

6.17 WORKER SAFETY

This section addresses safety and health issues and describes or outlines systems and procedures that will be implemented to provide occupational safety and health protection for the Canyon Power Plant (CPP) workers in accordance with all applicable worker health and safety laws, ordinances, regulations, and standards (LORS). All applicable elements of the Title 8 California Code of Regulations (CCR), General Industry Safety Orders (GISO), Construction Safety Orders (CSO), and Electrical Safety Orders (ESO), with special attention paid to Section 3203, Injury and Illness Prevention Program (IIPP) are addressed below. Section 6.17.1 describes the affected environment relative to worker health and safety. An outline of the principal components of the health and safety programs to be implemented during construction and operation is presented in Section 6.17.2, Environmental Consequences. Mitigation measures are discussed in Section 6.17.3. Section 6.17.4 addresses compliance with LORS and Section 6.17.5 presents references.

6.17.1 Affected Environment

The Canyon Power Plant (CPP) will consist of a nominal 200-megawatt (MW) simple-cycle plant, using four natural gas-fired General Electric LM 6000PC Sprint combustion turbines and associated infrastructure. The project site is located at 3071 East Miraloma Avenue, in a City of Anaheim (COA)-designated industrial zone.

The CPP and associated construction laydown areas will be located on approximately 10 acres of disturbed land located at 3071 East Miraloma Avenue. Main access to the CPP site will be at the southeast corner of the project site from East Miraloma Avenue. A second gated entrance will be accessible via East Miraloma Avenue with a third gate off the alley to the east of the site. (Total land disturbance will be approximately 10 acres.)

The existing CPP site is predominantly paved (concrete and asphalt). Principal land use for the site was food catering for a fleet of approximately 75 to 100 trucks, formerly operated by Orange County Food Service. Onsite structures include a kitchen/warehouse building, maintenance garage (9 service bays), truck wash facility (5 bays), two ice manufacturing buildings, several storage sheds, and an outdoor truck repair shop which includes storage lockers and petroleum products, all of which will be demolished as a part of the CPP project.

The following activities are not part of the CPP project:

- Three residential houses along East Miraloma Avenue have recently been removed and are not a part of this Application for Certification (AFC). The COA Risk Manager and Fire Department determined that the residential units posed security and fire risks, and therefore they were removed. A letter from the COA Risk Manager to the Public Utilities Department is included in Appendix Q.

- Soil remediation activities associated with Phase I, Phase II, and Supplemental Phase II reports. The COA, now as owner of the property, has determined that it will conduct any soil remediation activities to limit its environmental liability for future uses of the site. These activities will occur regardless of whether the CPP project obtains a CEC license.
- Installation of a temporary 8-foot-high security fence around the perimeter of the entire 10-acre site.
- General maintenance activities including site cleanup and trash removal.

The project will include the construction and/or installation of the following components:

- **Proposed CPP site.** In addition to the four natural gas-fired GE LM 6000PC Sprint gas turbines, the plant will include generator step-up transformers (GSUs), a 69 kilovolt (kV) switchyard, onsite fuel gas compressors, a gas pressure control and metering station, a packaged chilled water system for combustion turbine engine (CTG) power augmentation with associated heating ventilation and air conditioning (HVAC)-type four-cell cooling tower, selective catalytic reduction system (SCR) emission control systems, and other associated plant infrastructure.
- **Gas pipeline.** Natural gas will be provided via a new 3,240-foot-long, 12-inch, 350 pounds per square inch gauge (psig) gas line owned and maintained by SoCal Gas Company (SCGC), which will be connected to new onsite fuel gas compressors that will be part of the CPP facility. From the CPP site, this new pipeline will run approximately 580 feet east in East Miraloma Avenue to Kraemer Boulevard, then north 2,660 feet in Kraemer Boulevard to East Orangethorpe Avenue to connect into SCGC's transmission line L-1218 in East Orangethorpe Avenue. (Total land disturbance will be 0.219 acre.)
- **Process water.** Process water for the project will be recycled water supplied from the Orange County groundwater replenishment system (GWRS) via a new 2,185-foot-long, 14-inch pipeline utilizing a new offsite booster pump station. The water pipeline will run east of the site on the north side of East Miraloma Avenue for 1,850 feet to the new pumping station located north of the curb in the COA-owned easement of East Miraloma Avenue, then north 210 feet in new easement from the Orange County Water District (OCWD), then 125 feet easterly in new easement to the GWRS line on the western side of the Carbon Canyon Diversion Channel. There, it will connect to the 60-inch-diameter GWRS recycled water line at an existing 36-inch stub up. (Total land disturbance for both line and pumping station will be 0.246 acre.)
- **Electrical interconnection.** Underground 69 kV cables will connect from GSUs to the onsite switchyard, which will use gas-insulated switchgear (GIS). There will be four new underground 69 kV circuits leaving the site. Two will proceed underneath and to the south side of East Miraloma Avenue approximately 100 feet to rise up and connect to the existing 69 kV overhead Vermont-Yorba lines via two new transition structures. The

second two 69 kV underground circuits will proceed eastward approximately 4,000 feet in East Miraloma Avenue, turn south on Miller, then proceed approximately 3,000 feet to connect to the Dowling-Yorba 69 kV line at East La Palma Avenue. (Total land disturbance for both sets of cables will be 0.489 acre.)

- **Communications.** Fiber optic cable will run in a common trench with the approximately 7,000-foot 69 kV electric cables, where it will tie into existing underground fiber optic cable for the supervisory control and data acquisition (SCADA) system.

