

## DOCKETED

<b>Docket Number:</b>	01-EP-06C
<b>Project Title:</b>	King City Energy Center Project, King City Cogeneration Project - Compliance
<b>TN #:</b>	221838-1
<b>Document Title:</b>	Facility Closure Plan for the King City Energy Center (KCEC)
<b>Description:</b>	Facility Closure Plan for the King City Energy Center (KCEC)
<b>Filer:</b>	Anwar Ali
<b>Organization:</b>	California Energy Commission
<b>Submitter Role:</b>	Commission Staff
<b>Submission Date:</b>	11/20/2017 11:35:28 AM
<b>Docketed Date:</b>	11/20/2017

August 18, 2017

Mr. Anwar Ali  
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Systems Assessment & Facility Siting Division  
California Energy Commission  
1516 Ninth Street, MS-2000  
Sacramento, CA 95814

**RE: King City Energy Center (01-EP-6C): Closure Plan**

Dear Mr. Ali,

The Gilroy Energy Center, LLC (hereinafter Project Owner), a wholly owned subsidiary of Calpine Corporation, submits this Facility Closure Plan for the King City Energy Center (KCEC) (01-EP-06C). This Closure Plan fulfills the compliance requirement of Condition of Certification (COC) General Conditions for Facility Closure, as found in the Commission Final Decision/Final Staff Assessment (FSA) for the KCEC.

The KCEC is scheduled to be made unavailable for dispatch commencing January 1, 2018, after which time the Project Owner intends to initiate the safe layup of the facility and to evaluate the future possible dismantling of equipment/systems for reuse or sale.

This Closure Plan is being submitted for approval of the future decommissioning of the facility which may involve the removal of all remaining above-ground facilities (not removed previously) for re-use at another location, sale on the open market, or recycling.

Thank you for your attention to this important matter.

Sincerely,



Barbara M. McBride  
Director, Regional EHS  
Calpine Corporation  
On Behalf of Gilroy Energy Center, LLC

XP

FINAL

# Facility Closure Plan for the King City Energy Center

King City, California  
(01-EP-6C)

*Submitted to*

California Energy Commission

*Submitted by*

Gilroy Energy Center, LLC

August 2017



2485 Natomas Park Drive  
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# Acronyms and Abbreviations

AFC	Application for Certification
BMP	Best Management Practice
C&D	King City's Construction and Demolition Waste Reduction/Recycling program
CEC	California Energy Commission
CEDD	California Employment Development Department
COCs	Conditions of Certification
CPM	Compliance Project Manager
dBA	A-weighted decibel
EPA	U.S. Environmental Protection Agency
FSA	Final Staff Assessment
KCCP	King City Cogeneration Plant
KCEC	King City Energy Center
kV	Kilovolt
LORS	Laws, Ordinances, Regulations, and Standards
LOS	Level of Service
MBUAPCD	Monterey Bay Unified Air Pollution Control District
PCE	Passenger Car Equivalent
Project Owner	Gilroy Energy, LLC
TSDf	Treatment, Storage, or Disposal Facility
WEAP	Worker Environmental Awareness Training Program

# Executive Summary

The Gilroy Energy Center, LLC<sup>1</sup> (hereinafter Project Owner), a wholly owned subsidiary of Calpine Corporation, submits this Facility Closure Plan for the King City Energy Center (KCEC) (01-EP-06C) to the California Energy Commission (CEC). This Closure Plan fulfills the compliance requirement of Condition of Certification (COC) General Conditions for Facility Closure, as found in the Commission Final Decision/Final Staff Assessment (FSA) for the KCEC. The KCEC Condition *General Conditions for Facility Closure* requires that the Project Owner submit a facility closure plan to CEC Staff for approval at least three (3) months prior to the commencement of decommissioning or permanent closure of the facility, or on an alternative schedule agreed to by the CEC Staff.

The KCEC is scheduled to be made unavailable for dispatch commencing January 1, 2018, after which time the Project Owner intends to initiate the safe layup of the facility and to evaluate the future possible dismantling of equipment/systems for reuse or sale.

This Closure Plan is being submitted for approval of the future decommissioning of the facility which may involve the removal of all remaining above-ground facilities (not removed previously) for re-use at another location, sale on the open market, or recycling. This equipment may include the gas turbine and generator with associated equipment, generator step-up transformers, and other plant equipment.

In the event of decommissioning, equipment will be removed from the foundations and foundations will be left in place. Underground piping will typically be drained, capped, and left in place. The natural gas, water, and sanitary pipelines will be disconnected, capped, and left in place.

The generator tie-line that connects KCEC to the Pacific Gas and Electric Company (PG&E) transmission system may be left in place for potential future development of the project site.

Environmental analysis of the decommissioning activities shows that decommissioning will not cause any significant, unmitigated adverse effects and will comply with applicable laws, ordinances, regulations, and standards (LORS).

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<sup>1</sup> A petition for change of ownership was submitted to and approved by the California Energy Commission on June 11, 2003. This action also changed the project's name to the King City Energy Center.

# Introduction

This Facility Closure Plan for the KCEC (01-EP-06C) is being submitted to the CEC pursuant to the Condition *General Conditions for Facility Closure* as found in the Commission Final Decision KCEC (CEC, 2001a). The Final Decision states:

All conditions contained in the Staff Assessment are hereby adopted as the Conditions of Certification for the Calpine King City LM 6000 Project.

The Final Staff Assessment Condition General Conditions for Facility Closure states:

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).

Appendix A provides a list of referenced COCs from the Commission Final Decision and Staff Assessment. A complete list of property owners within 1,000 feet of the KCEC site, and 500 feet from the linear facilities (natural gas, water, sewer, and electrical transmission lines) is provided under a separate cover.

## 1.1 Plan Objectives

The primary objective of the General Closure Condition is to avoid creating adverse significant impacts during decommissioning and demolition. This Facility Closure Plan includes the following objectives:

- Describe the nature of the closure (temporary, permanent)
- Describe plans for continued use of facility land and equipment
- Outline procedures for implementing safe layup
- Describe plans to reuse and recycle plant equipment and materials
- Describe procedures to be used to demolish and transport equipment and materials
- Analyze potential environmental and regulatory impacts of shutdown, demolition, and decommissioning

## 1.2 King City Energy Center

KCEC is located in northern portion of King City, Monterey County, California. The approximately 8-acre project site is located southwest of the Mesa Del Rey airport at 51 Don Bates Way (Figures 1-1 and 1-2), and is 300 feet east of Calpine's King City Cogeneration (KC Cogen) generating facility. KCEC is a 50-megawatt, natural gas-fired, peaking-cycle facility. The design consists of one combustion turbine generator, air quality emission control systems, and an exhaust stack. KCEC is interconnected with PG&E's 60-kilovolt (kV) electrical system on the north side of the KC Cogen site.

The KCEC was permitted and constructed based on the Governor's Emergency Orders in 2000 following the California Energy Crisis. The Application for Certification (AFC) for KCEC (then called the King City LM6000 Project) was filed in April 2001 (Calpine, 2001) and KCEC received CEC certification on May 5, 2001 (CEC, 2001). The project site was relocated from the original licensed location to an adjacent parcel in June 2001. KCEC was constructed in 2001 and began operation in January 2002.

Commencing January 1, 2018, the KCEC will have no capacity or other contractual obligations to continue operations. In April 2017, the California Independent System Operator (CAISO) announced its determination that the KCEC was not needed for system or local reliability in 2018. Accordingly, Project Owner has determined it will layup the facility commencing January 1, 2018, in order to plan for its potential permanent closure and/or decommissioning.

### 1.3 Safe Layup and Dismantling Overview

Commencing January 1, 2018, KCEC intends to cease operations and commence safe layup of the facility. Initial activities will involve safe layup of the facility and the draining, removal, and appropriate disposal of all hazardous materials. Equipment and materials that can be reused or sold may be evaluated for potential removal from the site. Initial dismantling will not require excavation work.

### 1.4 Decommissioning and Permanent Closure Overview

Once authorized by CEC, the decommissioning and removal of salvageable pieces of equipment not previously removed may commence. This may potentially include the combustion turbine and generator, step-up transformer, and other usable equipment. This equipment will be disconnected from plant infrastructure and will be transported to other locations for reuse, recycling or sale.

Once the salvageable equipment has been removed, the remaining facilities and equipment that will not be reused/recycled will be removed. KCEC's natural gas, water, and sewer supply pipelines will be cut or capped at or near the fence line and will be left in place. Project Owner is the fee title owner of the KCEC real property. Accordingly, Project Owner may choose not to demolish and remove foundations or other underground installations in order to, among other things, preserve the real property value for future development or resale.

Further, the fee title owners for offsite easements granted to Project Owner may similarly desire that underground or above-ground lateral installations not be removed. However, in order to obtain approval from the CEC for any eventual demolition of such installations, Project Owner has performed an environmental assessment in Section 4.0 that assumes all lateral and underground onsite installations and foundations are removed.

Any areas of ground surface that are disturbed during demolition operations will be graveled and/or regraded, consistent with the property's industrial zoning.

The 60-kV generator tie-line will remain in place for future potential development of the site, be disconnected at the KCEC switchyard and abandoned in place, or removed consistent with the requirements of the easement agreements in place with the third-party land owner(s) and PG&E.

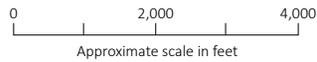
### 1.5 Summary of Potential Environmental Impacts of Decommissioning

This Facility Closure Plan includes a discussion of impacts that decommissioning may have on the environment, and proposed measures to mitigate any potentially significant adverse impacts. The *General Condition for Closure* requires a discussion of the impact of the decommissioning on the KCEC's compliance with applicable laws, ordinances, regulations, and standards (LORS). Section 4.0 of this Plan includes a discussion of the potential environmental impacts associated with facility decommissioning, as well as a discussion of the consistency of the decommissioning procedures with LORS. Section 4.0 concludes that there will be no significant environmental impacts associated with implementing the actions specified in this Closure Plan and that the decommissioning process will comply with all applicable LORS.

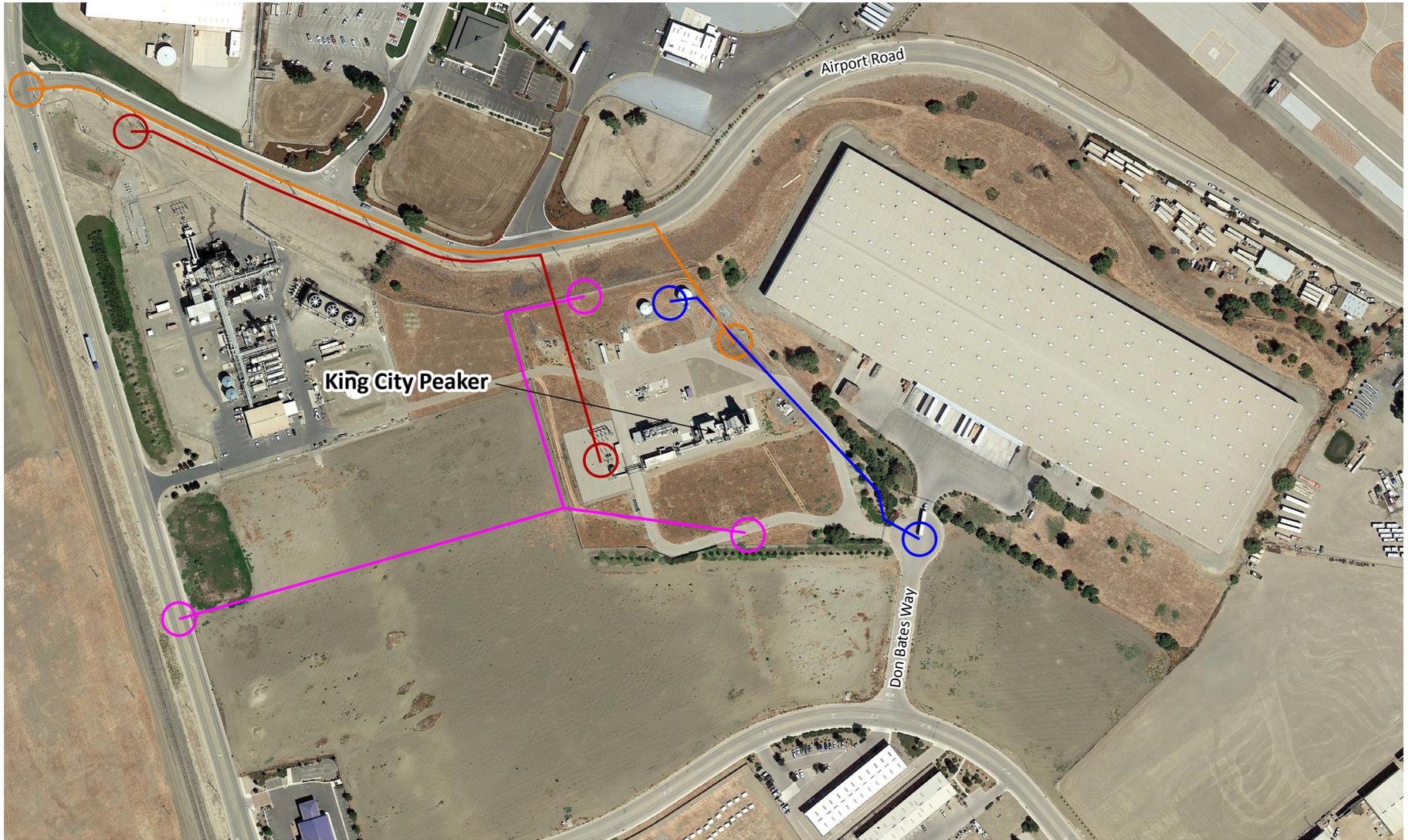
Appendix A provides a list of referenced Conditions of Certification (COCs). Many of the COCs apply to the original construction of the facility, others to its operation. As such, these COCs are not applicable to any decommissioning. However, in order to allow the Commission to understand the types of measures and best management practices that would be implemented during decommissioning, the existing COCs are referenced. As one example, COCs AQ-1 requires the Project Owner to prepare and submit for approval a Construction Fugitive Dust Mitigation Plan to control fugitive dust during construction. While condition AQ-1 for construction of the facility is not applicable to decommissioning, the Project Owner will nevertheless implement a fugitive dust control plan similar to that required by AQ-1. Thus, AQ-1 is referenced to communicate the measures that would be implemented. These COCs are referred to as “Referenced Conditions of Certification” or “Referenced COCs” herein.



