Application for Certification Under the 21-Day Process

for the

King City LM6000 Project

Submitted to:
California Energy Commission
Sacramento, California

Submitted by:
Calpine Corporation
Western Region Office
Pleasanton, California

Prepared by:
Foster Wheeler Environmental Corporation
Sacramento, California

April, 2001

Application for Certification Under the 21-Day Process

King City
LM6000
Project

CALPINE

April 10, 2001

Mr. Robert Eller
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

Dear Mr. Eller:

Calpine, pursuant to the provisions of the California Emergency Power Plant 21-Day Permitting Process, hereby submits this amended Application for Certification seeking approval for construction and operation of the proposed King City LM6000 Project. This amended application is in response to the California Energy Commission's First Draft Review Copy Emergency Permit Completeness Checklist for the King City Project, dated April 6th, 2001.

As an officer of Calpine, I hereby attest, under penalty of perjury, that the contents of this amended application are true and accurate to the best of my knowledge.

Dated this 10th of April, 2001.

B. B

Bryan J. Bertacchi, P.E.
Vice President – Western Region
Calpine

BJB:cs

CALPINE KING CITY – FIRST DRAFT REVIEW COPY
EMERGENCY PERMIT COMPLETENESS CHECKLIST
CALIFORNIA ENERGY COMMISSION

REQUIREMENT	Y/N	Application pages	Comments
	Yes or no, if in app.	*Where in application is it.*	***If necessary, include a short note of explanation, or reference to a note to be inserted below.***
1 Project Description			
1.1 Project owner/operator (Name, title, address, phone)	Yes	1-1	
1.2 Overview of power plant and linear facilities	Yes	1-1	
1.3 Structure demensions (size and height), plan and profile	Yes	1-7	
1.4 Full size color photo of the site and rendering of proposed facility if available	Yes	Section 15; Figures 15-1, 15-3	Rendering not available
1.5 Maximum foundation depth, cut and fill quantities	Yes	1-7	
1.6 Conformance with California Building Code	Yes	1-7	
1.7 Proposed operation (hours per year)	Yes	1-7	
1.8 Expected on-line date	Yes	1-10	
1.9 Proposed duration of operation (years)	Yes	1-10	

REQUIREMENT	Y/N	Application pages	Comments
1.10 Identify transmission interconnection facilities	Yes	1-10	
1.11 Transmission interconnection application	Yes	Appendix A	
1.12 "Down-stream" transmission facilities, if known	Yes	1-10	
1.13 Fuel interconnection facilities	Yes	1-10	
1.14 Fuel interconnection application	Yes	Appendix B	
1.15 Water requirements and treatment	Yes	1-11	
1.16 Water interconnection facilities (supply/discharge)	Yes	1-11	
1.17 Source and quality of water supply	Yes	1-11	
1.18 Water supply agreement/ proof of water supply	No	1-11	Supply "proof" of the agreement via a copy of the lease sections which provide this water supply
2 Site Description			
2.1 Site address (street, city, county)	Yes	2-1	
2.2 Assessor's parcel number	Yes	2-1	

REQUIREMENT	Y/N	Application pages	Comments
2.3 Names and addresses of all property owners within 500 feet of the project site or related facilities in both hard copy and electronic mail merge format.	Yes	2-1	
2.4 Existing site use	Yes	2-1	
2.5 Existing site characteristics (paved, graded, etc.)	Yes	2-1	
2.6 Layout of site (include plot plan)	No	2-1	Applicant must submit left OR right site plan. Site plan Placement of plant components should be clearly detailed. Scale should be included.
2.7 Zoning and general plan designations of site and linear facilities	Yes	2-3	.
2.8 Ownership of site (Name, address, phone)	Yes	2-3	
2.9 Status of site control	Yes	2-3	
2.10 Equipment laydown area – size and location	Yes	2-3	
3 Construction Description			
3.1 Construction schedule	Yes	3-2	
3.2 Workforce requirements (peak, average)	Yes	3-2	

REQUIREMENT	Y/N	Application pages	Comments
4 Power Purchase Contract (DWR, ISO, other)			
4.1 Status of negotiations and expected signing date	Yes	4-1	
5 Air Emissions			
5.1 Nearest monitoring station (location, distance)	No	5-1	Please provide text...not found in Appendix D
5.2 Provide complete self certification air permit checklist	Yes	Appendix D	
5.3 Provide complete air permit application	Yes	Appendix D	
5.4 Status of air permit application with air district	No	5-1	Describe the status of the permit and expected issuance of Final ATC
5.5 Status of offsets and/or mitigation fees, as required	No	5-1	Describe the status of the offsets proposed for the project.
6 Noise			
6.1 Local noise requirements	Yes	6-1	
6.2 Nearest sensitive receptor (type, distance)	Yes	6-1	
6.3 Project noise level at nearest property line	Yes	6-1, 6-2	
6.4 Proposed mitigation if required	Yes	6-2	

REQUIREMENT	Y/N	Application pages	Comments
7 Hazardous Materials			
7.1 Type and volume of hazardous materials on-site	Yes	7-1, 7-2	
7.2 Storage facilities and containment	Yes	7-2	
8 Biological resources			
8.1 Legally protected species* and their habitat on site, adjacent to site and along right of way for linear facilities *(*threatened or endangered species on State or federal lists, State fully protected species)*	No	8-1	Application does not address potential kit fox and burrowing owl.
8.2 Designated critical habitat on site or adjacent to site (wetlands, vernal pools, riparian habitat, preserves)	Yes	8-1	
8.3 Proposed mitigation as required	No	8-2	May need to include construction avoidance protocoles for kit fox and burrowing owl.
9 Land Use			
9.1 Local land use restrictions (height, use, etc.)	No	9-1	More information needed on height limits within the airport approach and clear zone plan. Copy of FAA Form 7460-1 is needed to show conformance with Federal requriements

REQUIREMENT	Y/N	Application pages	Comments
9.2 Use of adjacent parcels (include map)	Yes	9-2	
9.3 Ownership of adjacent parcels – site and linears	Yes	9-2	
9.4 Demographics of census tract where project is located (most current available)	Yes	9-2	Need 2000 data and available 1999 projections.
10 Public Services			
10.1 Ability to serve letter from Fire District	Yes	10-1; Appendix E	
10.2 Nearest fire station	Yes	10-1	
11 Traffic and Transportation			
11.1 Level of Service (LOS) measurements on surrounding roads – a.m. and p.m. peaks	Yes	11-1	
11.2 Traffic Control Plan for roads during construction	Yes	11-2	
11.3 Traffic impact of linear facility construction	No	11-4	Entire item is missing. Include a section 11.3 stating that no linear facilities will be built and renumber section 11.
11.4 Equipment transport route	Yes	11-4	
11.5 Parking requirements – workforce and equipment	Yes	11-5	

REQUIREMENT	Y/N	Application pages	Comments
12 Soil and Water Resources			
12.1 Wastewater volume, quality, treatment	Yes	12-1	Wastewater will be sent to City's plant.
12.2 Status of permits for wastewater discharge or draft permit (WDR/NPDES)	Yes	12-1 / 12-2	Issue is addressed, however permits have not been obtained.
12.3 Draft Erosion Prevention and Sedimentation Control Plan or Mitigation Strategy	Yes	12-1 / 12-2	Mitigation Strategy Provided.
12.4 Spill Prevention/Water Quality Protection Plans	No	12-2	Draft plan is not included.
13 Cultural Resources			
13.1 Identification of known historic/prehistoric sites	Yes	13-1	Applicant conducted necessary data search and surface survey. I would like to have a copy of their data search and a copy of any report that was generated after the survey.
13.2 Proposed mitigation if required	Yes	13-1	No resources are reported on the project site. Applicant provides for proper mitigation of any unanticipated discoveries.
13.3 Notification of Native Americans	Yes	13-1	Applicant has notified the NAHC and requested names of interested parties to notify.
14 Paleontological Resources			
14.1 Identification of known paleontologic sites	Yes	14-1	
14.2 Proposed mitigation if required	Yes	14-1	Project subject to standard conditions for excavation for foundation elements.

REQUIREMENT	Y/N	Application pages	Comments
15 Visual resources			
15.1 Plan for landscaping and screening to meet local requirements	Yes	15-1	Fencing not shown on plans. Landscape plans are very minimal – for instance, what are plans for grassy area as shown in Fig. 15-4
15.2 Full size color photo of the site and rendering of proposed facility with any proposed visual mitigation if available	Yes	15-4	Rendering not available.
16 Transmission System Engineering			
16.1 Conformance with Title 8, High Voltage Electrical Safety Orders, CPUC General Order 95 (or NESC), CPUC Rule 21, PTO Interconnection Requirements, and National Electric Code	Yes	16-1	

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April, 2001

ATTACHMENT A
CALIFORNIA ENERGY COMMISSION
EMERGENCY SITING PROCESS APPLICATION CHECK LIST

REQUIREMENT	YES/NO	PAGE IN APPLICATION
1 Project Description		
1.1 Project owner/operator (Name, title, address, phone)	YES	1-1
1.2 Overview of power plant and linear facilities	YES	1-1
1.3 Structure demensions (size and height), plan and profile	YES	1-9
1.4 Full size color photo of the site and rendering of proposed facility if available	YES	15-5 15-6
1.5 Maximum foundation depth, cut and fill quantities	YES	1-7
1.6 Conformance with California Building Code	YES	1-7
1.7 Proposed operation (hours per year)	YES	1-7
1.8 Expected on-line date	YES	1-10
1.9 Proposed duration of operation (years)	YES	1-10
1.10 Identify transmission interconnection facilities	YES	1-10
1.11 Transmission interconnection application	YES	APPENDIX A
1.12 Down-stream transmission facilities, if known	YES	1-10
1.13 Fuel interconnection facilities	YES	1-10
1.14 Fuel interconnection application	YES	APPENDIX B
1.15 Water requirements and treatment	YES	1-11
1.16 Water interconnection facilities (supply/discharge)	YES	1-11
1.17 Source and quality of water supply	YES	1-11 1-12
1.18 Water supply agreement/proof of water supply	YES	1-13
2 Site Description		
2.1 Site address (street, city, county)	YES	2-1
2.2 Assessor s parcel number	YES	2-1
2.3 Names and addresses of all property owners within 500 feet of the project site or related facilities in both hard copy and electronic mail merge format.	YES	2-1
2.4 Existing site use	YES	2-1
2.5 Existing site characteristics (paved, graded, etc.)	YES	2-1
2.6 Layout of site (include plot plan)	YES	1-8
2.7 Zoning and general plan designations of site and linear facilities	YES	2-3
2.8 Ownership of site (Name, address, phone)	YES	2-3
2.9 Status of site control	YES	2-3
2.9 Equipment laydown area — size and location	YES	2-3
3 Construction Description		
3.1 Construction schedule	YES	3-1
3.2 Workforce requirements (peak, average)	YES	3-1
4 Power Purchase Contract (DWR, ISO, other)		
4.1 Status of negotiations and expected signing date	YES	4-1
5 Air Emissions		
5.1 Nearest monitoring station (location, distance)	YES	5-1
5.2 Provide complete self certification air permit checklist	YES	APPENDIX D
5.3 Provide complete air permit application	YES	APPENDIX D
5.4 Status of air permit application with air district	YES	5-1
5.5 Status of offsets and/or mitigation fees, as required	YES	5-1
6 Noise		
6.1 Local noise requirements	YES	6-1
6.2 Nearest sensitive receptor (type, distance)	YES	6-1
6.3 Project noise level at nearest property line	YES	6-2

REQUIREMENT	YES/NO	PAGE IN APPLICATION
6.4 Proposed mitigation if required	YES	6-2
7 Hazardous Materials		
7.1 Type and volume of hazardous materials on-site	YES	7-1
7.2 Storage facilities and containment	YES	7-2
8 Biological resources		
8.1 Legally protected species* and their habitat on site, adjacent to site and along right of way for linear facilities (**threatened or endangered species on State or federal lists, State fully protected species)*	YES	8-1
8.2 Designated critical habitat on site or adjacent to site (wetlands, vernal pools, riparian habitat, preserves)	YES	8-1
8.4 Proposed mitigation as required	YES	8-2
9 Land Use		
9.1 Local land use restrictions (height, use, etc.)	YES	9-1
9.2 Use of adjacent parcels (include map)	YES	9-2 9-3
9.3 Ownership of adjacent parcels — site and linears	YES	2-1
9.4 Demographics of census tract where project is located (most current available)	YES	9-2
10 Public Services		
10.1 Ability to serve letter from Fire District	YES	APPENDIX E
10.2 Nearest fire station	YES	10-1
11 Traffic and Transportation		
11.1 Level of Service (LOS) measurements on surrounding roads — a.m. and p.m. peaks	YES	11-1
11.2 Traffic Control Plan for roads during construction	YES	11-2
11.3 Traffic impact of linear facility construction	YES	11-4
11.4 Equipment transport route	YES	11-4
11.5 Parking requirements — workforce and equipment	YES	11-5
12 Soils and Water Resources		
12.1 Wastewater volume, quality, treatment	YES	12-1
12.2 Status of permits for wastewater discharge or draft permit (WDR/NPDES)	YES	12-1
12.3 Draft Erosion Prevention and Sedimentation Control Plan or Mitigation Strategy	YES	12-1
12.4 Spill Prevention/Water Quality Protection Plans	YES	APPENDIX H
13 Cultural Resources		
13.1 Identification of known historic/prehistoric sites	YES	13-1
13.2 Proposed mitigation if required	YES	13-1
13.3 Notification of Native Americans	YES	APPENDIX F
14 Paleontological Resources		
14.1 Identification of known paleontologic sites	YES	14-1
14.2 Proposed mitigation if required	YES	14-1
15 Visual resources		
15.1 Plan for landscaping and screening to meet local requirements	YES	15-1 15-3
15.2 Full size color photo of the site and rendering of proposed facility with any proposed visual mitigation if available	YES	15-5 15-6
16 Transmission System Engineering		
16.1 Conformance with Title 8, High Voltage Electrical Safety Orders, CPUC General Order 95 (or NESC), CPUC Rule 21, PTO Interconnection Requirements, and National Electric Code	YES	16-1

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LIST OF APPENDICES

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SECTION 1.0 PROJECT DESCRIPTION

Calpine Corporation (Calpine) proposes to build and operate a 50 MW net output simple cycle combustion turbine generating facility in King City, Monterey County. The proposed facility, the King City Project, is located adjacent to Calpine's King City Co-Gen facility at 750 Metz Road. See Figures 1-1 and 1-2 for the location of the King City Project.

1.1 Project Owner/Operator

Name: Bryan J. Bertacchi, PE

Title: Vice President, Western Region Operations Calpine Corporation

Address: 6700 Koll Center Parkway, Suite 200

Pleasanton, CA 94566

Phone No.: (925) 600-2033

1.2 Overview of Power Plant and Linear Facilities

Calpine is proposing the King City Project in response to the state of emergency declared by Governor Davis on January 17, 2001 and several executive orders issued on February 8, 2001. Specifically, the Governor identified a goal of bringing 1,000 MW of new generating capacity on-line to meet peak demand. Executive Order D-26-01 directs the California Energy Commission (CEC) to expedite the review and approval of peaking projects that can be on-line in the summer of 2001. All such proposals are considered emergency projects under Public Resources Code section 21080(b)(4). The CEC emergency permitting process includes a 21-day review and approval period for a qualified project once an application is deemed complete. Due to these emergency conditions, the project is not intended to conform to the 12-year forecast of electric power demands adopted pursuant to California Public Resources Code Sec. 25305(e).

The King City Project will be a 50-megawatt (MW), natural–gas-fired simple-cycle peaking facility located on a 6.7-acre cleared and graded portion of leased property adjacent to the existing King City Co-Gen facility. The King City Project requires no new linear facilities. The project will interconnect to PG&E's electricity transmission system through a radial tie to the existing lines at a point in the northwest corner of the King City Co-Gen property lease-hold. Natural gas will be provided through an on-site connection to the existing facility's PG&E gas supply. The Project will use raw well water through a connection with the existing facility's water supply system. On-site trailer-mounted or skid-mounted water treatment (reverse-osmosis and de-mineralization) units will provide de-mineralized water on demand for turbine injection and cooling. Wastewater will be returned to the existing facility's wastewater system.

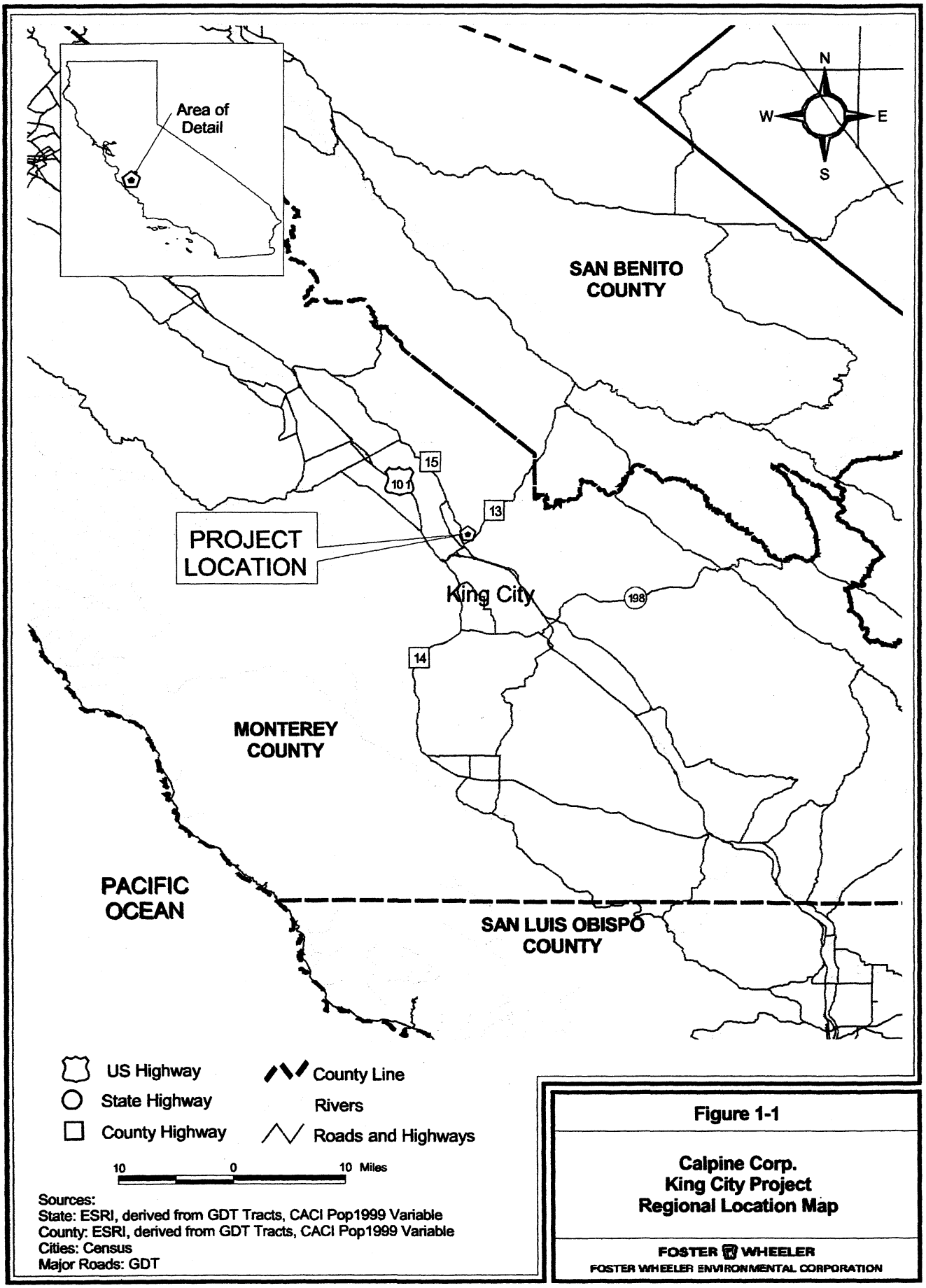


Figure 1-1

Calpine Corp.
King City Project
Regional Location Map

FOSTER WHEELER
FOSTER WHEELER ENVIRONMENTAL CORPORATION

1.2.1 Power Plant Facilities

1.2.1.1 Generation Equipment

The King City Project will consist of one 50-MW General Electric (GE) LM6000-PC Sprint simple-cycle combustion turbine generator and associated equipment. The LM6000 is the most efficient simple-cycle aeroderivative combustion turbine generator on the market and has a documented availability record of 97.8 percent. Inlet combustion air will be cooled via a chilled water system and the combustion turbine will have evaporative inter-cooling. NO_x suppression water injection will control NO_x emissions to 25ppmvd, corrected to 15% oxygen. No later than May 31, 2002 the CTG will operate with a selective catalytic reduction (SCR) system to reduce NO_x emissions to 5 ppmvd, corrected to 15% oxygen, and an oxidation catalyst for CO and VOC control. Particulate emissions will be controlled using combustion air filtration and natural gas, which is low in particulate matter, as the sole fuel. The sulfur content of the pipeline gas is estimated to be 0.2 grains per 100 standard cubic feet of gas.

1.2.1.2 Electrical Equipment and Systems

The electric power produced by the facility will be transmitted to the PG&E grid. Some power will be used on site to power auxiliaries such as gas compressors, chillers, fans, pumps, and control systems. An overall single-line diagram of the facility's electrical system is shown in Figure 1-3.

1.2.1.2.1 AC Power-Transmission

Power will be generated by the CTGs at 13.8 kV. The 13.8-kV generator outputs will be connected by non-segregated or open tray cable bus to a generator circuit breaker and an oil-filled generator step-up transformer, which will increase the voltage to 60 kV; required for transmission to the grid. Surge arresters will be provided at the high-voltage bushings to protect the transformer from surges on the 60-kV system caused by lightning strikes or other system disturbances. The transformer will be set on a concrete pad within a containment system designed to contain the transformer oil in the event of a leak or spill. The high-voltage side of the step-up transformer will be connected via a CXO breaker to the existing PG&E 60-kVtransmission circuits.

1.2.1.2.2 AC Power—Distribution to Auxiliaries

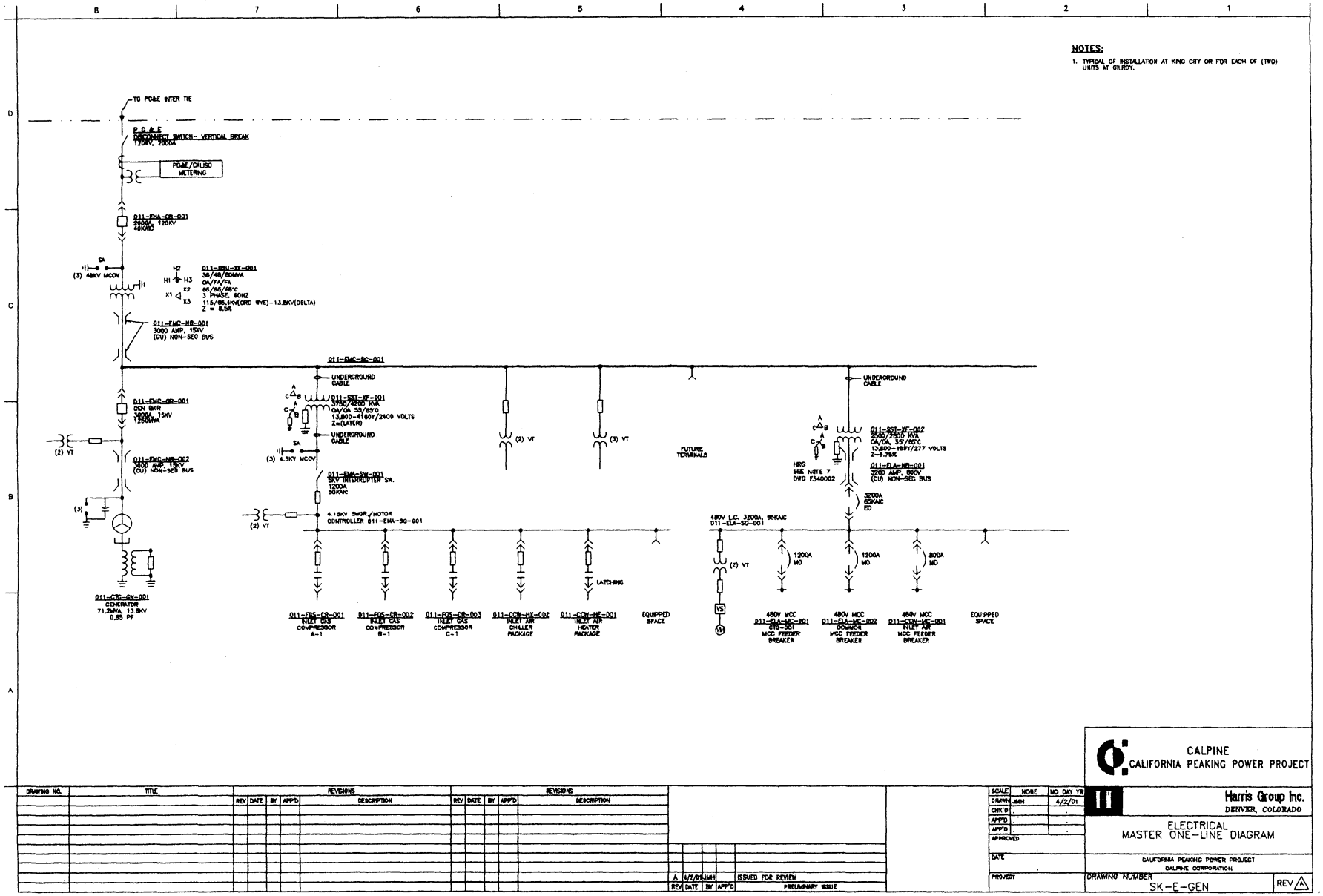
Auxiliary power to the combustion turbine power block will be supplied at 4,160 volts AC and 480 volts AC by separate switchgear lineups. Primary power to the switchgear will be supplied by separate oil-filled 13.8-kV to 4.16-kV and 13.8 kV to 480 volt station service step-down transformers. Installation of the station service step-down transformers will be such that the CTG output or backfeed from the PG&E 60-kV circuit can serve station power demand. Step-down transformers will have spill containment to contain transformer oil in event of a leak or spill.

The AC power system will have separate 4,160 volt and 480 volt step-down service transformers connected to the 13.8 kV supply side to provide power to motors and the CTG starting system.

1.2.1.2.3 DC Power Supply

Two DC power supply systems consisting of one 125-volt DC battery, two 100-percent 125-volt DC full-capacity battery chargers, metering, ground detectors, and distribution panels will be supplied. One system will be for balance-of-plant and the other will be dedicated to the combustion turbine generator equipment.

Under normal operating conditions, the battery chargers will supply DC power to the DC loads. The battery chargers will receive 480-volt, three-phase AC power from the AC power supply (480-volt)



DRAWING NO.	TITLE	REVISIONS REV	DATE	BY	APP'D	DESCRIPTION	REVISIONS REV	DATE	BY	APP'D	DESCRIPTION

REV	DATE	BY	APP'D	
A	4/2/01	JMH		ISSUED FOR REVIEW
				PRELIMINARY ISSUE

SCALE	NONE	MO DAY YR
DRAWN	JMH	4/2/01
CHK'D		
APP'D		
APP'D		
APPROVED		
DATE		
PROJECT		

CALPINE
CALIFORNIA PEAKING POWER PROJECT

Harris Group Inc.
DENVER, COLORADO

ELECTRICAL
MASTER ONE-LINE DIAGRAM

CALIFORNIA PEAKING POWER PROJECT
CALPINE CORPORATION

DRAWING NUMBER SK-E-GEN REV A

Figure 1-3

system and continuously load charge the battery while supplying power to the DC loads. The ground detection scheme will detect grounds on the DC power supply system.

Under abnormal or emergency conditions, when power from the AC power supply (480-volt) system is unavailable, the battery supplies DC power to the AC power supply system. Recharging of a discharged battery will occur whenever 480-volt power becomes available from the AC power supply (480-volt) system. The rate of charge will depend on the characteristics of the battery, battery charger, and connected DC load during charging. The anticipated maximum recharge time will be 24 hours.

The appropriate 125-volt DC system will also be used to provide control power to the 4,160-volt switchgear, to the 480-volt LCs, to critical control circuits, and to the emergency DC motors.

1.2.1.2.4 Essential Service AC Uninterruptible Power Supply(s)

The combustion turbines will also have an essential service 120-volt AC, single-phase, 60-Hertz (Hz) power source. This source will supply AC power to essential instrumentation, to critical equipment loads, and to unit protection and safety systems that require uninterruptible AC power. The essential service AC system and DC power supply system will be designed to ensure that critical safety and unit protection control circuits have power and can take the correct action on a unit trip or loss of plant AC power.

The essential service AC system will consist of one full-capacity inverter, a solid-state transfer switch, a manual bypass switch, an alternate source transformer and voltage regulator, and an AC panel board.

The normal source of power to the system will be the DC power supply system through the inverter to the panel board. A solid-state static transfer switch will continuously monitor the inverter output and the alternate AC source. The transfer switch will automatically transfer essential AC loads without interruption from the inverter output to the alternate source upon loss of the inverter output.

A manual bypass switch will also be included to enable isolation of the inverter-static transfer switch for testing and maintenance without interruption to the essential service AC loads.

A similar essential service AC uninterruptible power supply will serve the balance of plant equipment as required to safely shut down the facility.

1.2.1.3 Fire Protection

The project will be designed to maximize safe operation. Personnel will be trained in safe operation, maintenance, and emergency response procedures to minimize the risk of personal injury and damage to the facilities. The fire protection system will protect the turbine, generator, and accessory equipment compartments from fire. The system will have fire detection sensors in all compartments. Actuating one sensor will provide a high temperature alarm on the combustion turbine control panel. Actuating a second sensor will trip the combustion turbine, turn off ventilation, close ventilation openings, and automatically release CO_2 at a design concentration adequate to extinguish the fire. The generator and control spaces will be equipped with portable hand-held fire extinguishers.

Facility fire protection will be supplemented by equipment and resources at the adjacent King City Co-Gen facility.

1.2.1.4 Plant Auxiliaries

The following systems will support, protect, and control the generating facility.

1.2.1.4.1 Lighting

The lighting system will provide personnel with illumination for operation under normal conditions and for egress under emergency conditions. The system will include emergency lighting to perform manual

operations during an outage of the normal power source. The system also will provide 120-volt convenience outlets for portable lamps and tools.

1.2.1.4.2 Grounding

The electrical system would be susceptible to ground faults, lightning, and switching surges that could constitute a hazard to site personnel and electrical equipment. To reduce hazard potential, metal-grounding rods will be driven into the soil to form a looped grounding system. The grounding system will provide an adequate path to permit the dissipation of current created by these transient events.

1.2.1.4.3 Cathodic Protection

A cathodic protection system will be designed to control the electrochemical corrosion of designated metal piping buried in the soil. Depending upon the corrosion potential and the site soils, either passive or impressed current cathodic protection will be provided.

1.2.1.4.4 Instrument Air

The instrument air system will provide dry air to pneumatic operators and devices. Instrument air will be used in the CTG equipment areas and within the water treatment unit where pneumatic operators and devices will be located. Other consumers of instrument air include CEMS, fuel gas compressors, SCR ammonia injection, chillers, and fire protection sensing lines.

1.3 Structure Dimensions

The site arrangement shown in Figure 1-4 and the typical profile views with elevations shown in Figure 1-5 illustrate the location and size of the proposed power plant.

1.4 Site Photograph

The project will be visually compatible with existing and planned development on the properties adjacent to the site. Section 15, Visual Resources, contains site photographs that show the project setting.

1.5 Foundation, Cut and Fill

Foundations designed and constructed based on the results of a site geotechnical investigation will support the generating and associated equipment. Foundations will support the weight of the equipment, operating loads, and loads imposed by wind or seismic forces. The project site is currently graded and flat, and final site elevation may require a minor cut and fill operation.

1.6 Conformance with California Building Code

The principal natural hazards to the project are earthquakes and floods. The site is located in Seismic Risk Zone 4. Structures will be designed to meet the seismic requirements of CCR Title 24 and the 1998 California Building Code (CBC). The site is essentially flat, with an average elevation of approximately 345 feet above mean sea level (MSL).

1.7 Proposed Operational Mode and Hours

The facility will obtain an air quality control permit to operate 8,760 hours per year, and can be operated 7 days per week, 24 hours per day to meet electric demand. The project will sell a portion of its generation under a contract with the California Department of Water Resources (DWR). Generation available from the project that has not been sold through the DWR contract will be available for sale on the competitive market. Operation of the project depends, therefore, on the quantity of electricity sold through the contract and the ability to sell into the competitive market. Because the capacity that will be sold through contract and the prices that will be offered for spot purchases are unknown at this time, the

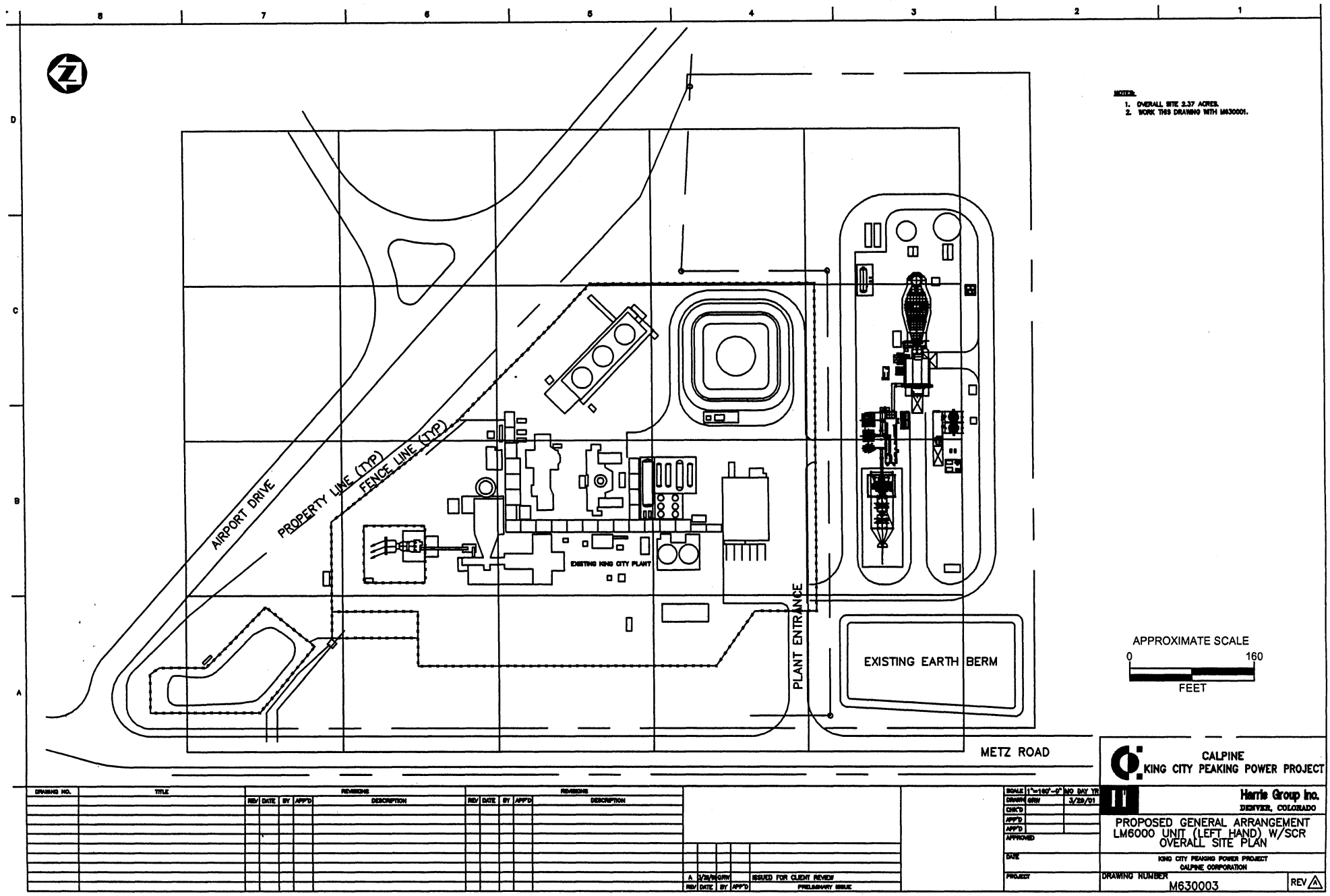
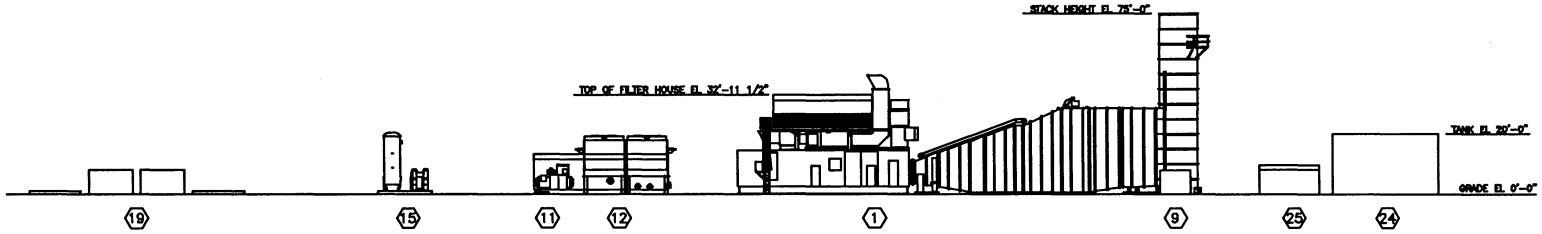
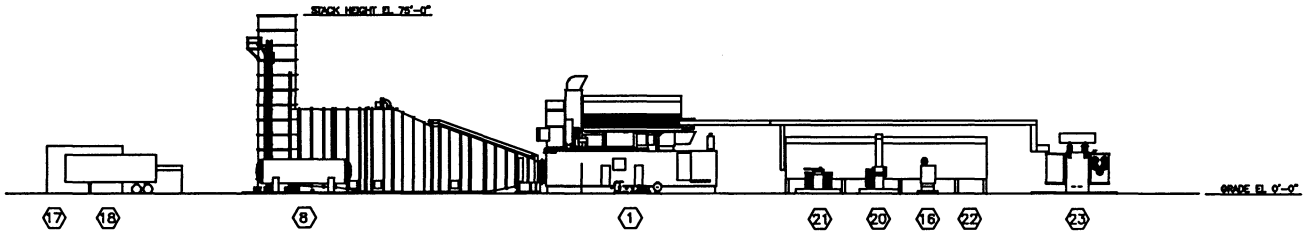

NOTES:
1. OVERALL SITE 2.37 ACRES.
2. WORK THIS DRAWING WITH M630001.
AIRPORT DRIVE
PROPERTY LINE (TYP)
FENCE LINE (TYP)
EXISTING KING CITY PLANT
PLANT ENTRANCE
EXISTING EARTH BERM
METZ ROAD
APPROXIMATE SCALE
0
160
FEET
CALPINE
KING CITY PEAKING POWER PROJECT
Harris Group Inc.
DENVER, COLORADO
PROPOSED GENERAL ARRANGEMENT
LM6000 UNIT (LEFT HAND) W/SCR
OVERALL SITE PLAN
KING CITY PEAKING POWER PROJECT
CALPINE CORPORATION
DRAWING NUMBER
M630003
REV
A
ISSUED FOR CLIENT REVIEW
PRELIMINARY ISSUE

FIGURE 1-4



ELEVATION
LOOKING NORTH



ELEVATION
LOOKING SOUTH

ITEM	DESCRIPTION	NOTE
1	CTG NO. 1 W/ SCR	SS NO.
2	AUXILIARY SKID	
3	SPRINT SKID	
4	EQUIPMENT COOLING WATER SKID	
5	WATER INJECTION SKIDS	
6	WASTE OIL & WASH WTR DRAIN TANKS	
7	AMMONIA INJECTION SKID	
8	AMMONIA SUPPLY	
9	GEMS	
10	WASTEWATER SUMP	
11	CHILLER SKID	
12	COOLING TOWER	
13	EQUIP COOLING PUMPS	
14	COOLING TOWER CHEM FEED PAD	
15	AIR COMPRESSORS	
16	STANDBY GENERATOR	
17	DEMIN. WATER TANK / PUMPS	
18	DEMIN TRAILERS	
19	FUEL GAS CONDITIONING SKID W/ COMPRESSOR	
20	4.16KV AUXILIARY/INVERTER/MCC	
21	480V AUXILIARY TRANSFORMER	
22	ELECTRICAL BUILDING	
23	DSU	
24	RAW WATER TANK	
25	RAW WATER PUMPS	

DRAWING NO.	TITLE	REVISIONS REV	DATE	BY	APP'D	DESCRIPTION	REVISIONS REV	DATE	BY	APP'D	DESCRIPTION
		B	4/5/01	GRW		MOVED AMMONIA SUPPLY PER CLIENT					
		A	4/2/01	GRW		ISSUED FOR CLIENT REVIEW					
		REV	DATE	BY	APP'D	PRELIMINARY ISSUE					

CALPINE
KING CITY PEAKING POWER PROJECT

Harris Group Inc.
DENVER, COLORADO

SCALE	1"=20'-0"	MO DAY YR
DRAWN	GRW	4/2/01
CHK'D		
APP'D		
APP'D		
APPROVED		
DATE		
PROJECT	00008	

GENERAL ARRANGEMENT
LM6000 UNIT (LEFT HAND) W/ SCR
ELEVATIONS

KING CITY PEAKING POWER PROJECT
CALPINE CORPORATION

DRAWING NUMBER M630004 REV B

FIGURE 1-5

exact mode of operation cannot be described. It is conceivable the facility could be operated in one or all of the following daily modes:

Load Following — The facility would be operated to meet contractual load and whatever spot sales could be made, but the sum would be less than maximum continuous output at all times of the day. The output of the unit would be adjusted periodically to meet load.