Maps depicting the physical plant layout are presented as Figures 3-7 and 3-8. Descriptions of the facility fire protection and safety features are presented in Section 3.4.11 and shown on Figure 3-12. Descriptions of hazardous material and wastes to be used and stored on the CPP site are discussed in Section 6.15, Hazardous Materials Handling, and Section 6.14, Waste Management.

6.17.2 Environmental Consequences

6.17.2.1 Occupational Health and Safety

Construction, operation, and maintenance activities may expose workers to the hazards identified in Table 6.17-1. Exposure to these hazards can be minimized through adherence to appropriate engineering design criteria and administrative controls, use of applicable personal protective equipment (PPE), and compliance with all applicable health and safety LORS. The programs, regulations, and preventive measures intended to control potential worker health and safety impacts associated with these hazards are described in the remainder of this section. This encompasses a comprehensive health, safety, and fire prevention program and an accident/injury prevention program intended to ensure healthful and safe operations at the facility.

6.17.2.1.1 Construction Health & Safety Program. To protect the health and safety of workers during construction, the applicant (or construction contractor) will ensure compliance with the Construction Health & Safety Program, and all federal, state, and local health standards that pertain to worker health and safety.

Construction Injury and Illness Prevention Program. The Construction Safety Program will meet the California Occupational Safety and Health Administration's (CalOSHA) IIPP requirements. The IIPP will include:

- A written Code of Safe Practices that relates to construction operations

**TABLE 6.17-1
POTENTIAL WORKER HAZARDS DURING
FACILITY CONSTRUCTION AND OPERATION**

Activity	Potential Hazard
Facility Construction	
Elevated work	Slips/trips/falls
Welding	Flash burns, explosion, thermal burns, toxic welding fumes
Excavations	Excavation/trench wall collapse, spoil movement, oxygen deficiency, buildup of toxic gases, fumes, vapors, dusts or mists, wet exposures, crushing hazards, confined spaces, potentially contaminated soil/waste
Cement/forms work	Slips/trips/falls, protruding objects, caustics, punctures, and lacerations
Equipment operation	Noise exposure, vehicle accidents, load hazards, induced current
Transmission lines/ transformer station	Slips/trips/falls, electrocution, flash burns
Painting	Paint solvents, paint vapors, chemical burns, fire/explosion, slips/trips/falls
Abrasive blasting	Dust, flying particles, pressure vessels, noise
Powered hand tools	Noise, dust, flying particles, cuts, amputation, crushing
Fueling	Fire, explosion, environmental contamination
Facility Operations	
Generation enclosure	High voltage
Operations building	High voltage, repetitive trauma
Cooling unit	Slips/trips/falls, noise, wet exposure, chemical exposure
Transformer	Electrocution, flash burns
Gas compressor	Fire, noise, temperature, rotating equipment, pressure
Compressed gas storage	Fire, explosion
Chemical storage	Chemical splashes, burns, reactions, gases, vapors, fumes
Machinery, general	Noise, temperature extremes, rotating equipment, electrocution

- Identification of the person or persons responsible for implementing the program
- Posting of the Code of Safe Practices at a conspicuous location at each job site office or providing it to each supervisor who shall have it readily available
- A system for identifying workplace hazards, including inspections
- System of ensuring employee and subcontractor compliance
- “Toolbox” or “tailgate” meetings conducted by supervisors with employees to discuss job hazards and mitigation measures

- Methods of communicating with employees that encourage employees to expose unsafe activities
- Procedures for correcting unsafe conditions

When workers are first employed, they will be given instructions regarding the hazards and safety precautions applicable to the type of work in question and directed to read the Code of Safe Practices. When employees are to work near known job site hazards, they will be instructed in the recognition of the hazard, the procedures for protecting themselves from injury, and the first aid procedures in the event of injury.

Construction Written Health & Safety Programs. Written safety programs that will be implemented in conjunction with the Code of Safe Practices will include:

- Accident/Incident Reporting Procedures
- Blood-borne Pathogens Exposure Control Program
- Compressed Gas and Air Handling Systems
- Confined Space Entry Procedures
- Contractor Safety Program
- Electrical Safety Procedures
- Emergency Action Plan
- Emergency Response Procedures
- Excavation, Trenching, and Shoring Program
- Fall Protection Program
- Fire Protection and Prevention Plan
- Hand Tools and Equipment Guarding Safety Procedures
- Hazard Communication Plan (including Proposition 65 requirements)
- Hazardous Materials Handling Procedures
- Hazardous Waste Awareness Training
- Hearing Conservation Program
- Heat Stress/Cold Stress Prevention
- Heavy Equipment Procedures
- Hoist/Chain/Wire Rope/Webs/Rope Slings/Crane Procedures

- Hot Work Program (Welding, Cutting, and Brazing)
- Industrial Hygiene Program
- Industrial Truck (forklifts) Safety
- Ladders, Scaffolds, and Work Platforms
- Lock Out/Tag Out Procedure
- Motor Vehicle Safety
- PPE Program
- Portable Electric and Pneumatic Tools
- Preventing Slips, Trips, and Falls
- Repetitive Stress Injuries/Ergonomics/Lifting Hazards
- Respiratory Protection Program
- Safety and Housekeeping Inspection Program
- Safety Committee and Toolbox/Tailgate Safety Meetings
- Security Program
- Signs, Tags, and Barricades
- Tools, Power, and Hand-operated

Construction Personal Protective Equipment Program. Employees will be required to use the required PPE during construction. Required PPE will be approved for use and distinctly marked to facilitate identification. PPE will be used in accordance with the manufacturer's instructions. The PPE will be of such design, fit, and durability as to provide adequate protection against the hazards for which it is designed. The type of PPE required for each job task will be described in the job safety analysis for that task. The use of PPE for site activities includes, but is not limited to, the items specifically described in Table 6.17-2, and will comply with CalOSHA requirements. When protective-insulating equipment is used, it will comply with the Electrical Safety Codes.