Aerial courtesy of Google™ Earth, image ©2016 Google.



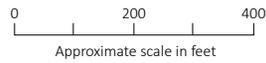
**Figure 1**  
**Project Location**  
 King City Energy Center  
 Calpine Corporation



Aerial courtesy of Google™ Earth, image ©2016 Google.

**LEGEND**

- 60 kV Electrical Transmission
- Natural Gas Pipeline
- Cal Water Pipeline
- Sewer Pipeline



**Figure 2**  
**Project Site with Linear Features**  
*King City Energy Center*  
*Calpine Corporation*



# Safe Layup

This section describes the initial measures that the Project Owner will take to ensure safe and secure layup of the KCEC.

Before decommissioning starts, the Project Owner will begin to drawing down stocks of lubricants and other expendables and conducting safe shutdown. Shutdown and initial layup will commence in January 2018.

## 2.1 Safe Layup Activities

### 2.1.1 Plant Staffing and Security

As a peaking power plant, KCEC is unmanned. When operations or maintenance staff is required, they are dispatched from the KC Cogen facility.

Access to the KCEC site is controlled via a security fence and gate, with video capabilities monitored by the adjacent KC Cogen. During safe layup, decommissioning and demolition activities, the security fencing/gate and video capabilities will be continued 24 hours per day and 7 days per. Safe Layup

The safe layup procedures will ensure that no environmental or safety hazards are present in the event of facility closure. The following describes the proposed layup plan.

### 2.1.2 Safe Power Plant Equipment Lockout

The safe layup of a power generation facility can create hazards to personnel and potential equipment damage due to the potential for accidental energization of equipment. The safe layup process includes the de-energization of certain control systems and the partial de-energization of others. If not specifically mitigated, these conditions can lead to equipment starting and/or valves opening or closing unintentionally. Accordingly, the KCEC will lockout specific equipment to ensure unintentional operation does not occur.

Some of the major equipment to be locked out are listed below:

- Combustion Turbine (CT) – Disable and decouple starting means
- GSU (Generator Step Up) Transformer – removing high and low side connections
- Generators – removing links to iso-phase busses
- Natural gas supply – blinding and/or air gapping the supply
- CT starting motors – disconnecting and grounding cabling to motors

Safe layup of KCEC will mitigate the hazards associated with inadvertent energization during the layup process. All other maintenance work, during the safe layup activities will be conducted in accordance with Project Owner's existing procedures.

### 2.1.3 Removal of Hazardous Materials

During safe layup of the KCEC, the Operations Manager will arrange to remove all chemicals and hazardous materials from the site.

The ammonia system will be evacuated of ammonia and filled with inert gas as appropriate. Before ammonia removal from the aqueous ammonia tank, the vaporizer unit will be inspected to ensure that there are no conditions that would preclude proper operation during the transfer of ammonia to a transport container/vehicle. The aqueous ammonia will then be removed from the tank and recycled or

disposed of appropriately. The storage tank will be filled with an inert gas as appropriate until final demolition.

Water treatment chemicals not needed and stored in bulk totes and storage tanks will be isolated by closing the discharge valve on each vessel disposed of either for use at similar facility or at a hazardous materials landfill.

KCEC will recycle unused chemicals where feasible. Equipment containing chemicals will be drained and shut down to ensure public health and safety and to protect the environment.

#### 2.1.4 Generator Tie-line

During safe layup, the KCEC will be isolated from the generator tie-line by disconnection of the generator tie-line conductors from the KCEC switchyard. In advance of any decommissioning, the Project Owner will negotiate the future status of the line with the fee owner of the real property over which the line crosses and with PG&E.

# Decommissioning and Permanent Closure

Before beginning decommissioning and closure, the Project Owner will secure the services of a qualified contractor to perform the closure functions. The Project Owner will provide the name(s) and qualifications of the selected contractor to the CEC CPM once the contractor has been selected.

After the determination has been made to permanently close the KCEC, decommissioning will begin by removing the remaining usable equipment (not previously removed) for reuse or recycle, followed by removal of other materials for salvage or scrap. The final step will be stabilization of the site, as needed.

## 3.1 Facilities to be Removed

Table 3-1 presents the disposition of the following KCEC equipment. This equipment will be disassembled and relocated to other Project Owner sites or offered for sale.

**TABLE 3-1. KCEC Major Equipment Disposition**

<b>Equipment</b>	<b>Disposition</b>
Turbine Air Inlet	Recycle/Sell
Combustion Turbine Generator	Recycle/Sell
Emission Control System Housing	Recycle/Sell
Emission Control System	Recycle/Sell
Exhaust Transition and Stack	Recycle/Sell
Continuous Emission Monitoring System	Recycle/Sell
Ammonia Tank and Pump Skid	Recycle/Sell
Emergency Generator	Recycle/Sell
Turbine Inlet SPRINT Skid	Recycle/Sell
Mechanical Chiller System	Recycle/Sell
Cooling Tower and Pumps	Recycle/Sell
Waste Oil Tank	Recycle/Sell
Wash Water Drain Tank	Recycle/Sell
Raw Water Tank and Pumps	Recycle/Sell
Demineralized Water Tank and Pumps	Recycle/Sell
Demineralized Water Treatment System	Recycle/Sell
Fuel Gas Compressor and Treatment System	Recycle/Sell
Auxiliary Transformers (480 and 4180 Volt)	Recycle/Sell
Air Compressors	Recycle/Sell
Electrical Building	Recycle/Sell

These facilities will be disconnected from existing electrical, fuel, lubrication, and other lines and disconnected from their moorings or foundations. Moving these items for reuse will involve heavy haul transport to a location where rail or barge transport is available.

## 3.2 Facilities to Remain in Place

Some of the KCEC facilities may remain in place, including equipment foundations, underground utilities and installations, the PG&E-owned gas metering station, and possibly the generator tie-line depending on future use of the site. Given that Project Owner is the fee owner of the KCEC project site, Project Owner expects that certain underground installations and foundations will remain in place for future redevelopment of the project site.

## 3.3 Decommissioning and Recycling

Other materials and equipment at the site that will not be reused will be decommissioned, removed, and transported for recycling and salvage value. This includes the switchyard and other ancillary equipment. These materials will be transported offsite by the contractor to be sold for salvage value (motors, working equipment), or recycling/scrap value (piping, metal scrap, emission control catalysts, etc.).

The natural gas pipeline serving KCEC will be cut and capped in place at or near the property line. The natural gas pipeline on the KCEC site may be purged, disconnected, and left in place in accordance with applicable LORS.

Underground water supply and sewer piping will be cut and capped at or below the ground surface but not removed.

## 3.4 Site Restoration

Once equipment has been removed from the site and linear corridors the site may require minor cleanup and restoration. Any excavations will be graded to match the existing drainage and hard surfaces may be restored to pre-decommissioning condition, consistent with the property's industrial zoning. If the contractor requires temporary laydown space for equipment or scrap, areas demolished first and excess available property within the KCEC real property site, will be sufficient for these purposes. If laydown activities result in any ground disturbance, these areas will be protected from soil erosion using best management practices (BMP) and regraded when closure activities are completed.

## 3.5 Site Fencing

As noted in Subsection 2.1.2, the site is secured by fencing around the entire perimeter, with a security gate. All demolition, decommissioning, and salvage activities will take place within the existing fence site. After KCEC decommissioning is complete, the fenced area and security measures will be retained for future uses not currently identified.

## 3.6 Schedule and Decommissioning Workforce

Decommissioning is expected to take approximately eight (8) months from the date of commencement of decommissioning activities. The decommissioning schedule assumes two (2) months of engineering (at an offsite location), followed by five (5) months of decommissioning onsite, followed by one (1) month of close-out onsite. Work is expected to occur five (5) days per week and up to ten (10) hours per day. No weekend, night, or holiday work is expected. Table 3-2 shows that a maximum of 22 workers per month may be required to complete the decommissioning of KCEC, including management/supervisory staff.

TABLE 3-2. KCEC Decommissioning Workforce, by Month

Month	1	2	3	4	5	6	7	8
Decommissioning Workforce	4	4	22	22	18	14	13	1

<sup>a</sup> Months 1, 2, and 8 do not include any onsite work.

Tables 3-3 presents the number and type of construction equipment expected to be used during decommissioning. Note that the schedule starts with month 3, as the first two months consist of offsite engineering and the last (8<sup>th</sup>) month consists of onsite project close-out and so these months do not involve construction equipment.

TABLE 3-3. KCEC Decommissioning Construction Equipment, by Month

Decommissioning Construction Equipment	Month				
	3	4	5	6	7
Crane/300 T Crawler	1	1			
Crane/All Terrain Mobile 200T	1	1	1		
Truck Crane	1	1	1		
Forklift/Lull	1	1	1	1	1
Water Truck	1	1	1	1	1
Manlift	1	1	1		
Excavators/Various Attachments	1	2	2	2	2
Bobcat with Attachments			1	1	1
Front End Loader			1	1	1
10 Wheel Dump			1	1	1
Scale	1	1	1	1	1
Truck Platform	1	1	1	1	1
Generator	2	2	2	2	2
Compressors	2	2			
Pressure Washer	1	1			
Gator/ATV/Golf Cart	1	1	1	1	1

Table 3-4 presents an estimate of truck trips associated with decommissioning of the KCEC.

TABLE 3-4. KCEC Decommissioning Truck Trips, by Month

Truck Trip	Month 3	Month 4	Month 5	Month 6	Month 7	Total
Decommissioning Wastes	6	24	81	81	10	203
Recycled Products	11	11	11	4	0	36
Scrap Metals	5	11	37	48	5	106
Soil Import	-	-	-	27	81	108
Estimated Trucks by Month	22	46	129	160	96	453
Average Trucks per Day <sup>a</sup>	1	2	6	8	5	

<sup>a</sup> Average truck trips per day based on 22 work days per month.

### 3.6.1 Notice to Public Agencies

Notice to public agencies will begin at the time the Project Owner determines to commence decommissioning. Table 3-5 lists key agencies to be notified.

**TABLE 3-5. Public Agencies to be Notified and Their Interest/Jurisdiction**

<b>Public Agency Name</b>	<b>Jurisdiction/Permit/Interest</b>
California Independent System Operator	Balancing Authority
Monterey County Environmental Health Division	Notify the County of the cessation of operations and removal of ammonia, other hazardous materials, including the aboveground petroleum storage tank that required a Spill Prevention, Control, Countermeasures Plan
Monterey County Tax Assessor's Office	Reassessment of tax liability, based on change in property value
Monterey County Public Works/Road Maintenance	Potential effects to local roadways of demolition truck traffic
Monterey Bay Unified Air Pollution Control District (MBUAPCD)	Project Owner to request KCEC be removed from the shared permits. Project Owner to request that MBUAPCD process a request to bank air emission reduction credits.
Department of Toxic Substances Control	Relinquish U.S. Environmental Protection Agency (EPA) hazardous waste Identification Number CAL 000272780
California Department of Transportation	Construction notification of heavy hauls of turbines, generators, other major equipment
Pacific Gas and Electric Company	Discontinue use of the generator tie-line and natural gas

# Environmental Analysis of Decommissioning

The following sections provide an environmental analysis for each of 14 different discipline areas that address the potential effects of permanent closure and decommissioning on the environment. This analysis indicates that decommissioning will have no significant adverse environmental impacts and that the decommissioning and permanent closure process will comply with applicable LORS.

Table 4-1 lists the environmental disciplines analyzed in this Closure Plan. Many of these disciplines were not considered in the CEC Staff Assessment and Commission Final Decision based on the Governor's Emergency Orders in 2000. However, out of an abundance of caution, we are providing an assessment of the potential impacts of KCEC's permanent closure and demolition along with a review of LORS compliance where applicable.

**Table 4-1. Environmental Analysis Disciplines Focus of Environmental Analysis**

<b>Discipline</b>	<b>Summary of Environmental Analysis and Topics</b>
4.1 Air Quality	Construction equipment will emit a minor amount of diesel exhaust and fugitive dust on a temporary basis during decommissioning activities. Upon permanent closure, no further air emissions will be generated from the facility.
4.2 Biological Resources	Permanent closure will not impact biological resources
4.3 Cultural Resources	Permanent closure will involve minimal ground-disturbing activities impacting intact native soils that could contain previously undiscovered archaeological resources and will have no effect on cultural resources.
4.4 Geology and Paleontology	Permanent closure will involve minimal ground-disturbing activities impacting intact native soils or geological deposits that could contain significant fossils and will have no effect on geology or paleontological resources.
4.5 Hazardous Materials Management	Hazardous materials, including ammonia and petroleum products, will be properly removed and disposed of.
4.6 Land Use	No change in land use.
4.7 Noise	Facility operational noise will cease. There will be temporary, minor noise from equipment used for demolition and transport.
4.8 Public Health	Permanent closure will result in a net benefit from cessation of air emissions. A minor amount of diesel exhaust and fugitive dust will be emitted due to construction equipment operation.
4.9 Socioeconomics	Sufficient local workforce is available to complete the decommissioning.
4.10 Soil and Water Resources	Closure activities will ensure proper stormwater drainage after decommissioning. Existing foundations may remain.
4.11 Traffic and Transportation	Decommissioning workforce will have no material impact on local traffic.
4.12 Visual Resources	Permanent closure will have a net benefit on visual resources resulting from removal of the structures at the site.
4.13 Waste Management	Project waste will be disposed of or recycled properly. Adequate landfill capacity is available for project wastes.
4.14 Worker Safety and Fire Protection	Compliance with existing worker safety and fire protection LORS during decommissioning activities will ensure no impacts.