Partial Operation — At certain times of any given day, the sum of the contractual load and spot market sales could drop to a level at which it would be economically favorable to cease operation of the project. The facility could cease operation even if the DLOR contract called for generation, if contract load were being served by another facility. This mode of operation could be expected during late evening and early morning hours.

Shutdown — This would occur if forced by equipment malfunction, fuel supply interruption, or transmission line disconnect.

1.8 Expected On-Line Date

Calpine expects to commence operation of the King City Project before September 30, 2001.

1.9 Proposed Duration of Operation

At a minimum, the proposed project will operate for the life of its 20-year contract with the DWR, or until the DWR contract is terminated and the facility is unprofitable.

1.10 Transmission Interconnection Facilities

An overall single-line diagram of the facility's electrical system is shown in Figure 1-3, including the interconnection with the existing PG&E 60-kV circuits. The CTGs will generate power at 13.8 kV. The 13.8 -kV generator outputs will be connected by non-segregated or open cable bus to an oil-filled generator step-up transformer, which will increase the voltage to 60 kV. Surge arresters will be provided at the high-voltage bushings to protect the transformer from surges on the 60-kV system caused by lightning strikes or other system disturbances. The transformer will be set on a concrete pad within a containment system designed to contain transformer oil in the event of a leak or spill. The high-voltage side of the step-up transformer will be connected via a CXO breaker to the existing PG&E 60-kV circuits.

1.11 Transmission Interconnection Application

Calpine's Application for Transmission Interconnection with PG&E is in Appendix A.

1.12 Downstream Transmission Facilities

No other downstream transmission facilities are required for this project.

1.13 Fuel Interconnection Facilities

The CTGs will be designed to burn natural gas. Maximum natural gas requirements during base load operation are approximately 470 MMBtu/hr. The project will connect to the existing on-site supply of gas through interconnection valves, metering and piping. The pressure of natural gas will be pressurized by on-site compressors to a minimum of 725 psig. Gas will flow through gas scrubber/filtering equipment, a gas pressure control station and a flow metering station before entering the combustion turbines.

1.14 Fuel Interconnection Application

Calpine's Application for Fuel Interconnection with PG&E is in Appendix B.

1.15 Water Requirements and Treatment

Water consumption includes cooling tower make up for cooling the following heat rejection sources: CTG lube oil system, fuel gas compressor cooling, recycle gas cooler, inlet air chiller condensor, and other minor sources. Additional make-up water is fed to the water treatment system (reverse osmosis followed by demineralization) for use in NO_x suppression injection water and compressor evaporative inter-cooling. The project's expected peak water consumption is 120 gallons per minute (gpm) based on hot day full load operation. At this rate, total daily peak water use is 172,800 gallons per day (gpd). The actual operating schedule will be determined by dispatch to meet peak demand. Typically, peak loads occur between 10 a.m. and 6 p.m. on weekdays. When operating the CTG at full load during the typical 8-hour dispatch mode, daily water consumption would be 57,600 gpd.

Generation of demineralized water quality as required to operate the CTG water treatment system will include ion exchange and reverse osmosis. Demineralization equipment will be located in on-site trailer-mounted or skid-mounted units, and treated water will be generated on demand. Demineralized water will meet GE's specifications after treatment when tested in accordance with American Society of Testing and Materials (ASTM) test standards.

1.16 Water and Wastewater Interconnection Facilities

The proposed project will obtain well water through a connection with the existing facility's water supply system. The interconnection would be through a physical tie in to the existing water supply system and include piping, valves, flow metering and back-flow prevention and air gaps as required to meet local ordinances. Water supply connections for the CTG to the de-min unit would be through flexible (hose-like) connections. Standard plumbing methods would be used, and work would be performed with proper authorizations and meet applicable standards for water supply interconnections.

Wastewater consists of evaporator cooling blow down, reverse osmosis reject, and turbine wash water. The project will generate about 27 gpm of process wastewater. This wastewater will be connected to King City Co-Gen and then will be sent to Gilroy Foods for discharge to the city under an existing discharge permit. Gilroy Foods currently accepts all King City Co-Gen process wastewater. The city has been apprised of the proposed increase in wastewater volume from the proposed King City Project and approved a staff recommendation to permit Calpine to increase its wastewater volume (see letter, Appendix C). The CTG would require 200 gallons of wash water per 250 hours of operation. The turbine wash consist of one or two 40-gallon washes with clean de-mineralized water containing small amounts of a bio-degradable detergent, followed by several 40-gallon rinses with clean de-mineralized water (all de-mineralized water is from the on-site de-min unit). The wash and rinse water cleans the turbine of any dirt particles to keep the CTG in proper operating condition. All wash and rinse water will be collected in an on-site portable water storage tank. The tank will be emptied as needed by a licensed contractor for proper disposal at a public wastewater treatment facility.

1.17 Source and Quality of Water Supply

All water used by the project will come from two off-site wells located approximately 1.5 miles southwest of the project site on property leased by the existing facility. The wells are within 900 feet of each other and have a common pipeline. See Table 1-1 for water quality data.

TABLE 1-1: KING CITY WATER ANALYSIS

Contaminant	Units	Reported As	King City
Alkalinity – Bicarbonate	mg/L	CaCO3	160.000
Alkalinity – Carbonate	mg/L	CaCO3	0.000
Alkalinity – P-BaC12	mg/L	CaCO3	0.000
Alkalinity – Phenol	mg/L	CaCO3	<1
Alkalinity – Total	mg/L	CaCO3	160.000
Aluminum	mg/L	A1	<0.1
Ammonia	mg/L	N	–
Arsenic	mg/L	–	–
Barium	mg/L	Ba	<0.1
Boron	mg/L	B	0.100
Bromide	mg/L	Br	<2.9
Cadmium	mg/L	Cd	<0.01
Chloride	mg/L	CaCO3	36.000
Chromium	mg/L	Cr	<0.01
Copper	mg/L	–	<0.01
Fluoride	mg/L	–	–
Hardness-Calcium	mg/L	CaCO3	140.000
Hardness-Magnesium	mg/L	CaCO3	87.000
Hardness-Total	mg/L	CaCO3	–
Iron	mg/L	–	0.170
Lead	mg/L	–	<0.1
Lithium	mg/L	–	–
Manganese	mg/L	–	<0.01
Molybdenum	mg/L	–	<0.1
Nickel	mg/L	–	<0.1
Nitrate Nitrogen	mg/L	CaCO3	3.700
Nitrate Nitrogen	mg/L	NO2	<2.9
pH	s.u.	–	8.100
Phosphorous	mg/L	PO4	<0.3
Potassium	mg/L	–	1.600
Selenium	mg/L	–	–
Silica	mg/L	SiO2	37.000
Silt Density Index	–	–	<3.0
Sodium	mg/L	CaCO3	69.000
Specific Conductance	umhos/cm	–	560.000
Strontium	mg/L	–	0.350
Sulfate	mg/L	CaCO3	91.000
Sulfur	mg/L	–	–
Total Dissolved Solids	mg/L	–	–
Turbidity	NTU	–	–
Vanadium	mg/L	–	<0.01
Zinc	mg/L	–	<0.01

1.18 Proof of Water Supply

The current lease agreement grants "an exclusive right to use such water wells to draw water not to exceed 2,500 gallons per minute for use in Grantee's co generation facility." (Ground Sublease, April 24, 1996, see Appendix C). This rate (2,500 gallons per minute) can provide a maximum of 3.6 million gallons per day from existing wells on the lease site. Existing loads currently required approximately 1.6 million gallons per day at peak usage. the installation of a single peaking plant would increase the draw by approximately 117 gallons per minute or 168,480 gallons per day. This increase is well within the current system's capacity.

SECTION 2.0 SITE DESCRIPTION

This section describes the site on which Calpine will construct and operate the King City Project.

2.1 Site Address

Street: 750 Metz Road

City: King City

County: Monterey County

2.2 Assessor's Parcel Number

The proposed project site will occupy approximately 6.7 acres on the property of Calpine's existing King City Co-Gen facility. The legal location is Township 20 South, Range 8 East (unsectioned). The Assessor's Parcel Numbers is APN-26-52-4.

2.3 Names and Addresses of Near-by Property Owners

The names and addresses of all property owners within 500 feet of the project site, or related facilities are:

Basic Vegetable Products
2999 Oak Road Ste. 400
Walnut Creek, CA 94596-2017

City of King
King City, CA 93930

Basic American Foods, Inc.
50 W. San Fernando Street
San Jose, CA 95113-2429

The M & E Partnership
375 W. Market Street
Salinas, CA 93901-1423

Americano Esperanza Escoto &
500 Windsor Street
King City, CA 93930-3323

Vasquez, Jimmie G. & Maria G.
412 Windsor Street
King City, CA 93930-3321

McCoy, David L. & Jeannine E.
408 Windsor Street
King City, CA 93930-3321

2.4 Existing Site Use

The project site is currently part of the property of the existing King City Co-Gen facility. The area currently is used for the existing facility's septic tank. To facilitate construction of the new peaking facility, the existing facility's septic tank will be relocated or abandoned.

2.5 Existing Site Conditions

The new CTG and associated equipment will occupy land that is currently cleared, filled and graded.

2.6 Site Layout

The site layout shown in Figure 1-4 illustrates the location and size of the proposed power plant.

2.7 Zoning and General Plan Designations

The site of the proposed generating facility is zoned Industrial and is classified as Industrial in the 1988 Land Use Element Map in the King City General Plan (1998). The General Plan also identifies the site area as part of the East Ranch Industrial Park, one of the City's Economic Zones.

2.8 Site Ownership

Name: Basic American Foods Energy, A California Limited Partnership

Address: 500 Montgomery Street, 28th Floor

San Francisco, CA 94119

Phone: 415-705-5115

2.9 Status of Site Control

Calpine owns the King City Co-Gen facility and operates it on land it controls under lease agreement. The lease is being amended to include the extension of the project site.

2.10 Equipment Laydown Area

Construction of the proposed generating facilities will require an equipment laydown area of approximately 2.2 acres. This area will be located on the eastern portion of the proposed project site.

2.7 Zoning and General Plan Designations

The site of the proposed generating facility is zoned Industrial and is classified as Industrial in the 1988 Land Use Element Map in the King City General Plan (1998). The General Plan also identifies the site area as part of the East Ranch Industrial Park, one of the City's Economic Zones.

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2.10 Equipment Laydown Area

Construction of the proposed generating facilities will require an equipment laydown area of approximately 2.2 acres. This area will be located on the eastern portion of the proposed project site.

SECTION 3.0 CONSTRUCTION DESCRIPTION

This section describes the project construction schedule and the project workforce.

3.1 Construction Schedule

Calpine anticipates that project construction will take between two to three months. Upon receipt of approval to construct, Calpine will initiate construction activities to achieve commercial operation before September 30, 2001. Installation of the SCR system and CO catalyst will require short-term construction after the project is in operation in time to have the SCR operational before May 31, 2002.

3.2 Workforce

During construction, the site will be used for temporary offices, parking, and lay down for outdoor materials. The peak workforce on the project during construction, including construction craft personnel and supervisory, support, and construction management personnel is expected to be about 150 personnel. The average (non-peak) construction workforce is expected to be about 100 personnel, although that number is expected to dwindle as construction reaches completion. Construction typically will be scheduled between 6 a.m. and 6 p.m., Monday through Saturday. Additional hours may be necessary to make up schedule deficiencies or to complete critical construction activities. During the startup phase of the project, some activities will continue 24 hours per day, 7 days per week.

SECTION 4.0 POWER PURCHASE CONTRACT

Calpine has a contract with DWR to provide 11 units of generating capacity beginning in July 2001. The project guarantees the sale of 2,000 hours of power from each unit to DWR with the remainder of the power being sold on the spot market.

SECTION 5.0 AIR EMISSIONS

5.1 Nearest Monitoring Station (location, distance)

The nearest monitoring stats are as follows:

King City – PM_{10},

Salinas – CO and NO_2,

and Davenport – SO_2.

The stations are located 0.1 miles, 42.8 miles, and 80 miles from the site, respectively.

5.2 Complete Self Certification Air Permit Checklist

See Appendix D.

5.3 Complete Air Permit Application

See Appendix D.

5.4 Status of Air Permit Application with Air District

The air permit application was filed with the District on march 31, 2001. The ATC is expected to be issued on or about May 12, 2001.

5.5 Status Of Offsets and/or Mitigation Fees, As Required

The only offsets required for the project by the Monterey Bay Unified APCD are for PM_{10} emissions. Calpine is currently discussing with CARB the procedures for obtaining credits on a lease basis from CARB's offset bank. Calpine expects to provide permanent PM_{10} offsets for the project within the next 12 months.

SECTION 6.0 NOISE

This section describes the expected noise levels from the King City Project and project effects on ambient conditions.

6.1 Local Noise Requirements

Chapter 17.56 – Environmental Protection Standards of the King City Municipal Zoning Ordinance specifies noise level limits for three classifications of land use, i.e., residential, commercial and industrial. The maximum permitted sound levels at the lot lines are 55 dBA, 65 dBA and 68 dBA, respectively. Since the project is an industrial use, the limit at the site boundary is 68 dBA.

The King City General Plan Noise Element dated November, 1998 contains Exterior Noise Standards in Paragraph 1.2.2, Table 2 that define acceptable outdoor noise levels for three generalized land use categories as follows:

TABLE 6-1: KING CITY GENERAL PLAN EXTERIOR NOISE STANDARDS

Generalized Land Use	Exterior Ldn Range	General Land Use Recommendation*
Residential and Institutional	Less than 65 dBA	A
	Greater than 65 dBA	B
Commercial and Industrial	Less than 75 dBA	A
	Greater than 75 dBA	B
Park and Open Space	Less than 65 dBA	A
	Greater than 65 dBA	C

*Recommendation:

A - New construction or development will be subject to no adverse noise impacts, and will require no special noise attenuation features.

B - New construction or development should be undertaken only after an analysis of noise reduction requirements is made and needed noise attenuation features included in the design.

C - New building construction involving concentrations of people (spectator sports and some recreational facilities) should generally be avoided unless an analysis of noise reduction requirements is made and needed noise attenuation features included in the design.

6.2 Nearest Sensitive Receptor (type, distance)

The nearest noise-sensitive receptors are single-family residences in a subdivision immediately south of San Antonio Drive and west of the Union Pacific Railroad tracks about 1,100 feet south of the proposed plant site. A 10-foot high solid block wall borders the development on the north and east sides and it would provide shielding of plant noise except where the interior streets join San Antonio Drive.

6.3 Project Noise Level at Nearest Noise-Sensitive Receptors

The expected noise level from the plant at the residential area was determined through computer modeling of the various plant noise sources. The NoiseCalc Model developed by the New York State Department of Public Service was employed. Sound power levels of the LM6000 Gas Turbine/Generator and its various components were provided on an octave band basis by the equipment manufacturer. Exhaust noise from the gas turbine will be significantly attenuated by the SCR emission control module and a stack silencer. Attenuating mechanisms employed in the model included geometric spreading of the sound wave, atmospheric absorption and barrier shielding (10-ft wall around subdivision). The model was also run without the barrier to determine the noise level at houses near the entrance where the barrier is broken.

The plant noise level at the nearest houses protected by the barrier is expected to be 40.1 dBA. The few houses with line-of-sight to the plant at the two entrances may experience levels up to 47.6 dBA. If the plant were to operate 24 hours per day, an extreme case considering it is a peaking plant, the equivalent Ldn levels would be 46.1 dBA and 54.0 dBA for the shielded and unshielded houses, respectively. Both of these levels are significantly less than the 65 dBA level considered acceptable for residential areas.

An ambient noise survey performed just inside the subdivision on March 24-25, 2001 over a 25-hour period (Table 6-2) indicated that the existing Ldn is 59.2 dBA at the houses. This level is below the 65 dBA acceptability criterion and above the predicted level for the peaking power plant. The lowest hourly L90 level was 37.5 dBA between 10 p.m. and 11 p.m. and the average L90 at night was 40.3 dBA. Since the predicted level for houses behind the block wall is 40.1 dBA, or about the same as the nighttime background level, no noise impact would be expected. The few houses not protected by the wall and that have a clear line-of-sight to the plant may experience levels up to 7.4 dBA above the nighttime background levels. Such an increase would be noticeable but should not represent a significant noise impact because the level is still very low. Overall, no significant noise impact will be created by the project.

The nearest point on the site boundary to the noise producing equipment is the south boundary at 125 feet. The predicted level at this point was coincidentally 68.0 dBA which is exactly the level required by the city code for industrial land uses. Thus, the plant nose levels will be in compliance with code requirements.

6.4 Proposed Mitigation, If Required

No mitigation, other than that already designed into the project, will be required since the predicted levels are below the standard and below the existing ambient level.

TABLE 6-2: HOURLY LEQ AND COMPOSITE NOISE LEVELS
KING CITY PEAKING POWER PLANT

Date	Hour Beginning	Location 1 Leq (dBA)
3/24/01	1300	54.5
3/24/01	1400	58.0
3/24/01	1500	52.0
3/24/01	1600	55.0
3/24/01	1700	57.5
3/24/01	1800	54.5
3/24/01	1900	52.0
3/24/01	2000	51.0
3/24/01	2100	50.0
3/24/01	2200	53.5
3/24/01	2300	49.5
3/25/01	2400	44.5
3/25/01	0100	48.0
3/25/01	0200	40.5
3/25/01	0300	43.0
3/25/01	0400	47.5
3/25/01	0500	46.5
3/25/01	0600	50.5
3/25/01	0700	55.0
3/25/01	0800	52.0
3/25/01	0900	52.5
3/25/01	1000	53.0
3/25/01	1100	53.5
3/25/01	1200	70.0
3/25/01	1300	56.0
Leq(24)		57.8
DNL		59.2
CNEL		59.4
Avg. Night L90		40.3

SECTION 7.0 HAZARDOUS MATERIALS

This section describes the storage and use of hazardous materials at the King City Project.

7.1 Type and Volume of Hazardous Materials On-Site

Hazardous materials used during construction will include gasoline, diesel fuel, motor oil, hydraulic fluid, certain solvents, cleaners, sealants, welding flux, various lubricants, paint, and paint thinner. No acutely hazardous materials will be used or stored on-site during construction. There is only minimal potential for environmental impacts from hazardous material incidents during construction. Small volumes of hazardous materials will be temporarily stored on-site inside fuel and lubrication service trucks. Paints and solvents will be stored in flammable materials cabinets.

Project personnel will be trained to handle these materials. The most likely incidents involving these hazardous materials would be associated with minor spills or drips. Impacts from such incidents will be mitigated by thoroughly cleaning up spills as soon as they occur.

A number of hazardous materials, including one acutely hazardous material, will be stored at the generating site during operation of the project.

- Anhydrous Ammonia (acutely hazardous)—to control nitrous oxide (NO_x) emissions through selective catalytic reduction – 10,000 gallons stored in tank with containment
- Sulfuric acid – for evaporative cooling system pH (400 gallons liquid, 93-98 percent solution)
- NALCO 7280 Scale Inhibitor-Sodium hexameta phosphates, organophosphonates, and poly-acrylates; used as a scale inhibitor in RO process (250 gallons, liquid). This material would be used if water quality tests indicate an RO process is necessary in front of the demineralizer.
- NALCO 7408—sodium bisulfite-oxygen scavenger upstream of reverse osmosis unit (250 gallons, liquid). This material would be used if water quality tests indicate an RO process is necessary in front of the demineralizer.
- Sodium hypochlorite (bleach) – biocide for evaporative cooling system (400 gallons liquid, 10-15% solution)
- Mineral Insulating Oil—contained in transformer systems
- Lubrication Oil—for gas turbine bearings (150 gallons liquid in turbine enclosure)
- Hydraulic Oil – for mechanical movement for turbine associated equipment (40 gallons liquid)

In addition to the chemicals noted above, small quantities (less than 5 gallons) of paints, oils, solvent, pesticides and cleaners, typical of those purchased at a retail hardware store, may also be used at the facility.

The one acutely hazardous material to be used on site is anhydrous ammonia. If the anhydrous ammonia is leaked, the ammonia will escape into the atmosphere. The hazard to facility workers for the acutely hazardous material will be mitigated by facility safety equipment, hazardous materials training, and emergency response planning. The Risk Management Plan (RMP) as required under federal regulations (40 Code of Federal Regulations [CFR] 68) and California's Accidental Release Prevention Program (CalARP) for the existing King City Co-Gen will be amended for the project. An RMP is required for substances described in section 112(r)(5) of the Clean Air Act and listed in Appendix A of Part 355 of

Subchapter J of Chapter I of Title 40 of the CFR and that are handled or stored in quantities in excess of certain levels.

Anhydrous ammonia is used in a selective catalytic reduction (SCR) process to control NO_x emissions created in the combustion chambers of the combustion turbines. The SCR system includes a reactor chamber, catalyst modules, ammonia storage system, and ammonia injection system. The anhydrous ammonia will be injected into the reactor chamber. The rate of injection will be controlled by a monitoring system that uses sensors to determine the correct quantity of ammonia to feed to the reactor chamber. The reactor chamber contains the catalyst modules and is located in a temperature zone of the duct work just before the stack where the catalyst will be most effective at the desired levels of plant operation.

7.2 Storage Facilities and Containment

The anhydrous ammonia storage and handling facilities will be equipped with continuous tank level monitors, temperature and pressure monitors and alarms, and excess flow and emergency block valves. Pressure relief valves and excess flow control valves on the tank fill connections will also be provided. Containment will also be provided.

Tanker trucks will deliver anhydrous ammonia to the King City Project, and a 10,000-gallon storage tank will be used to store the anhydrous ammonia on-site. Appropriate filling and depletion levels will be developed in accordance with manufacture recommendations to maximize safety during the refilling process. Deliveries will be made at the frequency of one every fifteen days.

All hazardous materials will be handled and stored in accordance with applicable codes and regulations. Incompatible materials will be stored in separate storage and containment areas. Areas susceptible to potential leaks and/or spills will be paved and bermed. Wherever possible, double-walled piping will be used to minimize potential releases from ruptured piping. Piping and tanks will be protected from potential traffic hazards by concrete or pipe-type traffic bollards and barriers.

SECTION 8.0 BIOLOGICAL RESOURCES

This section describes the biological resources on or adjacent to the proposed project site. There are no linear facility rights-of-way associated with the King City Project. Section 8.1 describes legally protected species (i.e. Federal or State threatened or endangered species or State fully protected species). Section 8.2 identifies designated critical habitats including wetlands, vernal pools, riparian habitat, and preserves. Section 8.3 provides measures that Calpine will implement to mitigate potential impacts on biological resources if required.

The legally protected species and their habitats described in this report include listed species under the Federal and California Endangered Species Acts; California Fully Protected Species under the Fish and Game Code; and species identified in the Department of Fish and Game's California Natural Diversity Database (CNDDB). The species search area for the proposed King City Project included a 1-mile radius around the site located on the Thompson Canyon and San Lucas U.S. Geological Survey (USGS) topographic quadrangles (7.5-minute series).

In addition to the CNDDB, on March 20, 2001, Foster Wheeler Environmental consulted with the U.S. Fish and Wildlife Service (FWS) Ventura Fish and Wildlife Office. On April 5, 2001, the FWS provided information on threatened and endangered species that may occur in the Thompson Canyon and San Lucas quadrangles.

8.1 Legally Protected Species and Their Habitats On and/or Adjacent to the Site

The King City Project site is located on a parcel of industrial land located immediately adjacent to Calpine's King City Co-Gen Plant. This parcel is highly disturbed and sparsely vegetated with common mallow (*Malva neglecta*), pineapple-weed (*Matricaria matricarioides*), and prostrate knotweed (*Polygonum aviculare*). The area adjacent to this site includes Calpine's existing facility to the north, a 6-8 foot high earth berm vegetated with Hottentot fig (*Carpobrotus edulis*) and Metz Road to the west, and untilled agricultural fields to the south and east.

A search of the CNDDB/RareFind, a publicly available biological resource computerized database, was conducted by Foster Wheeler Environmental on March 21, 2001. The results of the CNDDB/RareFind search revealed that one (1) special status biological resource is within the 1-mile radius searched for the King City site, Bank Swallow Nesting Area. Bank swallow (*Riparia riparia*) is a state listed threatened species. It is a colonial nesting species that nest primarily in riparian and other lowland habitats west of the desert. Bank swallows require vertical banks or cliffs with fine textured sandy, soils located near streams, rivers, lakes, and oceans. Nesting holes are burrowed within these banks or cliffs.

According to the CNDDB/RareFind report a colony of nesting bank swallows has occupied an area along Metz Road about 1 mile north of King City and about 0.7 mile north of Calpine's existing King City Co-Gen Plant and proposed King City Project site. This colony is located within a bank of Salinas River alluvial soils with grassland located above the colony site. The CNDDB/RareFind reports that this colony of 250 burrows has been known to occur at this location for several years. About 40 percent breeding occupancy was observed in 1987.

According to the information provided by the FWS, eleven (11) Federally listed proposed, and candidate species may occur in the Thompson Canyon and San Lucas quadrangles. These species include 4 bird (Bald eagle, Least Bell's vireo, California condor, and Mountain plover), 2 amphibian (California red-

legged frog and California tiger salamander), 3 invertebrate (Conservancy, Longhorn, and Vernal pool fairy shrimps), 1 plant (San Joaquin wollythreads), and 1 mammal (San Joaquin kit fox).

The habitat requirements of the threatened Bald eagle *(Haliaeetus leucocephalus)* include coastal areas; rivers or lakeshores vegetated with large, tall trees as well as man-made reservoirs. The endangered Least Bell's vireo (*Vireo belli pusillus*) prefers riparian woodland habitats that contain both a canopy and shrub layer and associated upland habitats. The principal foraging sites used by the endangered California condor *(Gymnogyps californianus)* include grasslands or oak-savannah regions at lower elevations, and roosting and nesting sites located at higher elevations on cliffs. The proposed threatened Mountain plover *(Charadrius montanus)* prefers grassland habitats (short-grass prairies) or sites where the vegetation is short with at least 30 percent bare ground.

The threatened California red-legged frog *(Rana aurora draytonii)* spends most of its life cycle in and near sheltered backwaters of ponds, marshes, springs, streams, and reservoirs. The California tiger salamander *(Ambystoma californiense),* a candidate for listing, is restricted to grasslands and low-elevation foothill regions where it uses seasonal aquatic habitats for breeding.

The 3 species of fairy shrimp, Conservancy fairy shrimp *(Branchinecta conservatio)*, Longhorn fairy shrimp *(Branchinecta longiantenna)*, and vernal pool fairy shrimp *(Branchinecta lynchi),* are restricted to vernal pools, which are ephemeral freshwater habitats. They are ecologically dependent on seasonal fluctuations in their habitat, such as absence or presence of water during specific times of the year, duration of inundation, as well as other factors including specific salinity, conductivity, dissolved solids, and pH levels.

The endangered San Joaquin woollythread *(Lembertia congdonii)* typically occupies microhabitats with less than 10 percent shrub cover, although herbaceous cover may be either sparse or dense. Associated plant species include red brome, red-stemmed filaree, goldfields, Arabian grass, and mouse-tail fescue. Hoover's woolly-star often occurs in populations of San Joaquin woollythreads.

The San Joaquin kit fox (*Vulpes macrotis mutica*) is listed as a Federally endangered and state threatened species. It is a subspecies of the kit fox which the smallest member of the dog family in North America. San Joaquin kit fox inhabits grasslands and scrub lands many of which have been extensively modified by activities including oil exploration and extraction, agricultural, irrigated pastures, orchards, vineyards, and grazed annual grasslands. They appear to make extensive use of habitat fragments in urbanizing environments. Oak woodland, alkali sink scrubland, and vernal pool and alkali meadow communities also provide habitat for kit foxes.

Dens are scarce in areas with shallow soils due to the proximity to bedrock, high water tables, or impenetrable hardpan layers. Kit foxes construct their own dens, but they can also enlarge or modify burrows constructed by other animals, such as ground squirrels, badgers, and coyotes. They have been known to den in human-made structures, such as culverts, abandoned pipes, and banks in roadbeds. Most kit fox dens, especially natal and pupping dens, have at least two entrances. San Joaquin kit foxes primarily feed nocturnal rodents, ground squirrels, cottontails, ground-nesting birds, insects, and vegetation, especially grasses.

Although no extensive survey has been conducted of the historical range, kit foxes are thought to inhabit suitable habitat on the San Joaquin Valley floor and in the surrounding foothills of the coastal ranges, Sierra Nevada, and Tehachapi Mountains. They occur in the interior basins and ranges in Monterey County as well as sever other nearby counties.

In addition to the Federal and state listed species described above there is a potential for transient Western burrowing owl (*Athena cunicularia hypugaea*), a Federal and state species of special concern, to occur in the vicinity of the proposed project site. Western burrowing owls are typically found in open, dry grasslands, agricultural and range lands, and desert habitats often associated with burrowing animals. They also inhabit grass, forb, and shrub stages of pinyon and ponderosa pine habitats. Burrowing owls commonly perch on fence posts or on top of mounds located outside its burrow. They can be found at the edges of airports, golf courses, and in vacant urban lots.

Based on observations made by Foster Wheeler Environmental during its March 15, 2001 site visit, the King City Project site and/or the adjacent sites do not contain, nor are expected to support, any legally protected species and/or their habitat. However, San Joaquin kit fox was reported to occur in the project area quadrangles. Given this species preference for non-disturbed and disturbed habitats, that are similar to those adjacent to the King City Project site, there is a potential for transient San Joaquin kit fox to be encountered during construction of the proposed project.

8.2 Designated Critical Habitats on Site or Adjacent to Site

Designated critical habitats identified in this report include wetlands, vernal pools, riparian areas, and preserves on or adjacent to the proposed site. Observations for designated critical habitats were made during Foster Wheeler Environmental's March 15, 2001 site visit.

No wetlands, vernal pools, riparian areas or preserves were observed on or adjacent to the King City Project site. Impacts on these designated critical habitats are not anticipated.

8.3 Proposed Mitigation – If Required

Mitigation of biological resources will not be required for Calpine's King City Project since legally protected species and/or their habits or designated critical habitats will not be impacted. However, since there is a potential for transient San Joaquin kit fox to be encountered during construction of the proposed King City Project, Calpine will implement the FWS's April, 1997 *Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance.*

To minimize potential construction disturbances to transient San Joaquin kit foxes, the following protection measures will be implemented:

- limit or cluster project features to the smallest area possible;
- restrict all project-related vehicular traffic to established roads, construction areas, and other designated areas and observe a 20-mph speed limit;
- minimize nighttime construction activities;
- cover all excavated, steep-walled holes or trenches more than 2 feet deep with plywood or similar material, at the close of each work day or provide 1 or more escape ramps constructed of earth fill or wooden planks;
- thoroughly inspect holes or trenches prior to filling for trapped animals as well as construction pipes, culverts, or similar structures with a 4-inch or more diameter before burial;
- dispose of all food-related trash items in a closed container and remove the container from the construction site for disposal at least once per week;
- no firearms, dogs, or cats should be allowed on the project site;
- restrict the use of rodenticides and herbicides in the project area;

- conduct an employee education program on kit fox biology and legislative protection of this species;
- restore areas of temporary ground disturbances; and
- contact the FWS should any San Joaquin kit foxes be trapped, inadvertently injured, or killed.

Should any of the other species described above, or any other Federal or state threatened or endangered species, or state fully protected species be encountered during construction of the King City Project, appropriate mitigation measures will be developed by a qualified biologist, in consultation with the CEC. These mitigation measures will be implemented to avoid impacts to legally protected species.

SECTION 9.0 LAND USE, ZONING AND PLANNING

This section provides a discussion of land use at the King City project site and assesses the potential effects of the proposed peaking power project construction and operation on existing land use. Section 9.1 discusses the local land use restrictions implemented by King City, focusing on zoning. Section 9.2 discusses the use of the project parcel and the parcels adjacent to the site. Section 9.3 identifies the ownership of parcels within 500 feet of the project site. Section 9.4 provides demographic information for the census tract in which the project is located.

9.1 Local Land Use Restrictions (Zoning)

The site of the proposed generating facility is zoned Industrial (M-1) and has the King City General Plan (Nov. 1998) designation of Industrial and is also classified within the General Plan as part of the East Ranch Industrial Park Light Industrial Economic Zone. According to the King City Zoning Ordinance there are fourteen categories of uses permitted in the M-1 District (normally subject to obtaining a use permit). Of these, the proposed peaking power project would likely be categorized as the second of the list: *"(2) Other manufacture, assembly, processing and packaging or industrial operations within a building where all resulting dust, dirt, cinders, fumes, gases, smoke or offensive odor shall be confined to the premises or so disposed of as to avoid air pollution"*. In addition, the fourteenth permitted use is *"(14) Any other use which the Planning Commission finds not to be inconsistent with the uses set out herein."* The following summarizes the land use restrictions for this district:

Maximum building height: *No building shall be more than two stories, nor more than thirty feet in height (not including roof mounted equipment which must be screened and/or painted to coordinate with building architecture); provided, that said height limit may be increased upon first securing a use permit if the building is equipped with a sprinkler system meeting the requirements of all applicable state laws, rules and regulations, as well as all applicable city ordinances, specifically including but not limited to ordinances adopting by reference uniform building, plumbing and fire codes, set forth in Chapter 12.04 of this code.*

Exceptions to height limits: W*here chimneys, silos, cupolas, flag poles, monuments, gas storage holders, radio, television and other towers, water tanks, church steeples and similar structures and mechanical appurtenances are permitted in a district, height limits may be exceeded upon the securing of a use permit in each case.*

The flue gas stack is 75 feet tall, and would be subject to obtaining a use permit in accordance with the city ordinance. Appropriate fire suppression equipment for the proposed project will be provided in accordance with all applicable state laws, rules and regulations.

The proposed site is situated approximately 2,000 feet south of the King City (Mesa Del Rey) Airport at an elevation about 35-40 feet below it. The project is located within the airport region defined as the "Horizontal Surface", as mapped on the "Approach And Clear Zone Plan" of the Mesa Del Rey Airport. This map is also referenced by the Municipal Zoning Code as the "Airport Zoning Map." The Airport Overlay District of the City Ordinance stipulates building height limits consistent with the building height citations for the underlying industrial district.

Maximum height limits (Airpor District): Except as othewise provided in this title, no building, structure or tree shall be erected, altered, allowed to grow or be maintained in any airport approach zone, transition zone, horizontal and conical surfaces, to a height in excess of the height limit specified for such zone as delineated upon the airport zoning map. Notwithstanding anyother provision of this section or of this chapter, no building shall be more than two stories, nor more than thirty feet in height. (Ord. 429 §1 (part), 1980: Ord. 354 §4.38.4, 1973).

As previously noted, the highest proposed project structure height is the flue gas stack. However, notification to the Federal Aviation Administration (FAA) prior to construction (Notice of Proposed Construction or Alteration, Form 7460-1) will be made to ensure consistency with all airport guidelines and to provide construction schedule information to the airport. A copy of Form 7460-1 is provided in Appendix G.

Minimum building site:

(1) Minimum building site shall be one acre (43,560 sq. ft.)

(2) Minimum lot width for corner and interior lots shall be one hundred and fifty (150) feet.

(3) Minimum lot depth shall be two hundred ninety (290) feet.

Maximum building site coverage: *"The maximum coverage of a lot by all structures may be sixty (60) percent."*

Minimum yards required: *"Unless otherwise required in Chapters 17.48—17.52, established plan lines, or unless optional design standards have been used as set out in Section 17.30.110, the following requirements shall apply:*

(1) Front Yard abutting a public street. Forty (40) feet.

(2) Side Yard. Twenty (20) feet.

(3) *Rear Yard. Twenty (20) feet."*

The proposed project will be consistent with the above site, coverage and yard requirements.

In addition to the above use restrictions, King City has specific requirements for fencing and landscaping which are described in Section 15, Visual, and requirements for parking which are addressed in Section 11, Traffic and Transportation.

9.2 Use of Adjacent Parcels

Adjacent land use (shown in Figure 9-1) consists of a mix of open, and agricultural land east west and south of the project site and commercial/industrial operations north of the project site. The site's northern property boundary abuts the existing King City Co-Gen Facility, beyond which additional commercial/industrial operations are located along Airport Road. The site's eastern property boundary abuts abandoned agricultural land beyond which is located a new Gilroy Foods warehouse and additional commercial operations along Airport Road. The site's southern property abuts open agricultural land, beyond which are additional commercial uses situated along East San Antonio Drive and the eastern side of Metz Road. A residential neighborhood is located on the eastern side of Metz Road south of the project site. West of the project site, along the western side of Metz Road are a rail line and agricultural fields.

9.3 Ownership of Adjacent Parcels

The names and addressed of all property owners within 500 feet of the project site, or related facilities were provided in Section 2.3.

9.4 Demographics of census tract where project is located

The most recent complete set of demographic data by census tract is the 1989 and 1990 census data. The 2000 census data for the state of California has just been released, but economic data is not yet included. The proposed project site is located within the census tract 0113 as defined by the 1990 census. According to the US Census Bureau, census tracts are small, relatively permanent statistical subdivisions

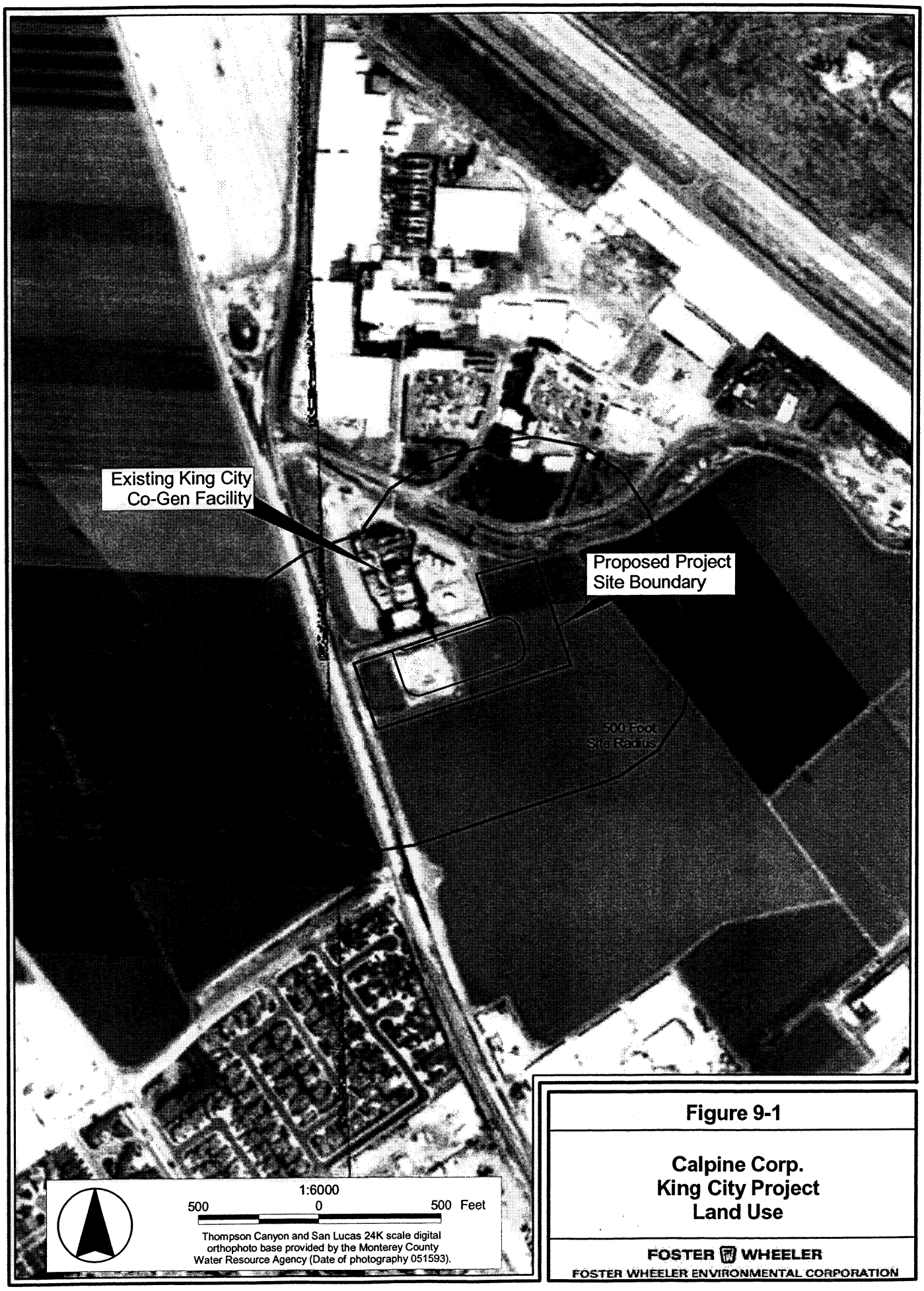

Figure 9-1

Calpine Corp.
King City Project
Land Use

FOSTER WHEELER
FOSTER WHEELER ENVIRONMENTAL CORPORATION

of a county. Census tracts usually have between 2,500 and 8,000 persons and, when first delineated, are designed to be homogenous with respect to population characteristics, economic status, and living conditions. Census tracts do not cross county boundaries. The spatial size of census tracts varies widely depending on the density of the settlements and census tract boundaries are revised occasionally when large population growth requires splitting a census tract or when substantial population decline requires that census tracts be combined.