A respiratory protection program complying with 8 CCR, Section 5144 and GISO requirements will be developed, including respirator training, fit testing, monitoring, selection, etc. The work atmosphere will be tested/sampled per established protocols.

Fire Protection and Prevention Plan. The CPP will rely on both onsite fire protection systems and local fire protection services. A Fire Protection and Prevention Plan will be

**TABLE 6.17-2
BASIC PROTECTIVE EQUIPMENT GUIDE**

Body Area	Hazards	Recommended Protection
Eyes/Face	Low-velocity flying particles	Safety glasses with side shields
	High-velocity chips and sparks	Impact goggles or safety glasses with full face shield
	Corrosive liquid splash during transfer	Splashproof goggles and face shield
	Breaking into an acid storage system	Acid hood
	Welding - injurious light rays	Welding hood with appropriate eye filter lenses
Head/Ears	General wear, overhead rigging, material handling, maintenance, and general construction processes	Hard hat
	High noise level	Ear plugs or muff
Respiratory System	Low-hazard inert dusts	Dust mask
	Low-concentration solvent vapors	Cartridge-type organic vapor respirator
	Acid mists	Cartridge-type acid mist respirator
	High-concentration dusts or vapors	Air line respirator
Hands and Arms	Oxygen deficiencies or gases	Self-contained breathing apparatus
	Handling rough or sharp objects	Leather gloves
	Handling hot objects	Insulated gloves
Feet and Legs	Using solvents	Impervious synthetic gloves
	General wear for light handling	Safety toe shoes
	Handling heavy objects	Metatarsal safety shoes
Trunk and Full Body	Using brush hooks or scythes	Shin guards
	Working with corrosive liquids	Safety toe boots
	Underground work	Safety toe synthetic boots
	Hot or corrosive liquids	Synthetic apron
	Punctures, impact, or cuts	Canvas or leather kickback apron or metal mesh apron
Fall Protection/Rescue	Breaking acid containers	Full body suit made of appropriate materials
	Working from elevated structure or platform without standard railings	Safety belt and lanyard
	Vessel entry	Harness and lifeline or wristlets and lifeline
	Suspended scaffolds	Lifeline, safety belt/lanyard

developed and followed throughout all phases of construction. Firefighting equipment will be provided to site personnel as specified in that plan.

During construction, the permanent facility fire protection system will be placed in service as early as practicable. An interim fire protection system will be in place during construction until the permanent system is completed. The fire protection systems for the CPP site are described in Section 3.4.11. Construction fire regulations in 8 CCR, Section 1620 et seq. will

be followed as necessary to prevent construction fires. Applicable local fire requirements include:

- 1998 Edition of California Fire Code and all applicable National Fire Protection Association (NFPA) standards (24 CCR Part 9)
- Uniform Fire Code Standards
- California Building Code Title 24, California Code of Regulations (24 CCR § 3, et seq.)

Special attention will be paid to operations involving open flames, such as welding, and use of flammable materials. Personnel involved in such operations will have appropriate training. A fire watch utilizing appropriately classed extinguishers or other equipment will be maintained during hot work operations. Site personnel will not be expected to fight fires past the incident stage. The local responding fire officials will be given information on the site hazards and the location of these hazards, and the information will be included in the emergency response planning.

Materials brought onsite must conform to contract requirements, insofar as flame resistance or fireproof characteristics are concerned. Specific materials in this category include fuels, paints, solvents, plastic materials, lumber, paper, boxes, and crating materials. Specific attention will be given to compressed gas, fuel, solvent, and paint storage. Electrical wiring and equipment located in inside storage rooms used for Class I liquids will be stored in accordance with ESOs. Outside storage areas will be graded to divert possible spills away from buildings and will be kept clear of vegetation and other combustible materials. Precautions will be taken to protect storage areas against tampering, where necessary.

Onsite fire prevention during construction will consist of portable and fixed fire fighting equipment. Portable firefighting equipment will consist of fire extinguishers and small hose lines in conformance with CalOSHA and the NFPA for the potential types of fire from construction activities. Periodic fire prevention inspections will be conducted by the contractor's safety representative.

Fire extinguishers will be inspected routinely and replaced immediately if defective or in need of recharge. All firefighting equipment will be conspicuously located and marked with unobstructed access. A water supply of sufficient volume, duration, or pressure to operate the required firefighting equipment will be provided onsite. Designated, approved storage areas and containers for flammable materials will be used with adequate fire control services.

6.17.2.1.2 Plant Operational Safety Program. The locations of potential worker hazards during the operational phase are listed in Table 6.17-3. Programs that address these hazards will include:

**TABLE 6.17-3
LOCATION OF POTENTIAL WORKER HAZARDS AT THE
CANYON POWER PLANT ENERGY FACILITY (OPERATIONAL PHASE)**

Location	Acid ¹	Flammable Material	Hazardous Material	High Voltage	Noise ²	Pressure Vessel	Pressurized Gas Cylinders	Rotating Equipment	High Temperature
Control Room	X			X					
Maintenance Shop/Warehouse		X	X		X			X	
CTG ³	X	X	X		X	X			
Switchyards			X	X					
Stacks							X		
Deareator									X

¹ Acid - Areas containing acids (sulfuric acid in batteries or sulfuric acid and hydrochloric acid for pH control).