Appendix A provides a reference list of the Conditions of Certification (COCs). Many of the COCs apply to the original construction of the facility, others to its operation. As such, these COCs are not applicable to any decommissioning. However, in order to allow the Commission to understand the types of measures and best management practices that would be implemented during decommissioning, the existing COCs are referenced. As one example, COCs AQ-1 requires the Project Owner to prepare and submit for approval a Construction Fugitive Dust Mitigation Plan to control fugitive dust during construction. While condition AQ-1 for construction of the facility is not applicable to decommissioning, the Project Owner will nevertheless implement a fugitive dust control plan similar to that required by AQ-1. Thus, AQ-1 is referenced to communicate the measures that would be implemented. These COCs are referred to as “Referenced Conditions of Certification” or “Referenced COCs” herein.

## 4.1 Air Quality

The shutdown and cessation of KCEC operations will result in a minor long-term net benefit to air quality in the Monterey Bay Air Basin because KCEC will no longer be emitting air pollutants.

Decommissioning activities will result in short-term, minor, and localized air quality impacts from tailpipe emissions from construction equipment used, waste/recycling truck trips, and construction worker commutes. Adherence to the following Referenced COCs will ensure that these temporary and localized air quality impacts will be less than significant.

### 4.1.1 Referenced Conditions of Certification

Condition AQ-1 requires the Project Owner to prepare and submit for approval a Construction Fugitive Dust Mitigation Plan to control fugitive dust during construction. The Project Owner will implement the CEC-approved Construction Fugitive Dust Mitigation Plan to reduce fugitive dust.

## 4.2 Biological Resources

Decommissioning activities involve minor potential impacts to biological resources that can be mitigated using BMPs to control stormwater and manage hazardous materials in accordance with existing Conditions of Certification. Additionally, the project site includes landscaped areas to the east and south of the KCEC, which will remain in their current state and will not be disturbed. Additionally, a Worker Environmental Awareness Program (WEAP) will be implemented to train construction workers about the importance of protecting and preserving biological resources.

Prior to construction of KCEC, the project site was an untilled agricultural field owned by the King City Development Agency. The site is zoned planned development with a land use designation of light industrial and is current surrounded by industrial development to the north, east, south, with undeveloped land to the west. The site will be retained by the Project Owner for potential future redevelopment.

### 4.2.1 Referenced Conditions of Certification

Adherence to the Referenced COCs presented in Table 4-2 will ensure that impacts to biological resources will be less than significant.

**Table 4-2. KCEC Biological Resources Conditions of Certification**

<b>Biological Resources Conditions of Certification: Summary</b>	<b>Applicability</b>
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.	Decommissioning activities will take place within the existing site, primarily on gravel or asphalt surfaces.

**Table 4-2. KCEC Biological Resources Conditions of Certification**

<b>Biological Resources Conditions of Certification: Summary</b>	<b>Applicability</b>
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.	No designated critical habitat (wetlands, vernal pools, riparian habitat, preserves) occur on 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.	The Project Owner will appoint a Project Biologist who will be available, if necessary, to coordinate decommissioning activities as needed to avoid impacts to locally designated sensitive species and protected areas.
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.	The Project Owner will appoint a Project Biologist who will be available, if necessary, to coordinate decommissioning activities as needed to avoid impacts and to halt work to protect sensitive biological resources at any time.
BIO-6: Upon decommissioning the site, the biological resource values will be reestablished at preconstruction levels or better.	The Project Owner will reestablish the biological resource values consistent with site conditions and applicable general plan and zoning requirements.

Project Owner is the fee title owner of the KCEC project site, which Project Owner intends to retain for potential future redevelopment and/or sale in accordance with applicable LORS.

In August 2007, the King City Council adopted the East Ranch Business Park Specific Plan<sup>2</sup> (Specific Plan) plan which encompasses the 107-acre area referred to as the East Ranch Industrial Park Light Industrial Economic Zone in the KCEC Final Staff Assessment (King, 2007). The KCEC is located within this Specific Plan area and the East Ranch Industrial Park Light Industry Economic Zone. The Specific Plan states that “Industrial development is an essential component of King City’s economic development strategy. The Specific Plan establishes the framework to assist implementing that strategy in the East Ranch Business Park.” The Specific Plan includes the following goals.

- **Goal a.**—Develop a Major Employment Center for King City
- **Goal b.**—Create a High Quality Industrial Park Environment
- **Goal c.**—Improve Automobile, Multimodal, Bicycle, and Pedestrian Access within the Specific Plan Area
- **Goal d.**—Enhance the East Ranch Business Park’s Unique Features
- **Goal e.**—Establish Unique and Practical Planning Concepts
- **Goal f.**—Improve the Jobs/Housing Balance in South Monterey County (Go

The City purchased the 107-acre area in which the KCEC is located for the express purpose of “encouraging businesses and industries to move into the East Ranch Business Park” and developed goals for the area’s Specific Plan that encourages industrial development, including Goals a. and b. The planned land uses in the Specific Plan area include warehouse/distribution, trucking and transport, agribusiness supply and services, food processing, environmental technology, waste management, telecommunications, and agribusiness research and development.

BIO-6 required the KCEC site to be returned to its preconstruction condition, with regards to the biological value. Prior to construction of the KCEC, the project site was in agricultural production. Currently, however, reverting the KCEC site from industrial to agricultural uses would be inconsistent with the City’s East Ranch Business Park Specific Plan. It would remove approximately 8 acres of the remaining developable area of

<sup>2</sup> <http://www.kingcity.com/wp-content/uploads/2015/03/FINAL-EastRanchSpecificPlan-SP-3-1.pdf>

the City's East Ranch Industrial Park Light Industrial Economic Zone and eliminate the potential reuse of existing infrastructure developed as part of KCEC, including the water, sewer, natural gas, and electrical lines for uses consistent with the City's East Ranch Business Park Specific Plan. Goal a. of the Specific Plan envisions expanding manufacturing in the City by providing an area with appropriate zoning designation to support new industries and existing agricultural-related businesses. Returning the project site to agriculture is inconsistent with Goal a. of the Specific Plan.

Goal b. encourages pragmatic designs to promote economic development compatible with existing uses. The KCEC site has been in industrial uses for the last 15 years and adjacent lands around KCEC have been transformed into industrial uses, consistent with the City's planning process. Implementation Condition BIO-6 converts land developed for industrial uses to agricultural uses within the City's planned industrial development zone, which conflicts with Specific Plan Goal b. of promoting economic development. Therefore, the Project Owner believes that implementation of Condition BIO-6 is inconsistent with the City's Specific Plan goals.

Accordingly, consistent with applicable LORS at the time of decommissioning, the project site be returned to a condition that would conserve the industrial development values of the site to the largest extent possible and allow Project Owner to obtain the highest and best use of its fee property. As noted above, after decommissioning, any excavations will be recontoured to match the existing grade and the site will continue to be secured for future redevelopment.

## 4.3 Cultural Resources

The decommissioning activities will not involve ground disturbance outside the footprint of previous excavation, impact intact native soils, or affect known historic- or prehistoric-era cultural resources. The ground-disturbing activities for closure will involve excavation to cap underground piping that extends offsite at the site boundary and to remove foundations (as necessary). These excavation activities will take place within the footprint of the previous excavation and so will not affect previously unrecorded cultural resources. Cultural resources literature searches and surveys conducted for the licensing proceeding did not locate or record cultural resources at or near the project site. A cultural survey is not warranted as the area where excavations will occur as they are primarily covered in gravel or previously disturbed.

### 4.3.1 Referenced Conditions of Certification

There will be no ground disturbance outside the immediate footprint of previous excavation during demolition activities, if demolition of foundations occurs. For this reason, none of the Cultural Resources mitigation measures that are described in the Referenced COCs will be needed to apply to closure activities. As a prudent practice, a WEAP will be implemented to train construction workers about the importance of protecting and preserving cultural resources.

## 4.4 Geology and Paleontology

The decommissioning activities will not affect geological or paleontological resources. The ground-disturbing activity will involve excavation to cap pipelines that extends offsite at or near the site boundary and removal of foundations (as necessary). This will take place within the footprint of previous excavation and is not expected to impact intact native soils. Paleontological resources literature searches and surveys conducted for the licensing proceeding did not locate or record paleontological resources at or near the project site.

#### 4.4.1 Referenced Conditions of Certification

There will be no ground disturbance outside the footprint of previous excavation during decommissioning activities. For this reason, none of the Paleontological Resources mitigation measures that are described in the Referenced COCs will be needed to apply to closure activities.

### 4.5 Hazardous Materials Management

Hazardous materials expected to be removed from the site during the decommissioning process are listed in Table 4-3. These materials include aqueous ammonia, refrigerants, compressed gases, cooling tower treatment chemicals, lead-acid batteries, and hydraulic/lubricating/mineral oils. Any other operational chemicals listed as hazardous will be removed as part of the decommissioning activities. The Project Owner will recycle unused chemicals and gases where feasible. Equipment containing chemicals will be drained and shut down to ensure public health and safety and to protect the environment.

Hydraulic fluids and oils will be transferred directly to a tanker truck from their respective holding tanks and vessels. Storage tanks/vessels will be rinsed and rinsate will also be transferred to tanker trucks. Other items that are not feasible to remove at the point of generation, such as smaller containers, lubricants, paints, thinners, solvents, cleaners, batteries, and sealants will be kept in a locked storage facility with integral secondary containment, meeting all requirements for hazardous waste storage until removal for proper disposal. Oils and batteries will be recycled offsite at an appropriately licensed facility. Site personnel involved in handling these materials will be trained to properly handle them. Containers used to store hazardous materials will be inspected regularly for any signs of failure or leakage.

#### 4.5.1 Referenced Conditions of Certification

None of the hazardous materials handling mitigation measures that are described in the Referenced COCs apply to decommissioning and dismantling activities.

**Table 4-3. Hazardous Materials to be Handled during Decommissioning**

<b>Material</b>	<b>Site Use</b>	<b>Location &amp; Estimated Quantity</b>	<b>Procedure</b>
Hydraulic/Lubricating/Mineral Oil	Used in rotating equipment and transformers	Contained within equipment; maximum quantity onsite 9,050 gallons	Remove unused totes and containers to other Calpine-owned facilities for reuse. Drain liquid/gases from equipment prior to removal. Triple-rinse tanks and piping prior to processing and recycling. Product will be recycled offsite or disposed of at an appropriate facility.
R-123 Refrigerant	Mechanical chiller	Contained within the chiller package; maximum quantity onsite 2,200 pounds	
Compressed gases	Calibration gases and fire suppression.	Emission monitoring system and compressed gas storage area; maximum quantity onsite 9,250 cubic feet	
Water treatment chemicals	Chiller package	Cooling tower skid, 365 gallons	

## 4.6 Land Use

The Project Owner's property has a General Plan land use designation of LI, Light Industrial and zoning designation of P-D/SP, Planned Development/Special Plan District.<sup>3</sup> Consistent with LORS applicable at decommissioning, the property will be available for future industrial development.

### 4.6.1 Permits for Decommissioning

Decommissioning of KCEC are activities subject to the jurisdiction of the CEC and do not require permits or authorization from the City of King City; however, the City may be consulted by the CEC during review of this Closure Plan.

## 4.7 Noise and Vibration

KCEC decommissioning would result in a minor reduction of area intermittent ambient noise because the project would no longer operate. Decommissioning activities would cause temporary noise impacts, mainly due to the operation of cranes, trucks, and other heavy equipment.

Decommissioning is expected to be typical of other demolition projects in terms of schedule, equipment used, and other types of activities. The EPA Office of Noise Abatement and Control and the Empire State Electric Energy Research Company have extensively studied noise from individual pieces of construction equipment (EPA, 1971; Barnes et al., 1976). Because specific information on types, quantities, and operating schedules of construction equipment is not available at this point in project development, information from these documents for similarly sized industrial projects will be used. Use of these data is conservative because the evolution of construction equipment has been toward quieter designs to protect operators from exposure to high noise levels since these specifications were first published. The loudest equipment types generally operating at various distances from a site during demolition are presented in Table 4-4. These results are also conservative because the only attenuating mechanism considered was divergence of the sound waves in open air. Additional attenuation will result from air absorption and ground effects.

As the table shows, sound levels resulting from demolition and permanent closure will be temporary and will be less than 60 A-weighted decibels (dBA) at 1,500 feet. The nearest residential receptor is approximately 1,300 feet from the boundary of the KCEC work area. The closure activities would therefore generate noise levels that will likely meet the City noise ordinance.

Table 4-4. Average Construction Noise Levels at Various Distances

Construction Phase	Sound Pressure Level (dBA)			
	50 feet	1,500 feet	1 mile	15 miles
Demolition	89	59	49	25
Clean-Up	89	59	49	25

### 4.7.1 Referenced Conditions of Certification

The KCEC Referenced COCs contain mitigation measures for noise that will be effective in minimizing noise impacts of decommissioning and closure. Appendix A provides a complete list of the KCEC Referenced COCs.