The 1990 census tract 0113, in which the proposed project site is located, reflects a 1990 population of 11,512. Of this total population the racial breakdown is as follows: 6,199 are White, 78 black, 150 American Indian, 168 Asian, and 4,917 identify as other race(s); however, 6,782 of the total also identify themselves as persons of Hispanic origin. The median household income in 1989 was $30,884 and 13.1 percent of the total population were below the poverty level in 1989.

Consistent with the definition of census tract data, the 2000 census breaks the 1990 census tract 0113 into two separate census tracts, 0113.01 and 0113.02. The project site is located within census tract 0113.01; however, Table 9-1 provides 2000 census data for both tracts.

TABLE 9-1: 2000 CENSUS DATA

		Race								
		One race								
Geographic area	Total Population	Total	White	Black or African American	American Indian and Alaska Native	Asian	Native Hawaiian and Other Pacific Islander	Some other race	Two or more races	Hispanic or Latino (of any race)
Tract 0113.01	9,560	9,114	4,720	62	128	243	25	3,966	416	6,505
Tract 0113.02	5,325	5,126	2,370	26	56	25	5	2,644	199	4,260

In addition to the census tract data provided above, the demographic research unit of the California Department of Finance provides demographic data by city. Please note that census tracts and city boundaries are not consistent which is why the following data cannot be directly compared to the census tract data. It is provided for reference only.

TABLE 9-2: CALIFORNIA DEPARTMENT OF FINANCE, DEMOGRAPHIC RESEARCH UNIT CENSUS 2000, INCORPORATED CITIES

		Race								
		One race								
Geographic area	Total Population	Total	White	Black or African American	American Indian and Alaska Native	Asian	Native Hawaiian and Other Pacific Islander	Some other race	Two or more races	Hispanic or Latino (of any race)
King City	11,094	-	1,892	17	35	131	8	6	83	8,922

Additionally, Table 9-3 depicts the population change within King City from 1990-2000 on the basis of the California Department of Finance demographic data.

TABLE 9-2: CALIFORNIA DEPARTMENT OF FINANCE, DEMOGRAPHIC RESEARCH UNIT CENSUS 2000, INCORPORATED CITIES

	1990 Population	2000 Population	Numeric change	Percent change
King City	7,634	11,094	3,460	45.3

SECTION 10.0 PUBLIC SERVICES

This section provides a discussion of fire protection for the proposed project. Section 10.1 addresses contact with the local Fire District regarding their ability to serve the proposed project and Section 10.2 addresses the location of the nearest fire station.

10.1 Ability to serve letter from Fire District

Appendix E contains a letter sent on March 23, 2001 from Calpine to the King City Fire District asking for a determination of its ability to serve the proposed project, and the King City Fire Department letter agreeing to do so.

10.2 Nearest fire station

The location of the nearest fire station to the project site is the King City Fire Department located approximately 1 mile south of the project site at 422 Bassett Street. In addition to the City Fire Department, which serves the area within the city limits, there is a rural fire department based in Pine Canyon that is overseen by the California Department of Forestry (CDF). This rural fire department is located on Pine Canyon Road roughly 3 miles from King City and provides wildland and structural fire protection in the unincorporated area around King City. The rural fire department crews coordinate their training with the City, and have a mutual aid agreement to back-up fires and emergency situations within the City when needed.

SECTION 11.0 TRAFFIC AND TRANSPORTATION

This section presents the potential effects on traffic and transportation resulting from construction and operation of the proposed project. Section 11.1 addresses the existing level of service (LOS) of surrounding roads. Section 11.2 addresses the Traffic Control Plan for the facility construction. Section 11.3 discusses the equipment transport route and Section 11.4 identifies parking requirements for construction and operation.

11.1 Level of Service (LOS) measurements on surrounding roads –a.m. and p.m. peaks

The primary state highways and local roads providing access to the proposed project consist of two possible routes: 1) Highway 101 to First Street, to Bitterwater Road, to Metz Road, or 2) Highway 101 to Broadway Street to San Antonio Road to Metz Road. These routes are currently used by truck traffic from Highway 101 to the warehouse operations and other commercial/industrial facilities at the East Branch Industrial Park. Figure 1-2, previously provided in Section 1, Project Description, depicts these roadways. The following descriptions of these roads, as well as other surrounding roads proximate to the project site, are excerpted from the King City General Plan 1998:

Highway 101: A four lane north-south freeway that provides regional access for King City and provides statewide and interstate access for the movement of people, goods and services. Highway 101 also carries a significant amount of inter-regional automobile and truck traffic. Full interchange access on Highway 101 is provided at Broadway Street, Canal Street and First Street.

First Street: A two lane north-south arterial street with left turn channelization in the downtown area. First Street is the major thoroughfare from Ellis Street in downtown to Highway 101 at its southern terminus. It also provides truck access from the southern reach of Highway 101 to the Airport (East Ranch) Industrial Park. The First Street Bridge is rather limited with respect to its paved width and right-of-way at the San Lorenzo Creek crossing south of Division Street. The Southern Pacific railroad track is adjacent to First Street and Metz Road.

Metz Road: A two lane arterial street with left turn channelization at San Antonio Road and Airport Drive. North of Airport Drive, however, Metz Road functions as a two lane rural road.

Broadway Street: A two lane local east-west arterial street with left turn channelization. Broadway Street is the major thoroughfare from First Street in downtown to Highway 101 at its western terminus.

San Antonio Road A two lane arterial street with left turn channelization. It currently forms part of a loop road that extends northerly from Broadway Street at the Highway 101 interchange to Willow Street, then easterly to Mildred avenue and Third Street and terminates at Metz Road. Across Metz Road, East San Antonio Road leads through the East Ranch Industrial Park and loops through to Bitterwater Road.

Bitterwater Road: A two lane east-west arterial street adjacent to the Airport.

Airport Drive: A two lane collector street that serves the Airport and various industrial properties.

One major aspect of traffic analysis is the level of service (LOS) for roadways. LOS classifications are based on the amount of traffic and roadway capacities. The LOS scale ranges from A to F with Level A representing stable or free flow conditions and Level F representing forced or jammed conditions. LOS A, B, and C are considered satisfactory to most motorists, while LOS D is marginally acceptable.

Table 11-1 provides a summary of Average Daily Traffic Volume (ADT) and Level of Service (LOS) as excerpted from the King City General Plan 1998, which cited source data from various county, state and local traffic studies conducted during 1994 and 1995. In reviewing the General Plan information, the CalTrans data for Highway 101 was cross-checked against the 1994 CalTrans data available on the CalTrans web site, and two discrepancies in the 1994 data were noted. Since the data provided in the General Plan cited the State Department of Transportation as the source, the CalTrans web data has been provided in Table 11-1, with the discrepancy also provided in italicized parentheses.

Since the data cited in Table 11-1 is from 1994/95 more recent ADT counts were obtained from CalTrans to determine whether substantial changes in LOS might be anticipated. 1999 Data for Hwy 101 are provided in Table 11-2. Table 11-3 provides a comparison of the percent increase in traffic from 1994 to 1999 along Highway 101.

Much of the Highway 101 traffic bypasses King City rather than affecting local roadways, but it indicates that an increase to overall traffic volume has occurred. However, given that the local roads cited in Table 11-1 above, all functioned with LOS of A or B in 1994/95, the data available does not suggest that a significant change in LOS would be expected. In addition, recent traffic counts[1] (over the course of one week, Wednesday to Wednesday, in February 2001) for First Street near the San Lorenzo Creek Bridge indicate that the 7AM to 7PM weekday (5-day average) traffic volumes average 3,859 vehicles. The 24-hour weekday (5-day average) traffic volumes average 4,621 vehicles. The AM weekday peaks occurred at 7-8AM Tuesday through Friday but occurred at 11AM on Monday. The PM weekday peaks occurred between 4-5PM except on Monday when the PM weekday peak occurred at 12-1PM. Weekend peaks occur between the hours of 11AM-2PM.

11.2 Traffic Control Plan for roads during construction

Traffic Control during construction will be implemented to minimize impact to traffic flow and to maintain safe roadway conditions. The safety measures will include:

- Using proper signage and traffic control measures in accordance with Caltrans and City requirements.
- Coordinating construction and delivery activities with appropriate City, County and Caltrans departments.
- Scheduling traffic lane or road closures during off-peak hours whenever possible should such closures be needed.
- Restricting truck and construction traffic to approved access roads, construction yards and construction sites.
- Coordinating oversize load delivery with railroad.

Each of the applicable transportation permits required by Caltrans to transport oversize, overweight, overheight, or overlength vehicles on State highways will be obtained prior to equipment transport. Construction material shipments will be properly labeled and placarded in accordance with applicable California Vehicle Codes.

[1] Traffic counts provided by King City DPW

TABLE 11-1: AVERAGE DAILY TRAFFIC VOLUME (ADT) & LEVEL OF SERVICE (LOS) SUMMARY

STREET SEGMENT	DESCRIPTION	COUNT SOURCE	EXISTING ADT COUNT	LOS
1. AIRPORT DRIVE				
a. Metz – Bitterwater	2 Lane Collector	2	970	A
2. BITTERWATER ROAD				
a. North of Industrial Way	2 Lane Rural Highway	2	800	A
3. BROADWAY STREET				
a. First – Second	2 Lane Arterial	2	2,090	A
b. San Lorenzo – Mildred	2 Lane Arterial	1	6,790	A
c. Mildred – Canal	2 Lane Arterial	1	8,140	A
d. North of San Antonio	2 Lane Arterial	2	6,530	A
e. South of San Antonio	2 Lane Arterial	2	500	A
4. FIRST STREET				
a. Broadway – Ellis	2 Lane Arterial	2	3,790	A
b. Bassett – Broadway	2 Lane Arterial	2	5,300	A
c. South of division Street	2 Lane Arterial	*	3,840	A
d. North of highway 101	2 Lane Arterial	2	3,750	A
e. South of Highway 101	2 Lane Arterial	2	730	A
5. HIGHWAY 101				
a. South of First	4 Lane Freeway	4	14,800	A
b. First – Canal	4 Lane Freeway	4	16,300 (*13,650*)	A
c. Canal- Broadway	4 Lane Freeway	4	18,000 (*17,200*)	A
d. North of Broadway	4 Lane Freeway	4	24,300	A
6. HIGHWAY 101/BROADWAY INTERCHANGE				
a. Northbound off ramp	1 Lane Ramp	2	1,100	A
b. Northbound on ramp	1 Lane Ramp	2	4,800	A
c. Southbound off ramp	1 Lane Ramp	2	4,800	A
d. Southbound on ramp	1 Lane Ramp	2	1,400	A
7. HIGHWAY 101/FIRST ST. INTERCHANGE				
a. Northbound off ramp	1 Lane Ramp	2	1,200	A
b. Northbound on ramp	1 Lane Ramp	2	1,550	A
c. Southbound off ramp	1 Lane Ramp	2	1,450	A
d. Southbound on ramp	1 Lane Ramp	2	800	A
8. METZ ROAD				
a. North of Airport	2 Lane Rural Highway	2	1,100	A
b. Airport – San Antonio	2 Lane Rural Highway	2	2,400	B
c. San Antonio – Lyons	2 Lane Rural Highway	2	2,890	B
9. SAN ANTONIO ROAD				
a. North of Broadway	2 Lane Arterial	1	3,370	A
b. South of Third Street	2 Lane Arterial	1	4,140	A
c. Third – Metz	2 Lane Arterial	2	4,140	A
		TOTAL	151,770	

Note: PM peak hour volumes obtained from sources #1 and #2 are expanded by a factor of 10 to estimate daily volumes.
Source: 1.Riverview Gardens Townhomes Traffic Impact Study, Keith B. Higgins & Assoc., Inc., June 27, 1995
2. Airport Industrial park Traffic Study, Keith B. Higgins & Assoc., Inc., May 31, 1995
3. 1994 Annual Average Daily Traffic, Monterey County Department of Public Works Traffic Engineering.
4. 1994 Traffic Volumes, State of California Department of Transportation.

* COUNT SOURCE UNKNOWN BASED ON MISSING KING CITY GENERAL PLAN FOOTNOTES

TABLE 11-2: 1999 CALTRANS DATA FOR HIGHWAY 101

Route	County	Mile	Description / Location	1999 Annual Average Daily Traffic (AADT)	
				South of Location	North of Location
101	Monterey	39.77	King City, First Street	16,000	17,000
101	Monterey	40.71	King City, Canal Street	17,000	19,600
101	Monterey	41.18	King City, Broadway	19,600	26,000

TABLE 11-3: COMPARISON: 1994 TO 1999 TRAFFIC VOLUMES FOR HIGHWAY 101

Highway Segment	1994 AADT	1999 AADT	% Change
a. South of first	14,800	16,000	8.1 %
b. First – Canal	16,300	17,000	4.3 %
c. Canal – Broadway	18,000	19,600	9.0 %
d. North of Broadway	24,300	26,000	7.0 %

11.3 Equipment transport route

Increased transportation due to the construction of the proposed project will include deliveries of plant equipment and construction materials by truck, such as concrete and components. Certain components of the facility are of such dimension and weight that special delivery will be required during construction. Any ground shipment exceeding designated state or local size and/or weight/load limits for access roads will require a Single Trip Transportation Permit. Appropriate permits will be obtained for all deliveries to comply with local laws and ordinances.

Truck deliveries are not anticipated to significantly affect the traffic/truck mix along State Highway 101, but may increase the ratio of trucks to passenger vehicles on local streets in King City. However, there are currently numerous truck deliveries to the warehouse operations located at the East Ranch Industrial Park that occur via the designated City truck route along First Street, Bitterwater Road and Metz Street. Thus, the temporary increase in truck traffic is not expected to significantly affect the existing traffic characteristics.

As indicated previously, site access for equipment deliveries can be provided from two primary routes, First Street to Bitterwater Road to Metz Road; or Broadway Street to San Antonio Drive to Metz Road. Preliminary consultation with the King City Department of Public Works (DPW) indicates that the preferred truck route is the First Street/Bitterwater Road/Metz Road route. This route is the City's designated truck route to the industrial park and is therefore preferred for equipment transport also,

however, for construction and equipment delivery the DPW indicates that the Broadway, San Antonio Drive and Metz Road route could also be used, if necessary. The known equipment transport limitations for these routes are:

First/Bitterwater/Metz – The San Lorenzo Creek Bridge has some limitation with respect to its paved width and right-of-way, so overwide loads may require a traffic detail during transport and potential temporary lane closure. An at grade rail crossing exists just west of the intersection of Bitterwater Road and Metz Road.

Broadway/San Antonio/Metz – This route is not a designated truck route and is somewhat limited for overheight loads due to bridge overpass height. An at grade rail crossing exists just south of the intersection of San Antonio Road and Metz Road.

It is anticipated that deliveries to the site will occur from Highway 101 via the First Street/Bitterwater Road/Metz Road route, based on this route's status as the designated truck route and the preferences indicated in preliminary discussions with the City. The alternate truck route would be Highway 101 to Broadway Street/San Antonio Road/Metz Road.

11.4 Parking requirements – workforce and equipment

Operational parking requirements will be minimal. Parking will be provided at the project site consistent with King City Parking requirements:

> "17.31.140 Parking Requirements. *Employee & visitor parking must conform to zoning specifications and be located at the sides or the front of the building provided set back and landscaping requirements are met. Truck parking and docking areas should be architecturally consistent with building design and aesthetically pleasing. Entrances, exits, employee and visitor parking must be graded and paved. Truck parking, docking and traffic ways, exterior maintenance and storage areas may be properly prepared decomposed granite or equivalent.*
>
> (5) Industrial
>
> (C) Manufacturing, heavy industrial, heavy commercial uses
>
> *Minimum of 2 spaces for every 3 employees on largest shift but not less than 1 space per 2000 square feet of gross floor area. Parking may be off-site within 300 feet, upon approval of Planning Commission.*"

Construction parking for the peak construction workforce will be provided. The construction workforce peak is estimated to be 150 employees with an average construction workforce of 100. Although it is anticipated that ride-sharing or the use of public transportation will occur, the peak workforce has been used to estimate parking demand in order to provide a margin of safety with respect to providing adequate construction parking. In addition to the provision of construction parking areas, the project has also established a construction equipment laydown area to ensure adequate flow of equipment and vehicles into the construction area, thereby minimizing off-site traffic impacts. The equipment laydown and construction parking area will be located on the eastern portion of the project site.

All construction parking and laydown areas will be surfaced with aggregate during the construction period. Periodic watering or applications of a dust palliative material will be used to minimize potential dust problems during the dry season. Due to the flat terrain of the plant site, grades for all parking and laydown areas will be minimal.

SECTION 12.0 SOILS AND WATER RESOURCES

This section discusses the water use, wastewater and stormwater discharges from the King City Project and plans to control soil erosion and sedimentation on the site.

12.1 Wastewater Volume, Quality, Treatment

During project operation, process wastewater will come from blowdown from the cooling tower and blowdown from the de-min units. These two sources will generate about 27 gpm of wastewater based on full load hot day operation. The only change in water quality will be an increase in concentrations of dissolved solids. Since the quality of the wastewater is good, no treatment is required. Wastewater will be discharged to the King City Co-Gen wastewater system through an on-site connection and piping. From the Co-Gen facility, wastewater is sent to Gilroy Foods and then to the city to be sprayed on agricultural fields. Total wastewater including domestic and service water as well as process wastewater will be 32 gpm. A brief description of the individual streams appears below:

Domestic Water System: This system will produce approximately 2 gallons per minute (2,900 gallons per day) of waste and will consist of normal sanitary sewer system wastes. no significant increase in total dissolved solids is expected.

Service Water System: This system will produce approximately 3 gallons per minute (4,300 gallons per day) of waste and will consist primarily of general washdown water. No significant increase in total dissolved solids is expected.

Demineralizer System Blowdown: This system will produce approximately 16 gallons per minute of waste from reverse osmosis system reject water. Total dissolved solids in this stream will be approximately four (4) times higher than total dissolved solids in the makeup water supplied from the wells.

Cooling Tower Blowdown: This system will produce approximately eleven (11) gallons per minute of waste. Total dissolved solids in this stream will be approximately four (4) times higher than total dissolved solids in the makeup water supplied from the wells.

12.2 Status of Permits for Wastewater Discharge

The King City Project does not require a discharge permit for wastewater. Gilroy Foods has a use permit with King City.

12.3 Erosion and Sedimentation Control Mitigation Strategy

The goals of the Erosion and Sedimentation Control Mitigation Strategy are to control on-site storm water; minimize soil erosion and sedimentation; meet federal, state and local storm water quality standards; prevent water inundation on-site and off-site; analyze potential drainage control devices and uses for storm water collected and controlled on-site, and implement a plan for the National Pollutant Discharge Elimination system (NPDES) Permit.

1. The first phase (Planning Phase) is establishing the drainage control plan of the site. This phase will develop the site's hydrology and hydraulic calculations required in evaluating drainage controls. These calculations will be signed by a licensed California Civil Engineer and will accompany the grading plans required by city/county for the grading permit approval. A soil erosion and drainage control plan will be developed. The drainage control plan will address storm water runoff and sediment controls for the existing condition and during construction development. This information is necessary to secure the grading permit.

2. The second phase (SWPPP Development) is to prepare the Storm Water Pollution Prevention Plan (SWPPP) for Construction along with filing the Notice of Intent (NOI) with the Water Board for construction activities. This phase will present the measures to be implemented to minimize sediment and other pollutants in storm water discharges during the site's development.

3. The third phase (Final Development), is to provide a separate SWPPP and Storm Water Monitoring and Reporting Plan (SWMRP) for the General Industrial Activities Permit required after construction and to file a Notice of Termination (NOT) of coverage under the construction permit.

The second phase has two major objectives: (1) to help identify the sources of sediment and other pollutants that affect the quality of storm water discharges; and, (2) to describe and ensure the implementation of practices to reduce sediment and other pollutants in storm water discharges during construction activities. The SWPPP will include Best Management Practices (BMPs) which address source reduction and provide measures/controls necessary to mitigate potential pollutant sources. The SWPPP will be available to the public under Section 308(b) of the CWA and will be made available by the Regional Water Board upon request. Required elements of the SWPPP include:

- site description
- erosion and sediment controls
- non-storm water management
- waste management and disposal
- implementation of other approved plans

12.4 Spill Prevention/Water Quality Protection Plans

The amount of oil on-site in electrical equipment exceeds the threshold quantity for a Spill Prevention Control and Countermeasures Plan (SPCC) as per 40 CFR 112. Calpine will amend the existing SPCC plan for the King City Co-Gen to include the proposed new generating equipment prior to installing oil-filled equipment on the site. Appendix H contains the existing SPCC Plan and draft amendments.

Storage of anhydrous ammonia on-site for use in the SCR system for NO_x control will require a Risk Management Plan (RMP) pursuant to federal Clean Air Act regulations at 40 CFR 68, Subpart G, and pursuant to California's Accidental Release Prevention Program (CalARP). The stringency of the plan requirements will depend upon the results of a worst-case release scenario study to be conducted. Prior to introducing anhydrous ammonia on the site, Calpine will have the plan approved by the Monterey County Department of Public Health.

When the existing King City Co-Gen facility is considered as part of the project development, total project area exceeds five acres and a Storm Water Pollution Prevention Plan (SWPP) for construction will be required. Calpine will obtain a SWPP prior to start of construction. During construction, Calpine will adhere to Best Management Practices (BMPs) for storm water pollution prevention. At a minimum, the BMPs would likely include culverts, berms, and other acceptable methods of storm water control.

The project will require a SWPP for operation. Calpine will make the proper submittal to the regional water quality control board (RWQCB) and prepare a SWPPP for the site. Secondary containment and closed storage containers will prevent the movement of chemicals and oil stored on-site into storm waters.

SECTION 13.0 CULTURAL RESOURCES

Foster Wheeler Environmental conducted a record search at the Northwest Information Center of the California Historical Resources Information System (CHRIS) at California State University, Sonoma. The search, which included the project Area of Potential Effect (APE) and areas within a 1-mile radius of the APE, determined that there are no known cultural resources recorded within the project boundary. In 1985, E.M. Hattori conducted a cultural resource survey at the existing plant location. No sites were recorded during this survey. The proposed project area is just south of the 1985 survey area. Several archaeological surveys have been previously conducted in the general vicinity, outside the APE. These surveys resulted in negative findings near the project area.

13.1 Field Survey

Foster Wheeler Environmental conducted a pedestrian field survey on March 22, 2001 of the King City Project site and bordering property, to identify any potential cultural resources. Surface ground visibility was good within the graded lot due to the removal of ground cover, and poor within the agricultural area due to the dense crop. The surveyor was accompanied by Calpine plant engineer. The survey method included three 10-15 meter linear transects across the graded plot, which appeared to be covered with fill. The agricultural area was dense with a wheat crop, rendering poor ground visibility (approximately 15% surface visibility). The surveyor meandered between plowed rows examining areas with exposed ground surface. No cultural resources were identified in the APE

13.2 Proposed mitigation

Records search and field survey results determined that the project APE is within a low archaeological sensitivity zone. The APE locality is not within characteristic landforms and locations associated with prehistoric sites. Such landforms would include the floodplain and terraces of the Salinas River and connecting tributaries. The project area is located within a differential alluvial plain.

Though archaeological and historical sites were not found during the field survey for the project, there is a possibility that subsurface excavation for project construction could encounter buried archaeological remains. Because of the low possibility of encountering archaeological sites in the project area, no on-site Monitoring is required for this proposed site. However, if buried cultural resources are encountered during construction, an archaeological specialist will evaluate it. If the specialist determines that the site is not significant, construction will proceed. If the archaeologist determines that the find is potentially significant and requires further evaluation, the CEC and State Historic Preservation Office (SHPO) will be notified, and the archaeologist will prepare a plan for evaluating the find, in consultation with the CEC and SHPO.

13.3 Notification of Native Americans

Foster Wheeler Environmental informed the Native American Heritage Commission (NAHC) about the King City Project area on March 26, 2001 (Appendix F). In that letter, Foster Wheeler Environmental requested a search of the Sacred Lands File to determine whether or not traditional cultural properties are located within the project vicinity. The NAHC has not yet responded with a list of Native American referrals.

SECTION 14.0 PALEONTOLOGICAL RESOURCES

This section provides a discussion of the paleontological reviews that have been conducted to ensure that impacts to paleontological sites are avoided or mitigated. Section 14.1 discusses the data review conducted to ensure that known paleontological sites are identified. Section 14.2 addresses the need for and type of mitigation proposed. Section 14.3 identifies the references used in the analysis.

14.1 Identification of Known Paleontological Sites

The King City project site is located on stream terrace deposits adjacent to both the Salinas River and San Lorenzo Creek. San Lorenzo Creek drains Peachtree Valley deep within the Gabilan Range to the east of the site. Topographically the site is a combination stream terrace and alluvial fan. Besides the sediments from the Salinas River and San Lorenzo Creek there are also likely to be deposits from the smaller creek which drains Llano Grande Canyon on the front of the Gabilan Range immediately to the east of the site. The site is at approximately 345 feet above sea level, which is elevated above the current stream channel of San Lorenzo Creek at 320 feet above sea level. The deposition of sediments from San Lorenzo Creek has pushed the Salinas River to the west side of the valley in this vicinity (Durham 1974).

The Salinas River occupies a broad synclinal trough (Hart 1966; Durham 1974). The rocks in the Gabilan Range to the east, the Sierra de Salinas to the west, and more deeply beneath the valley itself are comprised of older sedimentary formations of Pliocene, Miocene, Oligocene and Eocene age (Durham 1974). The Salinas River and San Lorenzo Creek deposits range in age from late Quaternary to present. The map units of these latter deposits are Qt (Quaternary non-marine terrace deposits; Jennings and Strand 1959) and Qa (Pleistocene and Holocene alluvium; Durham 1974).

Durham (1974) reports fossils from many locations within the Tertiary bedrock formations in the mountains to the west and east of the King City site. The closest reported fossils in Tertiary bedrock are approximately 3 to 5 miles west and approximately 6 miles southeast of the site (Durham 1974). The closest bedrock to the King City project is about 3 miles to the west and 2.5 miles to the east. Durham (1974, page 58) indicates that fossils are scarce in the Quaternary alluvium in the Salinas River valley. The only fossil he reports is the skull of a mammoth (*Mammuthus imperator* Leidy) collected from above the Salinas River just east of San Miguel. San Miguel is about 40 miles southeast of King City. In addition, an archival search was conducted at the California Museum of Paleontology at the University of California Berkeley. No fossil sites were found within two miles of the project site.

The King City project will be located at the existing King City Co-Gen facility. The site was graded and gravel placed when that site was constructed. Construction for the new project will involve replacing an existing septic tank, possibly minor grading and filling to create a level surface, and foundations of approximately 4-foot depth for the concrete pad foundations. Most work, therefore, is expected to take place in areas that have already been disturbed by previous activity.

Based on the published report on the geology of the local area (Durham 1974) there is low potential for recovering vertebrate fossils from the Quaternary alluvium of the site. Consequently, the Quaternary alluvium is considered to be of low paleontological sensitivity and there is a very low likelihood of disturbing any vertebrate fossils during project construction.

14.2 Mitigation

The King City project is not expected to produce direct impacts to high sensitivity formations or paleontological resources. Consequently, the recommended mitigation is for the site construction manager to have a paleontologist or archaeologist on call and to stop work and to have this specialist called in if any bones are exposed during construction.

SECTION 15.0 VISUAL RESOURCES

This section provides a discussion of the mitigation proposed to reduce the potential visual impacts of LM6000 project development in accordance with local requirements. Section 15.1 addresses the plan for landscaping and screening and Section 15.2 provides full size color photos of the site.

15.1 Plan for landscaping and screening to meet local requirements

The proposed LM6000 facility will be constructed south of and immediately adjacent to the existing King City Co-Gen Facility in an area zoned for industrial development. Per the King City zoning ordinance, this M-1-Industrial District has the following fencing and landscaping requirements.

> "17.30.090 Fences – Walls. *Fences and walls are required to screen docking, production, storage and maintenance areas. Such fences and walls shall not exceed eight feet in height, and where the same are located adjacent to any access into a public street the same shall not exceed three feet in height. Chain link fencing must use woven slats to screen area from the street view.*
>
> 17.30.120 Elevations, Site Plans, Landscaping, and Additional Approval. *Elevations, site plans, landscaping plans and additions or alterations shall be approved by the architectural review committee prior to the issuance of any building permits. Signs shall comply with Chapter 17.55.*
>
> 17.30.130 Minimum landscaping standards. *All developments will be required to landscape a twenty (20) foot front and twenty (20) foot side yard setback from the property line which is adjacent to the public street. The landscaping will be undulating mounds with grass or ground cover vegetation with a minimum of two approved trees not more than 50 feet part. Drought tolerant landscaping is encouraged. Additional landscaping is required for the parking lot and front of the building in an amount equal to 10% of the gross area required for parking. Such landscaping will be maintained by the developer as a condition of the land use approval. Automatic irrigation systems are required for all landscaping.*"

As part of the development of the King City Co-Gen Facility, two earth mounds approximately 6-8 feet in height were placed along the west side of the facility adjacent to Metz Road. The northern earth mound (shown below in photo Figure 15-1) extends from the northwestern corner of the property along Metz Road and the existing facility. The southern earth mound runs along the west side of the proposed LM6000 project site. Ice plant has been established as ground cover over both berms. On the northern berm evergreens and deciduous plant materials have been planted on the top of the berm to increase the screening height to 10-15 feet.

The landscape plan for the proposed power plant (shown on Figure 15-2) comprises the existing southern earth mound and groundcover with the addition of evergreens and deciduous plant materials to meet the requirements set forth in 17.30.130, Minimum Landscaping Standards and to blend with the existing planting plan. Also a fence will be installed around the periphery of the LM6000 facility similar to the chain link fence around the King City Cogeneration Facility. Additional requirements will be discussed with the Planning Director and as appropriate the architectural review committee. Based on these discussions, a final landscape plan will be prepared and plant materials will be installed as part of development of the LM6000 project.

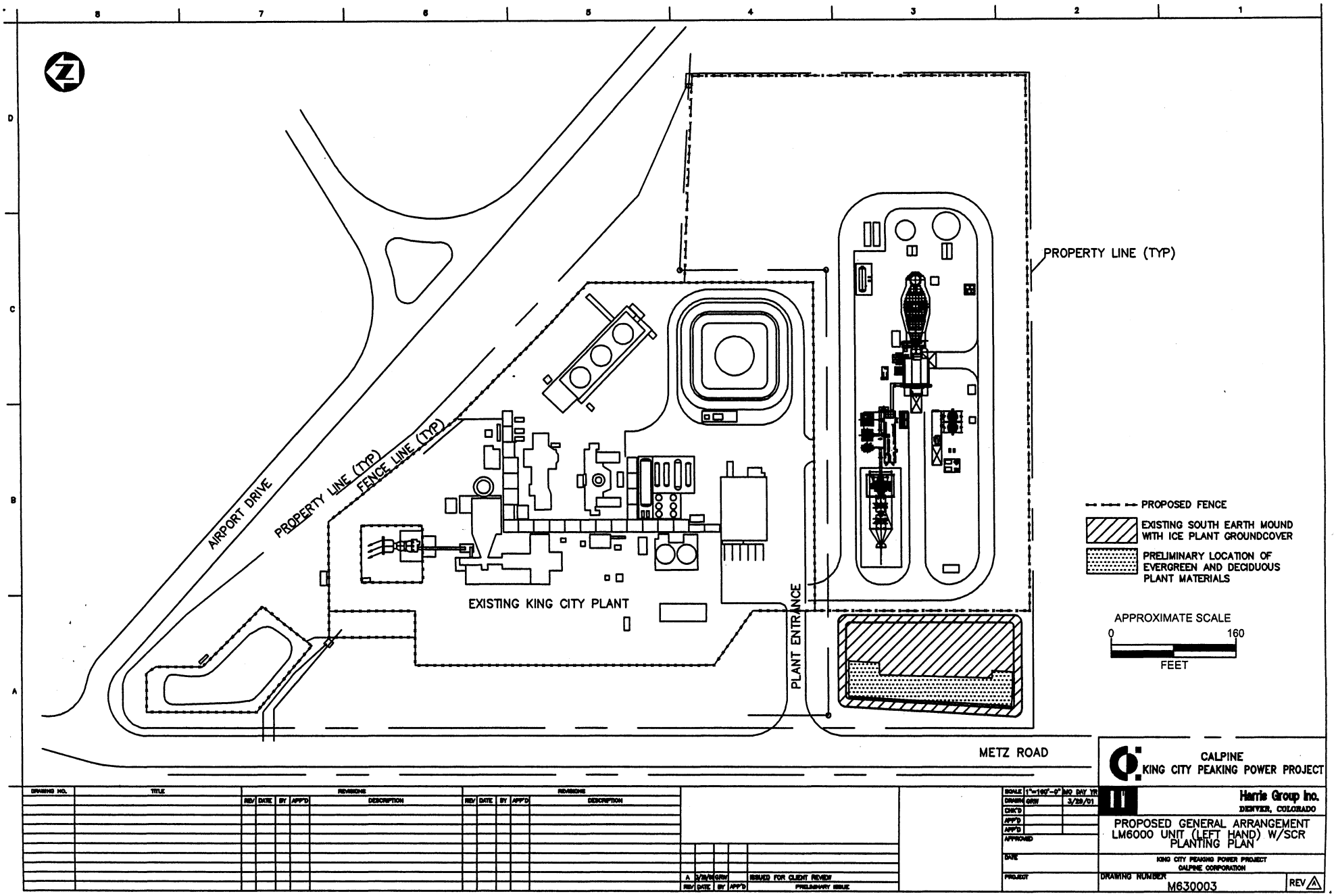
PROPERTY LINE (TYP)
AIRPORT DRIVE
PROPERTY LINE (TYP)
FENCE LINE (TYP)
EXISTING KING CITY PLANT
PLANT ENTRANCE
METZ ROAD
PROPOSED FENCE
EXISTING SOUTH EARTH MOUND WITH ICE PLANT GROUNDCOVER
PRELIMINARY LOCATION OF EVERGREEN AND DECIDUOUS PLANT MATERIALS
APPROXIMATE SCALE
0
160
FEET
CALPINE
KING CITY PEAKING POWER PROJECT
Harris Group Inc.
DENVER, COLORADO
PROPOSED GENERAL ARRANGEMENT
LM6000 UNIT (LEFT HAND) W/SCR
PLANTING PLAN
KING CITY PEAKING POWER PROJECT
CALPINE CORPORATION
DRAWING NUMBER
M630003
REV
A 3/29/01 GRW ISSUED FOR CLIENT REVIEW
PRELIMINARY ISSUE

FIGURE 15-2

15.2 Full size color photo of the site and rendering of proposed facility with any proposed visual mitigation if available.

Figures 15-3 and 15-4 provide views of the LM6000 site from the northeast and south. A rendering of the proposed facility with any proposed visual mitigation is not available at this time.

The grassy area immediately south and adjacent to the King City Cogeneration Facility will be removed and graded for the proposed LM6000 unit. However, most of the grassed area (south of earth mound and LM6000 yard) will not be impacted by the proposed facility.

SECTION 16.0 TRANSMISSION SYSTEM ENGINEERING

The Project will conform with Title 8, High Voltage Electrical Safety Orders, CPUC General Orders 95 (or NESC), CPUC Rule 21, PTO Interconnection Requirements and National Electrical Codes.

Appendix A — Calpine's Application for Transmission Interconnection

CALPINE

WESTERN REGION OFFICE
6700 KOLL CENTER PARKWAY
SUITE 200
PLEASANTON, CALIFORNIA 94566
925.600.2000
925.600.8924 (FAX)

March 22, 2001

Mr. Art McAuley
Pacific Gas and Electric Company
Mail Code B13J
P. O. Box 77000
San Francisco, CA 94177-0001

RE: Interconnection Application and Transmission Request for the King City LM6000 Peaker Project

Dear Art:

In compliance with PG&E's procedures, Calpine is submitting this application on behalf of the King City LM6000 Peaker Project to establish a priority in PG&E's queue for interconnections and transmission service. The proposed project includes the installation of one General Electric LM6000 gas turbine configured to feed power into the Coburn – Basic Energy 60KV Transmission line in King City, CA. Calpine wishes this application to be considered utilizing the 7 day study plan.

Pursuant to section 10.2 of PG&E's TO Tariff, Calpine requests that PG&E treat the information contained in this Application, including without limitation, the information contained in the Generator Interconnection Data Sheet, as confidential. Please acknowledge receipt of this Application by contacting Brian McDonald at (925) 600-2007.

Calpine's preliminary assumptions indicate that this project will only minimally impact PG&E's transmission system. To ensure that Calpine's preliminary analyses comports with that of PG&E, Calpine requests that representatives of Calpine and PG&E meet expeditiously to take a preliminary look at the project, and to discuss the study assumptions to be used in the System Impact Study ("SIS).

To the extent that the parties' preliminary discussions result in the parties identifying and agreeing upon adjustments to be made to the project, such as those that would lower costs, increase generation, mitigate environmental impacts, etc., Calpine expects that PG&E will incorporate such adjustments into the study assumptions used in the SIS.

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Calpine further expects that this project will retain its original queue position not withstanding such modifications, as long as the project remains the same size and uses the same transmission configuration as set forth in the jointly developed study assumptions for the SIS. Calpine looks forward to working the PG&E to maximize the benefits of the Greenleaf II LM6000 project for all California consumers.

Sincerely,

Alan Roth

Alan Roth
Project Engineer
CALPINE Corp.

cc: California Independent System Operator, Jeff Miller
California Independent System Operator, Peter Mackin
Davis Wright Tremaine LLP, Steve Greenwald
Alexandre B. Makler
Darin Stuhlmuller
Bryan Bertacchi
Brian McDonald
Duncan Brown

jlm

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Application of Calpine Corporation on behalf of the King City LM6000 Peaker Project Interconnection and Transmission Service

Calpine provides the following information in compliance with Section 10.2 of PG&E's interconnection procedures:

1. **Identity, address, telephone number, and facsimile number of the entity requesting service:**

   King City LM6000 Peaker Project
   6700 Koll Center Parkway, Suite 200
   Pleasanton, CA 94566
   Telephone No.: (925) 600-2000
   Facsimile No.: (925) 600-0862

2. **The interconnection point(s) and the location of the transmission addition contemplated by the applicant.**

   The attached single line shows the new generator rated at 71 MVA connecting to the Coburn – Basic Energy 60 kv line, immediately adjacent to the connection to Basic Energy. This is intended to be diagrammatic only for the purposes of system studies only and not necessarily the exact proposed connection. The final physical arrangement will be an engineering decision by PG&E and Calpine based on the best long-term solution for all parties.