² Noise - Area requiring noise protection.

³ CTG - combustion turbine generator.

- Regular employee education and training in safe work practices for general and particular task areas
- Communication of hazards in accordance with federal and state standards
- Accident and incident evaluations
- Administrative safety procedures
- Emergency response
- Fire prevention and fire response
- Security
- Maintenance of safety performance data

All operations personnel will be provided with written safety guidance. All construction safety programs and procedures that apply to facility operations will be incorporated into the plant operational safety program.

Operations Injury Illness Prevention Program. The primary mitigation measures for worker hazards during operation are contained in the IIPP, which is required by 8 CCR, Section 3203. The written IIPP contains the following information:

- Identity of the person(s) with authority and responsibility for implementing the program
- A system for ensuring that employees comply with safe and healthy work practices
- A system for communicating with employees in a readily understandable form
- Procedures for identifying and evaluating workplace hazards including inspections to identify hazards and unsafe conditions
- Methods for correcting unhealthy/unsafe conditions in a timely manner - when the hazard is discovered and/or when there is an imminent danger
- A training program for:
 - Establishing the program initially
 - New, transferred, or promoted employees
 - New processes and equipment
 - Supervisors
- Methods of documenting inspections and training and maintaining records for 3 years

The IIPP designates a safety representative who is responsible for implementing the program. It also describes safety training for new employees and procedures for tracking safety training. The IIPP provides job hazard assessments (JHAs) for each job. The JHA will identify safety hazards related to each work task and establish procedures for avoiding, correcting, reporting, and notifying employees of these hazards.

Operational Written Safety Programs. The IIPP is used in conjunction with other written safety programs. These programs will include the following:

- Accident/Incident Reporting Procedures
- Blood-borne Pathogens Exposure Control Program
- Chemical Hygiene Plan
- Code of Safe Practices for Equipment and Operation
- Compressed Gas and Air Handling Systems
- Confined Space Entry Procedures
- Electrical Safety Procedures
- Emergency Action Plan
- Emergency Response Procedures
- Fall Protection Program
- Fire Protection and Prevention Plan
- Hand Tools and Equipment Guarding Safety Procedures
- Hazard Communication Plan (including Proposition 65 requirements)
- Hazardous Materials Handling Procedures
- Hazardous Waste Awareness Training
- Hearing Conservation Program
- Heat Stress/Cold Stress Prevention
- Heavy Equipment Procedures
- Hoist/Chain/Wire Rope/Webs/Rope Slings/Cranes
- Hot Work Program (Welding, Cutting, and Brazing)
- Industrial Hygiene Program
- Industrial Truck (forklifts) Safety

- Ladders, Scaffolds, and Work Platforms
- Lock Out/Tag Out Procedure
- Motor Vehicle Safety
- PPE Program
- Portable Electric and Pneumatic Tools
- Preventing Slips, Trips, and Falls
- Repetitive Stress Injuries/Ergonomics/Lifting Hazards
- Respiratory Protection Program
- Safety and Housekeeping Inspection Program
- Safety Committee and Toolbox/Tailgate Safety Meetings
- Security Program
- Stop Work Authority
- Signs, Tags, and Barricades
- Tools, Power, and Hand-operated

These programs will be reviewed annually to determine if they are affected by any new regulations and to determine the effectiveness of their implementation. Other written programs or plans may relate to worker safety in that they enable work to be performed in a safe manner. These include standard operating procedures, worker qualifications programs, and site security.

Operations Safety Training Programs. All CPP workers will be given instructions regarding their responsibility for safe conduct of their work. These instructions will be given in part at the time the employee is first hired and as an ongoing training program of hazard recognition and avoidance.

Workers will be instructed in the safety regulations pertinent to their employment tasks. Safe working conditions, work practices, and protective equipment requirements will be communicated in the following manner:

- New, promoted, or transferred employees receive safety training orientation
- Weekly safety meetings are held with employees
- Toolbox/tailgate safety meetings are conducted periodically for each crew. General safety topics and specific hazards that may be encountered will be discussed. Comments and suggestions from all employees will be encouraged

- Regularly scheduled safety meeting will be held for supervisors
- Hazard communication training, including California Proposition 65 warnings and discharge prohibitions, will be conducted as new hazardous materials are introduced to the workplace
- Material Safety Data Sheets (MSDSs) will be provided for all appropriate chemicals
- A bulletin board with required postings and other information will be maintained at the plant site
- Warning signs will be posted in hazardous areas

Safety training will be provided to each new employee as described below:

- A list of safe work rules for the CPP will be explained to each new employee.
- A copy of the applicable Safe Work Practices will be given to each new employee. The provisions will be incorporated into training for the qualifications programs so that employees may fully understand what the protective provisions mean.
- The Hazard Communication Program and other applicable training and requirements for personal protection for the types of hazards that may be encountered at the CPP site will be explained to employees. This training will be documented.
- Unusual hazards that are found onsite will be explained in detail to each new employee, including any specific requirements for personal protection.
- Safety requirements for the new employee's specific job assignment will be explained by the supervisor upon initial assignment and upon any reassignment.