<sup>3</sup> <http://www.kingcity.com/wp-content/uploads/2016/01/City-of-King-General-Plan-with-2007-2014-Housing-Element.pdf>

Table 4-5. Summary of Noise Conditions of Certification

Condition	Applicability
NOISE-1: The project permitted under this emergency process shall be required to comply with applicable community noise standards by conducting a 25-hour community noise survey.	Not Applicable
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.	The Project Owner will notify all residents within 1 mile of the site at least 15 days before the start of decommissioning activities.
NOISE-3: Investigate, evaluate, document and attempt to resolve project-related noise complaints.	Dismantling and demolition may cause noise that is perceptible at offsite receptors. The Project Owner will investigate and attempt to resolve demolition-related noise complaints. The existing noise control program at the facility will apply to decommissioning activities and the construction contractor will follow the program.
NOISE-4: Night construction activities may be authorized by the CPM if they are consistent with local noise ordinances.	No nighttime decommissioning is expected or proposed.

## 4.8 Public Health

The shutdown and cessation of KCEC operations will result in a minor long-term net benefit to air quality in the Monterey Bay Unified Air Pollution Control District (District) because KCEC will no longer be emitting criteria pollutants or toxic air contaminants.

Decommissioning activities will result in short-term and localized air quality impacts from diesel emissions of trucks, cranes, and other equipment used in the decommissioning activities. The project will adhere to BMPs and mitigation measures to control fugitive dust emissions as discussed in Section 4.1 to ensure that significant and adverse impacts do not occur to air quality due to KCEC safe layup and demolition activities.

## 4.9 Socioeconomics

Decommissioning will take place over approximately 8 months and will require a maximum of 22 workers onsite at a given time (see Table 3-1) and the Project Owner will secure the necessary workforce from its current employees and the local area to the extent feasible. King City has a population of approximately 14,000, and Monterey County has a population of approximately 433,900.<sup>4</sup> Available skilled labor to support the 22 KCEC decommissioning workforce positions should be available within either the City or County. Therefore, the project will not place an undue burden on the local workforce.

No socioeconomic Conditions of Certification were included in either the KCEC license or approved amendments. However, as noted above, the Project Owner will attempt to secure the necessary workforce from the local area to the extent feasible.

## 4.10 Soil and Water Resources

Decommissioning and permanent closure of KCEC will have a minimal effect on soil and water resources. Decommissioning will take place within the existing KCEC fence line, which is primarily paved or covered in gravel. No sensitive water or soil resources existing within the KCEC fence line. The Project Owner will

<sup>4</sup> <https://www.census.gov/quickfacts/table/PST045215/06053,0638520>

implement the construction Stormwater Pollution Prevention Plan (SWPPP) to mitigate potential water resource impacts during demolition (as required by Condition Soil & Water-1). The SWPPP will also include BMP to minimize soil impacts due to wind or water erosion. These BMPs include applying water to active excavations and disturbed soils, reducing vehicle speeds onsite, and covering/treating soil piles. The implementation of the SWPPP will minimize soil and water resource impacts.

## 4.11 Traffic and Transportation

Workforce travel to KCEC for decommissioning activities will result in an insignificant impact to traffic and transportation. The license for KCEC assumed that the initial construction workforce would peak at 150, with an average of 100.<sup>5</sup> The estimated maximum monthly demolition workforce is 22 (see Table 3-1 above). The highest estimated number daily truck trips is 8, and the Passenger Car Equivalent (PCE) ratio for trucks is 1.5, such that 8 truck trips is the same as 12 truck trips. Adding 22 worker commute trips to the 12 truck trips, there would be a total of 34 vehicle trips per day during times of peak demolition activity.<sup>6</sup> The expected number of daily trips for demolition is therefore approximately 1/3 of the number of trips during initial facility construction. Therefore, decommissioning of KCEC will not result in significant traffic and transportation impacts. The following subsection presents the Conditions of Certification the Project Owner will implement to minimize traffic and transportation impacts.

### 4.11.1 Referenced Conditions of Certification

Some of the KCEC Referenced COCs would be effective in avoiding or minimizing potential effects of the decommissioning on traffic and transportation. Table 4-6 presents the applicable Traffic and Transportation Conditions to be implemented during demolition of KCEC.

**Table 4-6. Summary of Traffic and Transportation Conditions of Certification**

Conditions of Certification	Applicability
TRANS-1: Requires the project owner to comply with Caltrans, King City, and Monterey County vehicle size and weight limits and obtain necessary permits for road use.	Removal of the turbines, generators, and other equipment will require heavy haul vehicles. The Project Owner will comply with Caltrans, King City, and Monterey County vehicle size and weight limits and obtain the necessary permits.
TRANS-3: Requires that permits and/or licenses are secured from the California Highway Patrol and Caltrans for the transport of hazardous materials.	The decommissioning project will involve removal of hazardous materials for reuse or disposal. The Project Owner will observe the federal and state regulations for hazardous material transportation.
TRANS-4: Requires the project owner to repair the public roads that are used during construction to their original condition after construction, if damaged by construction traffic or other activities.	The decommissioning project will involve construction worker traffic and removal of materials by truck. The Project Owner will require that the contractor document the condition of the major public access roads to the project site before and after decommissioning and will coordinate decommissioning activities and documentation with the King City and Monterey County Public Works Departments.

<sup>5</sup> [http://www.energy.ca.gov/sitingcases/peakers/kingcity/documents/applicants\\_afc/](http://www.energy.ca.gov/sitingcases/peakers/kingcity/documents/applicants_afc/), Page 11-5.

<sup>6</sup> (22 workers + 1.5 PCE \* 8 truck trips = 34)

## 4.12 Visual Resources

KCEC demolition will result in a net benefit in terms of visual resources because it will involve the removal of above grade structures at the facility. Decommissioning will not cause adverse visual resources effects and no mitigation measures are needed.

## 4.13 Waste Management

After cessation of operations, all remaining nonhazardous wastes will be collected and disposed of in appropriate recycling centers, landfills or waste collection facilities. Hazardous wastes will be disposed of according to all applicable LORS. The site will be secured 24 hours per day during the closure activities.

Pre-closure activities include removal of products such as hydraulic, lubricating, and mineral oils; and other materials to reduce the risk of exposure of workers and the environment to chemicals. All operational liquids and chemicals are expected to be removed prior to demolition, including cooling tower treatment chemicals, remaining calibration and other gas cylinders, and any maintenance lubricants and solvents. Unused or partly used containers will be recycled at the Project Owner's other, similar facilities to the extent feasible.

Hazardous materials containers and pipelines will be rinsed clean when feasible and the rinsate collected for offsite disposal. When possible, these materials will be placed directly into tanker trucks or other transport vessels and removed from the site at the point of generation to minimize the need for hazardous material and waste storage at the site.

Decommissioning will entail breakdown and removal of structures and facilities. Residual materials from these activities will be transported via heavy haul dump truck to the Johnson Canyon Landfill near Gonzales or the Jolon Road Transfer Station in King City where the debris will be processed for recycling, consistent with the King City's Construction and Demolition (C&D) Waste Reduction and Recycling program. The City's C&D program requires a 50 percent diversion of materials generated during construction and demolition projects. As the Project Owner expects to recycle or resell much of the KCEC equipment and waste, satisfying the 50 percent diversion requirements will be easily accomplished. As required by the City's C&D program, all loads hauled offsite will be weighed and receipts retained.

Mechanized equipment and trained personnel will be used to safely dismantle and remove structures including removal of the turbine generators and related equipment, transformers, transmission lines and onsite towers (as applicable), and aboveground/underground pipelines (as applicable) within the project boundary. Most major equipment is targeted for reuse or for resale on the secondary markets.

If any buried facilities are removed, any resulting cavities will be backfilled with suitable material of similar consistency and permeability as the surrounding native materials and compacted.

Debris will be placed in temporary onsite storage area(s) pending transportation to the recycling/disposal facilities.

The debris and removed equipment will be cut or dismantled into pieces that can be safely lifted or carried with the onsite equipment being used. The vast majority of glass and steel will be processed for transportation and delivery to a scrap vendor or may be transported to the Johnson Canyon Landfill or Jolon Road Transfer Station recycling centers. Some specific equipment such as transformers, turbines, and generators may be transported as intact components, or reduced in size onsite with cutting torches or similar equipment.

A front-end loader, backhoe, or other appropriate equipment will be used to crush or compact compressible materials. These materials will be laid out in a processing area to facilitate crushing or compacting with equipment prior to transport for disposal/recycling. Steel, glass, and other materials will

be temporarily stockpiled at or near the processing location pending transport to an appropriate offsite recycling facility. Table 4-7 list the wastes expected to be generated during project decommissioning and demolition.

**Table 4-7. Wastes or Recyclables Generated during Decommissioning**

Waste	Origin	Composition	Estimated Quantity	Classification <sup>a</sup>	Assumed Disposition
General Construction and Demolition (C&D) Debris	Demolition	Wood, glass, paper, drywall, insulation.	48,000 Pounds	Non-Hazardous	Class III Landfill Disposal, WM Jolan Road Transfer Station
Universal Wastes - Fluorescent Lights/Signs	Lighting systems	Tubes	100 Boxes	Universal Waste Solids	Recycle or disposed of appropriately
Universal Wastes - Hg Lamps	Lighting Systems	Lamps	50	Universal Waste Solids	Recycle or disposed of appropriately
Asbestos Containing Materials	Flanges/Valves	Gaskets (Category 1 Non-Friable) with flanges	120 CY	Non-Hazardous	Johnson Canyon
Aqueous ammonia (19% NH3 by weight)	Ammonia Storage Tank	Liquid	32,895 Gal		Recycle or disposed of appropriately
Battery Electrolytes	Battery Room	Liquid within casings	6,426 Pounds		Recycle or disposed of appropriately
1,1-dichloro-2,2,2-trifluoroethane	Chiller Unit Refrigerant	Liquid	2,200 Pounds		Recycle or disposed of appropriately
NOx, N2, O2, CO Compressed Gases	Compressed Gas Storage Area	Calibration	5,650 Cubic Feet		Recycle or disposed of appropriately
Genguard Corrosion Inhibitor/Scale Control	Cooling Tower Skid	Liquid	200 Gal	Hazardous	Disposal Class I TSDF - Kettleman Hills Landfill
RO Antiscale	Cooling Tower Skid	Liquid	55 Gal	Hazardous	Disposal Class I TSDF - Kettleman Hills Landfill
Sodium Hypochlorite	Cooling Tower Skid	Liquid	55 Gal	Hazardous	Disposal Class I TSDF - Kettleman Hills Landfill
Natural Gas Condensate Distillate	Fuel Gas Compressor	Liquid	350 Gal	Hazardous	Disposal Class I TSDF - Kettleman Hills Landfill
Carbon Dioxide	Gas Turbine Package	Gas	3,600 lbs		Recycle or disposed of appropriately
Non-RCRA Waste Liquid/Used Oil	Operational Waste Haz Mat Storage Area	Used Oil	55 Gal	Cal-Haz	Disposal Class I TSDF - Kettleman Hills Landfill
Non-RCRA Solids, Oil Debris	Operational Waste Haz Mat Storage Area	Oily Solid Debris	55 Gal	Cal-Haz	Disposal Class I TSDF - Kettleman Hills Landfill

Table 4-7. Wastes or Recyclables Generated during Decommissioning

Waste	Origin	Composition	Estimated Quantity	Classification <sup>a</sup>	Assumed Disposition
Lubricating Oil	Haz Mat Storage Area and Lube Oil Skid	Liquid	9,040 Gal		Recycle or disposed of appropriately
Sodium Bisulphate	RO Skid	Liquid	55 Gal	Hazardous	Disposal Class I TSDF - Kettleman Hills Landfill
Waste Oil and Washwater Drain Tanks	Waste Oil System	Liquid	2,500 Gal	Non-Hazardous	Dispose - existing sanitary sewer connection
Oil Water Separator water	Oil Water Separator	Liquid	2,500 Gal	Non-Hazardous	Dispose - existing sanitary sewer connection
Demin and Wastewater Sump	Sump	Liquid	2,500 Gal	Non-Hazardous	Dispose - existing sanitary sewer connection
Raw Water Sump	Sump	Liquid	0	Recycle	Dust Control
Raw Water Tank	Tank	Liquid	0	Recycle	Dust Control
Demin Water Tank	Tank	Liquid	0	Recycle	Dust Control
Fuel Gas Liquids Drain Tank	Tank	Liquid	500 Gal	Hazardous	Disposal Class I TSDF - Kettleman Hills Landfill
Coil Condensate Sump	Sump	Liquid	500 Gal	Non-Hazardous	Dispose - existing sanitary sewer connection
Asphalt	Demolition	Asphalt rubble from roads	458 CY		Recycle
Concrete	Demolition	Concrete rubble from demolition of foundations, pipe saddles.	1,509 CY		Recycle
Scrap Metal <sup>b</sup>	Demolition	Ferrous, Non-Ferrous Materials	1,063 Tons	-	Recycle

<sup>a</sup> Items designated for recycling are not noted with waste classification

<sup>b</sup> Scrap metals only; does not include weights for sold assets such as CGT, SCR, etc., assumed sold wholesale for reuse.

#### 4.13.1 Nonhazardous Solid Waste

The following nonhazardous waste streams potentially could be generated during decommissioning activities:

- **Plastics, glass, insulation, and wood.** Approximately 24 tons needing recycling or disposal will be generated from the closure of KCEC. These wastes will be recycled where practical. Waste that cannot be recycled will be disposed of weekly in a Class III landfill – Either Johnson Canyon Landfill or Jolon Road Transfer Station.
- **Metal.** Approximately 1,063 tons of metal including steel and aluminum waste will be generated during closure of KCEC. Waste will be recycled, where practical, and non-recyclable waste will be deposited in a Class III landfill.

- **Concrete and Asphalt.** Approximately 2,000 cubic yards of concrete/asphalt will be generated during closure of KCEC. Waste will be recycled, where practical. Waste that cannot be recycled will be disposed of in a Class III landfill.

#### 4.13.2 Wastewater

Wastewater generated during closure of KCEC will include sanitary waste, stormwater runoff, and equipment washdown water. Depending on the chemical quality of these wastewaters, they could be classified as hazardous or nonhazardous. If needed, wastewater would be sampled and if found hazardous would be properly disposed of offsite.

