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4.16 WORKER SAFETY AND FIRE PROTECTION

This section describes the worker safety and fire protection programs that will be established and implemented during construction, commissioning, and operation of the proposed Puente Power Project (P3 or project). The purpose of these programs is to protect human health and capital resources, and minimize the potential for workplace injuries and illnesses at the facility. The development and implementation of these programs will also ensure compliance with applicable laws, ordinances, regulations, and standards (LORS), as established by the California Occupational Safety and Health Administration (Cal/OSHA), California Health and Safety Code, and the International Fire Code (IFC).

The following sections provide a description of the workplace; anticipated workplace hazards; define the crucial safety programs and related safety training programs; present the applicable LORS; and identify local safety agency contacts and permit requirements.

4.16.1 Workplace Description

P3 will replace two aging gas-fired steam-generating units (Units 1 and 2) at the existing Mandalay Generating Station (MGS) with a new state-of-the-art General Electric (GE) Frame 7HA.01, single-fuel combustion turbine generator (CTG) and associated auxiliaries. P3 will be developed on approximately 3 acres of previously disturbed vacant brownfield land within the existing boundaries of MGS. All construction laydown and parking areas will also be within the existing MGS site. To minimize environmental impacts associated with the construction of new operations, maintenance, warehouse, and transmission interconnections, existing ancillary systems will be upgraded and repurposed to serve P3 to the extent feasible. If P3 is approved and developed, MGS Units 1 and 2 would be retired by the completion of commissioning of P3.

The generator output from P3 will be stepped-up to 220-kilovolt transmission voltage from the GE 7HA.01 CTG, operating in simple-cycle mode. The new generating unit will tie into the existing Mandalay Switchyard owned by Southern California Edison using one of the breaker positions that will be vacated when MGS Units 1 and 2 are removed from service. The P3 will use natural gas supplied by Southern California Gas Company, and connect to a new gas metering station adjacent to the project site; a new natural gas pipeline of approximately 500 feet will extend from the new gas metering station through a new gas compressor to the combustion turbine interface. The process water source and potable water source will be water from the City of Oxnard; the point of connection will be to the existing MGS potable water supply.

4.16.2 Health and Safety Plan

A site-specific health and safety plan (HSP) will be developed by the engineering, procurement, and construction (EPC) contractor for its scope of work. The HSP will incorporate information and procedures to be followed by onsite personnel for the completion of the work. The HSP will outline requirements and provide guidance for control of construction safety hazards in compliance with safety standards and protection of public health.

4.16.3 Occupational Health and Safety

Construction, commissioning, operation, and maintenance activities associated with P3 may expose workers to physical and chemical hazards. Potential worker exposure to these hazards will be minimized through adherence to appropriate engineering design criteria, implementation of appropriate administrative procedures, use of personal protective equipment (PPE), and compliance with applicable health and safety LORS. Formal health and safety procedures and programs will be established and implemented for construction and operations to control the various hazards and provide for a safe workplace. The site-specific Injury and Illness Prevention Program (IIPP) and safety training programs,

which are intended to protect worker health and safety during construction and operation of the project, are described in the following sections.

In addition, because contaminated soil and groundwater could be encountered during construction, a Soil Management Plan will be developed and implemented for the construction activities of P3 (refer to Section 4.14 and Appendix M-2). The Soil Management Plan will provide guidance for the proper identification, handling, onsite management, and disposal of impacted soil or groundwater that may be encountered during construction activities (ground disturbance). The plan would include practices that are consistent with the Title 8 Cal/OSHA regulations. Table 4.16-1 lists potential hazards that workers may be exposed to while working. Tables 4.16-2 and 4.16-3 present programs for construction/commissioning and operations training, respectively.

4.16.4 Injury and Illness Prevention Program

Prior to beginning construction activities, P3 and the EPC contractor will develop a site-specific construction and commissioning IIPP. Once the construction of the project is complete, a site-specific IIPP for operations and maintenance activities will be implemented. Table 4.16-4 provides an example outline of a construction and commissioning IIPP.