Operations Personal Protective Equipment Program. Personal protective clothing and equipment will be used during specified work operations. Each employee will be provided the following information pertaining to the protective clothing and equipment:

- Proper use and maintenance
- When the protective clothing and equipment are to be used
- Benefits and limitations
- When and how the protective clothing and equipment are to be replaced
- Each employee is checked for proper fit and to see if they are medically capable of wearing the equipment

All safety equipment meets National Institute of Occupational Safety and Health (NIOSH) or American National Standards Institute (ANSI) standards and has all required markings,

numbers, or certificates of approval. Table 6.17-2 contains a list of the basic protective equipment that will be used at the CPP.

Hazardous Materials Handling and Storage. Various hazardous materials will be stored and used during construction and operation of the CPP. The storage, handling, and use of all chemicals will follow applicable LORS to minimize risks to workers. All hazardous materials will be appropriately labeled and stored in hazardous materials storage facilities. Bulk hazardous materials will be stored in aboveground storage tanks. Other hazardous materials will be stored in their delivery containers. Hazardous materials storage and chemical feed areas will be surrounded by containment or curbing to contain leaks and spills. The containment areas will be sized to hold an appropriate volume (considering the potential for the local hazard contingencies) as designated by a California registered Professional Engineer. At a minimum, this volume equals the full contents of the largest single tank plus sufficient capacity for precipitation from a 25-year, 24-hour storm event in the case of outdoor storage tanks. A Risk Management Plan (RMP) will be developed for the storage and use of aqueous ammonia onsite. The RMP will detail specific safety requirements, procedures, and training to protect workers from exposure to ammonia.

Safety showers and eyewash stations will be provided in or adjacent to corrosive chemical storage areas and in required areas in accordance with regulatory requirements. PPE and spill response equipment for the exposure and cleanup will be readily available for plant personnel for use during spill containment and cleanup activities. A hazardous material emergency response team, trained in the handling of these emergencies and accidental releases of hazardous materials, will be available to the CPP through contract. Emergency contact numbers will be available for spill response contractors and for notification to local agencies of spill incidents. These and other procedures will be detailed in the CPP Emergency Action Plan.

Operations Emergency Action Plan/Emergency Response Plan. In addition to the incorporation of various safety and environmental features and design measures to minimize emergencies and their effects on public and worker safety, the CPP will develop a site-specific Emergency Action Plan/Emergency Response Plan. A typical Emergency Action Plan/Emergency Response Plan outline is provided in Table 6.17-4. The Emergency Action Plan/Emergency Response Plan is designed to address potential emergencies, including hazardous materials releases, fires, bomb threats, pressure vessel ruptures, and other catastrophic events. It describes evacuation routes, warning devices, points of contact,

**TABLE 6.17-4
SAMPLE EMERGENCY ACTION/EMERGENCY
RESPONSE PLAN OUTLINE**

Section Number	Description
1.0	Introduction
1.1	Purpose
1.2	Scope
2.0	Responsibilities
2.1	Incident Command System Emergency Response Coordinator Emergency Evacuation Coordinator Alternate Safety Coordinator
2.2	Position Description Assignments Construction/Facility Manager Construction/Facility Supervisor Operators Health and Safety Manager Security
3.0	Response and Notification Plan (Points of Contact)
3.1	Supervisor/Emergency Coordinator
3.2	Health and Safety Manager
4.0	Response Procedures
4.1	Evacuation Routes and Procedures
4.2	Accidents Involving Serious Injury and/or Death
4.3	Fire
4.4	Hazardous Waste or Chemical Spills
4.5	Earthquake
4.6	Bomb Threat
4.7	Emergency Plant Shutdown
4.8	Site Security
4.9	Emergency Medical Treatment and First Aid
4.10	Decontamination
4.11	Documentation and Recordkeeping
4.12	News Media
4.13	Emergency Notification List
4.14	Emergency Telephone Numbers List

TABLE 6.17-4 (CONTINUED)
SAMPLE EMERGENCY ACTION/EMERGENCY
RESPONSE PLAN OUTLINE

Section Number	Description
5.0	Reference Procedures
5.1	Evacuation Plan
5.2	Emergency Equipment Locations
5.3	Fire Extinguisher Locations
5.4	Security
5.5	Accident Reporting and Investigation
5.6	Lockout/Tagout
5.7	Hazard Communication
5.8	Spill Containment and Reporting
5.9	First Aid and Medical Response
5.10	Respiratory Protection
5.11	Personal Protective Equipment
5.12	Sanitation
5.13	Work Site Inspections

assembly areas, responsibilities, and other actions to be taken in the event of an emergency. The plan has a layout map and a fire extinguisher list, and describes arrangements with local emergency response agencies for responding to emergencies.

Fire Prevention Plan. Fire protection at the CPP plant site will include measures relating to safeguarding human life, preventing personnel injury, preservation of property, and minimizing downtime due to fire or explosion (National Safety Council, 1992). It involves physical arrangements, such as sprinkler systems, water supplies, and fire extinguishers. Fire protection measures include fire prevention measures to prevent the inception of fires. Of concern are adequate exits, fire-safe construction, reduction of ignition sources, and control of fuel sources.

The Fire Prevention Plan provides for fire protection practices, including routine inspections of the CPP plant by the designated safety representative, and it requires prompt action to correct situations deemed to be a fire hazard. It identifies firefighting equipment and systems at the plant as well as methods to safely store flammable and combustible materials. Facilities have been designed by a California Registered Fire Protection Engineer and fire protection equipment is installed and maintained in accordance with all applicable NFPA

standards and recommendations (NFPA, 1994). A fire reporting protocol (depending on the size of the fire) and an investigation protocol are detailed in the Fire Prevention Plan.