3. **The resultant (or new) maximum amount of interconnection capacity requested at each point which may experience such an increase; and the increased transmission capacity of the transmission addition requested.**

   The net capacity of the Basic Energy LM6000 Peaker Project is 48.5 MW

4. **The proposed date for initiating an interconnection.**

   Initial connection for the purposes of backfeed - July 1, 2001
   Commercial operation – July 31, 2001

5. **The electrical location of the source of the power (if known) to be transmitted pursuant to the applicant's request for interconnection. If the location of the supply is not known, a system purchase will be assumed.**

   Unknown

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6. **The electrical location of the ultimate load (if known). If the location of the load is not known, a system sale will be assumed.**

   Assume system sale.

7. **Such other information as the Participating TO reasonable requires to process the application.**

   Attached is the information required by PG&E's Generator Interconnection Data Sheet.

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WE DELIVER ENERGY.℠

Generator Interconnection Data Sheet

For Wholesale Generators Connected

to the PG&E Electric System

at Voltages 60 kV and Above

August 3, 2000

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Generator Interconnection Data Sheet

Note: Generators who are submitting a Completed Application pursuant to PG&E's Transmission Owners Tariff must completely fill out this Generator Interconnection Data Sheet as an integral part of their application.

1. General Project Information

A.

Project Name	KING CITY PEAKER
Street Address	750 METZ RD
City, State	KING CITY, , CA
Zip Code	93930
Phone Number	831 385-4090
Fax Number	831 385-6683
Email Address	

B.

Developer Name	CALPINE
Street Address	6700 KOLL CENTER PKWY, SUITE 200
City, State	PLEASANTON , CA
Zip Code	94566
Phone Number	925 600-2000
Fax Number	925 485-3746
Email Address	BMCDONALD@CALPINE.COM

C.

Site Owner Name	SAME AS B
Street Address	
City, State	,
Zip Code	
Phone Number	
Fax Number	
Email Address	

D. The anticipated operation date: INITIAL CONNECTION FOR BACKFEED 7/1/01
COMMERCIAL OPERATION 7/31/01

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2. Type of Project (select one)

Cogeneration	____	Reciprocating. Engine	____
Biomass	____	Steam Turbine	____
Gas Turbine	X	Wind	____
Hydro	____	Other Describe:____	____
Photovoltaic	____		

3. Maximum generator power delivered to PG&E grid at Point of Interconnection

Generator rated output	+	50,000	kW
Less generator auxiliary load:	-	1,300	kW
Maximum net power delivered to PG&E Grid:	=	48,700	kW
Standby load to be served when generator is OFF:		650	kW

4. Generator Information

A.	Manufacturer		BRUSH	
B.	Year Manufactured			
C.	Rated Size:	kW:	60,500	
		KVA:	71,176	
		Terminal Voltage	13.8 KV	
		Power Factor (%):	0.85	
D.	Type: (select one)	Induction:		
		Synchronous:	X	
		D.C. with Inverter:		
E.	Synchronizing			
		Auto	X	
		Manual		
		Relay Supervision (y/n)	Y	
F.	Voltage:			
		Output	13.8	kV
		Interconnection	115	kV
G.	Phase: (select one)	1ϕ		
		3ϕ	X	

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H.	Connection (select one)	RESISTANCE	Delta	
			Grounded WYE	X
			Ungrounded	
I.	Inertia Constant (if known)		57,059	lb-ft^2
J.	Generator Voltage Regulation Range		+/- 5%	
K.	Generator Power Factor Regulation Range		0.85 LAG - 0.95 LEAD	

5. Generating Grounding

If the generator output is greater than 40kW (individually or as an aggregate group), ground protection will be required. If grounding will be required, please indicate type of ground detection below:

Wye Grounded/Delta Ground Bank with Overcurrent Relay	
Wye Grounded/Broken Delta[1]: Ground Bank with Low Pick-up Overvoltage Relay	
Current Transformer with Overcurrent Relay: In Neutral of Dedicated Transformer	X
Potential Transformer with Voltage Relay[1]: In Neutral of Dedicated Transformer	
Other: _____	

[1] This is PG&E's preferred ground detection.

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6. Step-Up Transformer Data

A. Rated MVA 90/120/150 MVA

B. Cooling Type OA/FA/FA

C. Impedance - Z 8.5 % Impedance

D. Primary Voltage 13.8 kW

Secondary Voltage 115 kW

E. Available H.V. Taps

		Available L.V. Taps	
120.75	kV		kV
117.88	kV		kV
115.00	kV		kV
112.13	kV		kV
109.25	kV		kV
	kV		kV

F. Please indicate present tap settings: H.V Tap: 115.0 kV

L.V Tap: 13.8 kV

G. Does transformer have tap changing under load? No

H. Is transformer a regulating-type transformer? No

If yes, please indicate regulating voltage range and the number of steps.

_____ kV to _____ kVNumber of steps _____

I. Please indicate how the transformer windings are connected:

	H.V. Side:		L.V. Side:	
___	Wye	___	Wye	
X	Grounded Wye	___	Grounded Wye	
___	Delta	X	Delta	

J. Transformer Fuse Type: _____ Size _____

K. If the transformer test report is not available, please provide the following impedances using the MVA base given in (10.A) above:

R_T	per unit resistance	0.004	pu
X_T	per unit reactance	0.085	pu
B_T	per unit magnetizing susceptance	_____	pu
G_T	per unit core loss conductance	_____	pu

L. Other comments regarding the transformer?

THREE WINDING XFMR SERVING TWO GENERATORS

M Desired transformer connection:

	Delta	Grounded Wye	Ungrounded Wye
PG&E Side	_____	X	_____
Generator Side	X	_____	_____

7. Please provide two original prints and one reproducible copy (no larger than 36" x 24") of the following:

A. SITE DRAWING to scale, showing generator location and point of interconnection with PG&E.

B. For generation greater than 1000 kW provide the following:
   1) Substation grounding drawings showing all ground connections.
   2) A list of the amount and location of the shunt capacitor compensation that will be provided (induction generators only).

C. SINGLE LINE DIAGRAM, showing switches/disconnects of the proposed interconnection, including the required protection devices and breakers.

D. THREE LINE DIAGRAM, showing the proposed CTS and PTs as they are connected to the relays and meters.

E. DESCRIPTION of operation and elementary drawings, showing the synchronization (if appropriate), and tripping of breakers by the required relays. (If not provided, they may be requested after approval of the single and three line diagrams.)

F. LIST of relays, switches and revenue meters (if customer provided), disconnects, etc., specified to meet the requirements of PG&E's Interconnection Handbook and include the following information:.
   1) Manufacturer's name and model number, with each device listed.
   2) Range of available settings.
   3) Proposed settings.
   4) Ratio of associated current and potential transformers. If multi-ratio, state the available ratios and which one is proposed.

8. Proposed breaker(s) will be equipped with[2]:

Undervoltage Release _____

D.C. Trip ___X___

9. The following information is required for Induction Generators only.

Do you wish reclose blocking? Yes ___, No ___

Note: we test automatically. Sufficient capacitance may be on the line now, or in the future, and your generator may self-excite unexpectedly.

[2] Capacitor Trip is not acceptable.

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Information contained in Sections 10 through 15 is required only for Synchronous Generators. It is acceptable to provide IEEE block diagrams for the dynamic data specified in Sections 10 through 15.

10. Synchronous Generator – General Data:

A.	Rated Generator speed	3600	rpm
B.	Number of Poles	2	
C.	Rated Generator Power Factor	0.85 LAG - 0.95 LEAD	
D.	Generator Efficiency at Rated Load		%
E.	Moment of Inertia (Turbine plus Generator) ωR^2	57,059	lb-ft^2
F.	Inertia Time Constant (on machine base) H:	2.4	sec or MJ/MVA
G.	SCR (Short-Circuit Ratio - the ratio of the field current required for rated open-circuit voltage to the field current required for rated short-circuit current.	0.48	
H.	Typical Generator Auxiliary Load		MW
I.	Maximum Power Output		MW
J.	Please attach generator reactive capability curves. If these curves are not available, provide the maximum and minimum reactive limits	Q_{MAX}: 375	MVAR, lagging
		Q_{MIN}: 22.2	MVAR, leading
K.	Rated Hydrogen Cooling Pressure (Steam Units only)		psig
L.	Please attach a simple one-line diagram that includes the generator step-up transformer bank, plant load, meter, and transmission-level bus.		
M.	Please attach a plot of generator terminal voltage versus field current that shows the air gap line, the open-circuit saturation curve, and the saturation curve at full load and rated power factor.		

11. Synchronous Generator – Impedence:

A.	X_d	direct-axis unsaturated synchronous reactance	2.35	pu
B.	X_q	quadrature-axis unsaturated synchronous reactance	2.15	pu
C.	X'_d	direct-axis unsaturated transient reactance		pu
D.	X'_{ds}	direct-axis saturated transient reactance	0.20	pu
E.	X'_q	quadrature-axis unsaturated transient reactance		pu
F.	X'_{qs}	quadrature-axis saturated transient reactance	0.24	pu
G.	X''_d	direct-axis unsaturated subtransient reactance		pu
H.	X''_{ds}	direct-axis saturated subtransient reactance	0.144	pu
I.	X''_q	quadrature-axis unsaturated subtransient reactance		pu
J.	X''_{qs}	quadrature-axis saturated subtransient reactance	0.17	pu
K.	X_L	stator leakage reactance or Potier reactance		pu

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L.	R_a	armature resistance	_____	pu
M.	X_2	negative sequence reactance (saturated/unsaturated)	/0.176	pu
N.	X_0	zero sequence reactance (saturated/unsaturated)	/0.085	pu

12. Synchronous Generator – Time Constants:

A.	T_{q0}	direct-axis transient open-circuit time constant	0.7	sec
B.	T'_{q0}	quadrature-axis open-circuit time constant	_____	sec
C.	T''_{q0}	direct-axis subtransient open-circuit time constant	0.05	sec
D.	T''_{q0}	quadrature-axis subtransient open-circuit time constant	_____	sec
E.	$T_{A\,GEN}$	armature short-circuit time constant	_____	sec
F.	T'_D	direct-axis transient short-circuit time constant	0.65	sec
G.	T'_Q	quadrature-axis transient short-circuit time constant	_____	sec
H.	T''_D	direct-axis subtransient short-circuit time constant	0.04	sec
I.	T''_Q	quadrature-axis subtransient short-circuit time constant	_____	sec

13. Excitation System Information

Please indicate, in the space provided on the left, the excitation system used for your generator.

A. Rotating DC commutator exciter with continuously acting regulator. The regulator power source is independent of the generator terminal voltage and current.

Manufacturer _____, Type _____

B. Rotating DC commentator exciter with continuously acting regulator. The regulator power source is bus fed from the generator terminal voltage.

Manufacturer _____, Type _____

C. Rotating DC commutator exciter with non-continuously acting regulator (i.e., regulator adjustments are made in discrete increments).

Manufacturer _____, Type _____

D. Rotating AC Alternator Exciter with non-controlled (diode) rectifiers. The regulator power source is independent of the generator terminal voltage and current (not bus-fed).

Manufacturer _____, Type _____

E. Rotating AC Alternator Exciter with controlled (thyristor) rectifiers. The regulator power source is fed from the exciter output voltage.

Manufacturer _____, Type _____

F. Rotating AC Alternator Exciter with controlled (thyristor) rectifiers.

Manufacturer _____, Type _____

G. Static Exciter with controlled (thyristor) rectifiers. The regulator power source is bus-fed from the generator terminal voltage.

Manufacturer BRUSH, Type ST-1

H. Static Exciter with controlled (thyristor) rectifiers. The regulator power source is bus-fed from a combination of generator terminal voltage and current (compound-source controlled rectifiers system.

Manufacturer _____, Type _____

I. Please attach a copy of the instruction manual for your excitation system. Make sure that a block diagram or schematic of the excitation system is included in the manual. The diagram should show the input, output, and all feedback loops of the excitation system.

J. If the manufacturer's data for the excitation system (i.e., time constants, gains, and saturation curves) are available, please attach these also.

K. What is the excitation system response ratio (ASA)?

L. What is the rated exciter output voltage at full load? 186 volts

M. What is the maximum exciter output voltage (ceiling voltage)? _____ volts

N. Other comments regarding the excitation system?

14. Power System Stabilizer Information (supplementary excitation system)

(Note: Complete this section only if your machine has PSS control.)

A. Manufacturer: BRUSH

B. Is your PSS digital or analog? ANALOG

C. What is the actuating signal (the input signal) for your PSS?

_____ Bus frequency _____ Shaft slip _X_ Accelerating power _____ Other

If "Other", indicate signal _____.

D. Please attach a copy of the instruction manual for your PSS. The manual should include a block diagram or schematic of the PSS and the correspondence between dial settings and the time constants or PSS gain.

E. Please attach a copy of the test report for your PSS. This report should contain the dial settings or time constants and PSS gain. If this report is not available, write the dial settings below:

1.)	T_1	washout or reset time constant dial setting	_____
2.)	T_2	first lead time constant dial setting	_____
3.)	T_3	first lag time constant dial setting	_____
4.)	T_4	second lead time constant dial setting	_____
5.)	T_5	second lag time constant dial setting	_____
6.)	K	PSS gain dial setting	_____
7.)	V_{max}	maximum PSS output dial setting	_____
8.)	V_{cut}	dial setting for which PSS is set to zero when generator terminal voltage deviation is too large	_____
9.)	Other	_____	_____
10.)	Other	_____	_____

F: Other comments regarding the PSS?

_____

_____

_____

_____

_____

_____

15. Turbine-Governor Information

Please complete Part A for steam, gas or combined-cycle turbines, Part B for hydro turbines, and Part C for both.

A. Steam, gas or combined-cycle turbines:

1.)	Steam turbine, Gas turbine, or Combined-cycle	GAS TURBINE	
2.)	If steam or combined-cycle, does the turbine system have a reheat process (i.e., both high- and low-pressure turbines)?	_____	
3.)	If steam with reheat process, or if combined-cycle, indicate, in the space provided, the percent of full load power produced by each turbine:		
	by low pressure turbine or gas turbine:	_____	%
	by high pressure turbine or steam turbine:	_____	%

Pacific Gas and Electric Company

B. Hydro turbines:

1.)	What is the turbine efficiency at rated load?	_____	%
2.)	What is the length of the penstock?	_____	ft
3.)	What is the average cross-sectional area of the penstock	_____	ft^2
4.)	What is the typical maximum head (vertical distance from the bottom of the penstock, at the gate, to the water level)?	_____	ft
5.)	Is the water supply run-of-the-river or reservoir?	_____	
6.)	What is the water flow rate at the typical maximum head?	_____	ft^3/sec
7.)	What is the average energy rate?	_____	kW-hrs/acre-ft
8.)	What is the estimated yearly energy production?	_____	kW-hrs

C. Complete this section for each machine, independent of the turbine type.

1.)	Turbine manufacturer	GE	
2.)	Maximum turbine power output	50	MW
3.)	Minimum turbine power output (while on line)	50	MW
4.)	Governor information:		
	a: Droop setting (speed regulation)	5%	
	b: Is the governor mechanical-hydraulic or electro-hydraulic? (Electro-hydraulic governors have an electronic speed sensor and transducer.)	ELECTRO - HYDRAULIC	
	c: Please provide below any time constants you have from the manufacturer describing the speed response of the governor. Be sure to identify each time constant.		
	_____	_____	sec
	_____	_____	sec
	_____	_____	sec
	d: Other comments regarding the turbine governor system?		

_____

_____

_____

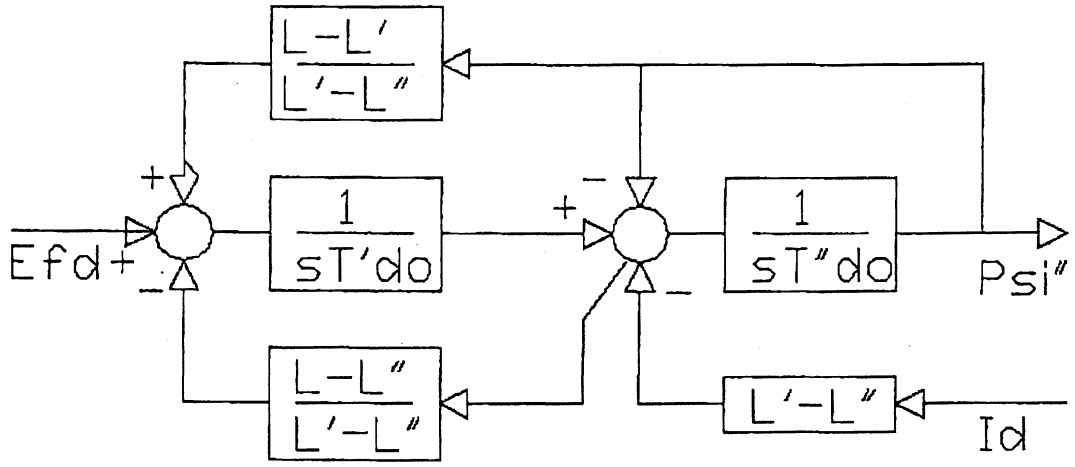
_____

Completed By: ALAN ROTH, Date: 3/13/01

Phone Number: 925 600-2083, Fax Number: 925 485-3746 Email address: ALANR@CALPINE.COM

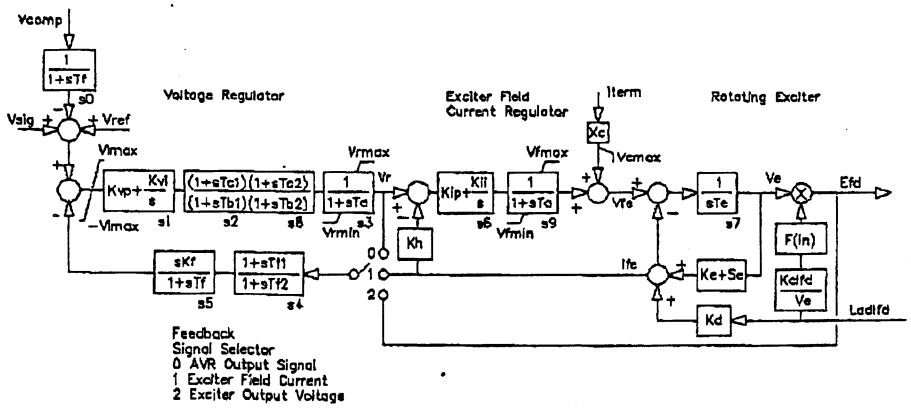
Gas Turbine Generator Data - GENTPF Model

Name	Description	
T'do	D-axis transient rotor time constant	9.7
T"do	D-axis subtransient rotor time constant	0.05
T'qo	Q-axis transient rotor time constant	2.9
T"qo	Q-axis subtransient rotor time constant	0.05
H	Inertia constant, sec	1.5
D	Damping factor, pu	0.
Ld	D-axis synchronous reactance	2.35
Lq	Q-axis synchronous reactance	2.15
L'd	D-axis transient reactance	0.2
L'q	Q-axis transient reactance	0.24
L"d	D-axis subtransient reactance	0.14
L"q	Q-axis subtransient reactance	0.14
Ll	Stator leakage reactance, pu	0.07
Se(1.0)	Saturation factor at 1 pu flux	0.11
Se(1.2)	Saturation factor at 1.2 pu flux	0.4
Ra	Stator resistance, pu	0.
Rcomp	Compounding resistance for voltage control, pu	0.
Xcomp	Compounding reactance for voltage control, pu	0.
accel	Acceleration factor for network solution	0.5



Gas Turbine Excitation System Data - REXS Model

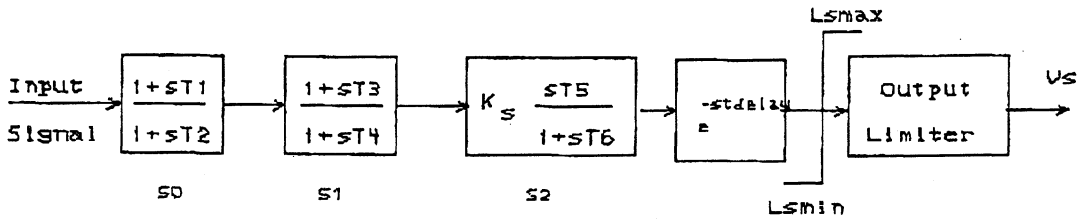
tr	Voltage transducer time constant, sec	0.
kvp	Voltage Regulator Proportional Gain	2840
kvi	Voltage Regulator Integral Gain	0.
vimax	Voltage Regulator Input Limit, p.u.	0.2
ta	Voltage Regulator time constant, sec	.02
tb1	Lag time constant, sec	0
tc1	Lead time constant, sec	0
tb2	Lag time constant, sec	0
tc2	Lead time constant, sec	0
vrmax	Maximum controller output, p.u.	40.
vrmin	Minimum controller output, p.u.	0
kf	Rate feedback gain,	.01
tf	Rate feedback time constant, sec	.6
tf1	Feedback lead time constant, sec	1
tf2	Feedback lag time constant, sec	1
fbf	Rate feedback signal flag	1.
kip	Field Current Regulator Proportional Gain	1.
kii	Field Current Regulator Integral Gain	0.
tp	Field current Bridge time constant, sec	0.
vfmax	Maximum Exciter Field Current, p.u.	40.
vfmin	Minimum Exciter Field Current, p.u.	0.
kh	Field voltage controller feedback gain	0.
ke	Exciter field proportional constant	1.
te	Exciter field time constant, sec	1.2
kc	Rectifier regulation factor, p.u.	0.15
kd	Exciter regulation factor, p.u.	1.78
e1	Exciter flux at knee of curve, p.u.	2.4
se1	Saturation factor at knee	0.001
e2	Maximum exciter, p.u.	3.2
se2	Saturation factor at max flux	0.01
rcomp	Regulator compensating resistance, p.u.	0.
xcomp	Regulator compensating reactance, p.u.	0.
nvphz	Pickup speed of v/Hz limiter, p.u.	.975
kvphz	V/Hz limiter gain	2.
flimf	Limit type flag	0.
xc	Exciter compounding reactance, p.u.	0.
vcmax	Maximum compounding voltage, p.u.	99.



Gas Turbine Stabilizer Data - IEEEST Model

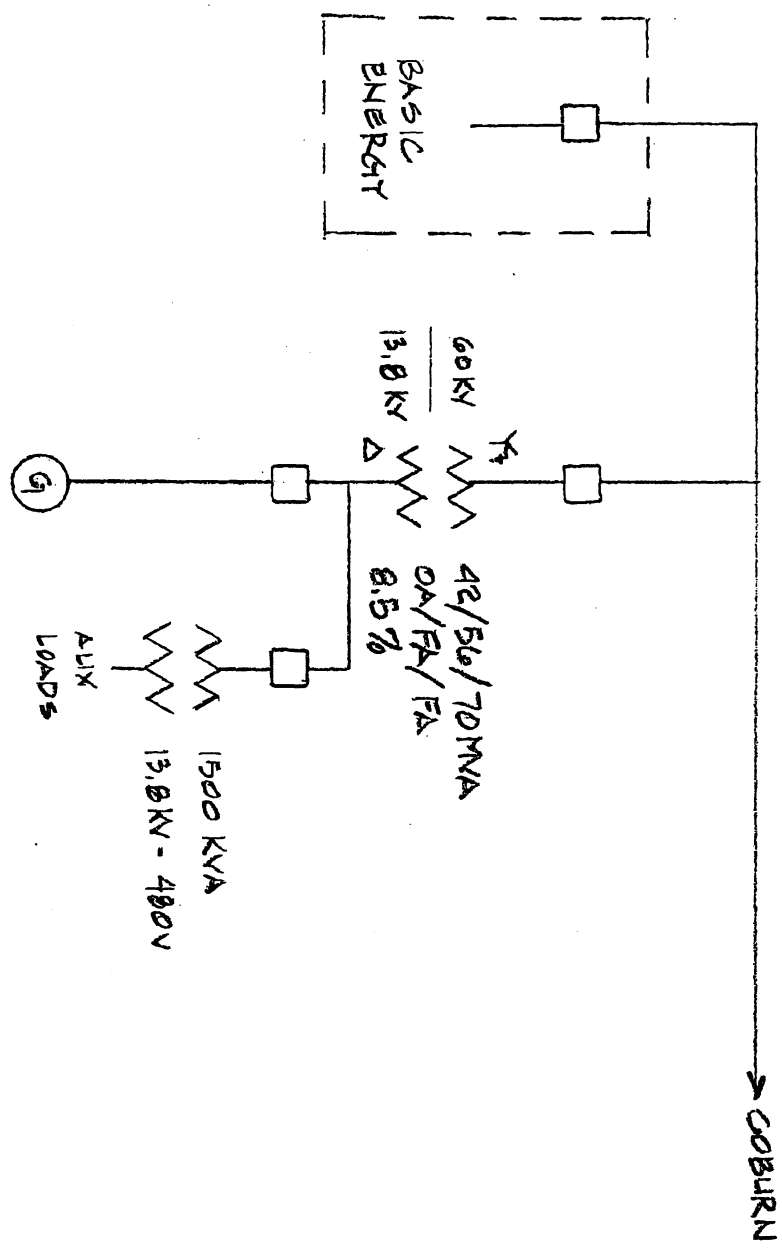
j	Input signal code	1
k	Remote signal bus number	0
A1-A6	Notch filter parameters	All zero
T1	Lead/lag time constant, sec	.3
T2	Lead/lag time constant, sec	.03
T3	Lead/lag time constant, sec	.3
T4	Lead/lag time constant, sec	.03
T5	Washout numerator time constant, sec	3
T6	Washout denominator time constant, sec	3
Ks	Stabilizer gain	2
Lsmax	Maximum stabilizer output, p.u.	.1
Lsmin	Minimum stabilizer output, p.u.	-.1
Vcu	Stabilizer input cutoff threshold, p.u.	.1
Vcl	Stabilizer input cutoff threshold, p.u.	-.1
Tdelay	Time delay, sec.	0.

signal	j
speed	1
freq	2
power	3
acc pwr	4
voltage	5
branch current	7



Gas Turbine Governor Data - GASP Model

Data	Standard Data Flag	3.
rvalve	Governor Permanent droop, valve position feedback, pu	0.
rpelec	Governor Permanent droop, electrical power feedback, pu	0.05
tpelec	Electrical Power Transducer time constant, sec	5.
kturb	Turbine gain, pu	1.5
tnturb	Turbine numerator time constant, sec	2.5
tdturb	Turbine denominator time constant, sec	3.0
ta	Fuel valve time constant, sec	0.2
ropen	Maximum valve opening rate, sec	1.
rclose	Maximum valve closing rate, sec	-99.
fidle	Full-speed no-load fuel flow, pu	0.18
fsrmin	Minimum allowable valve opening, pu	0.15
vb	Valve opening at valve breakpoint, pu	1.
fb	Fuel flow at valve breakpoint, pu	1.
kpgov	Governor proportional gain, pu	10.
kigov	Governor integral gain, pu	2.
tlim	Load at exhaust temperature limit, pu	1.
tnshld	Radiation sheild numerator time constant, sec	1.
tdshld	Radiation sheild denominator time constant, sec	4.
ttemp	Temperature transducer time constant, sec	1.5
kpt	Temperature limit controller proportional gain,	5.
kit	Temperature limit controller integral gain,	1.
aclim	Acceleration limit, pu speed/sec	1.
tacc	Acceleration detector time constant, sec	0.2
kpacc	Acceleration limit controller proportional gain,	5.
kiacc	Acceleration limit controller integral gain,	10.
kpigv	IGV controller proportional gain,	5.
kiigv	IGV controller integral gain,	1.25
tigv	IGV actuator time constant, sec	1.
tlimgv	IGV temperature limit, pu	0.1
afmin	Minimum air flow at minimum IGV position, pu	0.8
rrmax	Maximum rate of change of speed reference, pu/sec	0.001
dba	Input deadband parameter, pu	0.
eps	Input deadband parameter, pu	0.
dbb	Valve actuator backlash parameter, pu	0.



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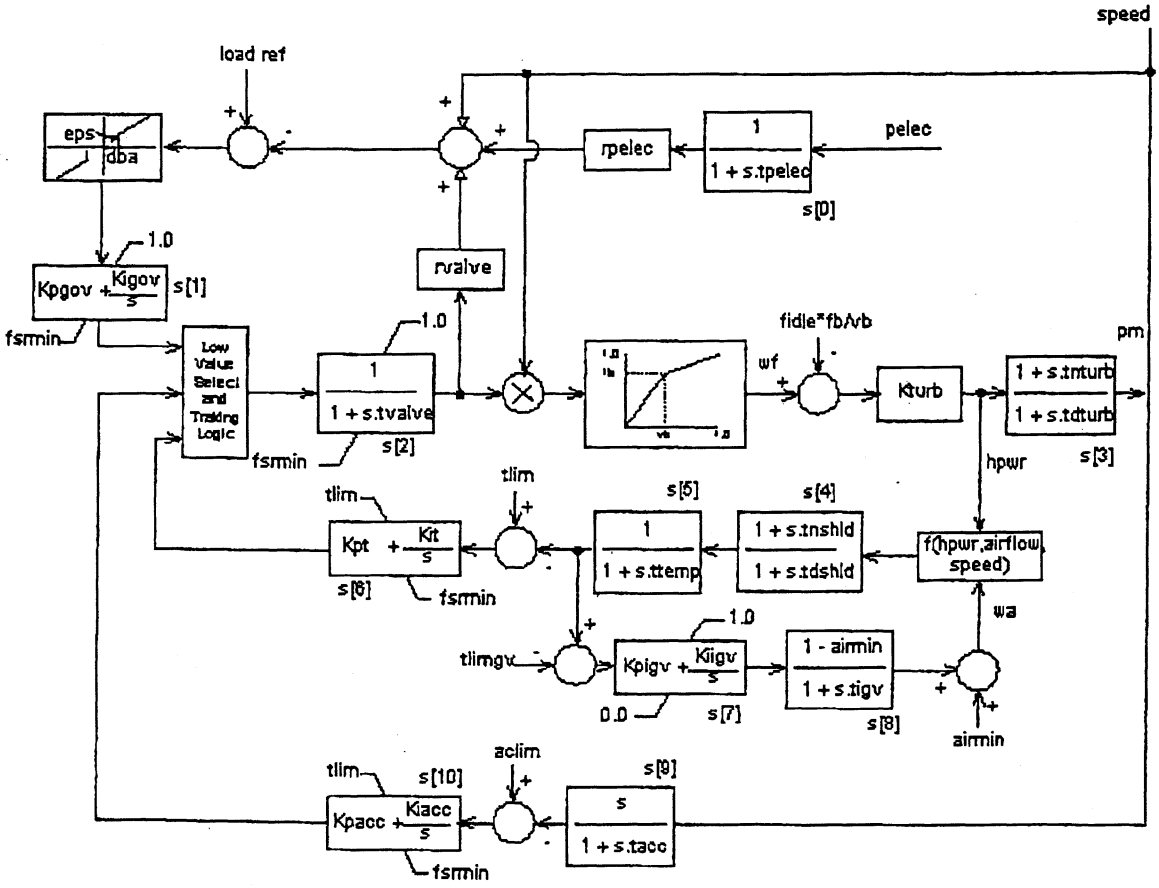
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load ref
eps
dba
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s[1]
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rvalve
Low Value Select and Trking Logic
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wf
Kturb
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1 + s.tdturb
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hpwr
tlim
tlim
Kpt + Kit/s
s[6]
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s[5]
1
1 + s.ttemp
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1 + s.tnshld
1 + s.tdshld
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1 + s.tigv
s[8]
airmin
aclim
tlim
s[10]
Kpacc + Kiacc/s
fsrmin
s[9]
s
1 + s.tacc

21/21

Appendix B — Calpine's Application for Fuel Interconnection

CALPINE

WESTERN REGION OFFICE
6700 KOLL CENTER PARKWAY
SUITE 200
PLEASANTON, CALIFORNIA 94566
925.600.2000
925.600.8924 (FAX)

February 23, 2001

Mr. Rod Boschee
Pacific Gas & Electric Company
Mail Code: B16A
P.O. Box 770000
San Francisco, CA 94177

Subject: LM6000 Gas Interconnection Study Request

Dear Mr. Boschee:

Calpine is requesting the services of PG&E to study the gas system impact for the addition of 11 LM6000 Gas Turbines at four locations in Northern California. We have enclosed the following documents to initiate your services.

1. Detailed scope of work/deliveries
2. Preliminary Application for Gas Service
3. An updated Cogen/Power Plant Interconnection Information sheet for each facility.
4. An advance of $20,000 each, for Watsonville, King City and Gilroy; and $25,000 for the Greenleaf II site.

If you have any questions or need additional information during the course of your study, please contact me. My contact information is listed below:

- Direct office phone: (925) 600-2007
- Cell phone: (925) 989-7908
- Fax: (925) 600-0862
- E-mail: bmcdonald@calpine.com

I look forward to seeing the results of your analysis, as it is a key step in our effort to bring new generation capacity quickly into California.

Respectfully yours,
CALPINE CORPORATION

Brian McDonald

Brian McDonald
Manager, Project Development

Enclosures

cc: Mike O'Brien
Gary Lavering
Darin Stuhlmuller
Jeff Phillips
Bryan Bertacchi
Duncan Brown
Brad Barnds

CALPINE CORPORATION

50 W. San Fernando Street San Jose, CA 95113

Vendor No.	Check Date	Check No.
0000001844	02/14/2001	00114246

Invoice Number	Invoice Date	Voucher ID	PO Number	Gross Amount	Discount	Paid Amount
CKRQ021201 WRO	02/12/2001	00011147		85,000.00	0.00	85,000.00

Vendor Name PG&E	Total Amount Paid	85,000.00

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50 W. San Fernando Street
San Jose, CA 95113
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California, Oregon, Washington

24-6
1230

CHECK NUMBER
00114246

PAY ONLY 85000 (EIGHT FIVE ZERO ZERO ZERO ZERO ZERO)

DATE
02/14/2001

AMOUNT
*****$85,000.00

PAY Eighty five thousand and 00/100 Dollars

TO THE ORDER OF
PG&E
MAIL CODE B16A
PO BOX 770000
SAN FRANCISCO, CA 94177

Authorized Signature

Ann B. Curtis

⑈00114246⑈ ⑆123000068⑆ 907087410 2⑈

Calpine King City Power Plant in King City:

- Option A: Increase Total Load by 295 MMBtu/hr @ 300 or 725 psig year round.
- Option B: Increase Total Load by 470 MMBtu/hr @ 300 or 725 psig year round.
- Option C: Increase Total Load by 1,880 MMBtu/hr @ 300 or 725 psig year round.
- PG&E fixed cost $20,000

Gas System Operations - Transmission System Planning

Cogeneration / Power Plant Interconnection Information Sheet

Application Date: February 23, 2001 Natural Gas Service Start Date: August 1, 2001

Applicant Name: Calpine Corporation, Inc.

Project Name: Calpine King City - Peaking Plant (Option A)

Project Location: Monterey County, King City, 750 Metz Road

(County, City, Street Number – Attach Project Vicinity Map)

A. *Existing host thermal load gas service data:*

1. Customer Name: Calpine Corporation, Inc.

2. Customer Meter Number(s):

Primary	Meter No.	37098138
	AIS ID	D347
Sub/Aux	Meter No.	37098050
	AIS ID	D346
Transmission ID No.		7100002

3. **Winter Season Load (Nov 1 - Mar 31)**

	(HHV basis) Curtailable		(HHV basis) Non-curtailable
Total Peak Demand (MMbtu/h):	1315		---
Total Average Demand (MMbtu/h):	1085 (estimate)		---
Days / Hours of Operation:	151	/	3624

4. **Summer Season Load (April 1 - Oct 31)**

	Curtailable		Non-curtailable
Total Peak Demand (MMbtu/h):	1290 (estimate)		---
Total Average Demand (MMbtu/h):	1060 (estimate)		---
Days / Hours of Operation:	214	/	5136

5. Name plate rating of all existing gas fired equipment:

Device / Function	(HHV basis) Rating (MMbtu/h)
Two Auxiliary Boilers (fuel rating is combined total)/supplemental steam	230
Combustion Turbine Generator (Frame 7EA) / power generation	1085 @ 35°F

6. What equipment will remain after the cogen plant is operational and how will it be used?
The Calpine King City Frame 7EA will remain fully operational and the thermal host arrangement will not change. The new peaking plant described herein will have a single pressure HRSG to supply process steam during peak power demand.

7. What existing equipment will operate coincident with the cogen plant gas turbine ?
The Frame 7EA will operate when the LM6000 runs, but the auxiliary boilers will not.

8. What existing equipment will operate coincident with the cogen plant auxiliary boilers?
No auxiliary boilers will be added to the site, but duct burners will be added to the LM6000 HRSG.

B. *Proposed gas service data for cogeneration / power plant:*

1. Service Requirements for all proposed gas fired equipment:

Device / Function	Service Pressure (psig)	(HHV basis) Rating (MMbtu/h)
Combustion Turbine Generator (GE LM-6000)	Normal = 675	470
Service Pressure given for turbine control valve inlet.	Min. Starting = 200	
Duct Burner	50	55

2. When will the auxiliary boiler(s) and/or duct burner(s) operate and at what load?

The duct burners will operate during the summer season when demand for process steam is highest. During the winter season, process steam demand can be met without using duct burners.

3. **Winter Season Load Profile (Nov 1 - Mar 31)**
(attach hourly gas load / electric generation profiles)

	(HHV basis) MMbtu/h		Time (hours)
Total Plant Peak Demand:	470 new (1555 total)		3624
Total Plant Off-Peak Demand (MMbtu/h):	---		---
Days per week / Hours per day of operation:	7	/	24

4. **Summer Season Load Profile (April 1 - Oct 31)**
(attach hourly gas load / electric generation profiles)

	(HHV basis) MMbtu/h		Time (hours)
Total Plant Peak Demand:	515 new (1520 total)		4806
Total Plant Off-Peak Demand (MMbtu/h):	---		---
Days per week / Hours per day of operation:	7	/	24

5. Other service requirements PG&E should be aware of, such as absolute minimum pressure requirements, right-of-way issues, CEC requirements and schedule, project schedule, etc....

A. No hourly gas load/electric generation profiles are attached. Since this plant will be run as peaker, there is no fixed schedule of operation. It will be available 24 hrs a day, 7 days a week throughout the year (with exceptions for scheduled maintenance). It is anticipated that it will operate between 5000 and 8000 hrs/yr.

B. The proposed gas service should first be evaluated to determine if the existing interconnection is capable of meeting the increase in capacity.

C. The existing Frame 7EA requires a minimum gas supply pressure of 250 psig. Under the circumstances that delivery pressure at the Calpine interface is below 300 psig PG&E should report the following items:

1. State the normal pressure and absolute minimum pressure expected; this data will be considered when sizing a booster compressor for the new LM6000 and in evaluating the impact on the existing Frame 7EA.
2. As alternative supply conditions to item 1 above, PG&E should supply costing and other pertinent information that will meet a 300 psig delivery pressure and 250 psig absolute minimum pressure at the Calpine interface.
3. As another alternative, PG&E should evaluate the feasibility and cost of upgrading the supply system to provide gas for the LM6000 at 725 psig. This will be compared by Calpine to the cost of installing a booster compressors on site.

Darin Stuhlmuller
(Type Name)

(Signature)

Regional Engineer — February 23, 2001
(Title) **(Date)**

Gas System Operations - Transmission System Planning

Cogeneration / Power Plant Interconnection Information Sheet

Application Date: February 23, 2001 Natural Gas Service Start Date: August 1, 2001

Applicant Name: Calpine Corporation, Inc.

Project Name: Calpine King City - Peaking Plant (Option B)

Project Location: Monterey County, King City, 750 Metz Road

(County, City, Street Number – Attach Project Vicinity Map)

A. Existing host thermal load gas service data:

1. Customer Name: Calpine Corporation, Inc.

2. Customer Meter Number(s):

Primary	Meter No.	37098138
	AIS ID	D347
Sub/Aux	Meter No.	37098050
	AIS ID	D346
Transmission ID No.		7100002

3. **Winter Season Load (Nov 1 - Mar 31)**

	(HHV basis) Curtailable		(HHV basis) Non-curtailable
Total Peak Demand (MMbtu/h):	1315		---
Total Average Demand (MMbtu/h):	1085 (estimate)		---
Days / Hours of Operation:	151	/	3624

4. **Summer Season Load (April 1 - Oct 31)**

	Curtailable		Non-curtailable
Total Peak Demand (MMbtu/h):	1290 (estimate)		---
Total Average Demand (MMbtu/h):	1060 (estimate)		---
Days / Hours of Operation:	214	/	5136

5. Name plate rating of all existing gas fired equipment:

Device / Function	(HHV basis) Rating (MMbtu/h)
Two Auxiliary Boilers (fuel rating is combined total)/supplemental steam	230
Combustion Turbine Generator (Frame 7EA) / power generation	1085 @ 35°F

6. **What equipment will remain after the cogen plant is operational and how will it be used?**
The Calpine King City Frame 7EA will remain fully operational and the thermal host arrangement will not change. The new peaking plant described herein will have a simple cycle gas turbine generator which will run independently from the existing cogen plant.