#### 4.13.3 Solid Waste Disposal

Nonhazardous waste (often referred to as municipal waste or garbage) will be recycled or deposited in a Class III landfill. The facility currently disposes of nonhazardous solid waste through Johnson Canyon Landfill or Jolon Road Transfer Station. Any hazardous wastes will be delivered to a permitted offsite TSD for treatment or recycling, or will be deposited in a permitted Class I landfill consistent with the operational solid hazardous waste disposal method. The project is not expected to have any significant environmental impacts related to solid waste disposal.

##### 4.13.3.1 Nonhazardous Waste

Approximately 48,000 pounds of solid and 8,000 gallons of liquid nonhazardous waste will be generated during closure of KCEC. In addition, nonhazardous waste will continue to be generated during operation in similar quantities as to what is currently generated. Nonhazardous wastes will be recycled to the extent possible, and what cannot be recycled will be disposed of at a permitted landfill.

##### 4.13.3.2 Hazardous Waste

The KCEC is designated a Small Quantity Generator, hazardous waste generated will be stored at the facility for less than 90 days. The waste will then be transported to a TSD by a permitted hazardous waste transporter.

According to DTSC, there are numerous facilities in California that can accept hazardous waste for treatment and recycling.<sup>7</sup> For ultimate disposal, California has three hazardous waste (Class I) landfills. The closest commercial hazardous waste disposal facility is Chemical Waste Management's Kettleman Hills Landfill.

At the conclusion of the KCEC closure, the Project Owner will prepare a Waste Reduction and Recycling report, including all applicable weight receipts consistent with the King City C&D program.

#### 4.13.4 Referenced Conditions of Certification

Condition WASTE-2 requires an environmental professional be available for consultation during soil excavation and grading activities. If excavation work is performed in soils undisturbed during construction of KCEC, then the Project Owner will have an environmental professional available for consultation.

### 4.14 Worker Safety and Fire Protection

All decommissioning workers will be required to undergo proper health and safety training per the Referenced COC.

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<sup>7</sup> [http://www.dtsc.ca.gov/HazardousWaste/upload/LIST\\_HWM\\_Commercial\\_Facilities.pdf](http://www.dtsc.ca.gov/HazardousWaste/upload/LIST_HWM_Commercial_Facilities.pdf)

### 4.14.1 Referenced Conditions of Certification

The following Referenced COC is applicable in terms of avoiding or minimizing the potential effects of demolition and decommissioning.

<b>Worker Safety and Fire Protection Condition of Certification: Summary</b>	<b>Applicability</b>
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).	The Project Owner will update the existing Construction Safety and Health program to meet the specific needs of demolition and decommissioning.

## 4.15 Alternatives Analysis

A CEQA “Alternatives Analysis” is not required for demolition of facilities or Decommissioning activities, except for demolition of facilities of historical significance, not applicable here.<sup>8</sup> Demolition is ministerial. It is not a “Project” as that CEQA term of art is defined. In King City, approval of a demolition project is ministerial. The requirement to prepare an Environmental Impact Report, including the preparation of an alternatives analysis, is triggered when a proposed action requires a discretionary approval by a governmental agency and when there is substantial evidence that the action may result in a substantial adverse change in the environment.<sup>9</sup> Since the CEC’s Certified Regulatory Program is CEQA-equivalent, an alternatives analysis for demolition is not required. However, because the CEC Staff has requested such an analysis in other cases, we provide the following discussion.

The decommissioning program objectives are straightforward: to dismantle, recycle, reuse and dispose of equipment and facilities that are no longer operating in an economically sound manner and to safely redevelop or transfer control of the site (at some point in the future). The “no project” alternative, under which the CEC would not authorize the Project Owner to dismantle the facility and would not achieve these objectives.

The no project alternative would not be the environmentally preferred alternative, because it would leave in place a decommissioned facility. Over time, even if the Project Owner provided continued security and maintenance of a non-operational facility, it could become a growing public nuisance and potential health and safety hazard. The no project alternative would not allow the repurposing of useful major equipment, the removal and recycling of materials, and the potential beneficial use of site.

There are no feasible technological alternatives to using standard construction equipment to dismantle the plant. By definition, there are also no feasible locational alternatives for KCEC closure because the facility is located only at one site. Finally, this analysis has shown that dismantling, demolition, and decommissioning activities would not have significant, adverse, and unmitigated effects on the environment. Therefore, there are no feasible alternatives to the proposed action that would meet the project objectives and also avoid adverse impacts.

<sup>8</sup> See, for example, 20 C.C.R. 15064.5(b) and 20 C.C.R. 15126.4(b).

<sup>9</sup> See generally, Pub. Resources Code § 21080; also see 14 C.C.R. §§ 15002, 15382.

# References

California Energy Commission. 2001. Energy Commission Decision, Application for Certification for the Calpine King City LM 6000 Project, Docket Number 01-EP-6. California Energy Commission, Sacramento, California. April.

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King City Council. 2007. Resolution No. 07-4206 East Ranch Business Park Specific Plan. August.

U.S. Environmental Protection Agency. 1971. *Noise from Construction Equipment and Operations, U.S. Building Equipment, and Home Appliances*. Prepared by Bolt Beranek and Newman for EPA Office of Noise Abatement and Control, Washington, DC.

Appendix A  
Referenced Conditions of Certification

# **CALPINE KING CITY LM6000 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 Monterey Bay Unified Air Pollution Control District (MBUAPCD) for the project; and

- the project continues to meet BACT requirements under MBUAPCD 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), or prior to the expiration of the Summer Reliability Agreement with the California Independent System Operator if no DWR contract is signed, 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 King City LM6000 Project (King City) shall be on-line by not later than September 30, 2001. If King City 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 Draws in operation by September 30, 2001, the Energy Commission will set a specific date by which Draws 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-2000)  
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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### 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. Night construction, or specific night construction activities may be disallowed by the CPM if it results in significant impact to the surrounding community.

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

## **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.

## **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.

## **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.

**Verification:** Documentation will be provided to the CPM prior to ground disturbance to verify that the Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance (USFWS 1997) are in place and that construction personnel have been trained accordingly.

**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 or Burrowing owl burrows.

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

## **LAND USE**

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

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

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

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

## **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.

## **SOIL & WATER RESOURCE**

**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 wastewater discharge.

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

**SOIL& WATER-5** 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-6** 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.

## **CULTURAL RESOURCES**

**CUL-1** The project certified under this emergency process shall not cause any significant impact to cultural resources on the power plant site or linear rights of way. No significant cultural resources have been identified in the Area of Potential Effect (APE). No on-site cultural resource monitoring is required for this proposed site. In the event of an inadvertent cultural find the following conditions apply:

1. The presence of subsurface archaeological resources is always a possibility in areas where only surface inspection has taken place. In the unlikely event that sub-surface archaeological remains are discovered during ground disturbing activities (i.e., grading and/or excavation), work in the area must halt and a qualified Cultural Resource Specialist (CRS) will be contacted immediately to evaluate the significance of the find. The project manager, construction manager, and the Compliance Project Manager (CPM) will be notified if the resource is judged to be potentially significant, and the archaeologist may recommend further study.
2. In the event that suspected human remains are encountered, work must stop immediately within a radius of 100 feet (30 meters) of the discovery, and the Monterey County Coroner's Office will be notified within 24 hours of the find. If the skeletal remains are determined to be prehistoric, the Coroner's Office will contact the Native American Heritage Commission (NAHC) to identify the Most Likely Descendants (MLD). The MLD will be notified and will determine the most appropriate disposition of the remains and any associated artifacts.

**CUL-2** This standard condition does not apply to this project.

## **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** 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.

## **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.

## **PALEONTOLOGICAL**

**PALEO-1** This standard condition does not apply 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 cultural 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 3 above.

## **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.

## 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.

## 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 Monterey Bay Unified Air Pollution Control District.

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

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

## **APPENDIX A**

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### **PRELIMINARY DETERMINATION OF COMPLIANCE**

EVALUATION REPORT

PRELIMINARY DETERMINATION OF COMPLIANCE

FOR

CALPINE KING CITY COGENERATION, LLC  
750 METZ ROAD  
KING CITY, CA 93930

APPLICATION NUMBER 10738  
CEC DOCKET NUMBER AFC 01-EP-6

PREPARED BY

MIKE SEWELL  
AIR QUALITY ENGINEER

MONTEREY BAY UNIFIED  
AIR POLLUTION CONTROL DISTRICT  
24580 SILVER CLOUD COURT  
MONTEREY, CA 93940  
(831) 647-9411

AUTHORIZED FOR RELEASE ON:

April 11, 2001

APPROVED BY: \_\_\_\_\_

Manager

Fred Thoits, Engineering Division

DATE: \_\_\_\_\_

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## EVALUATION DATA

Company: Calpine King City Cogeneration, LLC  
Application #: 10738  
Address: 750 Metz Road  
King City, CA 93930  
UTM Coordinates: Horizontal: 668.8:  
Vertical: 4010.9  
Contact Person: Steve Bean/Brian McDonald  
District Engineer: Mike Sewell  
SIC Code: 4911  
Start: 4/2/01  
SCC Code: 1-01-006-01  
Finish: 4/11/01  
Site Location: 750 Metz Road  
King City, California

### **I. PROJECT DESCRIPTION**

On March 30, 2001, Calpine King City Cogeneration, LLC (Calpine) submitted a permit application to the District for the installation of a nominally rated 49.6 MW natural gas fired gas turbine at its existing power plant in King City. On April 4, 2001, Calpine submitted an Application for Certification (AFC) to the California Energy Commission (CEC) for this project. The application submitted was deemed complete by the CEC on April 11, 2001.

Calpine has requested an expedited permit for this project as allowed for under Executive Orders D-26-01 and D-28-01 issued by Governor Davis. These Executive Orders allow for a streamlined 21 day permit review process for the installation of power projects that will be online by September 30, 2001.

The proposed project consists of the installation of a nominally rated 49.6 MW General Electric LM6000PC simple cycle combustion turbine. When installed, this proposed project will result in an increase in the total nominal power production of the King City Power Plant from the presently permitted 123.3 MW to 172.9 MW.

## **II. APPLICABLE RULES**

- 200 Permits Required
- 203 Application
- 205 Provision Of Sampling And Testing Facilities
- 206 Standards For Issuing Authorities to Construct and Permits to Operate
- 207 Review Of New Or Modified Sources
- 213 Continuous Emissions Monitoring
- 214 Breakdown Conditions
- 218 Title V: Federal Operating Permits
- 219 Title IV: Acid Deposition Control
- 300 District Fees
- 301 Permit Fee Schedules
- 302 Source Testing And Analyses: Fees And Requirements
- 305 Fees For Risk Assessments, Risk Notifications, And Risk Reduction Plans And Reports
- 306 Asbestos Investigation Fees
- 400 Visible Emissions
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- 403 Particulate Matter
- 404 Sulfur Compound And Nitrogen Oxides
- 412 Sulfur Content Of Fuels
- 415 Circumvention
- 421 Violations And Determination Of Compliance
- 423 New Source Performance Standards (NSPS)
  - 40 CFR Part 60, Subpart A – General Provisions
  - 40 CFR Part 60, Subpart GG – Standards Of Performance For Stationary Gas Turbines
- 424 National Emission Standards For Hazardous Air Pollutants (NESHAPS)
  - 40 CFR Part 61, Subpart A - General Provisions
  - 40 CFR Part 61, Subpart M - National Emission Standard For Asbestos
- 426 Architectural Coatings
- 1000 Permit Guidelines And Requirements For Sources Emitting Toxic Air Contaminants
- 1003 Air Toxics Emissions Inventory And Risk Assessments

## **III. EQUIPMENT LIST**

Application 10738 - Gas Turbine Consisting Of:

1. Simple Cycle Natural Gas Fired Gas Turbine Generator, General Electric Frame 6, Model LM6000PC, Rated At 467.6 MMBtu/Hr Maximum Heat Input And 49.6 MW Nominal Electrical Output, Water Injection To Control NO<sub>x</sub>.

2. Selective Catalytic Reduction NO<sub>x</sub> Control System.
3. Oxidation Catalyst For Carbon Monoxide Control.
4. CEM System Designed To Continuously Record The Measured Gaseous Concentrations, And Calculate And Continuously Monitor And Record The NO<sub>x</sub> And CO Concentrations Corrected To Fifteen (15) Percent Oxygen (O<sub>2</sub>) On A Dry Basis.

#### **IV. PROPOSED OPERATION**

Calpine proposes to operate the this unit on a “merchant plant” basis. The equipment will be operated when it is economically viable for the power generated to be sold to the power grid.

Calpine proposes that the facility, including the new turbine will stay below the existing facility NO<sub>x</sub> cap. They propose to do this by over-controlling the gas turbine emissions and/or by limiting hours of operation of all or some of the combustion equipment. Emissions increases will occur for the other criteria pollutants. However, with the exception of PM<sub>10</sub>, the emission increases will not trigger offsetting requirements. The applicant has proposed to fully offset the facilities’ PM<sub>10</sub> emissions as required by District Rule 207.

#### **V. AIR QUALITY IMPACT ANALYSIS**

As an addendum to their application, Calpine provided an Air Quality Impact Analysis. This included screening modeling using Screen3 to address the impacts of the project. The modeled project impacts were combined with background concentrations to verify that the project would not contribute to violations of the Ambient Air Quality Standards.

The information has been extracted from the addendum and is tabulated below. The first table addresses the Air Quality Increment in Area E (where the facility is located and where maximum impacts occur), the second addresses the Air Quality Increment for Area A (the Pinnacles National Monument and the Ventana Wilderness Area). The third table is a comparison of the project impacts combined with background concentrations versus the ambient air quality standards.