The comprehensive onsite fire protection system and procedures will be designed and implemented to protect both personnel and property. A Program Fire Protection Station Order will be developed to address:

- Names and/or job titles responsible for maintaining equipment and accumulation of flammable or combustible material control
- Procedures in the event of fire
- Fire alarm and protection equipment
- System and equipment maintenance
- Monthly inspections
- Annual inspections
- Firefighting demonstrations
- Housekeeping practices
- Training

Fire Protection and Safety Systems. The project will rely on both onsite fire protection systems and local fire protection services. Staff at the CPP will be first responders. Anaheim Fire Department will be responding fire department, and is equipped to handle an industrial fire such as one that could occur at the CPP facility.

Fire Water System. The CPP plant design will include a plant fire water loop with two independent points of water supply from the municipal water supply system off of East Miraloma Avenue. The plant fire water loop will provide for water supply for plant sprinkler systems, water deluge systems, and for fire hydrants. The anticipated fire flow needed for the site per the CFC is 1,500 gpm based on a 15,000 square foot plant operations building which is fully fire sprinkler protected.

Fixed Fire Protection Systems. A summary of the plant fire protection systems and equipment is as follows:

1. Fire separation walls will be used for the generator step-up transformers (GSU).
2. Fire separation walls will be used for auxiliary transformers.
3. Each LM6000 CTG is provided with a self-contained carbon dioxide (CO₂) flood fire protection system. The system is a pre-engineered system provided by GE as part of the

CTG package. The CO₂ flood system protects the turbine enclosure and generator enclosure.

4. The CTG auxiliary skid (lube oil and hydraulic skid with 391 gallon lube oil storage tank and 40 gallon hydraulic oil storage tank) that comes with the CTG is not enclosed and is not protected by the CTG CO₂ flood system. The CTG auxiliary skid sits adjacent to the CTG with no fire barrier separation. Due to its proximity to the CTG with no separation, the CTG auxiliary skid will be contained within a concrete spill berm to contain an oil fire and protected by a water spray deluge system as recommended in NFPA 850.
5. Each GSU will be contained within a concrete spill-containment berm to contain an oil fire. The top of the containment berm will utilize a 12-inch thick layer of nominal 1.5-inch-diameter round river rock to suppress an oil fire in accordance with Factory Mutual recommendations.
6. Each auxiliary transformer will be contained within a simple concrete spill berm to contain an oil fire.
7. The 2-story plant operations building (which includes the control room, administration area, warehouse, and maintenance shop area) will be protected with a combination of wet pipe and dry pipe preaction sprinkler systems. The administration area, warehouse area, and maintenance area will be protected with wet pipe sprinkler systems. The control room area will be protected with a dry pipe preaction sprinkler system. Also, building interior fire separation walls will be 2-hour rated as recommended in NFPA 850.
8. The 69 kV gas-insulated switchyard control house will be protected by a dry-type fire suppression and detection system in accordance with NFPA recommendations as well as COA Codes. A Dupont FE-25 type fire suppression system will be provided for the two zones of the building: relay and communication panels, and the battery room.
9. The plant electrical equipment enclosures (EEE) housing the plant switchgear and motor control centers will be protected by a dry-type fire suppression and detection systems in accordance with NFPA recommendations as well as COA Codes. A Dupont FE-25 type fire suppression system will be provided for the buildings to protect the electrical equipment.
10. Natural gas is used as the fuel for the plant. The incoming utility gas pipeline will include an automatic fail-closed fire-safe valve. The valve can be automatically closed via the plant fire detection system, as well as manually closed from remote by the plant operators in response to a fire situation and/or conditions within the plant.
11. The area located within the fuel gas compressor sound walls will be designed as an explosion-proof Class 1, Division 2 area in accordance with the National Electric Code.

Fire Alarm and Detection. The plant design will include a central fire alarm monitoring panel located in the main plant control room. The fire alarm panel will continuously monitor

all plant fire protection systems and alert the control room operator in the event of a fire. In the event of a fire alarm, the panel will also send a direct fire alarm signal to the Anaheim Fire Department as well as the COA power dispatch control office.

Portable Extinguishers. Portable hand held multi-use type fire extinguishers will be located within buildings and also throughout the plant in accordance with NFPA recommendations and local fire department requirements.

Local Fire Protection Services. In the event of a major fire, plant personnel will be able to call upon the Anaheim Fire Department for assistance. The Hazardous Materials Risk Management Plan (see Section 6.15, Hazardous Materials Handling) for the plant will include all information necessary to permit firefighting and other emergency response agencies to plan and implement safe responses to fires, spills, and other emergencies. Water will be used as the primary extinguishing agent. Chemical and gas extinguishing agents (permanently installed or in portable extinguishers) will be provided in special hazard areas where water would be ineffective or harmful to the equipment being protected.

The CPP onsite fire suppression systems will be backed up by fire suppression support from the Anaheim Fire Department.

6.17.3 Mitigation Measures

Environmental consequences related to worker safety are not foreseen at this time; therefore, additional measures beyond those proposed herein are not considered necessary. No significant unavoidable adverse impacts to worker safety are anticipated from the proposed project. Additional measures may be necessary should the proposed project change in a manner that impacted worker safety.

6.17.4 Applicable LORS

The following LORS are applicable or potentially applicable to the proposed project in the context of the public and occupational safety and health protection measures addressed in this section and in Section 6.16, Public Health. LORS applicable to worker safety are summarized in Table 6.17-5.