7. **What existing equipment will operate coincident with the cogen plant gas turbine ?**
See answer to 6 above

8. **What existing equipment will operate coincident with the cogen plant auxiliary boilers?**
No auxiliary boilers will be added to the site.

B. *Proposed gas service data for cogeneration / power plant:*

1. Service Requirements for all proposed gas fired equipment:

Device / Function	Service Pressure (psig)	(HHV basis) Rating (MMbtu/h)
Combustion Turbine Generator (GE LM-6000)	Normal = 675	470
Service Pressure given for turbine control valve inlet.	Min. Starting = 200	

2. When will the auxiliary boiler(s) and/or duct burner(s) operate and at what load?

No new duct burners or auxiliary boilers will be added to the site.

3. **Winter Season Load Profile (Nov 1 - Mar 31)**
(attach hourly gas load / electric generation profiles)

	(HHV basis) MMbtu/h		Time (hours)
Total Plant Peak Demand:	470 new (1785 total)		3624
Total Plant Off-Peak Demand (MMbtu/h):	---		---
Days per week / Hours per day of operation:	7	/	24

4. **Summer Season Load Profile (April 1 - Oct 31)**
(attach hourly gas load / electric generation profiles)

	(HHV basis) MMbtu/h		Time (hours)
Total Plant Peak Demand:	460 new (1750 total)		4806
Total Plant Off-Peak Demand (MMbtu/h):	---		---
Days per week / Hours per day of operation:	7	/	24

5. Other service requirements PG&E should be aware of, such as absolute minimum pressure requirements, right-of-way issues, CEC requirements and schedule, project schedule, etc....

A. No hourly gas load/electric generation profiles are attached. Since this plant will be run as peaker, there is no fixed schedule of operation. It will be available 24 hrs a day, 7 days a week throughout the year (with exceptions for scheduled maintenance). It is anticipated that it will operate between 5000 and 8000 hrs/yr.

B. The proposed gas service should first be evaluated to determine if the existing interconnection is capable of meeting the increase in capacity.

C. The existing Frame 7EA requires a minimum gas supply pressure of 250 psig. Under the circumstances that delivery pressure at the Calpine interface is below 300 psig PG&E should report the following items:

1. State the normal pressure and absolute minimum pressure expected: this data will be considered when sizing a booster compressor for the new LM6000 and in evaluating the impact on the existing Frame 7EA.
2. As alternative supply conditions to item 1 above, PG&E should supply costing and other pertinent information that will meet a 300 psig delivery pressure and 250 psig absolute minimum pressure at the Calpine interface.
3. As another alternative, PG&E should evaluate the feasibility and cost of upgrading the supply system to provide gas for the LM6000 at 725 psig. This will be compared by Calpine to the cost of installing a booster compressors on site.

Darin Stuhlmuller
(Type Name)

(Signature)

Regional Engineer — February 23, 2001
(Title) **(Date)**

Gas System Operations - Transmission System Planning

Cogeneration / Power Plant Interconnection Information Sheet

Application Date: February 23, 2001 Natural Gas Service Start Date: May 1, 2002

Applicant Name: Calpine Corporation, Inc.

Project Name: Calpine King City - Peaking Plant (Option C)

Project Location: Monterey County, King City, 750 Metz Road

(County, City, Street Number – Attach Project Vicinity Map)

A. Existing host thermal load gas service data:

1. Customer Name: Calpine Corporation, Inc.

2. Customer Meter Number(s):

Primary	Meter No.	37098138
	AIS ID	D347
Sub/Aux	Meter No.	37098050
	AIS ID	D346
Transmission ID No.		7100002

3. **Winter Season Load (Nov 1 - Mar 31)**

	(HHV basis) Curtailable		(HHV basis) Non-curtailable
Total Peak Demand (MMbtu/h):	1315		---
Total Average Demand (MMbtu/h):	1085 (estimate)		1085 (estimate)
Days / Hours of Operation:	151	/	3624

4. **Summer Season Load (April 1 - Oct 31)**

	Curtailable		Non-curtailable
Total Peak Demand (MMbtu/h):	1290 (estimate)		---
Total Average Demand (MMbtu/h):	1060 (estimate)		---
Days / Hours of Operation:	214	/	5136

5. Name plate rating of all existing gas fired equipment:

Device / Function	(HHV basis) Rating (MMbtu/h)
Two Auxiliary Boilers (fuel rating is combined total)/supplemental steam	230
Combustion Turbine Generator (Frame 7EA) / power generation	1085 @ 35°F

6. **What equipment will remain after the cogen plant is operational and how will it be used?**
The Calpine King City Frame 7EA will remain fully operational and the thermal host arrangement will not change. The new peaking plant described herein will have simple cycle gas turbines and will operate independently from the existing cogen plant.

7. **What existing equipment will operate coincident with the cogen plant gas turbine ?**
See answer to 6 above.

8. **What existing equipment will operate coincident with the cogen plant auxiliary boilers?**
No auxiliary boilers will be added to the site.

B. *Proposed gas service data for cogeneration / power plant:*

1. Service Requirements for all proposed gas fired equipment:

Device / Function	Service Pressure (psig)	(HHV basis) Rating (MMbtu/h)
Four (4) Combustion Turbine Generator (GE LM-6000)	Normal = 675	1880
Service Pressure given for turbine control valve inlet.	Min. Starting = 200	

2. When will the auxiliary boiler(s) and/or duct burner(s) operate and at what load?

The proposed project will not include an new auxiliary boilers or duct burners.

3. **Winter Season Load Profile (Nov 1 - Mar 31)**

(attach hourly gas load / electric generation profiles)	(HHV basis) MMbtu/h	Time (hours)
Total Plant Peak Demand:	1880 new (3195 total)	3624
Total Plant Off-Peak Demand (MMbtu/h):	---	---
Days per week / Hours per day of operation:	7 /	24

4. **Summer Season Load Profile (April 1 - Oct 31)**

(attach hourly gas load / electric generation profiles)	(HHV basis) MMbtu/h	Time (hours)
Total Plant Peak Demand:	1840 new (3130 total)	4806
Total Plant Off-Peak Demand (MMbtu/h):	---	---
Days per week / Hours per day of operation:	7 /	24

5. Other service requirements PG&E should be aware of, such as absolute minimum pressure requirements, right-of-way issues, CEC requirements and schedule, project schedule, etc....

A. No hourly gas load/electric generation profiles are attached. Since this plant will be run as peaker, there is no fixed schedule of operation. It will be available 24 hrs a day, 7 days a week throughout the year (with exceptions for scheduled maintenance). It is anticipated that it will operate between 5000 and 8000 hrs/yr.

B. The proposed gas service should first be evaluated to determine if the existing interconnection is capable of meeting the increase in capacity.

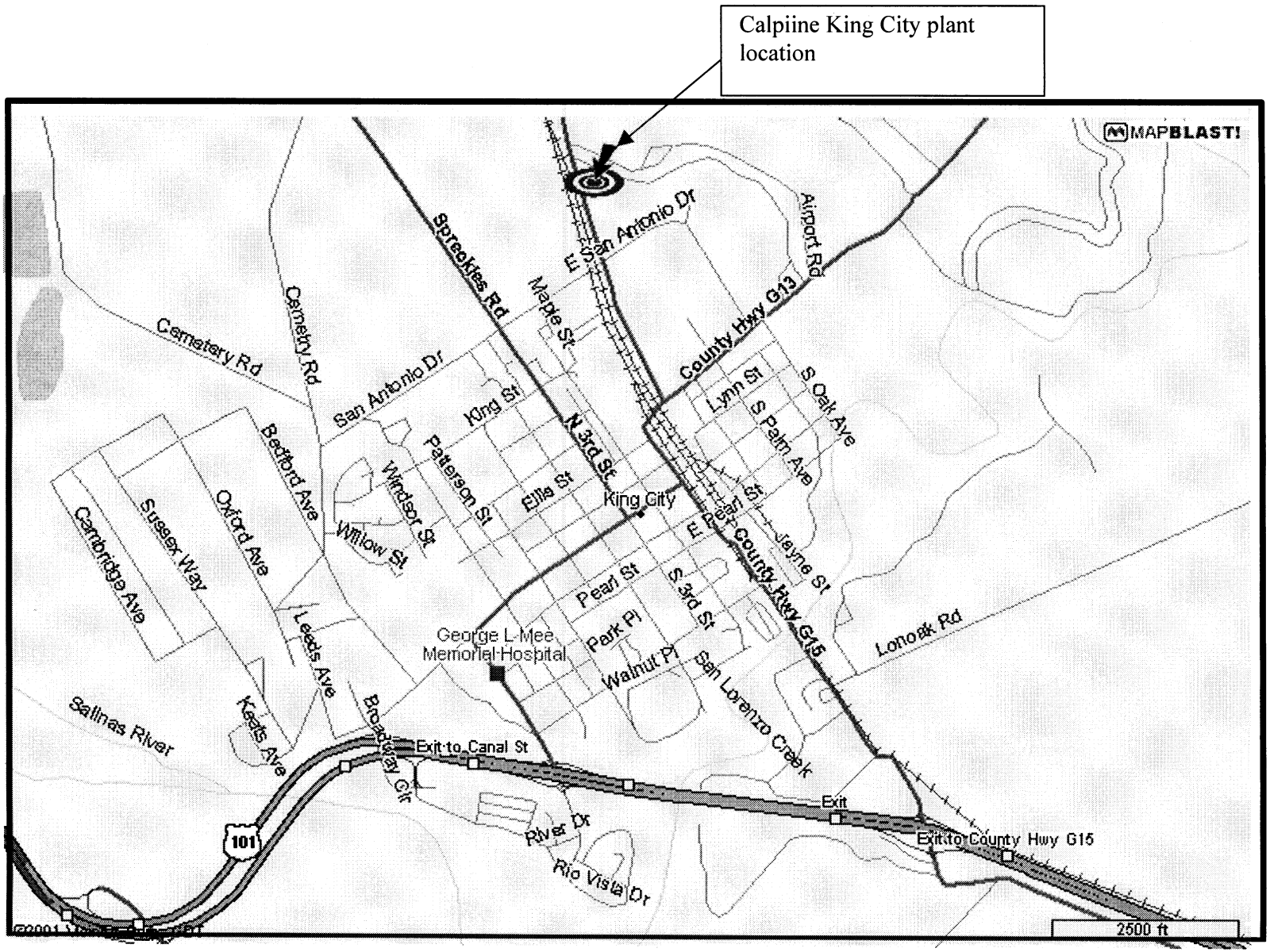
C. The existing Frame 7EA requires a minimum gas supply pressure of 250 psig. Under the circumstances that delivery pressure at the Calpine interface is below 300 psig PG&E should report the following items:

1. State the normal pressure and absolute minimum pressure expected: this data will be considered when sizing booster compressors for the new LM6000s and in evaluating the impact on the existing Frame 7EA.
2. As alternative supply conditions to item 1 above, PG&E should supply costing and other pertinent information that will meet a 300 psig delivery pressure and 250 psig absolute minimum pressure at the Calpine interface.
3. As another alternative, PG&E should evaluate the feasibility and cost of upgrading the supply system to provide gas for the LM6000s at 725 psig. This will be compared by Calpine to the cost of installing booster compressors on site.

Darin Stuhlmuller
(Type Name)

(Signature)

Regional Engineer — February 23, 2001
(Title) (Date)



Existing gas pipeline parallels Metz Rd until it is north of the airport. It then turns to the east.

Calpine King City Power Plant in King City

revised: 2/25/2001 4:01 AM

Appendix C — King City Wastewater Letter

KING CITY
CALIFORNIA

March 31, 2001

Mr. Steve Bean, Plant Manager
Calpine Power Corporation
750 Metz Road
King City, CA
93930

RE: Increased Volume of Wastewater Discharge to CAG45/King City Sewage Treatment Plant

Dear Mr. Bean,

Further to our ongoing discussions, please be advised that on March 19, 2001 City Council approved a staff recommendation to permit Calpine to increase its wastewater volume by 75,000 gallons per day. The increase is to accommodate the discharge from a single "peaker" to be located in King City. It is understood that the peaker is to be installed as soon as possible.

Our approval of the increased flow from Calpine is conditional upon the total volume of all wastewater, including CAG45, being within the permitted volume approved by the Regional Water Quality Board. Further, it is understood that CAG45 is able to accommodate the volume of wastewater proposed to be discharged, and that the constituents of the wastewater are within permitted levels.

Please do not hesitate to contact this office if you require additional information.

Sincerely,

Scott Galbraith, Director
Economic Development

Copies

Keith Breskin, City Manager
Harlan Butler, Public Works Director
Ed Foley, City Attorney
Terry Spencer, Gilroy Foods/CAG45

City Hall • 212 South Vanderhurst Ave. King City, CA 93930
Tel: (831) 385-3281 • Fax (831) 385-6887 • www.kingcity.com

CALPINE

TO: Lynn Kerby

FROM: Bob Callery

DATE: August 28, 1997

SUBJECT: California Water Company

Pursuant to our telephone conversation, 8/27/97, regarding California Water Company's desire to take possession of the two water wells that supply the King City Power Plant in exchange for certain considerations, outlined below are the benefits that plant staff find with this concept:

1. Cal Water would supply all plant water needs at no charge to the project for the duration of the term of the lease.
2. Cal Water would tie the plant water supply system into the city water system which would provide redundancy of piping and pumping systems for the plant. Currently, the facility wells, located approximately 1.5 miles from the facility, utilize a single pipeline to convey water to the plant. This pipeline has been compromised twice by "dig-ins" and has caused forced outages of the plant.
3. Cal Water would tie-in PG&E power to supply the wells. Currently, the plant electrical system provides power to the well pumps via an underground cable that has likewise been compromised twice by "dig-ins" that have tripped the plant via the electrical protective relay circuitry. Additionally, the power that is currently consumed by the operation of the well pumps will be sold to the grid. The energy payments lost by operating the pumps for 1996 are estimated at $30,000. During estimated base load operations in 1999 when plant energy sales will be based only upon pool price, the energy costs to operate these pumps is estimated to be greater than $35,000.
4. City water supplied Cal Water is controlled to a .5 ppm free chlorine residual, the same control parameters used by the plant cooling tower and raw water tanks. The current 3700 hour operating year budget for chlorine purchase is approximately $6600. Anticipated base load usage in 1997 dollars would be approximately $16,000. Base load operation is anticipated to begin in 1999. Plant staff feel that chlorine purchase and usage would be negligible using city water which eliminates a considerable safety exposure within the plant, as well as, this type of hazardous materials deliveries through town.
5. The maintenance expense for the wells and associated systems has been greater than $70,000 to date. As the system ages, this expense will increase.

CALPINE

50 WEST SAN FERNANDO STREET
SAN JOSE, CALIFORNIA 95113
408.995.5115
408.995.0505 (FAX)

March 19, 1997

VIA FEDERAL EXPRESS

Robert Callery
Plant Manager
750 Metz Road
King City, CA 93930

Re: **Calpine King City Cogen, LLC**

Dear Bob:

Per your request, enclosed please find a copy of the following documents:

(1) Ground Sublease dated as of April 24, 1996 between BAF Energy A California Limited Partnership ("BAF") and Calpine King City Cogen, LLC, a Delaware limited liability company;

(2) Easement Agreement dated as of September 15, 1987 between Spreckels Land Company, Inc., a Delaware corporation and Basic American Foods, Inc. A Delaware corporation (please note that I have highlighted the language in paragraph 2 which limits the rights to use the water);

(3) Amended and Restated Ground Lease dated as of April 24, 1996 between Basic American, Inc., a Delaware corporation (formerly known as Basic American Foods, Inc.) And BAF.

As we discussed, you should be receiving a copy of the survey from Dale Finley of KCA Engineers.

If you have any questions, please do not hesitate to call me at (408) 792-1226.

Sincerely,

CALPINE CORPORATION

Lisa

Lisa M. Bodensteiner
Associate Counsel

Encl.
S:\LEGAL2\LBCOR97\LB0319.LTR

COPY

RECORDED AT REQUEST OF

Sep 17 12 06 PM '87

57377

OFFICE OF RECORDER
COUNTY OF MONTEREY
SALINAS, CALIFORNIA

WHEN RECORDED RETURN TO:

Elizabeth J. Robison, Esq.
Spreckels Land Company, Inc.
4256 Hacienda Drive
Pleasanton, CA 94566

EASEMENT AGREEMENT

THIS EASEMENT AGREEMENT (the "Agreement") is entered into by and between SPRECKELS LAND COMPANY, INC., a Delaware corporation ("Grantor") and BASIC AMERICAN FOODS, INC., a Delaware corporation ("Grantee").

RECITALS

WHEREAS, Grantor is the owner of that certain real property located in the County of Monterey, State of California, hereinafter referred to as the "Servient Tenement" and more fully described in Exhibit A attached hereto and incorporated herein by this reference. A portion of the Servient Tenement is described as the right-of-way and adjacent easement for San Antonio Drive; and

WHEREAS, pursuant to that Development Agreement dated November 18, 1986 between Grantor and the City of King, Grantor is required to keep the above described right-of-way and adjacent easement free and clear of any improvements which are not related to the real property that is subject to the Development Agreement, Grantor acknowledges that the easement to be granted herein does relate to the development of the industrial portion of the real property subject to the Development Agreement and Grantee represents that the City of King has agreed to allow Grantee the limited use of the Servient Tenement for the purposes described herein; and

WHEREAS, Grantee is the owner of certain real property located adjacent to the Servient Tenement, hereinafter referred to as the "Dominant Tenement" and more fully described as: "Lot 8 as shown on that Parcel Map filed April 24, 1987 in Volume 17 of Parcel Maps at Page 40, Records of Monterey County, State of California."; and

WHEREAS, Grantee desires to acquire certain rights with respect to the Servient Tenement and to assume certain responsibilities, and Grantor is willing to grant such rights;

NOW, THEREFORE, for good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the parties hereto agree as follows:

1. Grant by Grantor. Grantor hereby grants to Grantee, for the period specified in Paragraph 4 hereof, a non-exclusive easement (the "Easement") for the benefit of Grantee and limited in use for the purposes set forth in Paragraph 2 hereof.

2. Use. The Easement shall be (i) a nonexclusive right-of-way eight (8) feet in width for vehicular and pedestrian ingress and egress to the Servient Tenement by Grantee and its tenants, subtenants, licensees, invitees and guests, over and across the Servient Tenement, for purposes of access and to construct and to maintain two (2) water wells, pumping station, power feeders and pipelines located on the Servient Tenement as shown on EXHIBIT B; and (ii) an exclusive right to use such water wells to draw water not to exceed 2,500 gallons per minute for use in Grantee's cogeneration facility located on the Dominant Tenement and in the adjacent dehydration plant. Grantee's limited rights hereunder shall be personal to Grantee, and Grantee may not transfer or sell such rights or any portion thereof; provided, however, Grantee may transfer such rights to the legal entity that will construct and own the cogeneration facility or any subsequent owner thereof. In using the Facilities hereunder, Grantee shall at all times comply with all laws, regulations, orders, judgments and the like applicable to said use.

3. Feasibility Agreement. Grantor and Grantee shall enter into a Feasibility Agreement simultaneously herewith for Grantor to supply water for the benefit of the current or future property owners of the property known as the "East Ranch".

4. Maintenance and Repair. Grantee shall take all action necessary to maintain the property subject to the Easement in good, safe and satisfactory condition, and shall have the right to improve, replace, repair and upgrade the property subject to the Easement as necessary to accommodate Grantee's permitted uses under this Agreement.

5. Termination. The Easement shall continue in full force and effect for ninety-nine (99) years, unless either or both wells are not used for a period of two (2) years following commencement of their use in accordance with this Agreement, in which event this Easement shall terminate at the end of such two-year period. Upon the occurrence of any of the above events resulting in termination, Grantor shall prepare the documents necessary to effect such termination and Grantee shall promptly execute same.

6. License. During any period of construction, repair or maintenance of the property subject to the Easement, Grantee shall have a temporary license to enter upon and occupy with men, equipment and materials, the portion or portions of the Servient Tenement immediately adjacent to the Easement, not to exceed fifteen (15) feet in width in total including the Easement, for the purpose of performing such repair or maintenance; provided, however, Grantee shall immediately pay for any damages resulting therefrom to the Servient Tenement.

7. Nonexclusive Easement. The Easement granted herein is not exclusive, except as provided in Paragraph 2 hereof. Grantee agrees that Grantor shall have the right to use the area of the Easement for any purposes which do not interfere with the rights granted to Grantee herein. As the Easement is to contain a pipeline which is to be located within the right-of-way or adjacent easement for San Antonio Drive, its location as set forth in Exhibit B is to be considered approximate and Grantor shall have the right to approve the final location of the pipeline. At the request of either party, a detailed and accurate description setting forth the exact location of the make-up water wells and the associated pipeline, as built, may be recorded as an amendment to this Easement Agreement.

8. Grantee's Indemnity. Grantee shall indemnify and hold harmless Grantor, its officers, directors, representatives, agents and employees, from and against any and all claims, liens, actions, damages, liabilities, costs and expenses, including without limitation reasonable attorneys' fees, arising from or out of or in any way connected with any act or omission of Grantee or its agents, contractors, servants, representatives, officers or employees, on or about the Servient Tenement and including any damage to any part of the Servient Tenement effected by the Easement, excluding, however, any claims, liens, actions, damages, liabilities, costs, expenses or attorneys' fees arising from any act or omission of Grantor or its officers, directors, representatives, agents and employees.

9. Breach. Notwithstanding anything to the contrary contained herein, and without limiting any rights of Grantor contained in any other provision of this Agreement, if Grantee does not cure any breach by it of this Agreement within thirty (30) days after written notice thereof from Grantor or such reasonable additional time as is necessary to effect such cure if Grantee is diligently and in good faith attempting to cure its breach, the Easement shall automatically terminate and revert to Grantor, and Grantee shall execute, acknowledge and deliver such documents to Grantor as Grantee may request to evidence such termination and reversion.

10. Entire Agreement. This instrument contains the entire agreement between the parties relating to the rights herein granted and the obligations herein assumed. Any oral representations or modifications concerning this Agreement shall be of no force or effect. This Agreement may be modified only by an instrument in writing executed by the parties hereto.

11. Attorneys' Fees. In the event of any controversy, claim or dispute relating to this Agreement, its interpretation, or the breach hereof, the prevailing party shall be entitled to recover from the other party reasonable expenses, attorneys' fees and costs.

12. Notices. All notices and other communications hereunder shall be in writing and shall be personally delivered or sent by first class, registered or certified United States mail, return receipt requested, postage prepaid, addressed as follows:

If to Grantor: Robert P. Tiernan
Basic American Foods
550 Kearny Street, Suite 1000
San Francisco, California 94108

Dennis McQuaid
McQuaid, Bedford, Brayton, Clausen & Grell
650 California Street, Suite 800
San Francisco, California 94108

If to Grantee: Thomas F. Ryan
Spreckels Land Company, Inc.
P. O. Box 7428
Spreckels, California 93962

Elizabeth J. Robison, Esq.
Spreckels Land Company, Inc.
4256 Hacienda Road
Pleasanton, California 94566

or such other address as either party may from time to time specify in writing to the other. All such notices and other communications if sent by mail shall be deemed to have been given five (5) business days after the date of such mailing.

13. Binding Effect; Assignment. This instrument shall bind and inure to the benefit of the respective heirs, personal representatives, successors, and assigns of the parties hereto, including, without limitation, all subsequent owners or lessees of all or any portion or portions of the Servient Tenement and Dominant Tenement.

14. Consents; Waivers. The giving by the Grantor of any consent or approval hereunder shall not be deemed to waive the requirement to obtain such consent or approval in any other or subsequent instance. Any waiver by Grantor of any of the terms and conditions hereof must be in writing to be effective and will apply only to the extent expressly set forth in such writing.

15. Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of California.

16. Captions. The captions preceding the text of each paragraph of this Agreement are included only for convenience of reference and shall be disregarded in the interpretation of this Agreement.

17. Time. Time is of the essence of this Agreement.

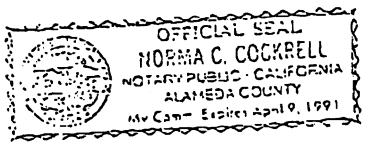
18. Taxes and Assessments. In the event that the Easement property or the rights granted hereunder are separately assessed, Grantee shall pay within ten (10) business day after Grantor's written notice to Grantee that Grantor has paid the same, all taxes, fees, assessments and like charges applicable to the Easement and/or Grantee's use of the facilities hereunder.

IN WITNESS WHEREOF, the parties have executed this Agreement on September 15, 1987.

GRANTOR:	GRANTEE:
SPRECKELS LAND COMPANY, INC.	BASIC AMERICAN FOODS, INC.
By: David E. Spreckels	By: Donald A Britt
Its: President	Its: Vice President

STATE OF CALIFORNIA)
COUNTY OF ALAMEDA) ss.

On this 15th day of September, 1987, before me Norma C. Cockrell, a Notary Public for the State of California, personally appeared David E. Dennehy, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person who executed the within instrument as President on behalf of Spreckels Land Company, Inc., a corporation, and acknowledged to me that the corporation executed it pursuant to its bylaws or a resolution of its board of directors.

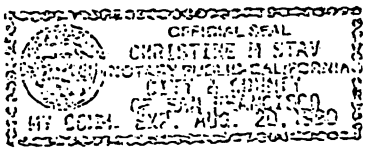


Norma C. Cockrell
Notary Public for
the State of California

ACKNOWLEDGMENT

State of California)
)
) ss.
City and)
County of San Francisco)

On this 15th day of September, 1987 before me Christine M. Stav, a Notary Public for the State of California, personally appeared Donald A. Britt, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person who executed the within instrument as Vice President on behalf of Basic American Foods, Inc., a corporation, and acknowledged to me that the corporation executed it pursuant to its bylaws or a resolution of its board of directors.



Notary Public for the
State of California

EXHIBIT A

Parcel 1: A portion of Parcel A described on that Parcel Map filed April 24, 1987 in Volume 17 of Parcel Maps at Page 40, Records of Monterey County, State of California.

Parcel 2: A portion of the real property described in that Parcel Map filed December 31, 1986, in Volume 17 of Parcel Maps at Page 20, Records of Monterey County.

Parcel 3: A portion of the real property described in that Parcel Map filed on June 19, 1987 in Volume 17 of Parcel Maps at Page 51, Records of Monterey County

Parcel 4:

BEGINNING at that certain angle point being the northerly terminus of that certain course described as N 1° 59' 40" E., 1,705.16 feet in that certain Annexation deed recorded 11 November 1985 in Reel 1896, Page 16, Records of Monterey County, California; thence southerly along said Annexation boundary

(1) S 01° 59' 40" W., 770.00 feet; thence leaving said Annexation boundary and continuing through Parcel 10 as shown on that certain Record of Survey Map recorded 26 July 1979 in Volume 12 of Surveys at Page 62, Records of Monterey County, California;

(2) Southerly, 343.45 feet along the arc of a tangent curve to the right having a radius of 1466.00 feet, through a central angle of 13° 25' 23" to a point of reverse curvature; thence tangentially

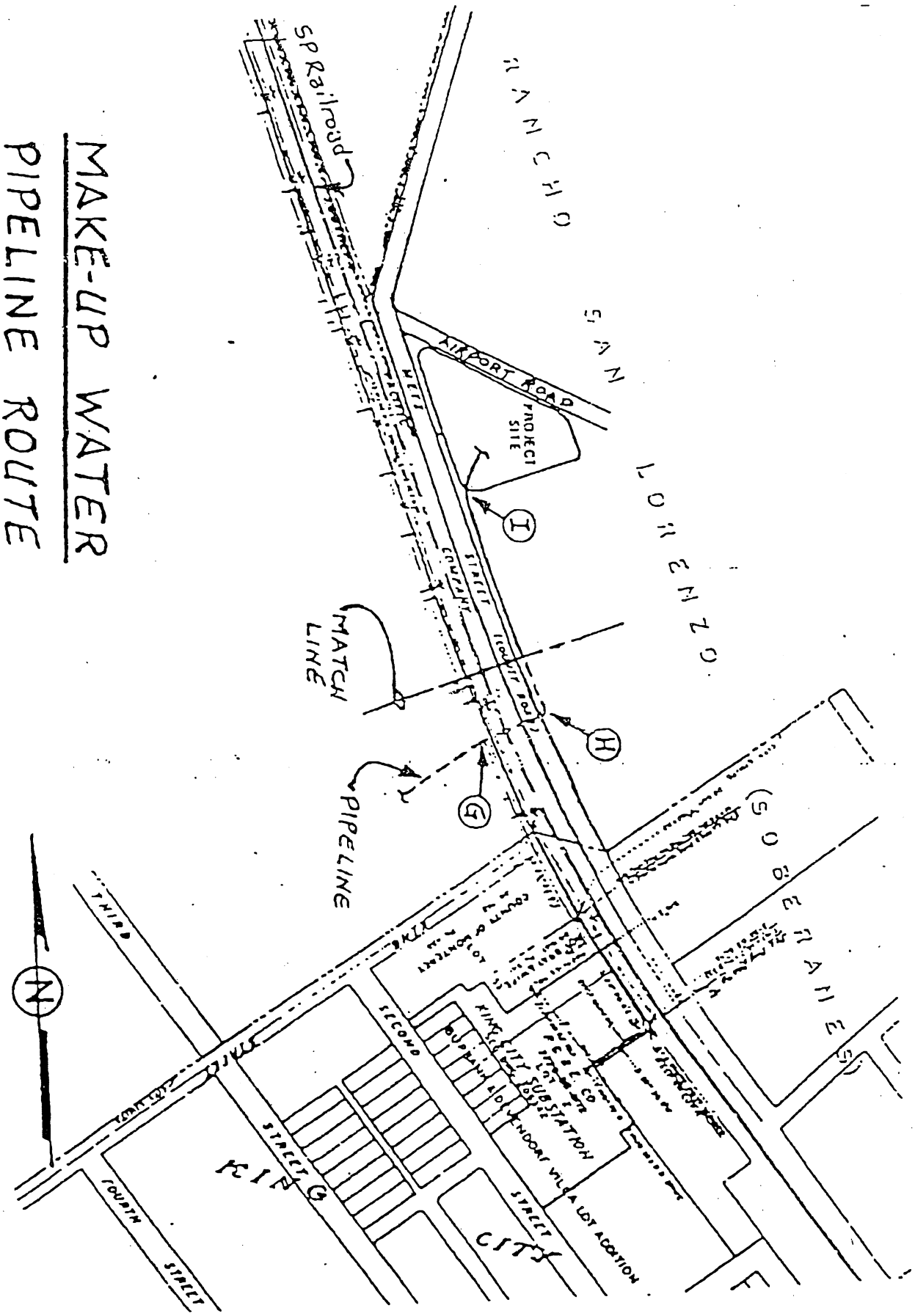
(3) Southerly, 23.23 feet along the arc of a reverse curve to the left having a radius of 1,534.00 feet, through a central angle of 0° 52' 04"; thence non-tangentially

(4) N 20° 00' 20" W., 879.15 feet; thence

(5) N 36° 59' 40" E., 417.12 feet; thence

(6) S 78° 00' 20" E., 137.45 feet to the POINT OF BEGINNING.

Containing 5.77 acres.

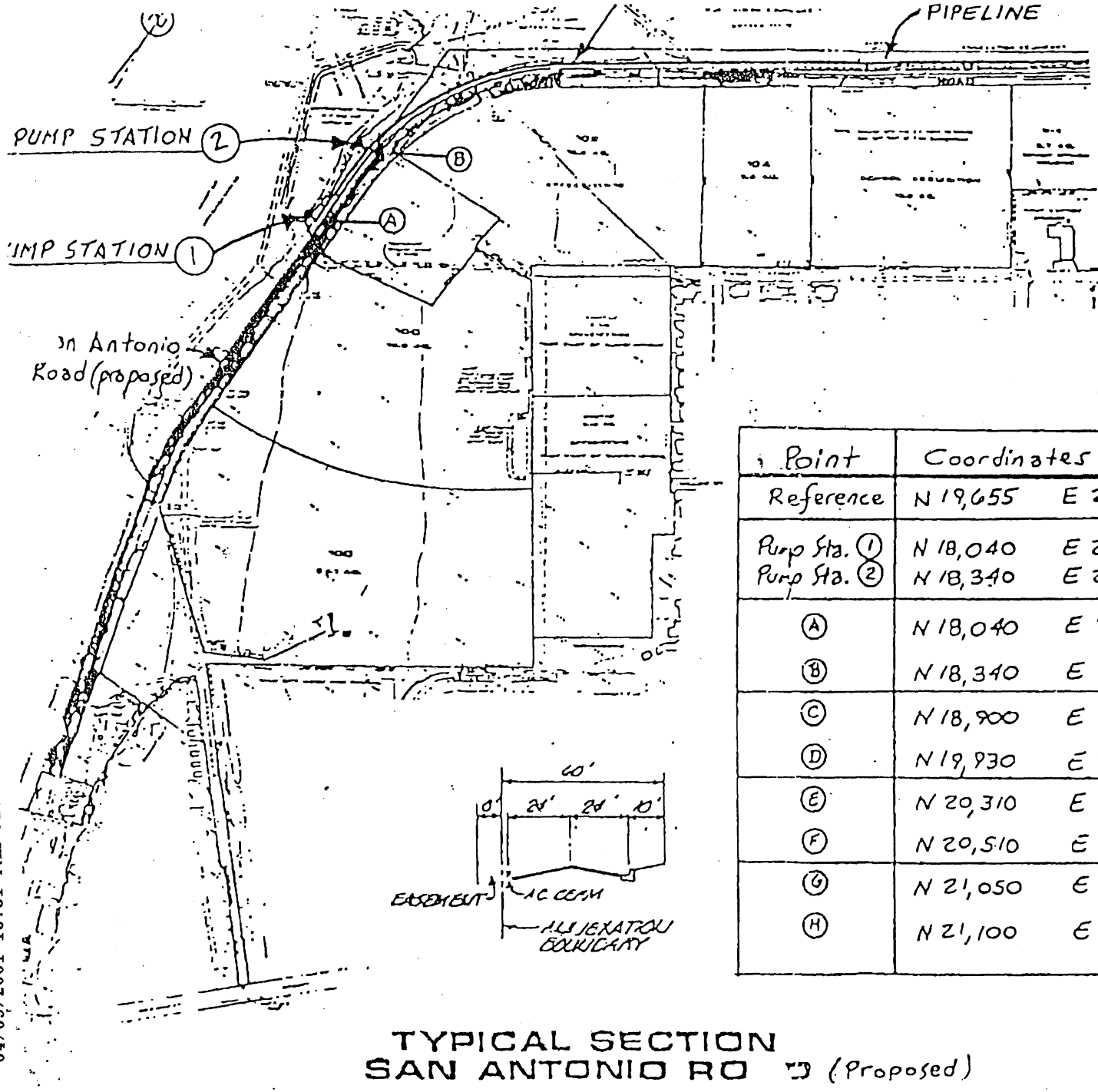


MAKE-UP WATER PIPELINE ROUTE

(Sheet 2 of 2)

EXHIBIT B

DO NOT RECORD



Point	Coordinates	
Reference	N 19,655	E 2
Pump Sta. (1)	N 18,040	E 24
Pump Sta. (2)	N 18,340	E 24
(A)	N 18,040	E 2
(B)	N 18,340	E 24
(C)	N 18,900	E 2
(D)	N 19,930	E 26
(E)	N 20,310	E 27
(F)	N 20,510	E 27
(G)	N 21,050	E 28
(H)	N 21,100	E 28

TYPICAL SECTION
SAN ANTONIO RO ד (Proposed)

Appendix D — Air Quality Permit Application

CALPINE

KING CITY COGENERATION
750 METZ ROAD
KING CITY, CALIFORNIA 93930
831.385.4090
831.385.6683 (fax)

March 30, 2001

Douglas Quetin
Air Pollution Control Officer
Monterey Bay Unified Air Pollution Control District
24580 Silver Cloud Court
Monterey, CA 90940

RE: King City Power Plant
Authority to Construct Application
Proposed Peaker Combustion Gas Turbine

Dear Mr. Quetin:

Calpine King City Cogeneration, LLC (Calpine) is pleased to submit two copies of the enclosed application for an Authority to Construct and Permit to Operate for a new simple cycle combustion gas turbine at the King City Power Plant. Each submittal contains the following:

- Application for Authority to Construct/Permit to Operate form;
- California Energy Commission Self-Certification Checklist; and
- Supplemental Information document.

Calpine will deliver to the District next Friday a check in the amount of $5,493 for the application filing fee and the permit fee specified in Rule 301.

Calpine proposes to install a nominal 49.6-MW General Electric LM6000PC simple cycle combustion gas turbine. The unit would produce electricity to meet peak power demands. BACT—including natural gas combustion, water injection, a selective catalytic reduction system, and an oxidation catalyst—would be applied to reduce criteria pollutant emissions.

Calpine would not be subject to emission offset requirements for CO, SOx, and VOC because the net emission increases for those pollutants would not exceed the District's offset thresholds. Calpine would not be subject to emission offset requirements for NOx because Calpine proposes to keep combined daily NOx emissions from the proposed new turbine and the existing turbine within the current daily NOx limit for the existing turbine. Calpine would be subject to emission offset requirements only for PM_{10} because the net emissions increase for those pollutants would exceed the District's offset threshold. Calpine is providing offsets for the net increase in PM_{10} emissions.

If you have any questions or need additional information about the proposed project, please do not hesitate to call Gary Rubenstein or Dan Welch of Sierra Research at (916) 444-6666. Sierra is acting as our consultant for this project.

Sincerely,

Steve Bean

Steve Bean
Plant Manager

cc: Brian McDonald, Calpine
Barbara McBride, Calpine
Bryan Bertacchi, Calpine
Neal Pospisil, Calpine
Karen Betenbaugh, Calpine
Darin Stuhlmuller, Calpine
Gary Rubenstein, Sierra Research

MONTEREY BAY UNIFIED AIR POLLUTION CONTROL DISTRICT
24580 SILVER CLOUD COURT
MONTEREY, CALIFORNIA 93940 (831) 647-9411 FAX (831) 647-8501

APPLICATION FOR AUTHORITY TO CONSTRUCT AND PERMIT TO OPERATE

A FILING FEE OF $111 AND ALL APPLICABLE PERMIT FEE(S) MUST ACCOMPANY EACH APPLICATION, PAID BY CHECK OR MONEY ORDER.

1. Permit to be issued to : **Calpine King City Cogeneration, LLC**
(Business License Name of Corporation, Company, Individual Owner, or Governmental Agency that is to operate the equipment)

2. DBA (Doing Business As):

3. Mailing Address:
Street **750 Metz Road** City **King City** Zip Code **93930** Telephone Number **(831) 385-4090**

4. General Nature of Business: **Electrical power generation and steam production**

5. Pursuant to the provisions of the Health and Safety Code of the State of California and the Rules and Regulations of the Air Pollution Control District, application is hereby made to CONSTRUCT AND USE OR OPERATE the following equipment: (Attach separate sheets if necessary)

1. Nominal 467.6 MMBtu/hr General Electric LM6000PC combustion gas turbine

2. Nominal 49.6 MW Brush turbine generator

3. Selective catalytic reduction (SCR) system

4. Ammonia storage and injection system

5. Oxidation catalyst

6. Address at which the above described equipment is to be operated:
Street **750 Metz Road** City **King City**

7. Is the proposed equipment located within **1000** feet of a school site? ☐ YES ☒ NO

8. Does the project include the wrecking, removal or replacement of any load bearing members? ☐ YES ☒ NO

9. PRESENT STATUS OF EQUIPMENT (Check and complete applicable items):

	Estimated Starting Date	Estimated Completion Date
CONSTRUCTION OR INSTALLATION		
☒ Not Started ☐ Partly Completed ☐ Completed	5/1/01	7/31/01
EQUIPMENT ALTERATION		
☐ Not Started ☐ Partly Completed ☐ Completed		
TRANSFER OF LOCATION		

10. I hereby request that the Monterey Bay Unified Air Pollution Control District begin processing this application. I agree to pay any and all fees required by District rules for processing this application and for the issuance of any permit to operate or authority to construct. I agree that the obligation to compensate the District for time spent processing my application exists even if I abandon this project and withdraw my application or should my application subsequently be disapproved.