### Increment Analysis - Area E

Pollutant	Maximum Modeled Impact Area E (ug/m <sup>3</sup> )	Designated Area E (ug/m <sup>3</sup> )	Averaging Period	Below Allowable Increment Consumption
Carbon Monoxide (CO)	6.8	12,000	1-hour	yes
Nitrogen Dioxide (NO <sub>2</sub> )	0.75	25	annual	yes
TSP	0.22 1.1	19 37	annual 24-hour	yes yes
PM <sub>10</sub>	0.22 1.1	10.8 21.1	annual 24-hour	yes yes
Sulfur Dioxide (SO <sub>2</sub> )	0.03 0.14 0.32	20 91 512	annual 24-hour 3-hour	yes yes yes

### Increment Analysis - Area A

Pollutant	Maximum Modeled Impact Area E <sup>1</sup> (ug/m <sup>3</sup> )	Designated Areas A (ug/m <sup>3</sup> )	Averaging Period	Below Allowable Increment Consumption
Carbon Monoxide (CO)	6.8	4,000	1-hour	yes
Nitrogen Dioxide (NO <sub>2</sub> )	0.75	2.5	annual	yes
TSP	0.22 1.1	5 10	annual 24-hour	yes yes
PM <sub>10</sub>	0.22 1.1	2.8 5.7	annual 24-hour	yes yes
Sulfur Dioxide (SO <sub>2</sub> )	0.03 0.14 0.32	2 5 25	annual 24-hour 3-hour	yes yes yes

Note: <sup>1</sup> - Maximum impact occurred in Area E. This maximum Area E impact was also utilized to determine increment consumption for Area A.

The two tables above indicate that the project does not exceed any air quality increment. Therefore, the project complies with the air quality increment provisions of Rule 207.

## Cumulative Impacts Vs. Ambient Air Quality Standards

Pollutant	Avg. Period	Max. Project Impact (ug/m <sup>3</sup> )	Bckgnd Conc. (ug/m <sup>3</sup> )	Total Impact (ug/m <sup>3</sup> )	State Standard (ug/m <sup>3</sup> )	Federal Standard (ug/m <sup>3</sup> )	Below Applicable Standard(s)
Carbon Monoxide (CO)	1-hour	6.8	6,900	6,907	23,000	40,000	yes
	8-hour	4.8	3,222	2,523	10,000	10,000	yes
Nitrogen Dioxide (NO <sub>2</sub> )	1-hour	9.3	113	122.3	470	--	yes
	annual	0.75	21	21.8	--	100	yes
PM <sub>10</sub>	24-hour annual <sup>(1)</sup>	1.1	65	66.1	50	150	no
		0.22	22.0	22.2	30	--	yes
	annual <sup>(2)</sup>	0.22	21.4	21.7	--	50	yes
Sulfur Dioxide (SO <sub>2</sub> )	1-hour	0.36	156	156.4	650	--	yes
	3-hour	0.32	73.5	73.8	--	1,300	yes
	24-hour	0.14	39	39.1	109	365	yes
	annual	0.03	2.63	2.6	--	80	yes

Note: <sup>(1)</sup> Annual Arithmetic Mean, <sup>(2)</sup> Annual Geometric Mean.

The table above identifies that the project emission concentrations when combined with background concentrations do not exceed the ambient air quality standards with the exception of the State PM<sub>10</sub> standard. Although the table identifies an exceedance of the State PM<sub>10</sub> standard, the District has determined that this project will not cause or contribute to the violation of an ambient air quality standard. The basis for this determination is the fact that existing PM<sub>10</sub> concentrations already exceed the standard, and the fact that the facility is fully offsetting PM<sub>10</sub> emission increases via the use of banked emissions. Therefore, the project as proposed complies with the Ambient Air Quality Standard provisions of Rule 207.

### **Visibility Impacts**

A visibility analysis of the project's gaseous emissions is required under Rule 207. The analysis addresses the contributions of gaseous emissions (primarily NO<sub>x</sub>) and particulate (PM<sub>10</sub>) emissions to visibility impairment on the nearest Class A areas, which are the Ventana Wilderness Area and the Pinnacles National Monument to the west and north, respectively. Calpine used the EPA approved model VISCREEN to assess the project's visibility impacts. The results from the VISCREEN modeling analysis indicated that the project's visibility impacts would be below the significance criteria for contrast and perception. Therefore the project's visibility impacts on these Class A areas are considered insignificant.

## VI. EMISSIONS CALCULATIONS

### Rule 207 Review of New or Modified Sources

The proposed project's emission parameters are shown in the following table.

**Proposed Project Emission Parameters**

EQUIPMENT	POLLUTANT	CONCENTRATION (ppmvd @ 15% O <sub>2</sub> )	EMISSION FACTOR (lb/MMBtu)	EMISSION RATE <sup>(1)</sup> (lb/hr)
LM6000 Baseload	NO <sub>x</sub>	5.0 <sup>(2)</sup>	0.0185	8.65
	SO <sub>x</sub>		0.0007 <sup>(3)</sup>	0.33
	VOC	2.0 <sup>(2)</sup>	0.00257	1.20
	CO	6.0 <sup>(2)</sup>	0.0135	6.31
	PM <sub>10</sub> /TSP		0.00535 <sup>(4)</sup>	2.50 <sup>(4)</sup>
LM6000 Start-up <sup>(5)</sup>	NO <sub>x</sub>			35.00 <sup>(4)</sup>
	SO <sub>x</sub>		0.0007 <sup>(3)</sup>	0.33 <sup>(3)</sup>
	VOC			0.89 <sup>(4)</sup>
	CO			27.00 <sup>(4)</sup>
	PM <sub>10</sub> /TSP			2.50 <sup>(4)</sup>

- Notes:
- (1) Maximum emission rates based upon maximum heat input of 467.6 MMBtu/Hr.
  - (2) BACT levels established by Rule 207.
  - (3) Based upon fuel sulfur content of 0.25 gr/100 dscf natural gas.
  - (4) Emission rate provided by vendor, emission factor shown was back-calculated.
  - (5) These 1 hour emission levels include shutdown emissions.

The maximum daily potential to emit for this equipment is based upon an operating scenario where the unit undergoes a one hour start-up period and 23 hours of operation at full load, except VOCs where maximum emissions are based on 24 hours of full load operation as start-up emissions are less than hourly emissions at full load.

**Maximum Daily Potential to Emit (Pounds/Day)**

EQUIPMENT	NO <sub>x</sub>	SO <sub>x</sub>	VOC	CO	PM <sub>10</sub> /TSP
Start-up <sup>(1)</sup>	35.00	0.33	0.89	27.00	2.50
Baseload <sup>(2)</sup>	198.95	7.59	27.6	145.13	57.5
Total	233.95	7.92	28.8 <sup>(3)</sup>	172.13	60.00

- Notes: (1) 1 hour start-up.  
 (2) 23 hours of operation at full load.  
 (3) 24 hours of operation at full load, full load equates to greater VOC emissions.

**Best Available Control Technology (BACT)**

The applicable BACT thresholds from Rule 207, Sections 4.1.1 and 5.2, the proposed project's maximum daily emissions and the determination as to whether BACT is required are shown in the following table.

**Determination if BACT is Required**

Pollutant	BACT Emission Threshold (Lbs/day)	Proposed Project Emissions (Lbs/day)	BACT Required
NO <sub>x</sub> as NO <sub>2</sub>	25	233.95	Yes
SO <sub>x</sub> as SO <sub>2</sub>	150	7.92	No
VOC	25	28.49	Yes
CO	550	172.13	No
TSP	150	60.00	No
PM <sub>10</sub>	82	60.00	No

As can be seen in the table above, BACT is required for NO<sub>x</sub> and VOCs. Calpine has proposed BACT (shown in the following table) which is consistent with the ARB's Guidance for Power Plant Siting and Best Available Control Technology dated June, 1999. Even though BACT is not triggered for SO<sub>x</sub>, CO, and TSP/PM<sub>10</sub>, the installation of an oxidation catalyst and the combustion of natural gas are considered BACT for these pollutants, and therefore they are included in the following table.

### Gas Turbine BACT

Pollutant	Applicant's Proposal	BACT as Defined in ARB Power Plant Siting Document	Additional Discussion Required?
NO <sub>x</sub> as NO <sub>2</sub>	5.0 ppmvd @ 15% O <sub>2</sub> 1-hour rolling average	Same	No
SO <sub>x</sub> as SO <sub>2</sub>	Emission Limit Based on Natural Gas Fuel <0.25 grains/100 dscf	Emission Limit Based on Natural Gas Fuel <1 grain/100 dscf	No
VOC	2.0 ppmvd @ 15% O <sub>2</sub> 1-hour rolling average	Same	No
CO	6.0 ppmvd @ 15% O <sub>2</sub> 1-hour rolling average	6.0 ppmvd @ 15% O <sub>2</sub> 3-hour rolling average	No
TSP	Emission Limit Based on Natural Gas Fuel <0.25 grains/100 dscf	Emission Limit Based on Natural Gas Fuel <1 grain/100 dscf	No
PM <sub>10</sub>	Emission Limit Based on Natural Gas Fuel <0.25 grains/100 dscf	Emission Limit Based on Natural Gas Fuel <1 grain/100 dscf	No

No fuel oil firing, or alternative fuels other than natural gas have been proposed for the project.

#### **Offsets**

The facility net emissions increase, which establishes the calculation methodology for offsets is based upon the methodology contained in Section 7.4 of Rule 207. This calculation is based upon the existing facility cap for the combustion equipment, the limit on PM<sub>10</sub> emissions from the cooling tower and the emissions associated with the new turbine. This net emissions increase does not include emissions from the emergency firing of fuel oil as allowed for in the permits for the facilities existing combustion units, as the District does not require offsets for the use of backup fuels designated/permitted for use only in emergency conditions. The existing equipment is allowed to operate 240 hours per year on number 2 fuel oil in the event of a natural gas supply interruption or curtailment.

Note that the facility has agreed to operate all equipment (the existing turbine and two boilers and the new turbine) below the existing facilities' NO<sub>x</sub> limit. **Therefore, the NO<sub>x</sub> values shown in the following table are for reference and do not signify a net emissions increase.** The existing facilities' NO<sub>x</sub> limit will be included on this permit to ensure compliance.

**Net Emissions Increase (Pounds/Day)**

EQUIPMENT	NO <sub>x</sub>	SO <sub>x</sub>	VOC	CO	PM <sub>10</sub> /TSP
Existing Combustion Equipment	1070.0	16.1	33.6	607.2	88.8
Existing Cooling Tower	---	---	---	---	20.00
New Gas Turbine	233.95	7.92	28.49	172.13	60.00
Offsets Supplied For Frame 7 <sup>(1)</sup>	-230.68	-13.70	-127.12	-271.23	-18.63
<b>Totals</b>	<b>1,073.27</b>	<b>10.32</b>	<b>-65.03</b>	<b>508.1</b>	<b>150.17</b>

Notes: <sup>(1)</sup>From April 12, 1989 District Letter to the California Energy Commission on the offset package for the BAF Energy Project (85-AFC-5A)

**Determination if Offsets are**

Pollutant	Offset Threshold (Lbs/day)	Project Net Emissions Increase (Lbs/day)	Offsets Required
NO <sub>x</sub> as NO <sub>2</sub>	137	0	No
SO <sub>x</sub> as SO <sub>2</sub>	150	10.32	No
VOC	137	-65.03	No
CO	550	508.1	No
TSP	150	150.17	Yes
PM <sub>10</sub>	82	150.17	Yes

As can be seen in the table above, offsets are only required for the TSP/PM<sub>10</sub> emissions. The net emissions increase from this project exceed the offset threshold for PM<sub>10</sub> specified in Section 4.2 of Rule 207; therefore offsets are required. The offsets provided must fully offset the net emission increase by quarter.

The applicant has requested to use the PM10 limits established in Conditions 16 and 21 on Title V Permit TV02-04A to establish the potential to emit (PTE) for the existing

equipment at the facility for offsetting purposes. In addition to offsetting the emissions as identified in Conditions 16 and 21 on Title V Permit TV02-04A, the facility will need to offset the quarterly emission increases from the new equipment less the previous emission reductions from the installation of the original facility. Therefore, the facilities PM<sub>10</sub> net emission increase is shown in the following table by calendar quarter and on an annual basis.

**PM<sub>10</sub>Net Emissions Increase (Pounds)**

EQUIPMENT	First	Second	Third	Third	Total/Annual
Existing Combustion Equipment	5,425	5,485	5,545	5,545	22,000
Existing Cooling Tower	1,800	1,820	1,840	1,840	7,300
New Gas Turbine	5,400	5,460	5,520	5,520	21,900
Offsets Supplied For Frame 7 <sup>(1)</sup>	-1,677	-1,695	-1,714	-1,714	-6,800
<b>Totals</b>	<b>10,948</b>	<b>11,070</b>	<b>11,191</b>	<b>11,191</b>	<b>44,400</b>

Notes: <sup>(1)</sup>From April 12, 1989 District Letter to the California Energy Commission on the offset package for the BAF Energy Project (85-AFC-5A)

Calpine has proposed to fully offset the project emissions by calendar quarter as established above. The offsets are proposed to be acquired from the “State Bank” established under Executive Order D-24-01 issued by Governor Davis, or from a District generated offset program approved by the District Board based upon Mobile and Area source emissions reductions. Application of offset ratios as required by Section 4.3 of Rule 207 will be addressed in the offset package provided by the “State Bank” or the District program.. These “State Bank” or District program offsets will be utilized by the source as temporary offsets, until such time that the facility has in place a permanent offset package.