6.17.4.1 Federal

6.17.4.1.1 Occupational Safety and Health Act of 1970 (OSHA), 29 USC §651 et seq.; 29 CFR §§1910 et seq.; and 29 CFR §1926 et seq. The authority establishes occupational safety and health standards (§1910) (i.e., permissible exposure limits for toxic air

**TABLE 6.17-5
APPLICABLE LORS**

LORS	Applicability	Conformance (Section)
Federal		
Occupational Health & Safety Act of 1970 (OSHA), 29 USC 651 <i>et seq.</i> ; 29 CFR 1910 <i>et seq.</i> ; and 29 CFR 1926 <i>et seq.</i>	Meet employee health and safety standards for general industry and the construction industry	6.17.4.1
Department of Labor, Safety and Health Regulations for Construction Promulgated Under Section 333 of the Contract Work Hours and Safety Standards Act, 40 USC 327 <i>et seq.</i>	Meet employee health and safety standards for construction activities. Requirements addressed by CCR Title 8, General Construction Safety Orders	6.17.4.1
Uniform Fire Code, Article 80	Addresses prevention, control and mitigation of dangerous conditions related to storage, dispensing, uses, and handling of various hazardous materials. Also identifies information needed by emergency response personnel.	6.17.4.1
National Fire Protection Association (See Table 7.4-1 for list of standards)	Meet standards necessary to establish a reasonable level of safety and property protection from the hazards created by fire and explosion	6.17.4.1
State		
California Code of Regulations, Title 8	Meet requirements for a safe and hazard-free working environment. Categories of requirements include General Industry Safety Orders, General Construction Safety Orders, Electrical Safety Orders	6.17.4.2
California Clean Air Act, California Health & Safety Code 39650 <i>et seq.</i>	Meet requirements for Best Available Control Technology to minimize exposure limits to toxic air pollutants and possible risk assessments for carcinogen pollutants	6.2
California Public Resources Code §25523 (a); 20 CCR §§1752, 1752.5, 2300-2309, and Chapter 2, Subchapter 5, Appendix B, Part (I) (3) and (4).	Evaluate compatibility of the proposed project with relevant land use plans.	6.9
California Health and Safety Code §25500 to 25541; 19 CCR §§2720-2734	Estimate emissions for listed air toxic pollutants and submit inventory to air district for major sources of criteria air pollutants. Follow-up from air district may require a health risk assessment	6.17.4.2
Local		
City of Anaheim Fire Department, Hazardous Materials Section (HMS)	Provide implementation of the Hazardous Materials Business Plan and Risk Management Plan	6.17.4.3

TABLE 6.17-5 (CONTINUED)
APPLICABLE LORS

LORS	Applicability	Conformance (Section)
Industry Standards		
American National Standards Institute (ANSI) and American Society of Mechanical Engineers (ASME)	Provide internal standards regarding design and operations of industrial facilities and equipment.	6.17.4.4

contaminants [§1910.100], electrical protective equipment requirements [§1910.137], electrical workers safety standards [§1910.269], and the requirement that information concerning the hazards associated with the use of all chemicals is transmitted from employers to employees [§1910.1200]) and safety and health regulations for construction (§1926). Subpart I of §1910 and Subpart E of §1926 address personal protective equipment.

Under the Operational Status Agreement of October 5, 1989 between the Federal Occupational Safety and Health Administration (OSHA) and the California Department of Industrial Relations, Division of Occupational Safety and Health (DOSH), the state resumed full enforcement responsibility for most of the relevant federal standards and regulations, (55 Fed. Reg. 18610 [July 12, 1990]; 29 CFR §1952.172). Federal OSHA has retained concurrent enforcement jurisdiction with respect to certain federal standards including standards relating to hazardous materials at 29 CFR §1910.120 (*Id.*).

The administering agencies for the above authority are OSHA and DOSH (or CalOSHA).

6.17.4.1.2 Department of Labor, Safety and Health Regulations for Construction Promulgated Under §333 of the Contract Work Hours and Safety Standards Act, 40 USC 327 et seq. The code establishes safety and health regulations for construction. The requirements for this regulation are all addressed in Title 8 California Code of Regulations, Chapter 4, Subchapter 4, General Construction Safety Orders.

The administering agencies for the above authority are OSHA and DOSH (or CalOSHA).

6.17.4.1.3 Uniform Fire Code, Article 80. The article includes provisions for storage and handling of hazardous materials. Considerable overlap exists between this code and Chapter 6.95 of the Health and Safety Code. However, the fire code does contain independent provisions regarding fire protection and neutralization systems for emergency venting (§80.303, D, Compressed Gases). Other articles that may be applicable include Article 4, Permits, and Article 79, Flammable and Combustible Liquids.

The administering agency for the above authority is the Anaheim Fire Department, Hazardous Materials Section (HMS).

6.17.4.1.4 National Fire Protection Association. NFPA prescribes minimum requirements necessary to establish a reasonable level of fire safety and property protection from the hazards created by fire and explosion. The standards apply to the manufacture, testing, and maintenance of the equipment.

The administering agency for the above authority is the Anaheim Fire Department.

6.17.4.1.5 Compliance. CPP will comply with all federal LORS by developing appropriate plans and policies as well as by measures described in Sections 6.17.2 and 6.17.3.

