operation of any continuous emissions monitor.  
(Basis: record keeping)
31. All records required to be maintained by this permit shall be retained by the permittee for a period of five years and shall be made readily available for District inspection upon request. (Basis: record keeping)
32. Reporting: The owner/operator shall submit to the District a written report for each calendar quarter, within 30 days of the end of the quarter, which shall include:
- a. Daily and quarterly fuel use and corresponding heat input rates;

- b. Daily and quarterly mass emission rates for all criteria pollutants during normal operations and during other periods (startup/shutdown, breakdowns);
- c. Time intervals, date, and magnitude of excess emissions;
- d. Nature and cause of the excess emission, and corrective actions taken;
- e. 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;
- f. A negative declaration when no excess emissions occurred;
- g. Results of quarterly fuel analyses for HHV and total sulfur/hydrogen sulfide content; and  
(Basis: record keeping & reporting)

33 Emission Offsets: The owner/operator shall offset the project emissions in the amount and at the ratios outlined in Table 2.

**TABLE 2 – EMISSION OFFSETS**

Pollutant	Emissions Requiring Offsets (tons/yr.)	Offset Ratio	Total ERCs Required (tons/yr.)	Source of ERCs
Nox (as NO <sub>2</sub> )	39.5	1.15	45.4	ERC Certificate 727
VOC	6.9	1.15	7.9	ERC Certificate 727

The ERC certificates must be delivered to the District ten days prior to issuance of the ATC. (Basis: Emission Offsets)

- 34 District Operating Permit: The owner/operator shall apply for and obtain all required operating permits from the District according to the requirements of the District's rules and regulations. (Basis: Regulations 2-2 & 2-6)
- 35 Title IV and Title V Permits: The applications for modification of the Title IV and Title V permits must be delivered to the District prior to first-fire of the turbines. Also the acid rain monitors (Title IV) must be certified within 90 days of first-fire. (Basis: Regulation 2-6)

**V. CONCLUSION**

The APCO has concluded that the proposed Gilroy Energy Center LM6000 Phase I power plant project, which is composed of the permitted source listed below, complies with all applicable District rules and regulations.

The District is therefore issuing a Preliminary Determination of Compliance for this project. Upon completion of the public comment period and evaluation of the comments the APCO intends to issue a Final Determination of Compliance for the following equipment:

- S-3 Gas Turbine with water injection or dry low NOx burners, General Electric LM6000PC, natural gas fired, nominal 45 MW simple-cycle, maximum heat input rating is 467.6 MMBtu/hour; abated by A-3 Oxidation Catalyst, and A-4 Selective Catalytic Reduction System.
  
- S-4 Gas Turbine with water injection or dry low NOx burners, General Electric LM6000PC, natural gas fired, nominal 45 MW simple-cycle, maximum heat input rating is 467.6 MMBtu/hour; abated by A-5 Oxidation Catalyst, and A-6 Selective Catalytic Reduction System.
  
- S-5 Gas Turbine with water injection or dry low NOx burners, General Electric LM6000PC, natural gas fired, nominal 45 MW simple-cycle, maximum heat input rating is 467.6 MMBtu/hour; abated by A-7 Oxidation Catalyst, and A-8 Selective Catalytic Reduction System.



**OFFICE MEMORANDUM  
MAY 4, 2001**

**TO: DICK WOCASEK**

**FROM: B. BATEMAN**

**SUBJECT: RESULTS OF RISK SCREEN FOR CALPINE GILROY POWER PLANT  
(P/A #2686)**

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As requested in your memo dated April 24, 2001, we have performed a health risk screening analysis for the above referenced permit application. The screen estimates the maximum incremental health risk resulting from a proposed project involving three gas turbines located in Gilroy.

The toxic air contaminant (TAC) emission rates were based on the maximum CATEF emission factors. The SCREEN3 dispersion model was used to estimate maximum 1-hour average off-site ambient concentrations. The analysis was refined with the use of the Schulman-Scire Building Downwash/Cavity option, which provides improved treatment of building downwash. Annual average concentrations were determined by multiplying the 1-hour averages by a factor of 0.10, which is the upper end of the range of conversion factors given in EPA modeling guidance. Health risks were calculated from predicted ambient concentrations following standard AHS Program guidelines.

Using the maximum predicted off-site ambient TAC concentrations, the cancer risk was estimated to be 1.3 in a million based on the assumption of continuous lifetime exposure. If this figure were adjusted using appropriate non-residential exposure adjustment factors, the maximum risk would be reduced below 1.0 in a million. The maximum cancer risk at the nearest residential location is also less than 1.0 in a million. The maximum chronic hazard was 0.16 and the acute hazard index was 0.51. Because these risks are acceptable under the District's Risk Management Policy the **risk screen passes**.

Additional details of the analysis are given in the attachments. If you have any questions, please let me know.