Signature of responsible Official, Partner, or Sole Proprietor of Organization: Steve M. Bean

11. Type or print name and official title of person signing this application:

Steve Bean	**Plant Manager**	**3/30/01**
NAME	TITLE	DATE

DATE STAMP	APPLICATION NUMBER	PREVIOUS PERMIT NUMBER
	PREVIOUS PERMITTEE	ANNUAL RENEWAL DATE

California Energy Commission
Air Quality Self-Certification Checklist for Simple-Cycle Gas Turbine Generation Units

License Application for:

[X] New Emissions Unit(s) at a New Stationary Source

[ ] New Emissions Unit(s) at an Existing Stationary Source

DISTRICT: Monterey Bay Unified APCD	DATE: March 30, 2001

FACILITY INFORMATION

License to be Issued to:

Calpine King City Cogeneration, LLC

Mailing Address:

750 Metz Road

City:	State:	Zip Code:
King City	CA	93930

Address Where Equipment Will be Operated:

Same as above

City:	State:	Zip Code:

Nature of Business:	SIC Code:
Electric power generation and steam production	4931

Facility Contact Person:	Phone Number: (831) 385-4090
Steve Bean	Fax Number: (831) 385-6683
Plant Manager	Email: steveb@calpine.com

Application Information Contact Person (if different from above):	Phone Number: (925) 600-2007
Brian McDonald	Fax Number: (925) 622-0862
Manager, Project Development	Email: bmcdonald@calpine.com

Will the facility be under contract to sell its power within California? [X] Yes [ ] No

If Yes, state the entity contracted with and the percentage of power that will be sold:

California Department of Water Resources 23% - 100%

What is the maximum total electrical output of the new power generation equipment at International Standards Organization (ISO) conditions? 47.9 MW

Estimated construction start date: 05/01/01 Estimated completion date: 07/31/01

Length of commissioning period (from date of initial startup): 30 days

NEW EQUIPMENT INFORMATION

TURBINE #1	If multiple identical units, indicate number of units of this type: _____		
		49.6 MW	MW
	Manufacturer: General Electric		
	Model: LM6000PC		
	Maximum Heat Input (based on HHV of fuel): 467.6		MMBtu/hr
TURBINE #2	If multiple identical units, indicate number of units of this type: _____		
		MW	MW
	Manufacturer:		
	Model:		
	Maximum Heat Input (based on HHV of fuel):		MMBtu/hr

Suggested Best Available Control Technology (BACT)		**Emission Level**	**Control Technology**
	NOx	5 ppmvd @ 15% O_2 (1-hr rolling average)	Selective catalytic reduction or other equivalent control device
	CO	6 ppmvd @ 15% O_2 (1-hr rolling average)	Oxidation catalyst or equivalent control device
	VOC	2 ppmvd @ 15% O_2 (1-hr rolling average)	Oxidation catalyst or equivalent control device
	PM10	Emission limit corresponding to natural gas firing (PUC quality natural gas)	Natural gas firing (PUC quality natural gas)
	SO2	Emission limit corresponding to natural gas firing (PUC quality natural gas)	Natural gas firing (PUC quality natural gas)
	If applicable, NH3	10 ppmvd @ 15% O_2 (1-hr rolling average)	

Selective Catalytic Reduction Information, if applicable	**If not indicated, please specify units of measurement:**			
	Ammonia Storage Tank(s):	Tank type: to be determined (TBD)		
		Number of tanks: TBD		
		Tank size: TBD		
		Reactant type: [ ] Anhydrous ammonia [ ] Aqueous ammonia [ ] Urea If aqueous ammonia, indicate ammonia concentration: _____		
		Turnover rate: TBD		
	SCR Manufacturer:			TBD
	SCR Make:			TBD
	SCR Model:			TBD
	Catalyst dimensions:	Length: TBD ft	Width: TBD ft	Height: TBD ft
	Pressure drop across SCR unit: TBD			
	Pressure drop across ammonia injection grid: TBD			
	Space velocity (gas flow rate/catalyst volume): TBD			
	Area velocity (gas flow rate/wetted catalyst surface area): TBD			

NEW EQUIPMENT INFORMATION (continued)

Selective Catalytic Reduction Information, if applicable (continued)	**Manufacturer's guarantee:**	Control efficiency: TBD %	Catalyst life: TBD yrs
	Ammonia injection rate: TBD		
	NOx concentration into SCR unit:		TBD ppmvd @ 15% O2
	SO_2 oxidation rate: TBD	SO_3 emissions: TBD	
	Operating temperature range of catalyst: TBD		°F
	Temperature at which ammonia injection will begin: TBD		°F

Oxidation Catalyst Information, if applicable	**If not indicated, please specify units of measurement:**			
	Manufacturer:			TBD
	Make:			TBD
	Model:			TBD
	Catalyst dimensions:	Length: TBD ft	Width: TBD ft	Height: TBD ft
	Pressure drop across catalyst: TBD			
	Manufacturer's guarantee:	CO control efficiency: TBD %		Catalyst life: TBD yrs
		VOC control efficiency: TBD %		
	Space velocity (gas flow rate/catalyst volume): TBD			
	Area velocity (gas flow rate/wetted catalyst surface area): TBD			
	Catalyst cell density (cells per square inch): TBD			
	CO concentration into catalyst:			TBD ppmvd @ 15% O2
	VOC concentration into catalyst:			TBD ppmvd @ 15% O2
	Operating temperature range of catalyst: TBD			°F

Fuel Data	Fuel Type: Natural gas		**Specify sulfur content if other than 5 gr/100 scf**
	Higher Heating Value: 1,010 Btu/scf		Sulfur Content: 0.25 gr/100 scf
	Maximum Fuel Consumption Rate: 0.463		MMscf/hr
	Exhaust Data:	Flow: 217,058 dscfm / 596,995 wacfm	M/sec or m^3/sec or acfm

On-line Normalized Emission Rate	**(If corrected to other than 15% O2, indicate at right)**			$\%O_2$
	Specify by units listed below or indicate other values and units at right:			
	NOX	5 ppmvd on a 1-hr rolling avg.	0.018 lb/MMBtu	
	CO	6 ppmvd on a 1-hr rolling avg.	0.013 lb/MMBtu	
	VOC	2 ppmvd on a 1-hr rolling avg.	0.0025 lb/MMBtu	
	PM10	N/A ppmvd on a 1-hr rolling avg.	0.0053 lb/MMBtu	
	SO_2	0.14 ppmvd on a 1-hr rolling avg.	0.0007 lb/MMBtu	
	If applicable, NH_3	10 ppmvd on a 1-hr rolling avg.	0.013 lb/MMBtu	

NEW EQUIPMENT INFORMATION (continued)

On-line Mass Emission Rate (each turbine)		Hourly [lbs/hr]	Daily [lbs/day]	Quarterly [lbs/qtr]	Annual [tons/yr]
	NOX	8.48	204	18,723	37.1
	CO	6.19	149	13,676	27.1
	VOC	1.18	28.3	2,605	5.17
	PM10	2.50	60.0	5,520	11.0
	SO_2	0.33	7.86	723	1.43
	If applicable, NH3	6.27	150	13,838	27.5

Startup and Shutdown Mass Emission Rate (each turbine)		Startup Emissions Hourly [lbs/hr]	Shutdown Emissions Hourly [lbs/hr]
	NOX	35.00	Included in startup
	CO	27.00	Included in startup
	VOC	0.89	Included in startup
	PM10	2.50	Included in startup
	SO_2	0.33	Included in startup

Commissioning Period Mass Emission Rate (each turbine)		Hourly [lbs/hr]	Daily [lbs/day]
	NOx	94.1	1,130
	CO	194	2,332
	VOC	6.29	75.5
	PM10	2.50	30.0
	SO_2	0.33	3.96

Operating Parameters	Operating Hours:	[hrs/day]	[hrs/qtr]	[hrs/yr]
		24	2,208	8,760
	Startup Data:	**Number of startups per day:**	1 (includes shutdown)	
		Number of startups per year:	300 (includes shutdown)	
		Startup duration:	1 hour (includes shutdown)	
	Shutdown Data:	**Number of shutdowns per day:**	N/A	
		Number of shutdowns per year:	N/A	
		Shutdown duration:	N/A	

NEW EQUIPMENT INFORMATION (continued)

Facility Annual Emissions and Emissions to be Offset		Facility Annual Emissions [tons/yr]	Emissions That Need to be Offset				
			Q1 [lbs/qtr]	Q2 [lbs/qtr]	Q3 [lbs/qtr]	Q4 [lbs/qtr]	Annual [tons/yr]
	NOx	130	N/A	N/A	N/A	N/A	N/A
	CO	109	N/A	N/A	N/A	N/A	N/A
	VOC	9.55	N/A	N/A	N/A	N/A	N/A
	PM10	21.9	9,148	9,250	9,351	9,351	18.6
	SO_2	3.62	N/A	N/A	N/A	N/A	N/A

Offsets to be Provided (If Necessary)		Offset Ratio	Offsets Required				Source of Offsets
			Q1 [lbs/qtr]	Q2 [lbs/qtr]	Q3 [lbs/qtr]	Q4 [lbs/qtr]	
	NOx	N/A	N/A	N/A	N/A	N/A	[ ] State bank* [ ] District bank [ ] Other, specify:
	CO	N/A	N/A	N/A	N/A	N/A	[ ] State bank [ ] District bank [ ] Other, specify:
	VOC	N/A	N/A	N/A	N/A	N/A	[ ] State bank [ ] District bank [ ] Other, specify:
	PM10	1.2	10,978	11,100	11,221	11,221	[X] State bank [ ] District bank [ ] Other, specify:
	SO_2	N/A	N/A	N/A	N/A	N/A	[ ] State bank [ ] District bank [ ] Other, specify:

Monitoring and Reporting	
	What is the make/model of the continuous emissions monitoring system (CEMS), if known? Make: TBD Model: TDB The following parameters will be continuously monitored: [X] NOx [X] CO [X] O_2 [X] Fuel flow rate [X] Ammonia injection rate [ ] Other, please specify: _____ Will the CEMS be used to measure both on-line and startup/shutdown emissions? [X] Yes [ ] No

*Note: The initial amount of NOx offsets that can be acquired from the State bank is 21 tons/yr x the applicable offset ratio for each 50 MW of new generating capacity.

ADDITIONAL INFORMATION

1. **Facility Location:** [ ] Urban (area of dense population) [X] Rural (area of sparse population)

   Will the facility be located within 1,000 feet of a school? [ ] Yes [X] No

   (Note: Per Section 42301.9 of the California Health and Safety Code, a "school" means any public or private school used for purposes of the education of more than 12 children in kindergarten or any of grades 1 to 12, inclusive, but does not include any private school in which education is primarily conducted in private homes.)

2. **Nearest Receptor:**

   Distance to nearest residence 1,250 feet

   Distance to nearest business 1,250 feet

   Air Dispersion Modeling Input Data

3. **Stack Parameters:**

   Height 60 feet Inside diameter 132 inches

   Is a rain cap present on the exhaust stack? [ ] Yes [X] No

   Direction of exhaust from structure or device: [X] Vertical [ ] Horizontal

   Building Dimension Data for Downwash Calculations:

   a) Building Height _____

   b) Minimum horizontal building dimension _____

   c) Maximum horizontal building dimension _____

4. Was an ambient air quality impact analysis required for this project? [ ] Yes [X] No

   If Yes, was an ambient air quality impact analysis conducted as required by District rules?[ ] Yes [ ] No

   If Yes, please attach the analysis and provide an electronic version on disk or CD.

5. Was a health risk assessment required for this project? [ ] Yes [X] No

   If Yes, was a health risk assessment conducted as required by District rules? [ ] Yes [ ] No

   If Yes, please attach the analysis and provide an electronic version on disk or CD.

6. Please attach a site map for the project.

CERTIFICATION

Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are, true, accurate, and complete.

Steve Bean, Plant Manager
Responsible Official (Please Print Name)

Steph M. B
Signature of Responsible Official

3/30/2001
Date

Supplemental Information to Accompany Application for Authority to Construct
Peaker Turbine at the King City Power Plant

1. Equipment Location Drawing or Plot Plan

Attachment 1 contains two alternative layouts for the proposed facility and a figure showing the location of the project site.

2. Equipment Description

The proposed gas turbine is a General Electric LM6000PC combustion gas turbine driving a nominal 49.6 MW turbine generator. The combustion gas turbine will be fueled exclusively with natural gas. The combustion gas turbine will be equipped with water injection to control NOx emissions. Post-combustion air pollution controls will include SCR for NOx control and an oxidation catalyst for carbon monoxide (CO) control.

3. Description of Operation

A compressor will provide combustion air to the turbine. An inlet air chiller will adjust the combustion air temperature to an optimum level. The turbine will be fueled exclusively with natural gas, which will minimize PM_{10} and SOx emissions. Natural gas will be obtained from the existing natural gas supply line to the facility. Water will be injected into the turbine combustors to quench the flame temperature and reduce the formation of NOx emissions. Combustion exhaust gases will drive a turbine generator that will produce electricity. A transformer will transmit electricity to the transmission lines.

Ammonia will be added to the turbine exhaust in a selective catalytic reduction (SCR) reactor to reduce NOx emissions to 5 ppm. An oxidation catalyst reactor will further combust the by-products of incomplete combustion in the turbine - specifically reducing CO emissions to 6 ppm. Emissions of VOCs will not exceed 2 ppm. Emissions of NOx and CO from each turbine will be continuously monitored using a continuous emissions monitoring system.

Fuel use and emissions from the turbines across the range of operating loads and ambient temperatures (maximum of 98 deg F, minimum of 34 deg F) are provided in tabular form in Attachment 2.

4. Operating Schedule

The gas turbines will operate as needed to meet electrical demand, up to 24 hours per day, seven days per week. Because the turbines will operate to meet demand, they may start up and shut down daily, up to 300 times per year.

5. Expected Emissions of Air Contaminants

Hourly emissions of criteria pollutants, shown in the table in Attachment 2, were calculated using engineering data provided by GE and information regarding SCR and oxidation catalyst control efficiencies. Daily, quarterly, and annual emissions are summarized in tabular form in Attachment 3.

Emissions of CO, NOx, and VOC were calculated from emission limits (in ppm) and the exhaust flow rates. The CO, NOx, and VOC emission limits were based upon best available control technology for simple cycle turbines. The NOx emission limit reflects the application of SCR. The CO and VOC emission limits reflect the application of an oxidation catalyst. Maximum emissions were based on the exhaust rate (233,245 dscfm @ 15% O_2) associated with a heat input rate of 467.6 MMBtu/hr at 100% utilization.

SOx emissions were calculated from the heat input (in MMBtu) and a SOx emission factor (in lb/MMBtu). A SOx emission factor of 0.0007 lb/MMBtu was selected based upon an expected fuel sulfur content of 4 ppm by volume. Maximum SOx emissions were calculated assuming a heat input rate of 467.6 MMBtu/hr at 100% utilization.

Maximum hourly PM_{10} emissions were obtained from manufacturer's guarantees for LM6000 combustion gas turbines in previous applications. Maximum daily, quarterly, and annual PM_{10} emissions were based upon 100% utilization.

Combined emissions of NOx from both turbines will not exceed the daily and quarterly limits for the existing turbine. These limits will be enforced through the use of continuous emissions monitors.

Maximum hourly and annual toxic air contaminant (TAC) emissions were estimated for the proposed LM6000PC combustion gas turbine. Maximum proposed TAC emissions were calculated from the heat input rate (in MMBtu/hr), emission factors (in lb/mmcf), and the nominal higher heating value (i.e., 1,010 Btu/scf). Emissions were based on a heat input rate of 467.6 MMBtu/hr at 100% utilization. The ammonia emission factor was derived from an ammonia slip limit of 10 ppm @ 15% O_2, which constitutes BACT for ammonia emissions from an SCR reactor. Other emission factors were obtained from the California Air Resources Board's CATEF database for gas turbines. TAC emissions are also shown in Attachment 3.

6. Additional Information

The maximum annual emissions for the existing and modified facility are provided in Attachment 4. Only combustion equipment is included in these calculations; the cooling tower is excluded. Maximum annual emissions for the

combustion equipment were obtained from the Permit to Operate. Quarterly emission limits represent the maximum emissions from the existing turbine at 100% utilization. Therefore, maximum annual emissions for the two auxiliary boilers are not included in the combined quarterly emission limits from the combustion equipment. Maximum emissions for the modified facility are presented as the maximum emissions for both turbines, except for NOx; total quarterly NOx emissions for both turbines are proposed to be restricted to the current quarterly NOx emission limit for the existing turbine.

The net daily and quarterly emission increases for the existing and modified facility are also provided in Attachment 4. Again, cooling tower emissions are not included in these calculations. These calculations include emission reductions realized when the direct contact dryers at the BAF facility were shut down and replaced by the new cogeneration plant, whose steam provided heat for the new dryers that replaced the direct contact dryers.

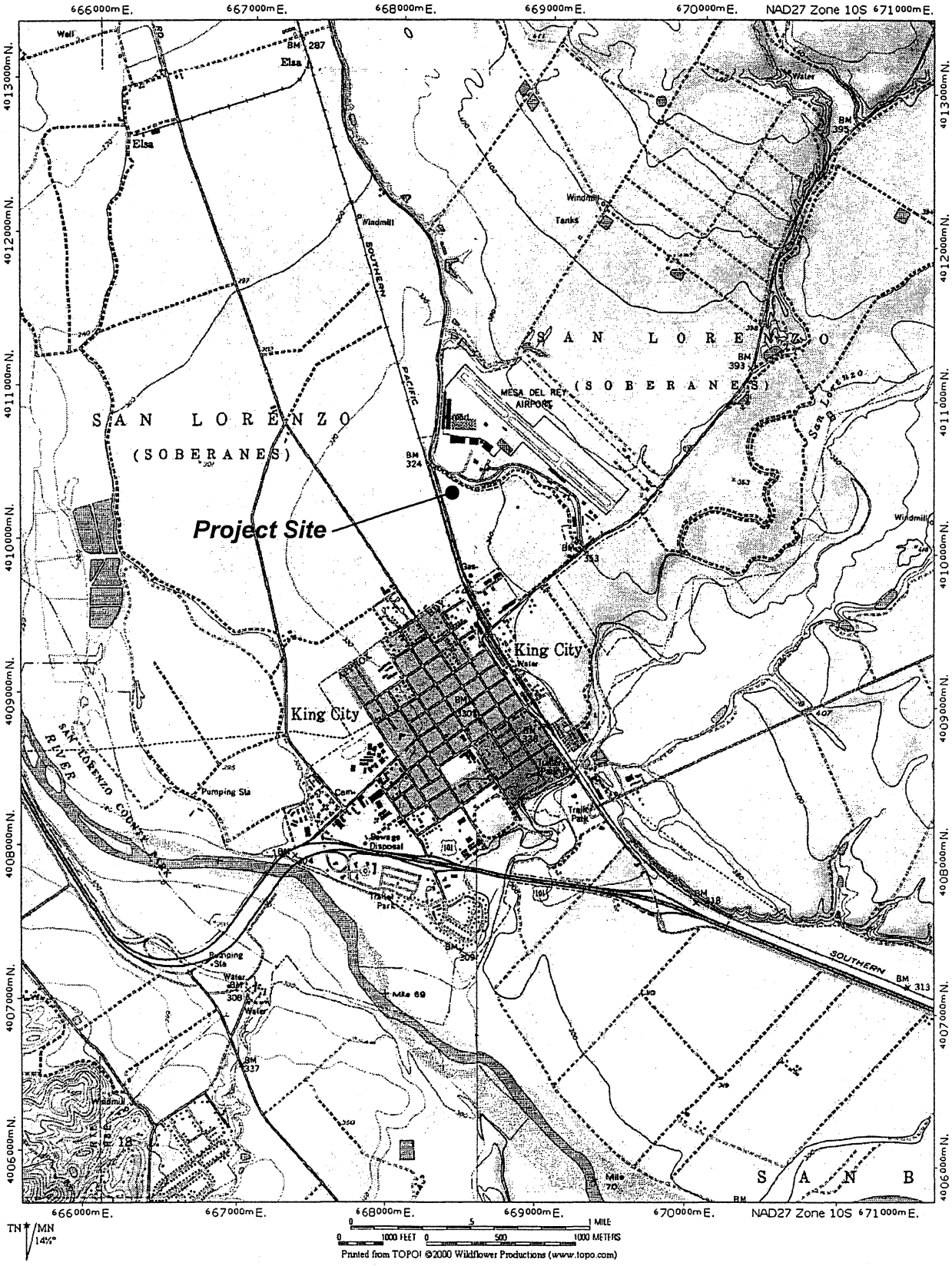
Based upon the current net daily emissions increase for the existing facility, only NOx emission increases have exceeded the District's offset thresholds. Recalculating the net emission increase to include the proposed new turbine, PM_{10} emission increases would now also exceed the District's offset threshold. Therefore, the net quarterly emission increases of NOx and PM_{10} emissions would have to be offset.

The proposed new turbine will not increase quarterly NOx emissions because Calpine is proposing to limit quarterly NOx emissions from both turbines to the current emission limit for the existing turbine. Therefore, only quarterly PM_{10} emissions increases will be offset.

Attachment 1

Plot Plans

Project Site Location



Attachment 2

Emissions and Operating Parameters for New Turbine

SUMMARY OF MODEL RESULTS

Project: Calpine/King City
Test Type: Turbine Design
LM6000PC (Water Injected)

Design Description					
Scenario No.	209	106	105	102	101
Ambient Temperature, deg F	33.8	59.9	59.9	97.7	97.7
Conditioning	None	Chill	None	None	Chill
Water Injection, lb/hr	23,690	22,268	21,795	16,336	22,225
Process Rate Data					
Electrical Output (kwh)	49,626	47,868	46,427	34,861	47,854
Fuel Flow (lbs/hr, as fired)	20,506	20,177	19,724	15,999	20,176
Fuel Flow (MMbtu/hr), HHV	467.6	460.1	449.8	364.8	460.1
Heat Rate (btu/kwh) HHV	9,423	9,612	9,688	10,465	9,614
Exhaust Gas Composition					
O2, %	14.56%	14.46%	14.46%	14.80%	14.45%
CO2, %	3.65%	3.71%	3.71%	3.51%	3.71%
H20, %	10.15%	10.77%	10.81%	10.60%	10.81%
Flow Rate, DSCFM	217,058	210,285	205,563	175,960	209,951
Mol. Wt., wet basis	28.04	27.98	27.98	27.98	27.98
Flow Rate, WACFM	596,995	593,276	582,368	504,525	592,561
Emissions, ppm, as Measured					
NMHC, as CH4	2.2	2.2	2.2	2.1	2.2
CH4					
THC, as CH4					
CO	6.4	6.5	6.5	6.2	6.6
NOx	5.4	5.5	5.5	5.2	5.5
SOx	0.1	0.1	0.1	0.1	0.1
NH3					
Emissions, ppm, at Reference O2:				**15%**	
NMHC, as CH4	2.0	2.0	2.0	2.0	2.0
CH4					
THC, as CH4					
CO	6.0	6.0	6.0	6.0	6.0
NOx	5.0	5.0	5.0	5.0	5.0
SOx	0.1	0.1	0.1	0.1	0.1
NH3					
Emissions, lbs/hr					
NMHC, as CH4	1.18	1.16	1.14	0.92	1.16
CH4					
THC, as CH4					
CO	6.19	6.09	5.95	4.83	6.10
NOx	8.47	8.33	8.14	6.61	8.33
SOx	0.33	0.30	0.29	0.24	0.30
TSP					
PM10	2.50	2.50	2.50	2.50	2.50
NH3					
Emissions, lbs/MMbtu					
NMHC, as CH4	0.0025	0.0025	0.0025	0.0025	0.0025
CH4					
THC, as CH4					
CO	0.013	0.013	0.013	0.013	0.013
NOx	0.018	0.018	0.018	0.018	0.018
SOx	0.0007	0.0007	0.0007	0.0007	0.0007
TSP					
PM10	0.0053	0.0054	0.0056	0.0069	0.0054
NH3					

Attachment 3

Emission Calculations for the New Turbine

CALPINE KING CITY COGENERATION, LLC
KING CITY POWER PLANT
PEAKER TURBINE AUTHORITY TO CONSTRUCT

PROPOSED MAXIMUM EMISSIONS - LM6000 COMBUSTION GAS TURBINE

Parameter	
Design Ambient Temp (F)	33.9
Heat Input Rate (MMBtu/hr @ HHV))	467.6
Power Generation Rate (MW)	49.6
Exhaust O2 Concentration	14.56%
Exhaust CO2 Concentration	3.65%
Exhaust Rate (dscfm)	217,058
Exhaust Rate (dscfm @ 15% O2)	233,245
Exhaust Rate (dscfm @ 12% CO2)	70,945
Hourly Utilization	100%
Daily Utilization	100%
Annual Utilization	100%

Device	Gas Turbine
Make	GE
Model	LM6000PC
Fuel	Natural Gas

Pollutant	Exhaust Concentraton (ppmvd @ 15% O2)	Emission Factors (lb/MMBtu)	Maximum Emissions		
			Hourly (lb)	Daily (lb)	Annual (tons)
CO	6.0	0.013	6.19	149	27.1
NOx	5.0	0.018	8.48	204	37.1
PM10 ---->gr/dscf	0.0041	0.0053	2.50	60.0	11.0
SOx	0.14	0.0007	0.33	7.86	1.43
VOC (as CH4)	2.0	0.0025	1.18	28.3	5.17

Notes

Heat input rate (in MMBtu/hr), power generation, and exhaust O2 concentration provided by General Electric.

Exhaust CO2 concentration and exhaust flow rates calculated using Sierra combustion model.

Exhaust CO, NOx and VOC concentrations, in ppmvd @ 15% O2, reflect BACT. Hourly emissions were calculated from the exhaust concentrations, and exhaust flow rates.

Hourly PM10 emission rate based upon manufacturer's guarantee for an LM6000 turbine at the Sacramento Cogeneration Authority. Exhaust PM10 concentrations (in gr/dscf @ 12% CO2) were calculated from the hourly emission rate and exhaust flow rate.

CO, NOx, PM10, and VOC emission factors (in lb/MMBtu) were calculated from the emission rates and the heat input rates (in MMBtu).

SO2 emission factor (in lb/MMBtu) based upon a fuel sulfur content of 4 ppmv. Hourly SOx emissions were calcuated from the emissions factor (in lb/MMBtu) and the heat input rate (MMBtu/hr). Exhaust SO2 concentrations (in ppmv @ 15% O2) were calculated from the hourly emission rate and exhaust flow rate.

Daily and annual emissions were calculated from the hourly emissions and the utilization.

CALPINE KING CITY COGENERATION, LLC
KING CITY POWER PLANT
PEAKER COMBUSTION GAS TURBINE AUTHORITY TO CONSTRUCT

MAXIMUM QUARTERLY EMISSIONS - EXISTING FACILITY

	Maximum Quarterly Emissions (lb)			
Pollutant	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
CO	42,953	43,431	43,908	43,908
NOx	65,392	66,118	66,845	66,845
PM10	5,425	5,485	5,545	5,545
SOx	1,035	1,047	1,059	1,059
VOC (as CH4)	2,170	2,194	2,218	2,218

HISTORICAL EMISISON REDUCTIONS - EXISTING FACILITY

	Maximum Quarterly Emissions (lb)			
Pollutant	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
CO	(24,411)	(24,682)	(24,953)	(24,953)
NOx	(20,762)	(20,992)	(21,223)	(21,223)
PM10	(1,677)	(1,695)	(1,714)	(1,714)
SOx	(1,233)	(1,247)	(1,260)	(1,260)
VOC (as CH4)	(11,441)	(11,568)	(11,695)	(11,695)

MAXIMUM QUARTERLY EMISSIONS - NEW LM6000PC COMBUSTION GAS TURBINE

	Maximum Quarterly Emissions (lb)			
Pollutant	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
CO	13,378	13,527	13,676	13,676
NOx	18,316	18,519	18,723	18,723
PM10	5,400	5,460	5,520	5,520
SOx	707	715	723	723
VOC (as CH4)	2,548	2,577	2,605	2,605

Notes

Maximum facility emissions do not include cooling tower emissions.

Maximum existing facility emissions are limited to the maximum emissions for the existing turbine

Historical emission reductions occurred when the cogeneration plant was installed to replace the direct contact dryers at the BAF facility.

Maximum quarterly emissions from the new LM6000 turbine were calculated from the maximum daily emisisons and a 100% utilization.

CALPINE KING CITY COGENERATION, LLC
KING CITY POWER PLANT
PEAKER COMBUSTION GAS TURBINE AUTHORITY TO CONSTRUCT

MAXIMUM POTENTIAL TOXIC AIR CONTAMINANT EMISSIONS - LM6000 TURBINE

Parameter	Maximum Daily
Design Ambient Temp (F)	33.9
Maximum Heat Input (MMBtu/hr @ HHV)	467.6
Power Output (kW)	0.0
Hourly Utilization	100%
Annual Utilization	100%

Device	Gas Turbine
Make	General Electric
Model	LM6000PC
Fuel	Natural Gas
HHV (Btu/scf)	1,010

Pollutant	Emission Factor (lb/mmcf)	Maximum Emissions	
		Hourly (lb/hr)	Annual (lb/yr)
Acetaldehyde	0.137	0.0634	556
Acrolein	0.0189	0.00875	77
Ammonia (ppmv)	10	6.27	54,902
Benzene	0.0133	0.00616	54
Benzo(a)anthracene	0.0000226	0.000010	0.1
Benzo(a)pyrene	0.0000139	0.00001	0.1
Benzo(b)fluoranthene	0.0000113	0.0000	0.05
Benzo(k)fluoranthene	0.000011	0.000	0.04
1,3-Butadiene	0.000127	0.00006	0.5
Chrysene	0.0000252	0.00001	0.1
Dibenz(a,h)anthracene	0.0000235	0.000	0.1
Ethylbenzene	0.0179	0.0083	73
Formaldehyde	0.917	0.4245	3,719
Hexane	0.259	0.1199	1,050
Indeno(1,2,3-cd)pyrene	0.0000235	0.0000	0.1
Naphthalene	0.00166	0.0008	7
Propylene	0.77	0.3565	3,123
Propylene oxide	0.0478	0.0221	194
Toluene	0.0710	0.0329	288
Xylene	0.0261	0.0121	106
TOTALS		7.32	64,149

Notes

Fuel consumption (in MMBtu/hr) and power generation provided by General Electric.
Higher heating value based upon Southern California pipeline quality natural gas.
Emission factors obtained from the CATEF database.
Ammonia emission factor based upon 10 ppmv ammonia slip from the SCR system.
PAHs do not include naphthalene, which is quantified separately.

Attachment 4

Calculation of Facility Emissions and Net Emission Increases

CALPINE KING CITY COGENERATION, LLC
KING CITY POWER PLANT
PEAKER COMBUSTION GAS TURBINE AUTHORITY TO CONSTRUCT

MAXIMUM EXISTING FACILITY EMISSIONS

	Maximum Potential Emissions (tpy)				
Pollutant	EA-7001 Turbine	Auxiliary Boiler	Auxiliary Boiler	LM6000 Turbine	Combined
CO	82.0	11.6	11.6	N/A	82.0
NOx	130	31.8	31.8	N/A	130
PM10	11.0	2.63	2.63	N/A	11.0
SOx	2.19	0.37	0.37	N/A	2.19
VOC	4.38	0.88	0.88	N/A	4.38

MAXIMUM PROPOSED FACILITY EMISSIONS

	Maximum Potential Emissions (tpy)				
Pollutant	EA-7001 Turbine	Auxiliary Boiler	Auxiliary Boiler	LM6000 Turbine	Combined
CO	82.0	11.6	11.6	27.1	109
NOx	130	31.8	31.8	37.1	130
PM10	11.0	2.63	2.63	11.0	21.9
SOx	2.19	0.37	0.37	1.43	3.62
VOC	4.38	0.88	0.88	5.17	9.55

Notes

Maximum facility emissions do not include cooling tower emissions.

Maximum existing facility emissions are limited to the maximum emissions for the existing turbine

Maximum proposed facility NOx emissions are limited to the maximum NOx emissions for the the existing turbine. Maximum proposed facility emissions for the other pollutants are limited to the maximum emissions for the both turbines.

CALPINE KING CITY COGENERATION, LLC
KING CITY POWER PLANT
PEAKER COMBUSTION GAS TURBINE AUTHORITY TO CONSTRUCT

NET EMISSION INCREASE - EXISTING FACILITY

	Maximum Potential Emissions (lb/day)					Offset	
Pollutant	EA-7001 Turbine	Auxiliary Boiler	Auxiliary Boiler	Cumulative Offsets	Combined	Threshold (lb/day)	Major Source?
CO	480	63.6	63.6	(271)	336	550	No
NOx	722	174	174	(231)	840	137	Yes
PM10	60.0	14.4	14.4	(18.6)	70	82	No
SOx	12.0	2.04	2.04	(13.7)	2.38	150	No
VOC	24.0	4.80	4.80	(127)	(93.5)	137	No

NET EMISSION INCREASE - MODIFIED FACILITY

	Maximum Potential Emissions (lb/day)					Offset	
Pollutant	EA-7001 Turbine	Auxiliary Boiler	Auxiliary Boiler	LM6000 Turbine	Combined Less Offsets	Threshold (lb/day)	Major Source?
CO	480	63.6	63.6	149	485	550	No
NOx	722	174	174	204	1,043	137	Yes
PM10	60.0	14.4	14.4	60.0	130	82	Yes
SOx	12.0	2.04	2.04	28.3	30.7	150	No
VOC	24.0	4.80	4.80	7.86	(85.7)	137	No

Notes
Maximum combined emissions do not include cooling tower emissions.

CALPINE KING CITY COGENERATION, LLC
KING CITY POWER PLANT
PEAKER COMBUSTION GAS TURBINE AUTHORITY TO CONSTRUCT

NET EMISSION INCREASE - EXISTING FACILITY

Pollutant	Maximum Quarterly Emissions (lb)			
	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr
CO	18,542	18,749	18,955	18,955
NOx	44,630	45,126	45,622	45,622
PM10	3,748	3,790	3,831	3,831
SOx	(198)	(200)	(201)	(201)
VOC	(9,271)	(9,374)	(9,477)	(9,477)

NET EMISSION INCREASE - NEW LM6000 TURBINE

Pollutant	Maximum Quarterly Emissions (lb)			
	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr
CO	13,378	13,527	13,676	13,676
NOx	0	0	0	0
PM10	5,400	5,460	5,520	5,520
SOx	707	715	723	723
VOC	2,548	2,577	2,605	2,605

NET EMISSION INCREASE - MODIFIED FACILITY

Pollutant	Maximum Quarterly Emissions (lb)			
	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr
CO	31,920	32,276	32,630	32,630
NOx	44,630	45,126	45,622	45,622
PM10	9,148	9,250	9,351	9,351
SOx	509	515	521	521
VOC	(6,723)	(6,798)	(6,872)	(6,872)

OFFSET REQUIREMENTS

Pollutant	Emission Increase (lb)			
	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr
CO	N/A	N/A	N/A	N/A
NOx	N/A	N/A	N/A	N/A
PM10	9,148	9,250	9,351	9,351
SOx	N/A	N/A	N/A	N/A
VOC	N/A	N/A	N/A	N/A

Notes

Net emission increases do not include cooling tower emissions.

Net emission increases include net reductions from the replacement of the dryers at the BAF facility.

Net NOx emisison increase for the modified facility reflects a quarterly NOx emission limit for the combined turbines equal to the current quarterly limit for the existing turbine.

Appendix E — King City Fire District Ability-To-Serve Letter

CALPINE

KING CITY COGENERATION
750 METZ ROAD
KING CITY, CALIFORNIA 93930
831.385.4090
831.385.6683 (fax)

March 23, 2001

Mr. Lonnie Silva
Fire Chief, King City Fire Department
422 Bassett Street
King City, CA 93930

Dear Mr. Silva:

As you probably know, Calpine Corporation owns and operates a power plant in King City. We currently have plans to expand this plant by 50 MWs and at this time, are in the process of preparing an application to the California Energy Commission for this expansion. This project is intended to help provide relief to California's current energy crisis.

As part of our permit application to the California Energy Commission, we must include a letter from the King City Fire Department indicating the Fire Department's ability to serve the project. The project will comply with the Uniform Fire Code requirements and Calpine will work with the Fire Department during detailed design to ensure that these requirements are met.

I would appreciate it if you could provide Calpine with an ability to serve letter. We intend to submit our application to the California Energy Commission the beginning of April.

Thank you for you time and consideration of this issue. If you have any questions, please do not hesitate to contact me at (831) 385-4090x13. Thank you.

Sincerely,

Steve Bean
Plant Manager

cc: George Martinez
Dave Van Etten

KING CITY
CALIFORNIA

RECEIVED
MAR 31 2001

March 27, 2001

Mr. Steve Bean
Plant Manager, Caipine Corp.
750 Metz Rd.
King City, CA 93930

Dear Mr. Bean:

The purpose of this letter is to inform you that fire suppression services would be readily available for Calpine's expansion of its plant at 750 Metz Road in King City.

Please feel free to call me if I can be of further assistance.

Sincerely,

Lonnie Silva
Fire Chief

Appendix F — Foster Wheeler Letter to NAHC

FOSTER WHEELER
FOSTER WHEELER ENVIRONMENTAL CORPORATION

March 26, 2001

Ms. Debbie Pilas-Treadway
Native American Heritage Commission
915 Capital Mall, Room 364
Sacramento, California 95814

Subject: REQUEST FOR NATIVE AMERICAN REFERRALS AND SACRED LANDS FILE REVIEW FOR THE KING CITY LM 6000 ENERGY GENERATION PROJECT IN MONTEREY COUNTY

Dear Ms. Pilas-Treadway:

Calpine is proposing to build the King City LM 6000 Project in response to the state of emergency declared by Governor Davis in response to the shortage of electricity. Governor Davis issued several executive orders on February 8, 2001. Executive Order D-26-01 directs the California Energy Commission (CEC) to expedite the review and approval of peaking power projects that can be on-line in the summer of 2001. All such proposals are considered emergency projects under Public Resources Code section 21080(b)(4). Foster Wheeler Environmental Corporation is assisting Calpine in preparing the environmental assessment for the emergency CEC filing for this project.

The King City Project will be a 50-megawatt (MW), nominal gross output natural-gas fired simple-cycle peaking facility located adjacent to an existing King City Co-Gen facility.

The King City Project vicinity is shown on the attached map and the legal description is provided below.

King City Project vicinity:

San Lucas 7.5 USGS Quad Map-T20S, R8E, unsectioned
Thompson Canyon 7.5 USGS Quad Map-T20S, R8E, unsectioned

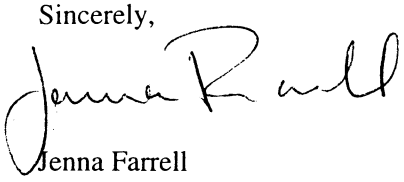
Construction for this facility is planned for the summer of 2001, and we are in the process of preparing our application for the CEC.

We are requesting that you provide us with the names and addresses of potentially affected and interested Native American individuals and organizations to include in a mailing list for notification of the project. Please also notify us if there are any locations that are included in your Sacred Lands Inventory within the project vicinity.

Due to the current critical energy crisis in California, we would like to expedite the cultural resource notification response. Please reference the "King City Project" in your correspondence, and send the information to the FAX number at the bottom of this page. You can contact me at (916) 928-0202 if you have any questions. We greatly appreciate your immediate attention to this matter.