4.16.4.1 Construction and Commissioning Injury and Illness Prevention Program

Consistent with Cal/OSHA policy on multi-employer work sites, each employer will be responsible for the health and safety of their own employees. Periodic health and safety audits will be conducted to verify contractor and subcontractor compliance with contractual health and safety obligations.

4.16.4.1.1 Construction and Commissioning Safety Program

The overall written construction and commissioning safety program will include provisions to ensure compliance with requirements of the Cal/OSHA IIPP (California Code of Regulations [CCR] Title 8, Section 1509) and will include:

- Providing a written Code of Safe Practices that relates to construction operations;
- Identifying the person or persons responsible for implementing the construction safety program;
- Posting the Code of Safe Practices at a conspicuous location at the job site office, and providing it to each supervisor, who shall have it readily available;
- Providing a description of the system for identifying workplace hazards, including workplace inspections, job hazard analysis, and written hazard assessments;
- Providing methods and protocols for site communications, including hand signals and electronic devices;
- Conducting periodic meetings with employee representatives, supervisors, and management to discuss safety issues, including compliance assessments, accidents, injuries, and new or modified health and safety procedures;
- Implementing a system for ensuring employee and subcontractor compliance;
- Conducting routine “tailgate” safety meetings conducted with employees and supervisors;

- Implementing a system for promoting employees' feedback and suggestions for improving workplace safety;
- Implementing procedures for promptly correcting unsafe conditions; and
- Identifying safety training and experience requirements for specific work activities.

4.16.4.1.2 Construction Personal Protective Equipment Program

Contractor employees will use PPE during construction as specified in the construction PPE program. Required PPE will be identified through hazard assessment and general industry standards. The specific PPE ensemble required for each job task will be specified in the job hazard analysis (JHA) for that task. All PPE worn on site will comply with Cal/OSHA and American National Standards Institute requirements. Respiratory protection will be included in the PPE program. Employees will not be required to wear respiratory protection or to work in areas requiring respiratory protection until they have received a medical evaluation, respirator fit-testing, and training on the proper use, limitations, and care of respirators.

Table 4.16-5 lists PPE for site activities. Table 4.16-6 provides an example outline of a construction safety PPE program.

4.16.4.1.3 Construction Exposure Monitoring Program

An exposure monitoring program will be developed to evaluate potential employee exposures to hazardous/toxic materials. Potential exposures will be identified during the task-specific JHA. Air monitoring may be conducted if necessary to evaluate the potential for employee exposures to the contaminants of concern. Airborne exposures will be controlled through the implementation of engineering controls, administrative controls, or PPE. Air monitoring will also be required in support of other safety programs, including confined space entry, hot work permits, and emergency response. Noise-level monitoring will also be performed as necessary during the construction phase, and initially during new facility operation, to evaluate potential employee noise exposures.

4.16.4.1.4 Construction Emergency Action Plan

An Emergency Action Plan will be developed specifically for the construction phase of the project. The Emergency Action Plan will designate responsibilities and actions to be taken in the event of an emergency at the site. All employees working at the site will be trained on the contents of the program. The Emergency Action Plan will include:

- Emergency roles and responsibilities;
- Emergency notification procedures; and
- Egress routes and assembly points.

4.16.4.1.5 Construction Written Safety Programs

Additional written safety programs that will be established for the construction phase include, but are not limited to:

- Hazard communication program;
- Soil management plan;
- Confined-space program;
- Control of hazardous energy program (Lockout/Tagout);
- Hearing conservation program;

- Respiratory protection program;
- Blood-borne pathogens control program;
- Injury and accident reporting and investigation program;
- Ergonomics program;
- Near miss program;
- Emergency response program, including first aid and medical services;
- Evacuation procedures;
- Safety walk downs/observations;
- Smoking policy;
- General housekeeping, material handling, and storage procedures;
- Vehicle and traffic procedures;
- Fall protection program/elevated work procedures;
- Heavy equipment procedures;
- Communication for heavy lift/noisy work areas;
- Hot work procedures;
- Crane and hoist procedures;
- Compressed gas and air handling procedures;
- Subcontractor safety programs;
- Equipment inspection programs;
- Supervisor safety and health orientations;
- Excavation and trenching program;
- Hand tools and equipment guarding;
- Chemical delivery and off-loading procedures;
- Forklift operation; and
- Slips, trips, and falls prevention.