6.17.4.2 State

6.17.4.2.1 8 CCR. These authorities prescribe general occupational safety and health regulations and standards in addition to the construction and industrial safety regulations, standards, and orders. Applicable sections of 8 CCR, Chapter 4, Subchapter 7 and 24 CCR, will be complied with. Topics of concern are provided in Table 7.4-2 of that document. Specifically, 8 CCR §1509 (Construction) and §3203 (General Industry) make numerous changes designed to redirect the emphasis of CalOSHA towards ensuring that employers have an effective work site IIPP, to focus CalOSHA discretionary inspections in the highest hazard industries as determined by worker compensation and other occupational injury data, and to limit the number of follow-up inspections which CalOSHA must perform. The CCR, Title 8, Section 5189, requires facility owners to develop and implement effective Safety Management Plans to ensure that large quantities of hazardous materials are handled safely. While such requirements primarily provide for the protection of workers, they also indirectly improve public safety and are coordinated with the Risk Management Plan process.

6.17.4.2.2 California Health and Safety Code, Section 25500. This code requires companies that handle hazardous materials in sufficient quantities to develop a Hazardous Materials Business Plan (HMBP). The HMBP includes the basic information on the location, type, quantity, and health risks of hazardous materials handled, stored, used, or disposed of that could be accidentally released into the environment. It also includes a plan for training new personnel, and for annual training of all personnel in safety procedures to follow in the event of a release of hazardous materials. It also includes an emergency response plan and identifies the business representative able to assist emergency personnel in the event of a release.

The California Health and Safety Code, Section 25531, directs facility owners storing or handling acutely hazardous materials in reportable quantities to develop an RMP and submit it to appropriate local authorities, the United State Environmental Protection Agency

(USEPA), and the designated local Administering Agency for review and approval. The RMP includes:

- An evaluation of the potential impacts associated with an accidental release
- The likelihood of an accidental release occurring
- The magnitude of potential human exposure
- Any pre-existing evaluations or studies of the material
- The likelihood of the substance being handled in the manner indicated
- The accident history of the material

This new, recently developed program supersedes the California Risk Management and Prevention Plan and is known as the California Accidental Release Program. The CPP will develop and submit an RMP prior to operation of the CPP.

6.17.4.2.3 Compliance. CPP will comply with all state LORS by developing appropriate plans and policies as well as by measures described in Sections 6.17.2 and 6.17.3.

6.17.4.3 Local

6.17.4.3.1 City of Anaheim Fire Department, Hazardous Materials Section. Provides for the implementation of the Hazardous Materials Business Plan and Risk Management Plan.

6.17.4.3.2 Compliance. CPP will comply with all local LORS. The CPP will develop an HMBP for construction and operation of the new facility, and will develop an RMP for operation of the new facility. In addition, the CPP will continue compliance by updating the appropriate plans and policies as well as by the measures described in Sections 6.17.2 and 6.17.3.

6.17.4.4 Industry Standards

A variety of private and industrial organizations have established internal standards regarding the design and operation of industrial facilities and equipment. These include the American National Standards Institute (ANSI), and the American Society of Mechanical Engineers (ASME). Many of these standards have been incorporated into federal and state regulations and into building codes.

6.17.4.5 Agencies and Agency Contacts

Agencies with jurisdiction to issue applicable permits and/or enforce LORS related to worker safety are shown in Table 6.17-6.

**TABLE 6.17-6
AGENCY CONTACTS**

Agency	Contact	Title	Telephone
Anaheim Fire Department, Hazardous Materials Section	John White	Deputy Fire Marshall	(714) 765-4055
Anaheim Fire Department	Scott Berg	Operations Division Chief	(714) 765-4050
California Occupational and Safety Administration (CalOSHA)	On-call Specialist	Consultation Services Compliance Division	(909) 383-4567 (909) 383-4321

6.17.4.6 Applicable Permits

The permits required for this project are listed in Table 6.17-7. An HMBP will be developed prior to construction and will be updated prior to operation. An RMP will be developed prior to ammonia being brought onto the CPP site.

**TABLE 6.17-7
APPLICABLE PERMITS**

Jurisdiction	Potential Permit Requirements
Federal	None required
State	None required
Local	Hazardous Materials Business Plan and Risk Management Plan

6.17.5 References

American Conference of Governmental Industrial Hygienists. 1996. Threshold Limit Values (TLV) for Chemical Substances and Physical Agents and Biological Exposure Indices.

California Code of Regulations. ND. Title 8. "General Industry Safety Orders, Construction Safety Orders, and High Voltage Electrical Safety Orders."

Code of Federal Regulations. ND. Title 29 Part 1910. "Construction Safety Orders."

ND. Title 29 Part 1926. "General Industry Safety Orders."

National Fire Protection Association. 1994. *A Compilation of NFPA Codes, Standards, Recommended Practices and Guides*. Quincy, Massachusetts.

National Institute for Occupational Safety and Health. 1978. Health Hazard Evaluation Report, U.S. Army Corps of Engineers, Ozark Power Plant, Ozark, Kansas.

1983. Health Hazard Evaluation Report, Grand Gulf Nuclear Power Plant, Port Gibson, Mississippi. HETA-83-132-1508.

1985. Health Hazard Evaluation Report, Niagara Mohawk Power Corporation, Lycoming, New York. HETA-85-493-1786.

1986. Health Hazard Evaluation Report, City of Ames Municipal Power Plant, Ames, Iowa. HETA-86-422-1891.

1992. Health Hazard Evaluation Report, U.S. Army Corps of Engineers, Ozark Power Plant, Ozark, Kansas. HETA-92-0243-2377.

National Safety Council. 1992. Accident Prevention Manual. Volume 2, Chapter 6, Fire Protection. pp. 1324-1386.