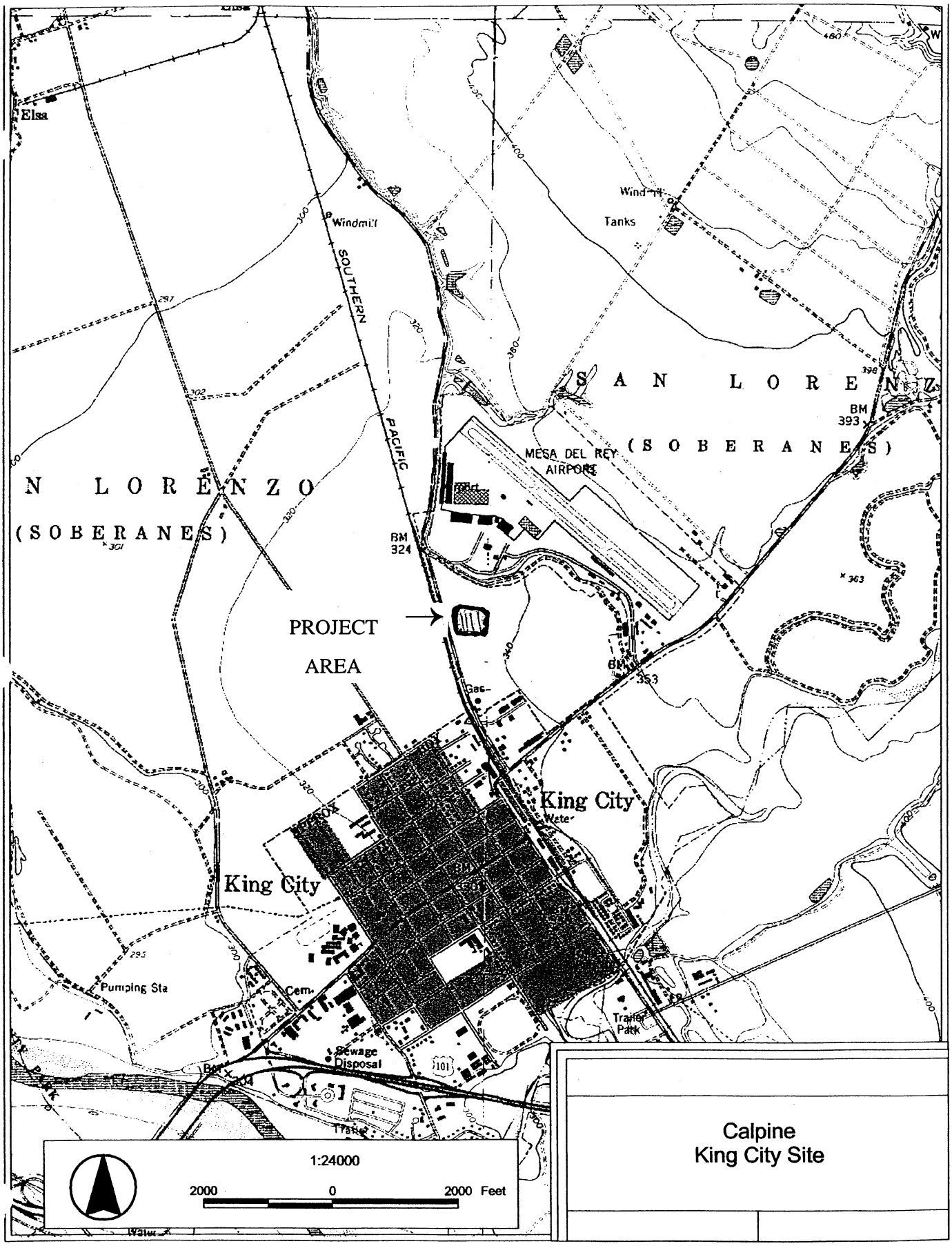
3927 LENNANE DRIVE, SUITE 200, SACRAMENTO, CALIFORNIA 95834-1957
TEL: 916-928-0202 FAX: 916-928-0594

Sincerely,



Jenna Farrell
Cultural Resource Specialist

c: L. Sicuranza and K. Doherty, Foster Wheeler Environmental
B. McDonald, Calpine


Elsa
Windmill
SOUTHERN PACIFIC
Wind Mill
Tanks
S A N L O R E N Z
(S O B E R A N E S)
BM 393
MESA DEL REY AIRPORT
N L O R E N Z O
(S O B E R A N E S)
BM 324
PROJECT AREA
BM 353
King City
King City
Pumping Sta
Cem.
Sewage Disposal
Trailer Park
101
1:24000
2000 0 2000 Feet
Calpine
King City Site

Please Type or Print on This Form

Form Approved OMB No. 2120-0001

U.S. Department of Transportation
Federal Aviation Administration

Failure To Provide All Requested Information May Delay Processing of Your Notice

Notice of Proposed Construction or Alteration

FOR FAA USE ONLY
Aeronautical Study Number
- - -

1. Sponsor *(person, company, etc. proposing this action)* :
Attn. of: Stephen Bean
Name: Calpine King City
Address: 750 Metz Road
City: King City State: CA Zip: 93930
Telephone: (831)385-4090 x13 Fax: (831)385-6683

2. Sponsor's Representative *(if other than #1)* :
Attn. of: Kellie M. Doherty
Name: Foster Wheeler Environmental Corp.
Address: 133 Federal Street
6th Floor
City: Boston State: MA Zip: 02110
Telephone: (617)457-8267 Fax: (617)457-8498

3. Notice of: ☒ New Construction ☐ Alteration ☐ Existing

4. Duration: ☒ Permanent ☐ Temporary (months, days)

5. Work Schedule: Beginning May 2001 End July 2001

6. Type: ☐ Antenna Tower ☐ Crane ☐ Building ☐ Power Line
☐ Landfill ☐ Water Tank ☒ Other Exhaust Stack

7. Marking/Painting and/or Lighting Preferred:
☐ Red Lights and Paint ☐ Dual - Red and Medium Intensity White
☐ White - Medium Intensity ☐ Dual - Red and High Intensity White
☐ White - High Intensity ☒ Other No Preference

8. FCC Antenna Structure Registration Number *(if applicable)*:
N/A

9. Latitude: 36 ° 13 ' 30 . 0 " North

10. Longitude: 121 ° 07 ' 35 . 0 " West

11. Datum: ☐ NAD 83 ☒ NAD 27 ☐ Other

12. Nearest: City: King State: California

13. Nearest Public-use (not private-use) or Military Airport or Heliport:
King City (Mesa Del Rey) Airport

14. Distance from #13. to Structure: 2,000 feet

15. Direction from #13. to Structure: Southwest

16. Site Elevation *(AMSL)*: 345 ft.

17. Total Structure Height *(AGL)*: 75 ft.

18. Overall height (#16. + #17.) *(AMSL)*: 410 ft.

19. Previous FAA Aeronautical Study Number (if applicable):

20. Description of Location: (Attach a USGS 7.5 minute Quadrangle Map with the precise site marked and any certified survey.)
The project site and airport are on the San Lucas and Thompson Canyon USGS 7.5 minute quadrangle (proximal to Metz Road and Airport Road.) Please refer to the attached figures with the site marked.

21. Complete Description of Proposal:

The King City Project will be a 50-MegaWatt (MW), natural-gas fired simple-cycle fire peaking facility located on a cleared and graded portion of the existing King City Co-Gen facility property. The tallest new structure will be the single 75 foot exhaust stack.

Calpine is proposing the King City Project in response to the state of emergency declared by Governor Davis on January 17, 2001 and several executive orders issued on February 8, 2001.

Frequency/Power (kW)	

Notice is required by 14 Code of Federal Regulations, part 77 pursuant to 49 U.S.C., Section 44718. Persons who knowingly and willingly violate the notice requirements of part 77 are subject to a civil penalty of $1,000 per day until the notice is received, pursuant to 49 U.S.C., section 46301 (a).

I hereby certify that all of the above statements made by me are true, complete, and correct to the best of my knowledge. In addition, I agree to mark and/or light the structure in accordance with established marking and lighting standards as necessary.

Date	Typed or Printed name and Title of Person Filing Notice	Signature
4/9/01	Kellie Doherty	Kellie M. Doherty

FAA Form 7460-1 (2-99) Supersedes Previous Edition

NSN: 0052-00-012-0008

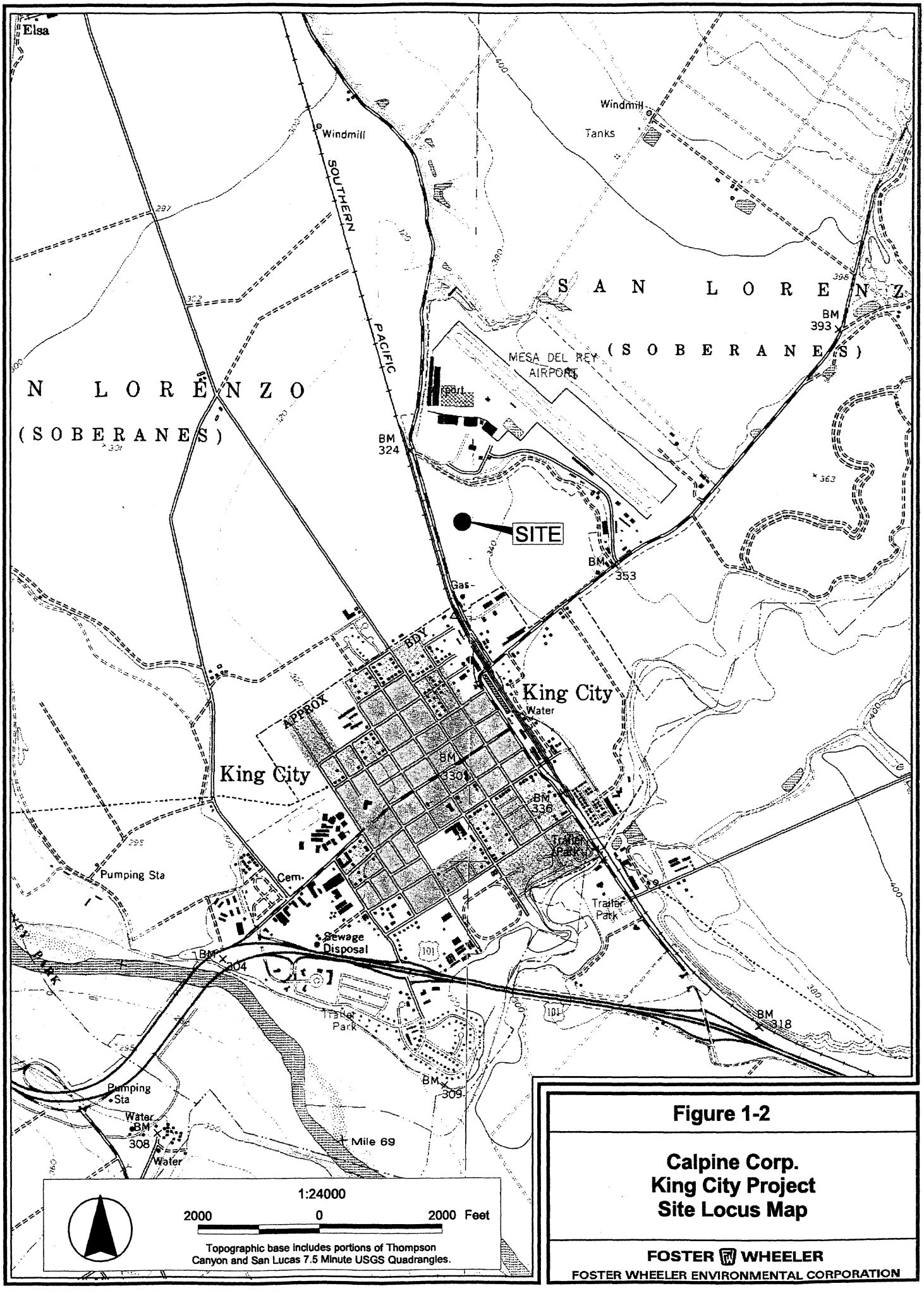


Figure 1-2

Calpine Corp.
King City Project
Site Locus Map

FOSTER WHEELER
FOSTER WHEELER ENVIRONMENTAL CORPORATION

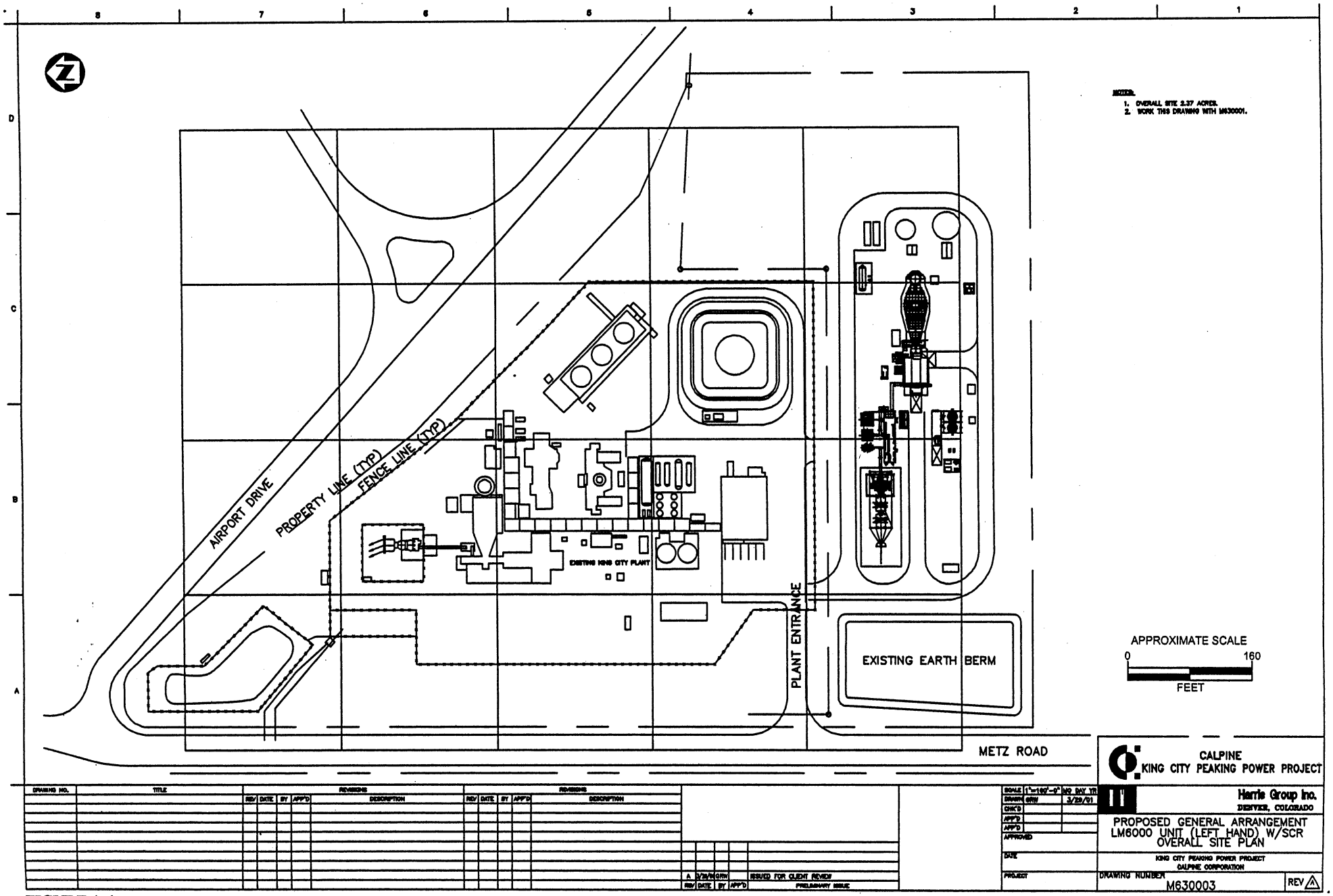

NOTES:
1. OVERALL SITE 2.37 ACRES.
2. WORK THIS DRAWING WITH M630001.
AIRPORT DRIVE
PROPERTY LINE (TYP)
FENCE LINE (TYP)
EXISTING KING CITY PLANT
PLANT ENTRANCE
EXISTING EARTH BERM
METZ ROAD
APPROXIMATE SCALE
0
160
FEET
CALPINE
KING CITY PEAKING POWER PROJECT
Harris Group Inc.
DENVER, COLORADO
PROPOSED GENERAL ARRANGEMENT
LM6000 UNIT (LEFT HAND) W/SCR
OVERALL SITE PLAN
KING CITY PEAKING POWER PROJECT
CALPINE CORPORATION
DRAWING NUMBER
M630003
REV
DRAWING NO.
TITLE
REVISIONS
REV DATE BY APP'D DESCRIPTION
A 3/30/01 GRW ISSUED FOR CLIENT REVIEW
PRELIMINARY ISSUE
SCALE 1"=160'-0"
DRAWN GRW 3/29/01
CHK'D
APP'D
APP'D
APPROVED
DATE
PROJECT

FIGURE 1-4

Appendix H – Draft Revisions to King City Facility SPCC Plan

Introduction

Calpine has a certified SPCC Plan for the King City Co-Gen facility (Attached). Calpine will modify the plan to incorporate the project. This document outlines revisions to the existing SPCC plan for the King City power generation facility that are necessitated by the addition of the LM6000 generating unit and associated equipment. The primary changes are due to the addition of new oil-filled transformers and other equipment, and changes to site drainage. Oil-filled equipment is identified in Section 7.0, Hazardous Materials. Site drainage will be finalized during the SWPPP permit process. When final site drainage information is available, the revisions will be finalized, and the SPPC plan will be amended and signed by a California registered professional engineer.

Draft Revisions (by plan sections)

2.0 SPILL POTENTIAL

This section to be revised to include the quantities of oil stored in oil-filled equipment for the LM6000 generating unit and to update the total amount of oil stored on site.

3.2 FACILITY DESCRIPTION

This section to be revised to include a description of the LM6000 generating unit and associated equipment.

3.3 DESCRIPTION OF FACILITY OIL USAGE AND STORAGE

This section to be revised to include a description of the oil-filled equipment associated with the LM6000 generating unit.

3.4 CONTAINMENT SYSTEMS

This section will be revised to describe the containment systems for the oil-filled equipment associated with the LM6000 generating unit.

3.5 SITE DRAINAGE

This section to be revised to reflect the final site drainage plan for the installation of the LM6000 facility.

5.2 SECONDARY CONTAINMENT DESIGN

This section to be revised to discuss containment design for the LM6000 generating unit and associated equipment.

Figure 3-2 Facility Layout

This figure will be revised to include the equipment lay out of the LM6000 generating facility. (See Figure 1-4 of this Application.)

Figure 4-1 Site Drainage Plan

This figure will be revised to incorporate the drainage plan for the site of the LM6000 generating facility.

SPILL PREVENTION CONTROL & COUNTERMEASURES PLAN

Calpine King City Cogeneration, LLC
King City Power Plant

King City, California

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TABLE OF CONTENTS (Continued)

LIST OF FIGURES AND TABLES

MANAGEMENT APPROVAL

The King City Power Plant Spill Prevention, Control & Countermeasures Plan has the full approval of facility management at a level with authority to commit the necessary resources. This is demonstrated by the approval signature shown below.

RWS Callery — 2-25-98

Robert Callery, Plant Manager, Calpine Corporation — date

PROFESSIONAL ENGINEER CERTIFICATION

Facility Name:

American I Cogeneration Facility

Facility Location:

750 Metz Road
King City, California 93930

Owner Name: BAF Energy, Inc.

Owner Address:

600 Montgomery Street, 28th Floor
San Francisco, California 94111

Emergency Response Coordinators:

Primary: Robert Callery, Plant Manager
(408) 385-4090 Office Phone Number
(805) 239-8929 Emergency Phone Number

Secondary: Robert Pettit, Plant Engineer
(408) 385-4090 Office Phone Number
(805) 239-9039 Emergency Phone Number

Current Operation: Cogeneration of Electricity and Steam

Certification: I hereby certify that I have examined the facility and being familiar with the provisions of 40 CFR, Part 112 attest that this SPCC Plan has been prepared in accordance with good engineering practices.

REGISTERED PROFESSIONAL ENGINEER
DAVID ZWEIG
No. C 048031
Exp. 12/31/95
CIVIL
STATE OF CALIFORNIA

Name: David Zweig
Signature: [signature]
Date: 3/23/95

ENVIRONMENTAL SCIENCE ASSOC.
1930 NINTH STREET, SUITE 220
SACRAMENTO, CA 95814-7044

1.0 SPILL HISTORY

Reportable spill events are defined as:

1. discharges of more than 42 U.S. gallons (approximately 1 barrel) into navigable waters in a single spill event (as per California Health and Safety Code, Division 20, Chapter 6.67, § 25270.8)

2. discharges of more than 1,000 U.S. gallons (approximately 24 barrels) into navigable waters in a single spill event (as per 40 CFR Part 112, §112.4); or

3. discharges of oil in harmful quantities, as defined in 40 CFR Part 110, into navigable waters in two spill events within any 12-month period.

1.1 SPILL HISTORY

The facility has never experienced a reportable oil spill event. Future reportable spill events will be recorded in Attachment B. The Spill Reporting Plan and an example of a written spill report is located at the end of Attachment B.

2.0 SPILL POTENTIAL

The purpose of this Spill Prevention Control & Countermeasure (SPCC) Plan is the establishment of policy and procedures for the control of discharges of oil and hazardous substances at the King City Power Plant, classified as an onshore facility not associated with the production of oil.

The statutory requirement for this document is shown in Attachment A and can be cited as 40 CFR Part 112, *Oil Pollution Prevention* and Part 114, *Civil Penalties for Violation of Oil Pollution Prevention Regulations* (Federal requirements) and California Health and Safety Code, Division 20, *Miscellaneous Health and Safety Provisions*, Chapter 6.67, *Aboveground Storage of Petroleum* (State requirements).

Oil is stored at seven different locations on-site in the following quantities:

Fuel Oil Bulk Storage Tank	241,000 gallons
Steam Turbine Lube Oil Storage Tank	1,585 gallons
Gas Turbine Lube Oil Storage Tank	2,500 gallons
Hydraulic Oil Storage Tank	105 gallons
Diesel Fire Pump Fuel Oil Tank	250 gallons
Oil Barrel Storage	330 gallons
Spare 4160/480 VAC Transformer	385 gallons
Total On-Site Oil Storage	245,770 gallons

2.2 POTENTIAL SPILLS

Because of the potential for large earthquakes in the state of California, there is the potential for spills from all the oil storage tanks. The probability for this occurring during the lifetime of the facility is beyond the scope of a SPCC and will therefore not be considered in detail in this document. The entire facility, however, was designed and built to meet or exceed applicable seismic standards, as described in detail in Sections 5.0 and 6.2. Large oil spills will be contained in the provided secondary containments or in the sedimentation pond in the event of either failure of the secondary containment or no secondary containment in the case of the three small transformers.

A reasonable potential for spills exists during tank truck unloading operations and during normal operations due to equipment failure rates of pipes and pipe fittings. These are discussed below.

2.2.1 Tank Truck Unloading Operations

Tank trucks with a capacity of approximately 3,500 gallons unload fuel oil into the fuel oil bulk storage tank on an as-needed basis. Because fuel oil is a backup fuel to be used only during a natural gas curtailment or during infrequent testing of the auxiliary boilers and operator training for fuel oil firing, the normal daily throughput is zero gallons. Testing of the auxiliary boilers for fuel oil firing, which may occur annually, will consume approximately 30 gallons of oil and require one (1) tank truck to unload fuel oil every five years. Reasonable potential spills include:

1. Potential connection fitting or hose failure has the potential for releasing 11 gallons at a rate of 10 gallons per minute for 1.1 minutes prior to operator action including halting the oil release. This release would occur in the truck unloading area outside of the fuel oil bulk storage tank. This area is sloped such that a volume of 120 cubic feet can be contained and has a drain that is routed to the oil/water separator.

2. Potential operator error where tank truck leaves prior to disconnecting unloading hose. Accidents of this type have the potential to release 500 gallons at a rate of 100 gallons per minute for 5 minutes prior to operator action including halting the oil release. This release would occur in the truck unloading area outside of the fuel oil bulk storage tank. This area is sloped such that a volume of 120 cubic feet (approximately 900 gallons) can be contained and has a drain that is routed to the oil/water separator.

2.2.2 Pipe and Pipe-Fitting Failure Rates

Pipe and pipe-fitting failures, if undetected, have the potential to release the entire contents of the fuel oil bulk storage tank. If the failure occurs inside the containment area, then detection may not occur until after the release. Operator personnel would open containment drain valves and allow the spilled oil to flow to the oil/water separator, where the treated water is released to the sedimentation pond and the accumulated waste oil is removed off-site for recycling by a licensed waste oil hauler.

If the failure occurs outside the containment area, then detection is highly likely to occur within 5 minutes during normal operating hours and otherwise within 20 minutes. A release rate of 10 gallons per minute would result in releases of 50 gallons and 200 gallons. These releases occurring outside of the fuel oil bulk storage tank would flow toward the sedimentation pond.

3.0 FACILITY & GENERAL AREA DESCRIPTION

3.1 FACILITY LOCATION

The facility is located at 750 Metz Road, King City, Monterey County, California, near the intersection of Airport Drive. The location can be described as Township 20 South, Range 8 East within the San Lorenzo (Sobrantes) Grant (NW ¼ Section 5, un-surveyed and projected, USGS Thompson Canyon, California, 7½ minute quadrangle, 1949, photo-revised 1979). The facility location is shown on Figure 3-1, which uses the USGS maps as background.

3.2 FACILITY DESCRIPTION

The King City Power Plant is a combined-cycle plant designed to produce both process steam for use in the adjacent Basic Vegetable Products (BVP) Facility and electricity for sale to Pacific Gas and Electric (PG&E). This cogeneration facility has been fully operational since May of 1989.

Approximately 87.7 megawatts (MW) can be generated by a single gas turbine generator. Heat rejected with the turbine exhaust gas is recovered in a heat recovery steam generator (HRSG). The steam produced by the HRSG can then be passed through a steam turbine that can generate a variable amount of electricity. The steam is extracted from the steam turbine at a maximum rate of 200,000 pounds per hour for use at BVP. As BVP uses more steam, the steam turbine will produce less electricity. Nominal electrical production for the King City Power Plant is 120 MW.

Figure 3-2 on page 8 shows the facility layout and the oil storage locations.

3.3 DESCRIPTION OF FACILITY OIL USAGE AND STORAGE

The facility is licensed to use natural gas as a primary fuel and fuel oil as a secondary fuel. Fuel oil is allowed only during natural gas curtailments and testing operation for the auxiliary boilers for a combined maximum of 240 full-load equivalent hours per calendar year.

In addition to the 241,000-gallon fuel oil bulk storage tank located inside an earthen berm secondary containment on the southeast corner of the facility (see Figure 3-2), there is a 250-gallon diesel fire pump oil tank located adjacent to the cooling tower structure.

In addition to the fuel oil tanks there are two (2) lube oil tanks, and one (1) hydraulic oil tank. There is a 2,500-gallon gas turbine lube oil storage tank located adjacent to the gas turbine and a 1,585-gallon steam turbine lube oil tank located adjacent to the steam turbine. The hydraulic oil storage tank contains 105 gallons

Additional oil stored on-site in 55-gallon drums is used to restore oil levels in the lube oil and hydraulic oil storage tanks. There are typically 3 drums of lube oil stored on-site in either the hazardous materials storage building or in the fuel oil forwarding area. The maximum number of drums stored on-site is six.

3.4 CONTAINMENT SYSTEMS

Each oil storage tank is located in a secondary containment area. Except for the fire pump fuel oil tank secondary containment, all of the secondary oil containment areas have normally closed drains that, when opened, gravity drain to the oil/water separator. Upon separation, the water is sent to the sedimentation pond for evaporation and the oil is accumulated for off-site recycling by a licensed waste oil hauler.

Any liquids that accumulate in the fire pump fuel oil tank secondary containment area must be hand-pumped into the oil/water separator.

The following other areas that could potentially be contaminated with oil are equipped with containment systems and are drained to the oil water separator:

The gas turbine is located in a secondary containment area that is equipped with a normally open drain that is routed to the oil/water separator.

The steam turbine is located in a secondary containment area that is equipped with a normally open drain that is routed to the oil/water separator.

The control building maintenance area is sloped such that any oil spilled will drain to the oil/water separator.

The truck unloading area is sloped such that a volume of 120 cubic feet is contained with a drain that is also routed to the oil/water separator.

The fuel oil unloading pump, the gas turbine fuel oil forwarding pump, and the auxiliary boiler fuel oil forwarding pump are located in a secondary containment area that is equipped with a normally open drain that is routed to the oil/water separator.

Site drainage is contained by the sedimentation pond (see Sections 3.5 and 4.0).

All of the secondary containments are constructed with concrete except for the 241,000-gallon fuel oil bulk storage tank, which is located on clay backfill inside a six (6) foot-high earthen (clay) berm. The earthen berm is in the shape of a square, with the inside bottom of the square having a dimension of 85 feet. The berm has a slope of 2:1 (2 horizontal feet for each vertical foot) and is three (3) feet wide at the top.

Section 5.2 contains drawings and other additional details of the on-site secondary containment systems.

3.5 SITE DRAINAGE

As far as surface water is concerned, the King City Power Plant is a no-discharge facility. The site has been graded such that the on-site flow of stormwater is toward the northwest where the sedimentation pond is located. The sedimentation pond is sized to contain the volume of stormwater from a 100-year storm. Stormwater in the sedimentation pond is typically allowed to evaporate but has been pumped by tank truck to BVP's water treatment facility following the historical 1993 storm.

Additionally, stormwater runoff from off-site is routed around the facility. See Section 4.0, Facility Drainage, for additional details.

3.6 TERRAIN

As seen on Figure 3-1, the overall terrain of the facility setting is a relatively flat area of the Salinas Valley on the northern fringe of the City of King. The area, separated from the center of King City by Metz Road and the Southern Pacific Railroad tracks, is surrounded by agricultural and industrial uses. The predominant visual feature of the site area is BVP's food processing plant which is located on a mesa 40 feet above and north of the site.

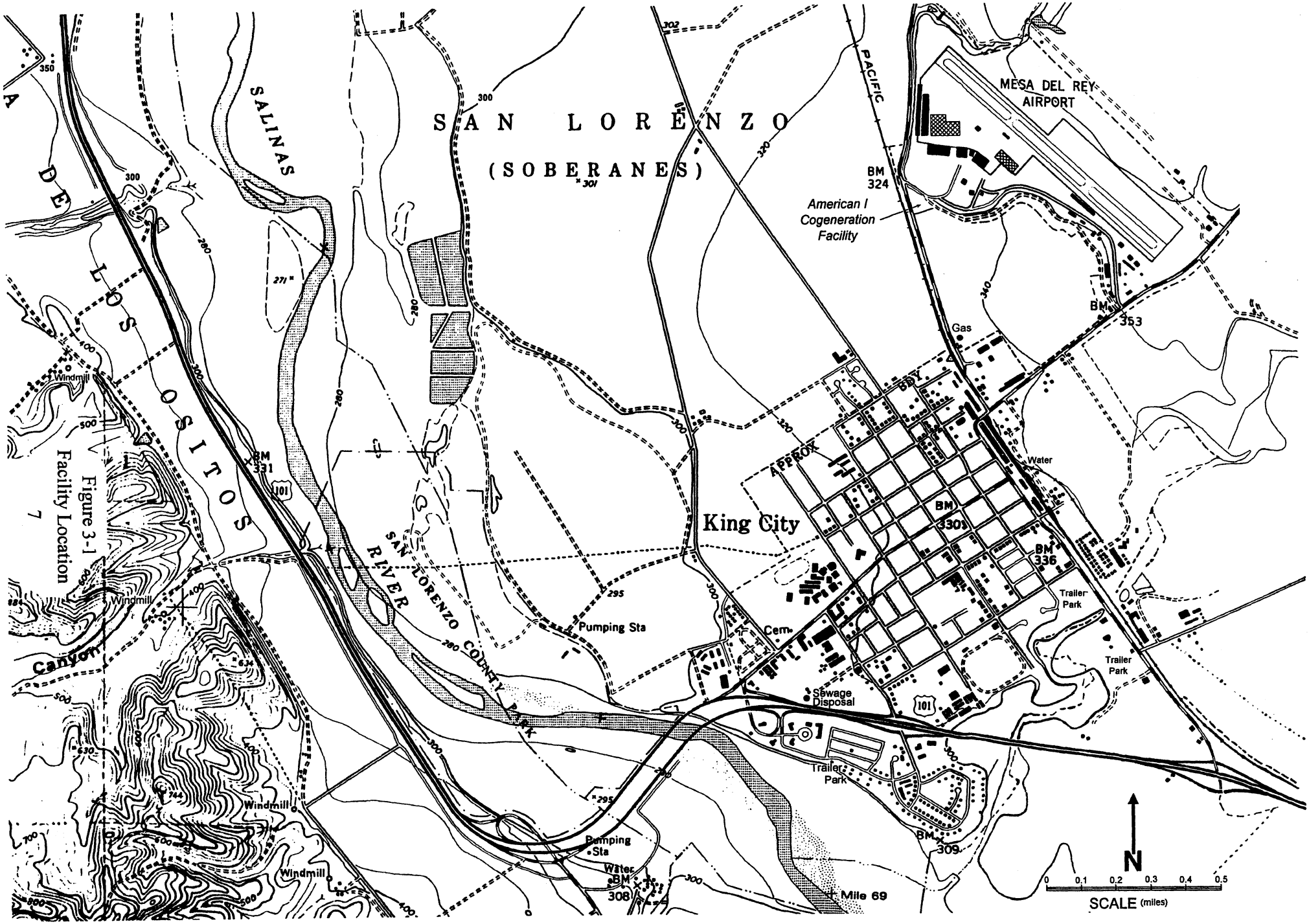


Figure 3-1
Facility Location

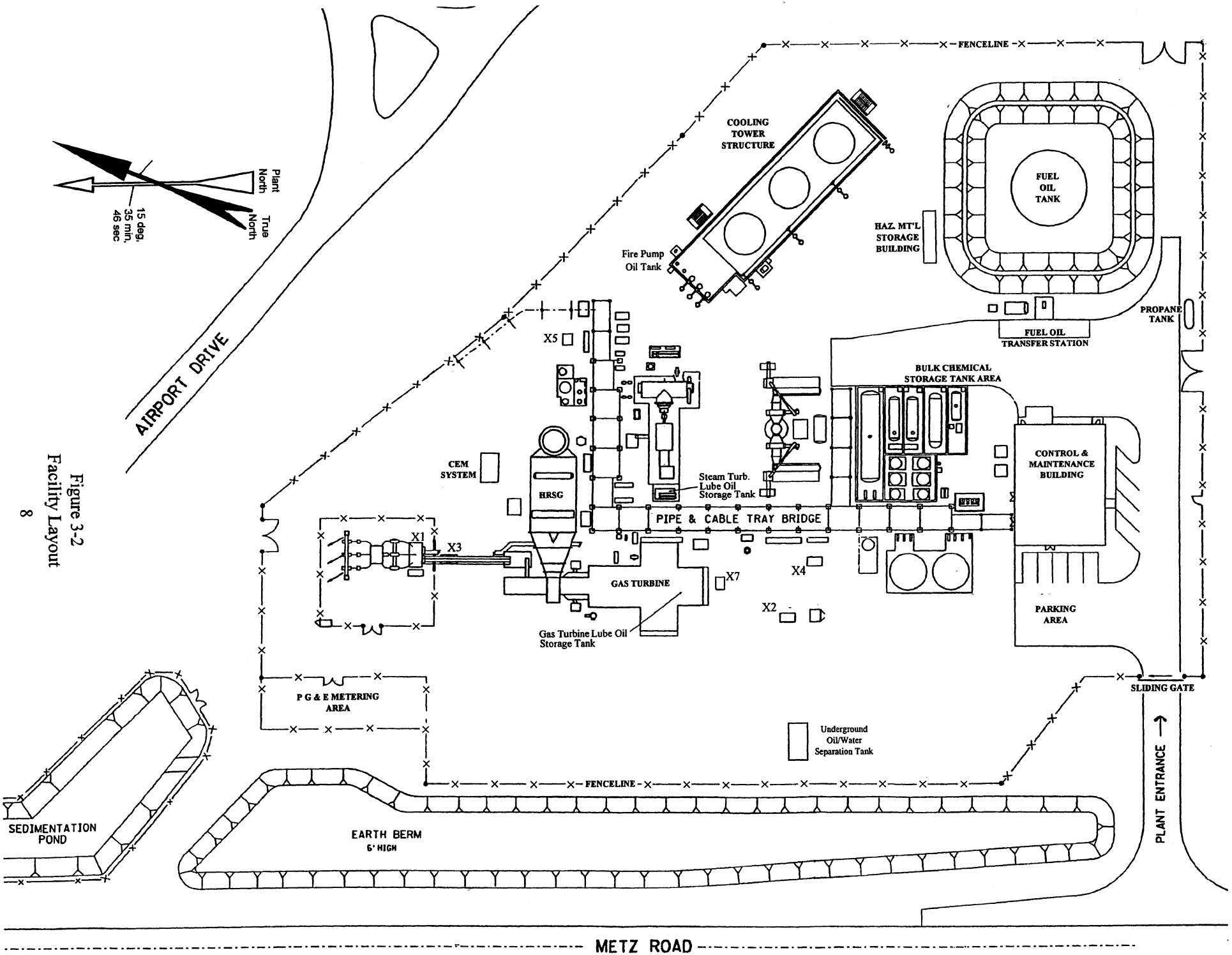


Figure 3-2
Facility Layout

4.0 FACILITY DRAINAGE

The King City Power Plant has been designed and is operated to contain surface water and to prevent its discharge. The site has been graded with a surface area slope that typically varies from 0.3 to 1.0 percent such that the on-site flow of stormwater is toward the northwest where the sedimentation pond is located. The sedimentation pond is sized to contain the volume of stormwater from a 100-year storm.

Figure 4-1 on page 11 shows the site drainage plan.

4.1 DIKED AREAS

The one diked area on-site is the square-shaped earthen berm constructed out of clay that surrounds the 241,000-gallon fuel oil bulk storage tank. The tank and earthen berm sit on clay backfill that has been graded to allow draining into a three foot (3') by four foot (4') catch basin located in the northwest corner of the bermed area. The catch basin drain pipe, located underground inside a guard pipe (see Section 5-1), is controlled by a normally closed valve and is routed to the oil/water separator. Upon separation, the water is sent to the sedimentation pond for evaporation and the oil is accumulated for off-site recycling by a licensed waste oil hauler. The guard pipe is a secondary pipe that was installed to prevent corrosion.

Figure 4-2 on page 12 shows the drainage for the area inside the earthen berm containing the fuel oil bulk storage tank.

4.2 SECONDARY CONTAINMENT AREAS

Drainage from secondary containments designed for oil storage is typically routed to the oil/water separator via normally open underground drain pipes inside guard pipes.

Secondary containments around the large transformers and the acid, caustic, hypochlorite and neutralizing tanks are not drained via built-in drain lines. The secondary containments will require manual draining with portable pumps. Spilled material will be disposed of according to existing rules and regulations by contracting with a regulated hazardous waste hauler, and will be manifested accordingly.

The fuel oil unloading pump, the gas turbine fuel oil forwarding pump, and the auxiliary boiler fuel oil forwarding pump are located in a secondary containment area that is equipped with a normally open drain. These underground drains are routed into the fuel oil storage tank drain downstream of the control valve such that these drains are continuously open to the oil/water separator.

4.3 UNCONTAINED AREAS

The truck unloading area is sloped such that a volume of 120 cubic feet is contained with a drain that is also routed to the oil/water separator in the same fashion as the drains located in the fuel oil pump containment area.

All other uncontained areas will gravity drain into the sedimentation pond (see Figure 4-1 on page 11).

4.4 RAINWATER DRAINAGE PROCEDURES

Flow from on-site rainwater and from facility washdown (outside of secondary containments) areas that are likely to be contaminated with oil is directed into the oil/water separator prior to discharge into the sedimentation pond. Other areas flow directly into the sedimentation pond. Off-site rainwater is directed around the facility with open ditches to reserve the capacity of the sedimentation pond for on-site rainwater storage/evaporation. Stormwater in the sedimentation pond is typically allowed to evaporate but has been pumped by tank truck to BVP's water treatment facility following the historical 1993 storm.

Periodically, when required, the sedimentation pond is re-excavated to retain the required volume to store a 100-year storm.