**PM<sub>10</sub> Net Emissions Increase Vs. Proposed PM<sub>10</sub> Offsets For Project (Pounds)**

Quarter	First	Second	Third	Fourth
Net Emissions Increase	10,948	11,070	11,191	11,191
Same Pollutant Offsets Provided	10,948	11,070	11,191	11,191
Fully Offset Net Emissions Increase	Yes	Yes	Yes	Yes

As shown in the above table, Calpine has proposed to fully offset the project’s net emission increase.

The permit will be conditioned such that the emissions from the facility will not exceed the quarterly emission levels evaluated under this AFC, as shown in the following table. These are based upon the PTE limits established in Conditions 16 and 21 on Title V Permit TV02-04A for the existing equipment, and the PTE of the new turbine. Note that these limits do not include emissions from fuel oil operation as allowed for in the permits for the existing Frame 7 unit and the Boilers, and these limits will be increased by the incremental hourly limit for oil firing versus the natural gas hourly limit for all hours the equipment was actually operated on fuel oil, up to the 240 hour limit.

**Permit Limits (Pounds)**

Pollutant	NO <sub>x</sub>	SO <sub>x</sub>	VOC	CO	TSP/PM <sub>10</sub>
First Quarter	65,392	1,748	4,762	58,445	12,625
Second Quarter	66,118	1,768	4,815	59,095	12,765
Third Quarter	66,845	1,787	4,868	59,744	12,905
Fourth Quarter	66,845	1,787	4,868	59,744	12,905
Annual Limits	265,200	7,090	19,313	237,028	51,200

**VII. CONCLUSIONS**

**Compliance Check**

**200 Permits Required**

Calpine King City Cogeneration, LLC has applied for and will be issued an Authority to Construct (ATC) for the installation and temporary operation of this equipment. Upon completion of initial compliance testing, a Permit to Operate (PTO) will be issued. Therefore, the facility will be in compliance with this Rule.

### **203 Application**

Calpine King City Cogeneration, LLC supplied separate applications for each permit unit and utilized the District's permit application form as required by this Rule.

### **205 Provision Of Sampling And Testing Facilities**

The permits will include conditions establishing sampling facilities as required by this Rule.

### **206 Standards For Issuing Authorities to Construct and Permits to Operate**

The facility is in compliance with the requirements of this Rule with regards to ATC issuance. Prior to issuing the PTO, the District will verify that the equipment has been installed pursuant to the ATC.

### **207 Review Of New Or Modified Sources**

The facility is in compliance with the requirements of this Rule as show in Sections V and VI above. The BACT and offset provisions of this Rule were triggered and are included in this analysis. This rule also is SIP approved for the purpose of meeting the nonattainment and prevention of significant deterioration (PSD) NSR requirements of the Clean Air Act. This rule requires that the project be public noticed prior to issuance of the permit. The permit will be conditioned such that compliance with the emission limits established by this Rule will be continually monitored.

### **213 Continuous Emissions Monitoring**

The requirements of this Rule are applicable to this equipment identified in this application. The permit will be conditioned such that CEM will be installed, calibrated, maintained, and operated in accordance with District and EPA standards.

### **214 Breakdown Conditions**

This is the implementing regulation in which the District has established the criteria for reporting breakdowns. The requirements imposed by this rule will be included on these permits.

### **218 Title V: Federal Operating Permits**

The permit will be conditioned such that the facilities' Title V permit must undergo a "Major Modification" prior to combusting fuel in the new Gas Turbine. Upon completing this Title V permit issuance for this "Major Modification", the facility will be in compliance with the requirements of this Rule.

### **219 Title IV: Acid Deposition Control**

The facility is presently not an "Affected Facility" under the Acid Rain program, and the installation of this new gas turbine will not change the facilities status as this new unit falls under the exemptions contained in 40CRF§72.7(a)(3). The facility will be exempt from the Acid Rain program except for the provisions contained in §§72.2 through 72.6 and §§72.10 through 72.13.

### **300 District Fees**

Historically, the King City Power Plant has complied with the requirements of this Rule. The District fully expects continued compliance with the provisions of this Rule.

### **301 Permit Fee Schedules**

Prior to District review of this application, the appropriate fees pursuant to this Rule were received from Calpine King City Cogeneration, LLC. Therefore, the facility is in compliance with this Rule.

### **302 Source Testing And Analyses: Fees And Requirements**

Historically, the King City Power Plant has complied with the requirements of this Rule. The District fully expects continued compliance with the provisions of this Rule.

### **7305 Fees For Risk Assessments, Risk Notifications, & Risk Reduction Plans & Reports**

Historically, the King City Power Plant has complied with the requirements of this Rule. The District fully expects continued compliance with the provisions of this Rule.

### **306 Asbestos Investigation Fees**

Historically, the King City Power Plant has complied with the requirements of this Rule. The District fully expects continued compliance with the provisions of this Rule.

### **308 Title V: Federal Operating Permit Fees**

This is the District's fee rule for Title V. Appropriate conditions are included on the existing Title V permit, and will be included on the revised Title V permit to ensure compliance with the fee provisions contained in this rule.

### **400 Visible Emissions**

The equipment is natural gas fired, and therefore should easily comply with the 20% opacity standard from this Rule. Appropriate conditions will be included on the permits to ensure compliance with the requirements of this Rule.

### **402 Nuisances**

With the equipment being fired on natural gas, nuisance type problems are not expected from this operation. However, appropriate conditions will be included on the permits to ensure compliance with the requirements of this Rule.

### **403 Particulate Matter**

The 0.15 grains per dry standard cubic foot emission limit is applicable to the LM6000 at the facility, but this standard is superseded by the emission limitations imposed through the NSR (Rule 207) permitting process and is verified as follows. Based upon the requirements of Rule 403, the volumetric flow rate of 217,058 SDCFM for the Gas Turbine would establish an emission limit of 279.1 lbs PM<sub>10</sub>/hr [(217,058 SDCFM)\*(0.15 grains/SDCF)\*(1 lb/7000 grains)\*(60 M/Hr) = 279.1 lbs PM<sub>10</sub>/hr]. Based upon the limits

contained on this permit through this permitting process, the PM<sub>10</sub> emission limit for this gas turbine is 2.5 lbs/hr, which is well below the applicable Rule 403 standards.

#### **404 Sulfur Compound And Nitrogen Oxides**

This equipment is exempt from the requirements of this Rule based upon the exemptions contained in Section 1.3. The Gas Turbine is subject to BACT limits imposed by Rule 207 and is therefore exempt from the requirements of this Rule pursuant to Section 1.3.2.

#### **412 Sulfur Content Of Fuels**

This rule which requires that the sulfur content of any gaseous fuel combusted contain 50 grains or less of sulfur per 100 cubic feet is applicable to this equipment. The sulfur content limits proposed in the application are 0.25 grains per 100 cubic feet of natural gas. This sulfur limit will be included on the permits.

#### **415 Circumvention**

The facility is in compliance with the provisions of this Rule.

#### **421 Violations And Determination Of Compliance**

This Rule provides standards for compliance determinations required by, or derived from federal law. The facility is in compliance with the requirements of this Rule.

#### **423 New Source Performance Standards (NSPS)**

40 CFR Part 60, Subpart A –General Provisions

The facility is subject to the requirements of this part because the equipment is subject to 40 CFR Subpart GG.

The notification and record keeping, performance tests, compliance with standards and maintenance requirements, circumvention, monitoring requirements, and general notification and reporting requirement provisions contained in §§60.7, 60.8, 60.11, 60.12, 60.13, and 60.19 will be subsumed under the testing, monitoring, reporting requirements established as conditions on this permit pursuant to District requirements. This will include initial testing, annual testing, record keeping, reporting, and the requirement to monitor operations with the use of CEMs.

40 CFR Part 60, Subpart GG - Standards Of Performance For Stationary Gas Turbines

The LM6000 are subject to the requirements of this NSPS. In addition to utilizing good combustion practices and combusting only natural gas, the LM6000 will utilize water injection to limit NO<sub>x</sub> formation, and the back-end control of SCR to limit pollutant emissions.

The allowable NO<sub>x</sub> concentration limit derived from §60.332(a)(1) would be 75 ppmvd. This 75 ppmvd limit far exceeds the 5 ppmvd limit established by the BACT

requirements of District Rule 207. Therefore, the NO<sub>x</sub> limit from the NSPS will be subsumed under the NSR permit requirements that will be included on the permits.

The allowable SO<sub>2</sub> concentration limit derived from §60.333 would be 150 ppmv. Compliance with this limit is assured due to limits established by the BACT requirements of Rule 207 and established in the permit at 0.33 lbs/hr. The SO<sub>2</sub> concentration at this permitted emission level would be 0.13 ppmv for the turbine  $[(0.33 \text{ lbs SO}_2/\text{hr}) * ((\text{MM lbmoles air}) / (64.1 \text{ lbmole SO}_2)) * ((379 \text{ Ft}^3 \text{ Air}) / (\text{lbmole air})) / ((272,396 \text{ SDCFM}) * (60 \text{ M/Hr}))] = 0.33 \text{ ppmv}$ . This value is well below the 150 ppmv SO<sub>2</sub> allowed for in the NSPS. Therefore, the SO<sub>2</sub> emission standard from this NSPS will be subsumed under the NSR permit requirement that will be included on the permits.

The testing and monitoring requirements contained in §§60.334 and 60.335 will be subsumed under the testing and monitoring requirements established under the NSR conditions contained on the permits. This will include the annual emissions testing requirement and the requirement to monitor operations with the use of CEMs.

#### **424 National Emission Standards For Hazardous Air Pollutants (NESHAPS)**

##### *40 CFR Part 61, Subpart A -General Provisions*

The facility is subject to the requirements of this part because the facility is subject to 40 CFR Part 61, Subpart M. Historically, the facility has been in compliance with these requirements and continued compliance is expected.

##### *40 CFR Part 61, Subpart M - National Emission Standard For Asbestos*

The facility on occasion is subject to the requirements of 61.145 - 61.147 (Standards for Demolition and Renovation). Historically, the facility has been in compliance with these requirements and continued compliance is expected.

#### **426 Architectural Coatings**

This rule is applicable to all applications of architectural coatings and limits the VOC content of these coatings. Historically, the facility has been in compliance with this Rule and continued compliance is expected.

#### **1000 Permit Guidelines And Requirements For Sources Emitting Toxic Air Contaminants**

As an addendum to their application, Calpine King City Cogeneration, LLC provided a Screening Analysis which demonstrated compliance with the *Toxic Air Contaminants (TACs)* and *Carcinogenic Toxic Air Contaminants (CTACs)* risk requirements of this rule.

However, the application did not identify *Reasonable Control Technology (RCT)* for TACs as required by the rule, nor *Best Control Technology (BCT)* for CTACs. Although RCT and BCT was not identified in the application, the use of an oxidation catalyst and the combustion of only natural gas meets the District's requirements for BCT and RCT.

Although, the potential to emit toxics from the installation of this equipment does not exceed the 25 tons per year HAP threshold which would establish the King City Power

Plant as a *Federal §112(g) Source*. Although the facility is not a *Federal §112(g) Source*, the only additional requirement imposed by Rule 1000 on a facility identified as a *Federal §112(g) Source* is that the project must be public noticed prior to the permit being issued. Even though this source is not subject to the public noticing requirement imposed by Rule 1000, the facilities permit is being public noticed pursuant to the requirements of Rule 207.

### **1003 Air Toxics Emissions Inventory And Risk Assessments**

Historically, the King City Power Plant has complied with the requirements of this Rule. The District fully expects continued compliance with the provisions of this Rule.

### **Conclusions**

This equipment as proposed has the capability of complying with all applicable rules of the District.

## **VIII. RECOMMENDATION**

Issue a Determination of Compliance for this project to the California Energy Commission. The CEC's order should contain the following conditions to verify compliance with District Rules and Regulations:

### **Conditions Prior to Combusting Fuel:**

1. Calpine King City Cogeneration, LLC shall submit all design criteria and specifications on the gas turbine generator, the SCR system, the ammonia injection system, the oxidation catalyst, and the CEM systems, and receive District approval prior to installation.
2. Pursuant to the requirements of District Rule 218, Calpine King City Cogeneration, LLC shall apply for and receive a revised Title V permit for the King City Power Plant prior to combusting fuel in the LM6000.
3. District-approved continuous emission monitors shall be installed, calibrated, and operational prior to first firing the LM6000. After commissioning of the LM6000, the detection range of these continuous emission monitors shall be adjusted as necessary to accurately measure the normal range of CO and NOx emission concentrations. The type, specifications, and location of these monitors shall be subject to District review and approval.
4. Calpine King City Cogeneration, LLC shall submit a plan to the District at least 30 days prior to the first firing of the LM6000. This plan shall describe the procedures to be followed during the commissioning of the LM6000. 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 combustor, the installation and operation of the SCR system, the installation of the oxidation catalyst and the installation, calibration, and testing of the CO and NOx continuous emission monitors, and any

activities requiring the firing of the LM6000 without abatement by SCR and Oxidation Catalyst.

5. No later than seven (7) days prior to combusting fuel in the LM6000, Calpine King City Cogeneration, LLC shall notify the District and arrange for an inspection of the equipment.
6. Calpine King City Cogeneration, LLC shall surrender the offsets identified in this evaluation prior to combusting fuel in the LM6000.