4.16.4.2 Operations and Maintenance Injury and Illness Prevention Program

Upon completion of construction, startup of the project, and implementation of routine operations, the construction and commissioning IIPP will transition into an operations-oriented program that reflects the hazards and controls necessary during routine operations and maintenance of P3. The IIPP will address any unique hazards specifically associated with operations and maintenance of P3. Programs that will be implemented include an IIPP, Fire Protection and Prevention Plan, Emergency Action Plan, Hazardous Material Management Program, and PPE Program and Operations and Maintenance Written Safety Program.

4.16.4.2.1 Injury and Illness Prevention Program

The primary mitigation measures for worker hazards during normal plant operation and maintenance are contained in the IIPP, as required by 8 CCR, Section 3203. The written IIPP designates an individual who is responsible for implementing the program. It also describes safety training, and procedures for tracking safety training. JHAs identify safety hazards related to work tasks, and establish procedures for avoiding, correcting, reporting, and notifying employees of these hazards.

An IIPP contains the following information and procedures:

- Identifies the person(s) with authority and responsibility for implementing the program;
- Provides a system for ensuring that employees comply with safe and healthy work practices;
- Provides a system for facilitating employer–employee communications regarding safety;
- Provides procedures for identifying and evaluating workplace hazards, including inspections to identify hazards and unsafe conditions;

- Establishes methods for correcting unhealthy/unsafe conditions in a timely manner;
- Provides systems for reviewing “Lessons Learned” to promote continuous improvement;
- Provides an employee training program that includes:
 - introducing the program;
 - training of new, transferred, or promoted employees;
 - training on new processes and equipment;
 - supervisor training; and
 - evaluation of contractor training; and
- Identifies methods of documenting inspections and training, and for maintaining appropriate records.

Table 4.16-7 provides an example outline of an IIPP.

4.16.4.2.2 Emergency Action Plan

In addition to incorporating various safety and environmental features and design measures to minimize emergencies and their effects on public and worker safety, P3 will have a site-specific Emergency Action Plan. The Emergency Action Plan will address potential emergencies, including chemical releases, fires, bomb threats, pressure vessel ruptures, aqueous ammonia releases, severe weather, and other catastrophic events. The plan will describe evacuation routes, alarm systems, emergency equipment, points of contact, communication, assembly areas, responsibilities, and other actions to be taken in the event of an emergency. The plan will include a layout map, a fire extinguisher list, and a description of arrangements with local emergency response agencies for responding to emergencies. The plan will provide guidance for incident evaluation and reporting. Table 4.16-8 provides an example outline of an Emergency Action Plan.

4.16.4.2.3 Hazardous Materials Management Program

As described in Section 4.5, several chemicals will be stored and used during the operation of P3. The storage and handling of chemicals will follow applicable LORS to minimize risk to workers and the surrounding community. Chemicals will be identified and stored in appropriate chemical storage facilities. Bulk chemicals will be stored in aboveground storage tanks; other chemicals will be stored in their delivery containers. Chemical storage and chemical feed areas will be surrounded by temporary or permanent secondary containment or curbing to contain leaks and spills. The containment areas will be sized appropriately (considering the potential for the local hazard contingencies), as designated by a California Registered Professional Engineer.

Safety showers and emergency eyewash stations or bottles will be provided at all chemical treatment and storage areas, laboratories, and battery rooms in accordance with 8 CCR requirements (within 50 feet, or 10 seconds of travel time). Standard PPE for use during chemical-handling activities will be provided. Self-contained breathing apparatus sets and an automated external defibrillator device will be available in the Control Room. First-aid kits will be located in work areas around the plant. Fire blankets and evacuation stretchers will be located in the control building. Standard PPE will be readily available for use during minor chemical spill containment and cleanup activities by plant personnel. Adequate supplies of absorbent material will also be available on site for minor spill cleanup. A hazardous material emergency response team, trained in managing the accidental release of the chemicals used and stored at the plant, will be available through contract. Emergency contact numbers will be available to summon assistance from these contractors and for notification of local agencies. These procedures will be detailed in the Emergency Action Plan.