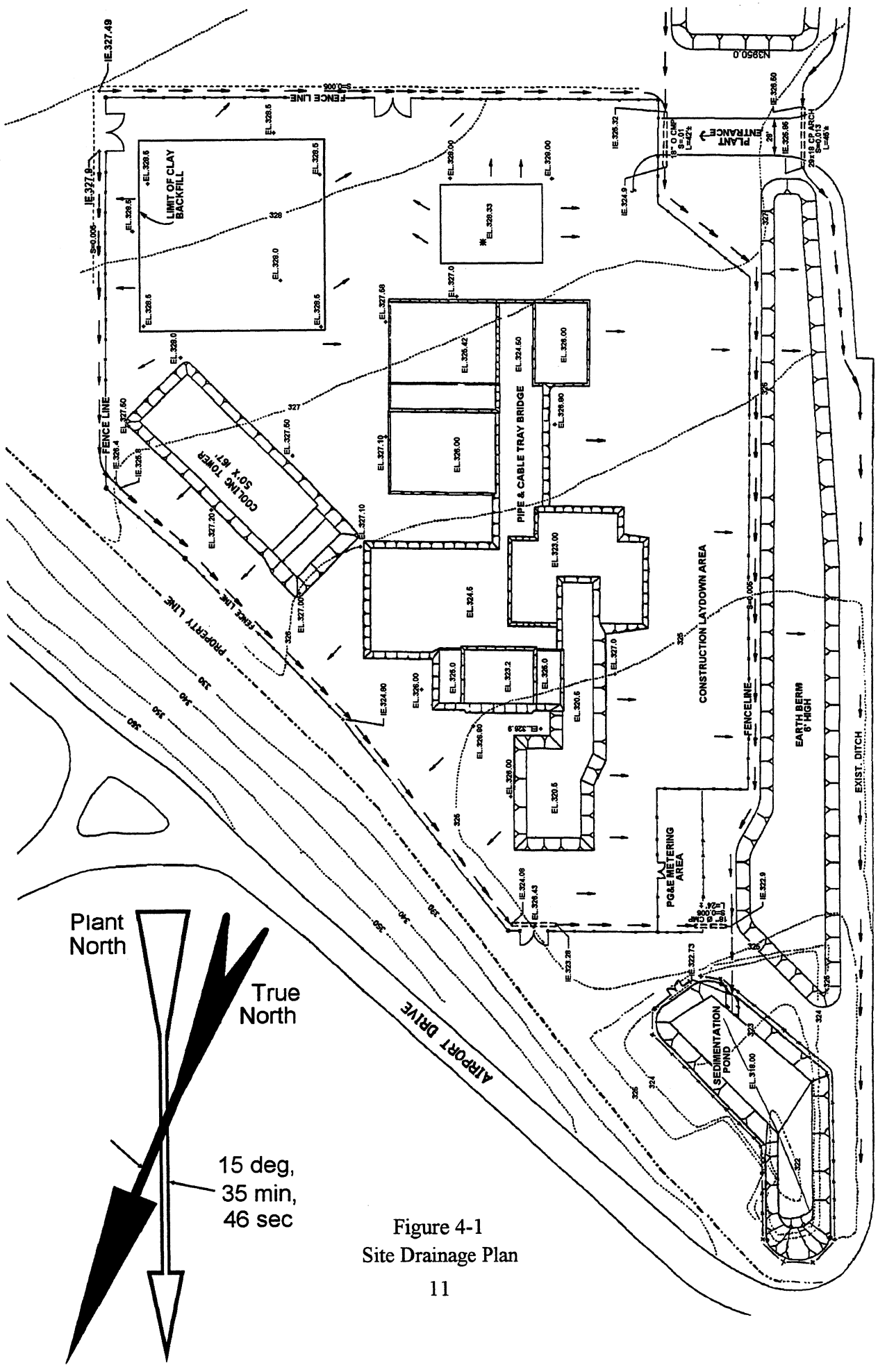


Figure 4-1
Site Drainage Plan

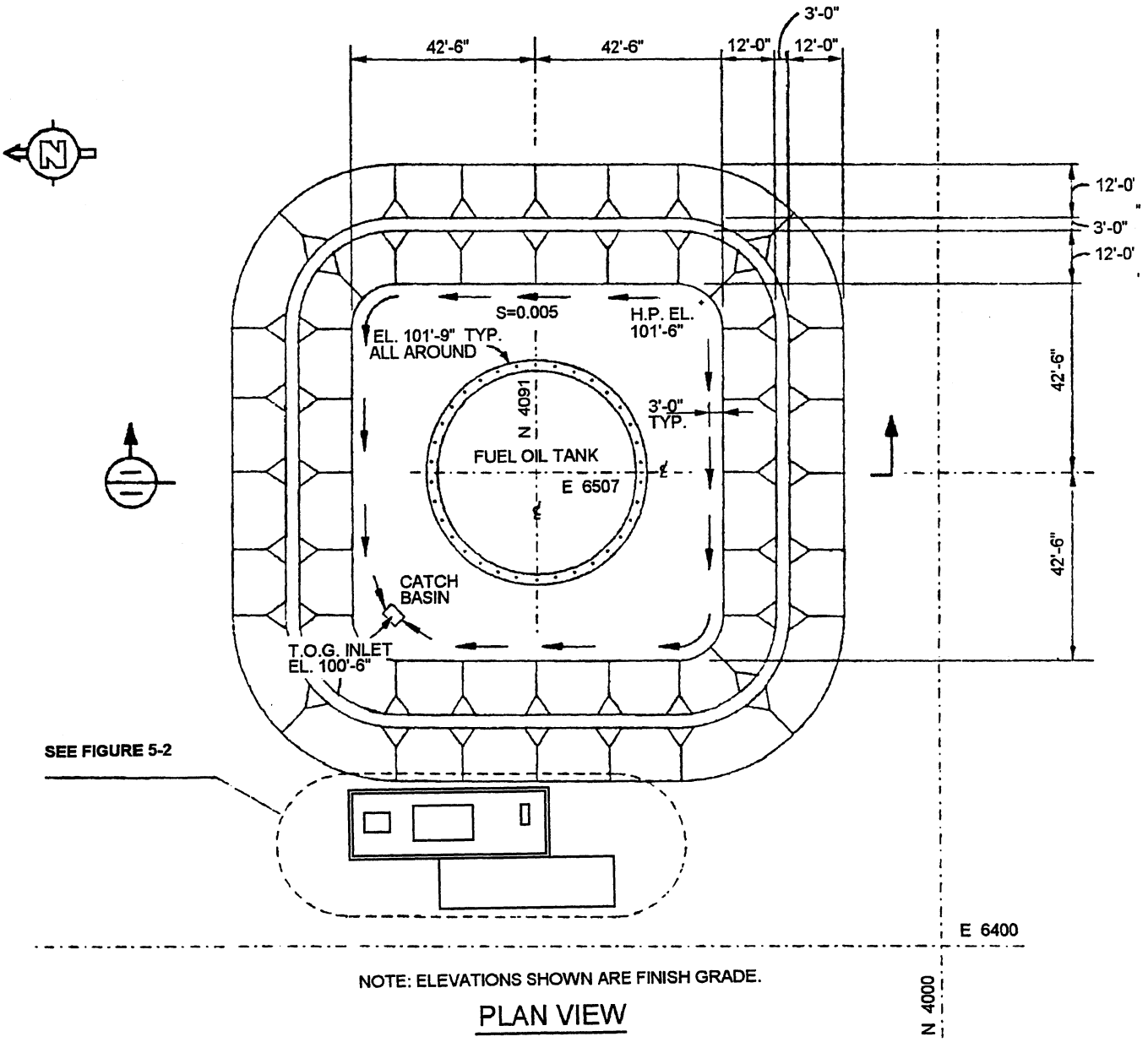


Figure 4-2

Fuel Oil Bulk Storage Tank

5.0 BULK STORAGE TANKS

The King City Power Plant was designed, constructed, and inspected during construction in accordance with applicable laws, ordinances, regulations, and standards that were enforced at the time of initial facility construction that was completed in 1989.

5.1 TANK DESIGN

All tanks were designed, fabricated, and installed in accordance with AWWA D-100 or API650 (as applicable) and CAC, Title 8, Chapter 4, Division of Industrial Safety.

5.1.1 Fuel Oil Bulk Storage Tank

The seismic design criteria of the fuel oil bulk storage tank were based on the American Petroleum Institute document Welded Steel Tanks for Oil Storage" API-650 — 1980, Revised 1984. This fixed-roof tank has an inside diameter of 48'-0" and an outside radius height of 24'-0". The bottom plate has a 5" crown that is up at tank center. The ¼" roof plate is sloped such that the center, which is supported by a ten-inch diameter schedule 40 pipe, is 1'-6" higher than the edge of the tank. The shell is constructed of three 8'-0" high rings, one on top of the other (see Figure 5-1 on page 15).

5.1.2 Small Oil Storage Tanks

Small oil storage tanks include the 250-gallon fire pump tank, the 105-gallon hydraulic oil tank, the 1,585-gallon steam turbine lube oil storage tank, and the 2,500-gallon gas turbine lube oil storage tank. These tanks were designed in accordance with the applicable laws, ordinances, regulations, and standards (LORS) in place at the time of construction, including CAC Title 8, Chapter 4, Subchapter 7, Group 20 and API650.

5.2 SECONDARY CONTAINMENT DESIGN

5.2.1 Fuel Oil Bulk Storage Tank

The fuel oil tank is surrounded by a 6-foot-high earthen berm. The enclosed area has interior bottom-of-slope dimensions of 85 feet by 85 feet. The side slopes of the dike are two feet horizontal to one foot vertical and has a wooden staircase to prevent additional erosion during inspection. The enclosed area can be drained into the oil/water separator by opening a normally closed valve. (See Figure 4-2)

5.2.2 Steam Turbine Generator Lube Oil Storage Tank

The steam turbine generator (STG) lube oil storage tank is located in the STG lube oil containment area. The 1'-10"-high steel-reinforced concrete containment wall is located on an 18'-6" by 15'-9" steel-reinforced concrete mat. The enclosed area can be drained into the oil/water separator by opening a normally closed valve.

5.2.3 Gas Turbine Lube Oil Storage Tank

The gas turbine lube oil storage tank is located adjacent to the gas turbine, which is serviced by two containments. The west containment has a wall height of 0'-8" and an area of 23'-10" by 85'-8". The east containment has a wall height of 0'-5" and an area of 29'-3 by at least 44'-0". The enclosed area can be drained into the oil/water separator by opening a normally closed valve.

5.2.4 Hydraulic Oil Storage Tank

The hydraulic oil storage tank is located in the STG lube oil containment area. See Section 5.2.2 for detailed description of this secondary containment.

5.2.5 Diesel Fire Pump Oil Tank

The secondary containment for the diesel fire pump oil tank is 11'-0" by 7'-0" by 1'-0" deep. This containment is constructed of plastic. No drain is located in this secondary containment area. Spills need to be pumped out manually.

5.2.6 Fuel Oil Forwarding Area

The pumps, and associated valves and pipe connections, used to transfer fuel oil from either the bulk storage tank to the auxiliary boilers and gas turbine or the fuel oil tanker trucks to the bulk storage tank are located in the fuel oil forwarding area secondary containment. The secondary containment area, which is drained to the oil/water separator, is 14'-8" by 46'-4" by at least 0'-6" deep. The containment encloses the 2'-8" by 4'-8" fuel oil unloading pump foundation, the 14'-2" by 9'-7" gas turbine fuel oil forwarding pump foundation, and the 6'-4" by 5'-0" auxiliary boiler fuel oil forwarding pump foundation. Figure 5-2 shows a plan view of this secondary containment and the adjacent truck unloading area that is also drained into the oil/water separator.

5.2.7 RMPP Required Secondary Containments

Please refer to the RMPP for descriptions of the anhydrous ammonia and sulfuric acid secondary containments. The RMPP is available for inspection at the plant's administration office under file #506.1A

5.3 TANK INSPECTION

In addition to checking tanks for leaks, foundations and piping are also inspected. The tank inspection specifically looks for drip marks, tank discoloration, puddles containing stored material, tank corrosion, tank cracks, and localized dead vegetation. Tank foundations are checked for cracks, discoloration, settling, gaps, and damage caused by vegetation roots. Piping is inspected for droplets of stored material, pipe discoloration, pipe corrosion, bowing of pipes between supports, localized dead vegetation, and evidence of stored material seepage on valves or seals.

The inspection of secondary containment areas involves the periodic review of the retention pond, the earthen berm, and the steel-reinforced concrete secondary containments. The stormwater retention pond is checked for erosion, available capacity, presence of stored material, debris, and stressed vegetation. The earthen berm is inspected to determine the presence of standing liquid, operational status of drainage valve, permeability of berm and of earthen floor, debris, erosion, and status of pipes. Concrete secondary containments are checked for cracks, discoloration, corrosion, valve condition/status, and the presence of stored material. See Section 8.2 for more information regarding inspections and record keeping.

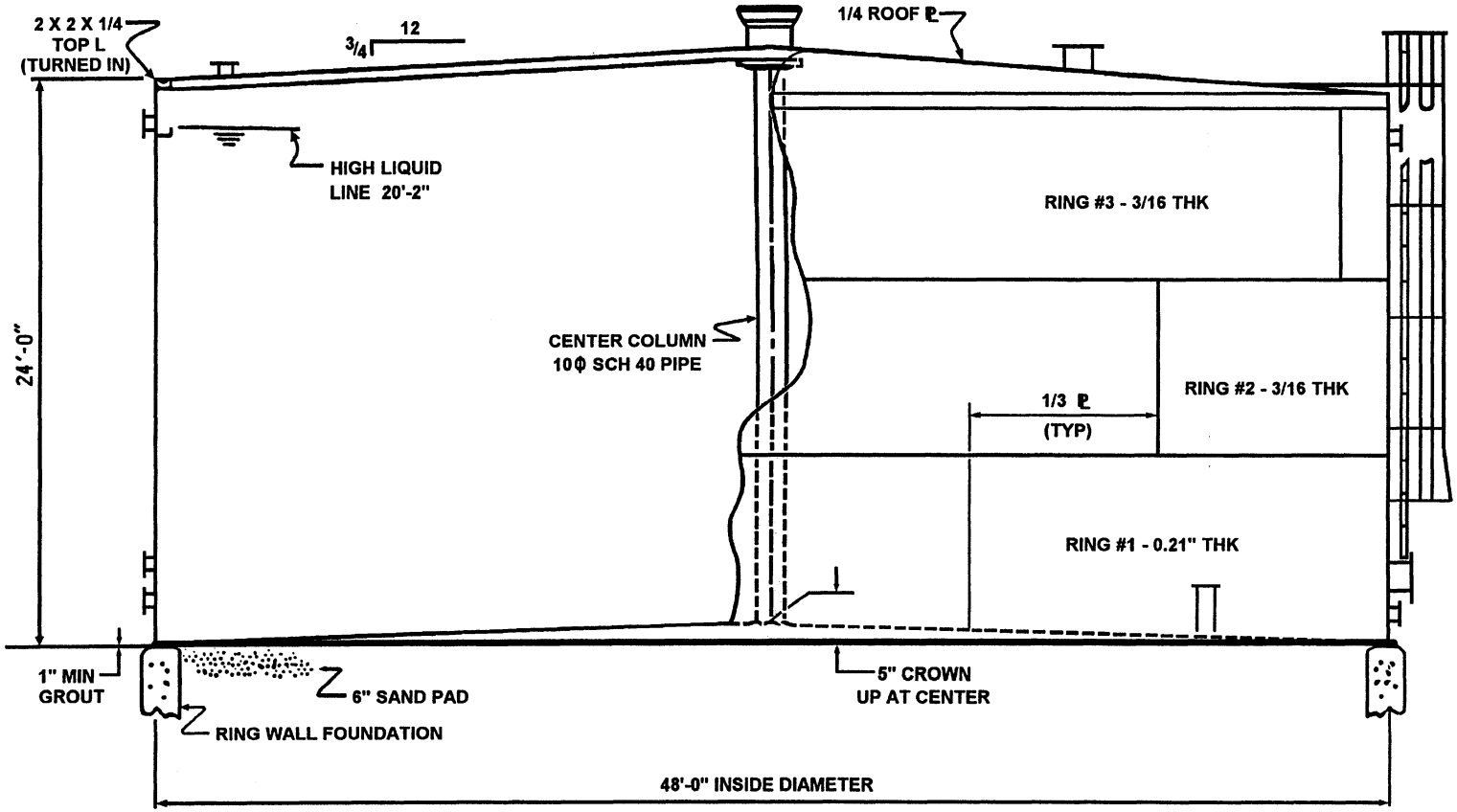


FIGURE 5-1
FUEL OIL BULK STORAGE TANK
ELEVEVATION DRAWING

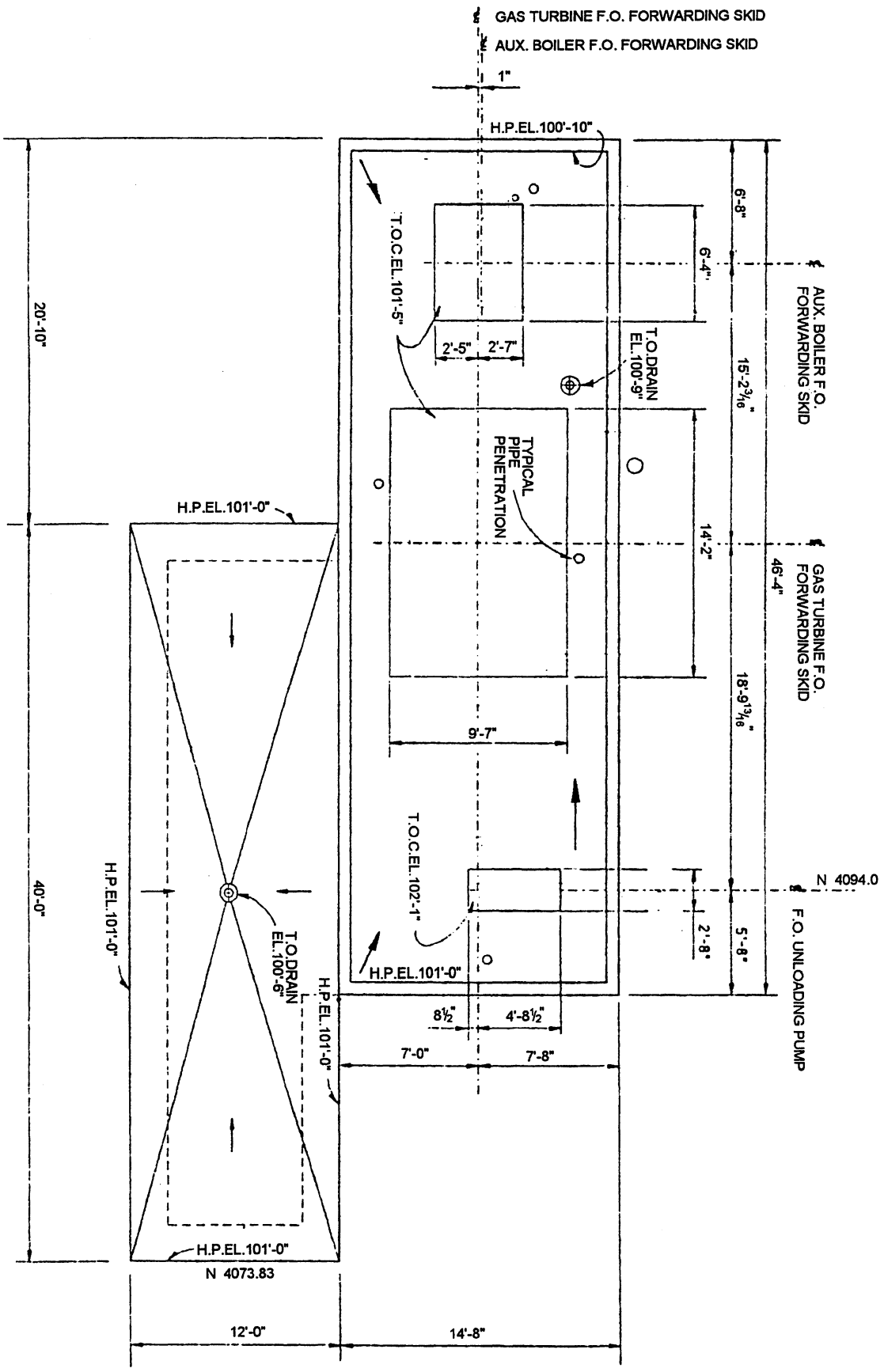


Figure 5-2
Fuel Oil Forwarding Area Secondary Containment

6.0 FACILITY TRANSFER OPERATIONS

6.1 CORROSION PROTECTION

All underground piping that may contain hazardous materials are protected from corrosion by being installed inside a guard pipe. (See Figure 6-1)

6.2 PIPE TERMINAL CONNECTIONS

All piping systems were designed, fabricated, and installed in accordance with all applicable laws, ordinances, regulations, and standards (LORS). This was accomplished under the guidance of a professional engineer (PE) registered to practice mechanical engineering in the State of California. The PE was required to submit design plans, specifications, calculations, and quality control measures to the California Energy Commission (CEC) and the King City Chief Building Official (CBO) and obtain their approval prior to installation.

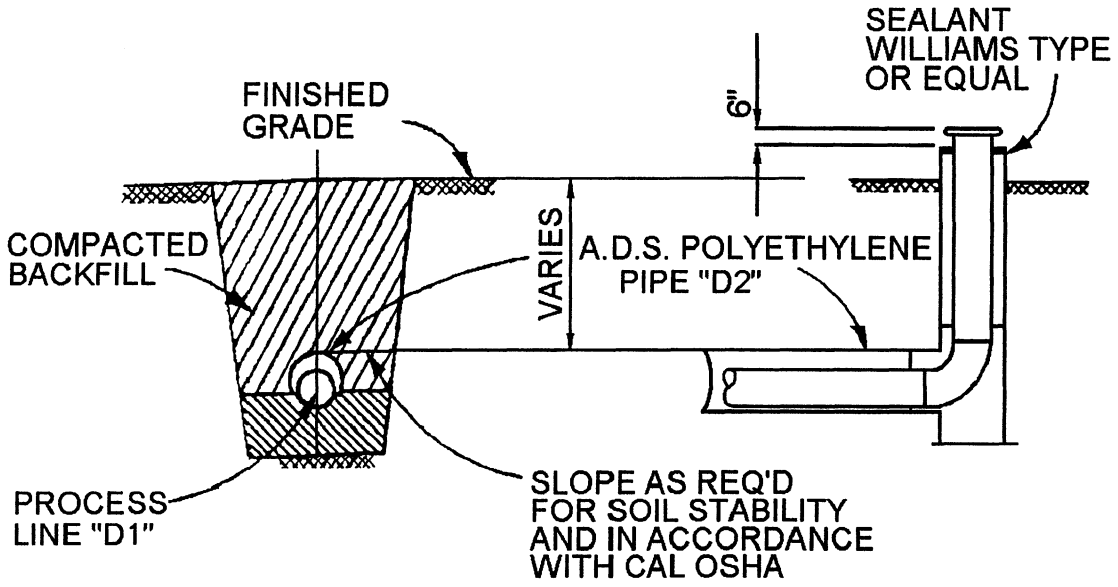
6.3 ABOVEGROUND PIPE AND FITTING INSPECTIONS

All aboveground pipe and fittings are inspected periodically. Piping is checked for droplets of stored material, discoloration, corrosion, bowing of pipes between supports, evidence of stored material seepage on valves or seals, and localized dead vegetation.

6.4 VEHICULAR TRAFFIC WARNINGS

Vehicles coming on-site are limited to a maximum speed of 5 miles per hour and are informed of this by sign(s) posted at various locations in the facility. Trucks transporting hazardous materials are further limited by trained operators with specific knowledge of the hazardous materials.

Sensitive facility systems that are susceptible to vehicular impacts are protected by concrete-filled embedded pipes. These are located near the ammonia tank and elsewhere.



PIPE Ø "D1"	GUARD PIPE Ø "D2"
1"	4"
2"	4"
3"	6"
4"	6"
6"	10"

UNDERGROUND PIPE WITH GUARD PIPE

Figure 6-1
Underground Pipe with Guard Pipe

7.0 TANK TRUCK UNLOADING

7.1 UNLOADING PROCEDURES

No. 2 distillate fuel oil for the 241,000-gallon bulk storage tank is brought on-site with tanker trucks when required. No. 2 distillate fuel oil is listed as a Class II combustible liquid in accordance with definitions of NFPA 30-1984. Because of the low volatility there are no special unloading procedures that are required. The typical procedure for this operation is to drive the tank truck onto the truck unloading area (shown on Figure 5-2 adjacent to the fuel oil forwarding area secondary containment). This paved area is sloped in order to direct minor spillage into a drain open to the oil/water separator. After securing the truck, the driver, under plant supervision, will connect a truck discharge hose to the unloading pump. Prior to truck discharge into the fuel oil bulk storage tank, facility personnel will verify that the fuel oil tank will hold the entire contents of the truck. After discharging the contents of the truck, the driver will disconnect the discharge hose and drive off.

If multiple tanker trucks are sequentially filling the tank, facility personnel are only required to verify loading capacity of the tank for the entire delivery. Additionally the trucks not presently involved in filling operations are waiting out of the way such that emptied trucks are not impeded when leaving the site.

7.2 UNLOADING AREA DRAINAGE SYSTEM

The tank truck unloading area is a paved area that is 40'-0" long (north-south direction) and 12'-0" wide (east-west direction). This area is sloped from a high point elevation of 101'-0" at the entire edge of the area to the top of a centrally located drain at elevation 100'-6". This area was designed to allow minor spillage from unloading operations to flow down the normally open drain that flows underground inside of a guard pipe into the oil/water separator.

7.3 OIL BARREL UNLOADING PROCEDURES

Lube oil and hydraulic oil is brought on-site in 55-gallon drums and are typically moved by a forklift, equipped with a drum handling device, into the hazardous material storage building until they are needed. When additional oil is required in the lube or hydraulic oil systems, the oil barrel is brought by forklift into the vicinity of the tank requiring filling. A small portable pump is then used to remove the oil from the barrel and load the lube or hydraulic oil tank.

8.0 INSPECTIONS AND RECORDS

The Plant Manager is responsible for initiating, administering, and monitoring the SPCC Plan. These responsibilities include making the Plan available on-site to agency personnel, assuring that quality inspections and associated recordkeeping are maintained, assuring personnel are trained, and assuring that spill prevention procedures are followed.

8.1 PLAN AVAILABILITY

The operator of the King City Power Plant must maintain a complete copy of the SPCC Plan at the facility. The Plan must be made available to the Environmental Protection Agency (EPA) and/or the Regional Water Quality Control Board (RWQCB) personnel for on-site review anytime during normal working hours.

8.2 INSPECTIONS AND RECORDS

Facility personnel, upon being trained to conduct inspections, will perform monthly inspections. Included in the inspection will be site drainage; all containments including vessels, secondary containments and the sedimentation pond; security devices including fences, gates, and lighting; and emergency response equipment.

The facility inspection (see Figure 8-1 on page 22) will review site drainage, the sedimentation pond, response equipment, and security devices. The drainage inspection will certify that off-site stormwater will flow around the site and will not come on-site. On-site drainage will be reviewed to certify on-site stormwater flow is toward the sedimentation pond. The sedimentation pond inspection will review erosion, available capacity, presence of stored material, debris, and stressed vegetation. The response equipment inspection will review inventory, storage location, accessibility, operational status/condition, actual usage/testing (if the equipment has been used or tested), and shelf life.

The tank-specific visual inspection (see Figure 8-2 on page 23) will check each tank for leaks by looking for drip marks, discoloration of tanks, puddles containing stored material, corrosion, cracks, and localized dead vegetation. Tank foundations will be checked for cracks, discolorization, puddles containing stored material, settling, gaps between tank and foundation, and damage caused by vegetation roots. Piping and fittings associated with the storage tanks will be checked for droplets of stored material, discoloration, corrosion, bowing of pipe between supports, evidence of stored material seepage on valves or seals, and localized dead vegetation. The tank-specific visual inspection will also include the secondary containment checklist, which will provide for the visual review of the fuel oil bulk storage tank earthen berm and the other reinforced concrete secondary containments. The earthen berm review will check the level of precipitation/available capacity, operational status of drainage valves, berm permeability, debris, erosion, permeability of the earthen floor of diked area, and the condition of pipes, valves, etc. The concrete secondary containment review will check for cracks, discoloration, presence of stored material, corrosion, and valve conditions.

Non-periodic inspections will include general inspections and inspections during tank-loading operations. General inspections will be informal unscheduled inspections and routine observations during the course of normal operations and activities at the site. All facilities and

equipment, signs and lighting, and transfer vehicles encompassed under the scheduled inspection program shall be subject to the general inspections. Logs of these inspections need not be maintained, but such inspections/observations shall be made to detect or anticipate any conditions which may warrant action prior to or as a part of scheduled inspections.

All vehicles involved in oil transfer operations shall be inspected with the applicable requirements of the U.S. Department of Transportation, California Highway Patrol, and other agencies and departments with jurisdiction over such operations.

Figure 8-1
FACILITY INSPECTION CHECKLIST

Inspector:
Date:

1. Check Site Drainage for:
A. Off-site stormwater flow _____
B. On-site stormwater flow _____

2. Check Sedimentation Pond for:
   A. Erosion _____
   B. Available capacity _____
   C. Presence of stored material _____
   D. Debris _____
   E. Stressed vegetation _____

3. Check Response Equipment for:
   A. Inventory _____
   B. Storage location _____
   C. Accessibility _____
   D. Operational status/condition _____
   E. Actual usage/testing _____
   F. Shelf life _____

4. Check Security Devices for:
   A. Fences _____
   B. Gates _____
   C. Lighting _____

COMMENTS:

Figure 8-2
TANK-SPECIFIC VISUAL INSPECTION CHECKLIST

Inspector:
Date:
Tank:

1. Check tanks for leaks, specifically looking for:
   - A. Drip marks _____
   - B. Discoloration of tanks _____
   - C. Puddles containing stored material _____
   - D. Corrosion _____
   - E. Cracks _____
   - F. Localized dead vegetation _____
2. Check foundation for:
   - A. Cracks _____
   - B. Discoloration _____
   - C. Puddles containing stored material _____
   - D. Settling _____
   - E. Gaps between tank and foundation _____
   - F. Damage caused by vegetation roots _____
3. Check piping for:
   - A. Droplets of stored material _____
   - B. Discoloration _____
   - C. Corrosion _____
   - D. Bowing of pipe between supports _____
   - E. Evidence of stored material seepage on valves or seals _____
   - F. Localized dead vegetation _____
4. Check Dike or Earthen Berm for:
   - A. Level of precipitation in dike/available capacity _____
   - B. Operational status of drainage valves _____
   - C. Dike or berm permeability _____
   - D. Debris _____
   - E. Erosion _____
   - F. Permeability of the earthen floor of diked area _____
   - G. Location/status of pipes, valves inlets, drainage beneath tanks, etc. _____
5. Check Secondary containment for:
   - A. Cracks _____
   - B. Discoloration _____
   - C. Presence of stored material (standing liquid) _____
   - D. Corrosion _____
   - E. Valve conditions _____

COMMENTS:

9.0 SECURITY

9.1 FENCES AND GATES

There is a security fence maintained around the entire site with normally locked gates except for the main gate, which is controlled electronically. The main gate, located in the southwest corner of the facility, is designed for vehicular traffic from Metz Road and is the normal access gate to the facility. This gate can be activated by facility personnel upon entering a numeric code at the gate entrance. Visitors need to use the intercom to contact the control room operator who can then electronically activate the gate after viewing the visitor on the gate monitor. The main gate will also open automatically if an electronic sensor determines that a heavy object, such as a car, is positioned inside the security fence near the exit.

The other normally locked gates, as shown on Figure 3-2, the facility layout drawing, are located at the north fenceline, the west fenceline, the south fenceline, and into the enclosed PG&E Metering Area. Keys for these locks are kept by facility personnel in the control room.

9.2 LIGHTING

The facility is always lighted during non-daylight hours at the main entrance and at strategic locations throughout the facility to allow facility personnel, present at all times, the ability to view visitors by the video monitor and to operate the facility. Facility lighting is commensurate with the type and location of the facility. Consideration has been given to: (A) Discovery of spills occurring during hours of darkness, both by operating personnel, if present, and by non-operating personnel (the general public, local police, etc.) and (B) prevention of spills occurring through acts of vandalism.

9.3 TANK VALVES

The master flow and drain valves and any other valves that will permit direct outward flow of the tank's content to the surface are secured in the closed position when in non-operating or nonstandby status.

9.4 OIL PUMPS

The starter control on all oil pumps are secured in the "off" position or located at a site accessible only to authorized personnel when the pumps are in a non-operating or non-standby status.

10.0 TRAINING AND SPILL PREVENTION

PERSONNEL TRAINING AND SPILL-PREVENTION PROCEDURES

Training consists of on-the-job training, formal training and safety sessions, attendance at technical classes, seminars, and conferences, and safety meetings.

10.1 On-the-Job Training

The on-the-job training program covers the steps deemed necessary to meet job requirements by the plant manager. On-the-job training consists of several elements:

- Indoctrination into the plant policies and procedures

- A Training and Qualification Program, which establishes the procedures for training and certification of plant personnel in the operation and maintenance of the plant's major systems including chemical and oil storage systems. Training is accomplished through a combination of 14 computer-based modules which cover fundamentals, 12 computer-based modules covering systems specific to the King City Power Plant, and Field Performance Tests covering all aspects of the operation of the plant. Field Performance Tests are walk-through examinations that list all required knowledge and performance activities that an operator trainee must complete in order to properly operate and maintain a given system. Trainees must demonstrate knowledge of a particular component of the system, including (where applicable) location, function, flow path, operating parameters, control process, power source, and special characteristics, in order to pass the examination. Computer-based modules include standard tests which must be passed in order to be eligible to undergo Field Performance Testing. Satisfactory completion of the training, as indicated by approval of a qualified individual, such as the plant manager, is required to be certified as a plant operator. The program is described in detail in Volume 8 of the *American I Cogeneration Project Plant Manual*, which is available for inspection at the plant's administration office. After initial training, continuous currency training is accomplished by qualified plant personnel. Vendor training or a training contractor is used to supplement currency training as determined by the plant manager.

- Supplemental formal procedural training covering such subjects as:
  - Review of technical journals
  - Familiarization with applicable codes and standards
  - Instructions on inter-discipline operations

On-the-job training need not be formally recorded and records need not be retained.

10.2 Formal Training and Safety Sessions

Formal training sessions are held annually and as deemed necessary by the plant manager. They include specific health and safety training and are conducted on-site by qualified Labor Relations, Safety, and Health personnel, and by chemical suppliers. Training specific to the SPCC Plan instructs site personnel involved in the operation and maintenance of equipment to prevent the discharge of oil, and on applicable pollution control laws, rules and regulations. A typical SPCC training lesson plan is shown on Figure 10-1 on page 28.

During all training sessions, comments are discussed to ensure full understanding. Personnel are provided with the opportunity for general training and task-specific training. Personnel are requalified every two years. Agencies are not advised of training dates. Training sessions in firefighting are not held for plant personnel. It is anticipated that the King City Fire Department, once notified, would immediately respond to fires at the plant. Formal fire training includes training in the maintenance and operation of the plant's automatic fire systems. Fire drills are conducted annually for all plant personnel. Foam suppressant is not available at the plant. As a result, training in the use of foam suppressant will not be provided. The King City Fire Department has foam suppressant equipment available for use as the fire officials deem necessary. Attendance at formal training sessions is documented. Attendance sheets are signed by the attendees and include identification of subject and instructor. A typical personnel training log is shown on Figure 10-2 on page 29. Summary training reports on all personnel are maintained by the plant manager and included in the facility records.

10. 3 Technical Classes, Seminars, and Conferences

Formal and on-the-job training is supplemented by having plant personnel attend technical classes, seminars, and conferences as appropriate, and as deemed necessary by the plant manager.

10.4 Safety Meetings

Safety meetings are held monthly. Attendance by all plant personnel is required. At these meetings, selected topics of safety at the plant are discussed as well as general on-site safety conditions. Accidents and safety-related incidents that have occurred since the last safety meeting are reviewed along with the measures that were taken to mitigate the problem. Records of the safety meetings are not kept, and regulatory agencies are not given notice of the dates of upcoming safety meetings.

10.5 Spill-Prevention Procedures

The SPCC Plan and the Risk Management Prevention Plan (RMPP) contain spill-prevention procedures. The RMPP, which is available for inspection at the plant's administration building under file #506.1A, addresses the ammonia and sulfuric acid systems. The written procedures for SPCC inspections are included in Section 8.2 of this SPCC Plan.

Fuel oil is required to be supplied to the bulk storage tank on an as-needed basis. The plant operator will inspect the transfer truck prior to starting transfer operations as outlined in Section 6.2. The plant operator will then observe the transfer operation with the following procedures:

1. Verify tank level instrument operation. Record starting level. Proceed if tank can hold the additional contents of the truck(s).

2. Have tank driver(s) connect truck hose to suction piping of transfer pump. Use catch basin when removing cap from suction pipe to prevent spills.

3. Open tank fill valve.

4. Have truck driver(s) open truck valves. Check for leaks in truck hose. If leaks are evident, close all valves and replace hose. If no leaks, proceed.

5. Operator starts transfer pump to fill tank.

6. When truck is empty, close tank fill valve. Have driver close truck valve(s).

7. Disconnect truck hose from tank fill line and replace pipe cap onto suction pipe. Use the catch basin to prevent spills from the truck hose.

8. Record finishing tank level upon completion of delivery.

Figure 10-1

SPCC TRAINING LESSON PLAN **Training Objective:** To instruct site personnel in the operation and maintenance of equipment to prevent the discharges of oil, and on applicable pollution control laws, rules, and regulations.	
Attendees	**Sequence of Activities**
	1. Introduce the SPCC rules and Oil Pollution Prevention Act 2. Review Site emergency response information 2.1 Notification 2.2 Equipment 2.3 Personnel 2.4 Evacuation Plans 2.5 Coordinator's Duties 3. Discuss hazard evaluation conducted for site 3.1 Hazard Identification 3.2 Vulnerability Analysis 3.3 Analysis of the Potential for a Spill 3.4 Facility Spill History 4. Describe possible discharge scenarios 4.1 Small and Medium Discharges 4.2 Worst-Case Discharge 5. Explain site discharge detection systems 5.1 Discharge Detection by Personnel 5.2 Automated Discharge Detection 6. Conduct mock drill — demonstrate how to implement plan 6.1 Response Resources for Small, Medium and Worst-Case Spills 6.2 Disposal Plans 6.3 Containment and Drainage Planning
Absentees and Review Date	**Administrative Instructions:**
	Class Time: _____ **Personnel Required:** _____ **Equipment Required:** _____ **References:** ____

11.0 AMENDMENTS AND PENALTIES

11.1 AMENDMENTS

This SPCC Plan must be reviewed and evaluated every three years. In addition, the Plan should be amended if one or more of the following events occur:

1. Oil spills.
2. Plan fails in an emergency.
3. Facility changes substantially in design, construction, etc.
4. Individual in operational control of the facility changes (pages v, vi, and 20).
5. Emergency Coordinator changes (page vi and 20).
6. Applicable regulations are revised.

The operator must submit the SPCC Plan with any amendments to the EPA and the RWQCB whenever the facility has:

1. discharged more than 1,000 U.S. gallons (approximately 24 barrels) into navigable waters in a single spill event; or
2. discharged oil in harmful quantities, as defined in 40 CFR Part 110, into navigable waters in two reportable spill events within any 12-month period.

In the State of California, the definition for navigable waters includes groundwater.

Within 60 days of the occurrence of either of these two conditions, the operator must submit to the EPA Regional Administer the following:

1. Name of the facility.
2. Name of the owner or operator of the facility.
3. Location of the facility.
4. Date of initial facility operation (date of first plant start-up).
5. Maximum storage or handling capacity of the facility and current normal daily throughput.
6. Description of the facility, including maps, flow diagrams, and topographical maps.
7. A complete copy of the SPCC Plan with any amendments.

8. The cause of the spill, including a failure analysis of the system or subsystem in which the failure occurred. The failure analysis is to examine and explain the reason for the failure resulting in the spill event. The analysis should be explicit, definitive, and not general. For instance, it would be inadequate to report simply that the cause of the spill was the failure of a storage tank. The failure analysis should indicate in some detail the nature of failure that caused the spill.

9. The corrective actions and/or countermeasures taken, including an adequate description of equipment repairs and/or replacements.

10. Additional preventive measures taken or contemplated to minimize the possibility of recurrence.

11. Such other information as the EPA Regional Administer may require.

A complete copy of the above information must also be sent to the RWQCB, which may review the information and make recommendations to EPA to prevent and to contain discharges of oil from the facility. The EPA will review the information and any recommendations from the RWQCB and may require an amendment to the Plan.

All SPCC Plan amendments, except those proposed by the EPA Regional Administrator, must be certified by a Registered Professional Engineer.

11.2 CIVIL PENALTIES

Owners or operators of facilities who violate the requirements of the regulations relating to the preparation, implementation, and amendments to SPCC Plans are liable for a civil penalty of not more than $5,000 for each day that such violation continues. The EPA Regional Administrator may assess and compromise such civil penalty. No penalty will be assessed until the owner or operator has been given notice and an opportunity for hearing.