**Turbine Commissioning Conditions:**

7. Calpine King City Cogeneration, LLC shall minimize emissions from the LM6000 to the maximum extent possible during the commissioning period.
8. At the earliest feasible opportunity in accordance with the recommendation of the equipment manufacturers, the combustors of the LM6000 shall be tuned to minimize emissions.
9. At the earliest feasible opportunity in accordance with the recommendations of the equipment manufacturers, the SCR Systems shall be installed, adjusted, and operated to minimize the emissions of nitrogen oxides and ammonia from the LM6000.
10. At the earliest feasible opportunity in accordance with the recommendations of the equipment manufacturers, the Oxidation Catalyst shall be installed and operated to minimize the emissions of carbon monoxide from the LM6000.
11. The total number of firing hours of the LM6000 without abatement of nitrogen oxide emissions by the SCR System shall not exceed 100 hours during the commissioning period. Such operation of the LM6000 without abatement shall be limited to discrete commissioning activities that can only be properly executed without the SCR and Oxidation Catalyst in place. Upon completion of these activities, Calpine King City Cogeneration, LLC shall provide written notice to the District and the unused balance of the 100 firing hours without abatement will expire.
12. The total mass emissions of nitrogen oxides, carbon monoxide, volatile organic compounds, PM10, and sulfur dioxide that are emitted from the LM6000 during the commissioning period shall accrue towards the quarterly and annual emission limits specified in Condition 27.
13. At the end of the commissioning period, Calpine King City Cogeneration, LLC shall conduct a District and CEM approved source test to determine compliance with Condition 18 (start-up limits), and the written test results of the performance tests shall be provided to the District and the CEM within thirty (30) days after the testing. The source test shall determine NO<sub>x</sub>, CO, and VOC emissions during start-up of the LM6000. The source test for the LM6000 shall include a minimum

of three start-up and shutdown periods. A complete test protocol shall be submitted to the District no later than thirty (30) days prior to testing, and notification to the District at least ten (10) days prior to the actual date of testing shall be provided so that a District observer may be present. Changes to the test date made subsequent to the initial ten day notification may be communicated by telephone or other acceptable means no less than forty-eight (48) hours prior to the new test date.

**LM6000 Conditions:**

- 14. The heat input rate to the LM6000 shall not exceed 467.6 MMBtu/hr and the unit shall only be fired on natural gas.
- 15. The maximum daily combined emissions from the LM6000, including start-ups and shutdowns, shall not exceed the following limits:

<u>Pollutant</u>	<u>Lbs/Day</u>
Oxides of Nitrogen (NO <sub>x</sub> )	233.95
Carbon Monoxide (CO)	172.13
Particulate Matter <10 microns (PM <sub>10</sub> )	60.00
Volatile Organic Compounds (VOC)	28.80
Ammonia (NH <sub>3</sub> )	150.48
Sulfur Dioxide (SO <sub>2</sub> )	7.92

- 16. The pollutant mass emission rates in the exhaust discharged to the atmosphere from the LM6000 shall not exceed the following limits:

<u>Pollutant</u>	<u>Lbs/Hour</u>	<u>Lbs/Day</u>
Oxides of Nitrogen (NO <sub>x</sub> )	8.65	207.6
Carbon Monoxide (CO)	6.31	151.4
Particulate Matter <10 microns (PM <sub>10</sub> )	2.50	60.0
Volatile Organic Compounds (VOC)	1.20	28.8
Ammonia (NH <sub>3</sub> )	6.27	150.5
Sulfur Dioxide (SO <sub>2</sub> )	0.33	7.9

- 17. These limits shall not apply during start-up, which is not to exceed one (1) hour. SCR catalytic controls and good engineering practices shall be used to the fullest extent practical during start-up to minimize pollutant emissions.
- 18. The pollutant concentrations discharged to the atmosphere from the LM6000 shall not exceed the following limits, calculated at 15 percent O<sub>2</sub> on a one-hour rolling average unless otherwise noted:

<u>Pollutant</u>	<u>Concentration (ppm)</u>
Oxides of Nitrogen (as NO <sub>2</sub> )	5.0
Carbon Monoxide (CO)	6.0
Ammonia (NH <sub>3</sub> ) (3-60 minute averages)	10.0

19. These limits shall not apply during start-up, which is not to exceed one (1) hour, or shutdown. SCR catalytic controls and good engineering practices shall be used to the fullest extent practical during start-up to minimize pollutant emissions.
20. The pollutant emission rates discharged to atmosphere from the LM6000 during a start-up shall not exceed the following limits. These limits apply to any start-up period which shall not exceed one (1) hour.

<u>Pollutant</u>	<u>Lbs/Start-Up</u>
Oxides of Nitrogen (as NO <sub>2</sub> )	35.00
Carbon Monoxide (CO)	27.00
Volatile Organic Compounds (as CH <sub>4</sub> )	1.20

21. CEMs shall be installed and operated on the LM6000. This system shall be designed to continuously record the measured gaseous concentrations, and calculate and continuously monitor and record the CO, CO<sub>2</sub> or O<sub>2</sub>, and NO<sub>x</sub> concentrations corrected to fifteen (15) percent oxygen (O<sub>2</sub>) on a dry basis.
22. The equipment installed for the continuous monitoring of CO shall be maintained and operated in accordance with 40 CFR Part 60 Appendix F, and the equipment installed for the continuous monitoring of CO<sub>2</sub> or O<sub>2</sub> and NO<sub>x</sub> shall be maintained and operated in accordance with 40 CFR Part 51, Appendix P and 40 CFR Part 60, Appendix B.
23. For periods of missing CO data, CO hourly values shall be substituted from valid hourly average data from the previous thirty (30) unit operating days, excluding periods of startup and shutdown. The CO data shall be substituted based on equivalent incremental load ranges.
24. Within sixty (60) days after the commissioning of the LM6000, 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 performance test shall be performed, and the written test results of the performance tests shall be provided to the District within thirty (30) days after testing. A complete test protocol shall be submitted to the District no later than thirty (30) days prior to testing, and notification to the District at least ten (10) days prior to the actual date of testing shall be provided so that a District observer may be present. Changes to the test date made subsequent to the initial ten day notification may be communicated by telephone or other acceptable means no less than forty-eight (48) hours prior to the new test date.
25. The performance tests shall include those parameters specified in the approved test protocol, and shall at a minimum include the following:
  - a. Oxides of Nitrogen (as NO<sub>2</sub>): ppmv dry at 15% O<sub>2</sub> and lbm/hr.
  - b. Carbon Monoxide: ppmv dry at 15% O<sub>2</sub> and lbm/hr.
  - c. Volatile Organic Compounds (as CH<sub>4</sub>): ppmv dry at 15% O<sub>2</sub> and lbm/hr.
  - d. Ammonia (NH<sub>3</sub>): ppmv dry at 15% O<sub>2</sub> and lbm/hr

and the following process parameters:

- e. Natural gas consumption.
  - f. Turbine load in megawatts.
  - g. Stack gas flow rate (SDCFM) calculated according to procedures in EPA method 19, and % CO<sub>2</sub>.
26. The LM6000 shall be abated by a properly operated and maintained Selective Catalytic Reduction System and Oxidation Catalyst.
27. Calpine King City Cogeneration, LLC shall demonstrate compliance by using properly operated and maintained continuous emission monitors (during all hours of operation including equipment Start-up and Shutdown periods, except for periods of CEM maintenance performed in accordance with District requirements) for all of the following parameters:
- a. Firing hours and Fuel Flow Rates.
  - b. Oxygen (O<sub>2</sub>) Concentrations, Nitrogen Oxide (NO<sub>x</sub>) Concentrations, and Carbon Monoxide (CO) Concentrations.
  - c. -Ammonia Injection Rates.
28. Calpine King City Cogeneration, LLC shall record all of the above parameters every 15 minutes (excluding normal calibration periods) and shall summarize all of the above parameters for each clock hour. For each calendar day, Calpine King City Cogeneration, LLC shall calculate and record the total Firing Hours, the average hourly Fuel Flow Rates, and pollutant emission concentrations.
29. Calpine King City Cogeneration, LLC shall use the parameters measured above and District-approved calculation methods to calculate the following parameters:
- d. Heat Input Rate.
  - e. Corrected NO<sub>x</sub> concentrations, NO<sub>x</sub> mass emissions (as NO<sub>2</sub>), corrected CO concentrations, and CO mass emissions.
30. For each source, Calpine King City Cogeneration, LLC shall record the parameters specified in d. and e. of this Condition every 15 minutes (excluding normal calibration periods). As specified below, Calpine King City Cogeneration, LLC shall calculate and record the following data:
- f. Total Heat Input Rate for every clock hour.
  - g. The NO<sub>x</sub> mass emissions (as NO<sub>2</sub>), and corrected average NO<sub>x</sub> emission concentration for every clock hour.
  - h. The CO mass emissions, and corrected average CO emission concentration for every rolling one-hour period.
  - i. On an hourly basis, the cumulative total NO<sub>x</sub> mass emission (as NO<sub>2</sub>) and the cumulative total CO mass emissions.
  - j. For each calendar day, the cumulative total NO<sub>x</sub> mass emission (as NO<sub>2</sub>) and the cumulative total CO mass emissions.

- k. For each calendar quarter, the cumulative total NO<sub>x</sub> mass emission (as NO<sub>2</sub>) and the cumulative total CO mass emissions.
  - l. For each calendar year, the cumulative total NO<sub>x</sub> mass emission (as NO<sub>2</sub>) and the cumulative total CO mass emissions.
31. Instrumentation must be operated to measure the SCR catalyst inlet temperature and pressure differential across the SCR catalyst.
  32. Calpine King City Cogeneration, LLC shall cause semi-annual testing to be performed to verify compliance with the Ammonia (NH<sub>3</sub>) slip limit. Calpine King City Cogeneration, LLC shall conduct this testing in accordance with the collection method specified in BAAQMD Source Test Procedure ST-1B and the analysis specified in EPA method 350.3.
  33. Annual performance tests shall be conducted in accordance with the Monterey Bay Unified Air Pollution Control District test procedures prior to January 1 of each year, and the written results of the performance tests shall be provided to the District within thirty (30) days after testing. A testing protocol shall be submitted to the District no later than thirty (30) days prior to the testing, and notification to the District at least ten (10) days prior to the actual date of testing shall be provided so that a District observer may be present. Changes to the test date made subsequent to the initial ten day notification may be communicated by telephone or other acceptable means no less than forty-eight (48) hours prior to the new test date.

**General Conditions:**

34. Daily NO<sub>x</sub> emissions from all combustion equipment at the facility shall not exceed 1,070 pounds per day.
35. Cumulative emissions, including emissions generated during Start-ups and Shutdowns, from all equipment at the King City Power Plant shall not exceed the following quarterly and annual limits:

Pollutant	Pounds Of Emissions				
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Annual
NO <sub>x</sub> (as NO <sub>2</sub> )	65,392	66,118	66,845	66,845	265,200
SO <sub>x</sub>	1,748	1,768	1,787	1,787	7,090
VOC	4,762	4,815	4,868	4,868	19,313
PM <sub>10</sub>	12,625	12,765	12,905	12,905	51,200
CO	58,445	59,095	59,744	59,744	237,028

Note: During periods of oil firing as allowed for on the permits for the Frame 7 Unit and the Boilers, the allowable emissions are increased by the incremental hourly limit for oil firing versus the natural gas hourly limit for all hours the equipment was actually operated on fuel oil.

36. Calpine King City Cogeneration, LLC shall calculate and record on a daily basis, the Volatile Organic Compound (VOC) mass emissions, Fine Particulate Matter (PM<sub>10</sub>) mass emissions, Sulfur Dioxide (SO<sub>2</sub>) mass emissions, and Ammonia (NH<sub>3</sub>) mass emissions from each combustion source and the cooling tower. Calpine King City Cogeneration, LLC shall use the actual heat input rates, actual Start-up times, actual Shutdown times, and District-approved emission factors to calculate these emissions. The calculated emissions shall be presented as follows:
  - a. For each calendar day, VOC, PM<sub>10</sub>, SO<sub>2</sub>, and NH<sub>3</sub> mass emissions shall be summarized for each source.
  - b. On a daily basis, the cumulative total VOC, PM<sub>10</sub>, SO<sub>2</sub> and NH<sub>3</sub> mass emissions shall be summarized for each calendar quarter and for the calendar year.
  
37. Calpine King City Cogeneration, LLC shall submit to the Air Pollution Control District a written report each month which shall include:
  - a. time intervals, date, and magnitude of excess emissions;
  - b. nature and cause of the excess emission, and corrective actions taken;
  - c. time and date of each period during which the continuous monitoring system was inoperative, except for zero and span checks, and the nature of system repairs and adjustments; and
  - d. a negative declaration when no excess emissions occurred.

38. Calpine King City Cogeneration, LLC shall report all breakdowns which results in the inability to comply with any emission standard or requirement contained on this permit to the Air Pollution Control Officer (APCO) within 1 hour of the occurrence, this one hour period may be extended up to six hours for good cause by the APCO. The APCO may elect to take no enforcement action if Calpine King City Cogeneration, LLC demonstrates to the APCO's satisfaction that a breakdown condition exists.
39. The estimated time for repair of the breakdown shall be supplied to the APCO within 24 hours of the occurrence and a written report shall be supplied to the APCO with 5 days after the occurrence has been corrected. This report shall include at a minimum:
  - a. a statement that the condition or failure has been corrected and the date of correction; and
  - b. a description of the reasons for the occurrence; and
  - c. a description of the corrective measures undertaken and/or to be undertaken to avoid such an occurrence in the future; and
  - d. an estimate of the emissions caused by the condition or failure.
40. Calpine King City Cogeneration, LLC shall provide adequate stack sampling ports and platforms to enable the performance of source testing. The location and configuration of the stack sampling ports shall be subject to District review and approval.
41. No emissions shall constitute a public nuisance.
42. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three (3) minutes in any one (1) hour which is as dark or darker than Ringelmann 1 or equivalent 20% opacity.
43. Any representative of the Monterey Bay Unified Air Pollution Control District authorized by the Air Pollution Control Officer shall be permitted, pursuant to the authority contained in Section 41510 of the California Health and Safety Code:
  - a. to enter upon the premises where the source is located or in which any records are required to be kept under the terms and conditions of the Authority to Construct;
  - b. to have access to and copy any records required to be kept under the terms and conditions of this Authority to Construct;
  - c. to inspect any equipment, operation, or process described or required in this Authority to Construct; and,
  - d. to sample emissions from the source.