4.16.4.2.4 Personal Protective Equipment Program

The PPE requirements will be developed and incorporated into the IIPP, and identified during the JHA process. The PPE program will include the following:

- Hazard analysis and prescription of PPE;
- Personal protective devices;
- Head protection;
- Eye and face protection;
- Body protection;
- Hand protection;
- Foot protection;
- Safety belts and life lines;
- Protection for electric shock; and
- Respiratory protective equipment.

Table 4.16-9 provides an example outline of an operations PPE program.

4.16.4.2.5 Operations and Maintenance Written Safety Program

Additional written safety programs will be developed and implemented as necessary to address hazards that are identified with operation and maintenance of the P3. These programs will be components of the overall operations and maintenance IIPP for P3. These programs include, but are not limited to, the following:

- Hazard communication program;
- Confined-space program;
- Control of hazardous energy program (Lockout/Tagout);
- Hearing conservation program;
- Respiratory protection program;
- Blood-borne pathogens control program;
- Injury and accident reporting and investigation program;
- Medical surveillance program;
- Ergonomics program;
- Emergency response program, including first aid and medical services;
- Evacuation procedures;
- Smoking policy;
- General housekeeping, material handling, and storage procedures;
- Vehicle and traffic procedures;
- Fall protection program/elevated work procedures;
- Heavy equipment procedures;
- Hot work procedures;
- Crane and hoist procedures;
- Compressed gas and air-handling procedures;
- Subcontractor safety programs;
- Equipment inspection programs;
- Supervisor safety and health orientations;
- Excavation and trenching program;
- Record keeping;
- Hand tools and equipment guarding;

- Chemical delivery and off-loading procedures;
- Forklift operation;
- Slips, trips, and falls prevention;
- Contractor safety program;
- Job safety analysis;
- Fire safety;
- PPE self-inspection;
- Scaffolds;
- High-voltage gloves and hot sticks;
- Process Safety Management; and
- Risk Management Plan (RMP).

4.16.4.2.6 Occupational Noise

Upon P3 achieving sustained operations capability, an occupational noise survey will be conducted to identify the noise hazards in the facility. The survey will be conducted in accordance with Title 8 CCR Sections 5095 through 5099 and Code of Federal Regulations Section 1910.95. The results of the survey will be used to determine the magnitude of employee noise exposure, and to assist with developing mitigation measures for workers.

4.16.5 Safety Training Programs

To ensure that employees recognize and understand how to protect themselves from hazards at P3, comprehensive training programs for construction and operations personnel will be implemented. The following sections provide an overview of the training programs that will be required for workers at P3.

4.16.5.1 Construction and Commissioning Safety Training Program

Workers participating in construction and commissioning of the project will participate in applicable training programs designed to protect them and others from injuries while at the site. All personnel will be required to attend a basic site safety orientation training course. Additional training will be provided to each individual, based specifically on their job responsibilities or craft for those requirements where previous satisfactory training cannot be documented. All training courses will be documented, and attendance records will be maintained at a centralized location. Table 4.16-2 provides an overview of the training programs that will be provided to construction and commissioning personnel.

4.16.5.2 Operations and Maintenance Safety Training Programs

Operations and maintenance employees will receive instructions regarding their responsibility for the safe conduct of their work. These instructions will be given at the time the employee is first hired, and as an ongoing training program of hazard recognition and avoidance. Employees will also be instructed in safety procedures pertinent to their employment tasks. Safe working conditions, work practices, and protective equipment requirements will be communicated in the following manner:

- A new, promoted, or transferred employee will receive safety training orientation.
- Safety meetings will be held with employees.
- “Tailgate” safety meetings will be conducted regularly 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.

- A periodic staff safety meeting will be held for supervisors.
- Hazard communication training, including California Proposition 65 warnings and discharge prohibitions, will be conducted as necessary when new hazardous materials are introduced to the workplace.
- All hazardous materials will be reviewed before they are brought on site.
- Material safety data sheets will be available as required for all appropriate chemicals.
- A bulletin board with required postings and other information will be maintained at the plant site.
- Warning signs (e.g., hazardous waste storage area, confined space area) will be posted in hazardous areas that comply with applicable regulations (i.e., bilingual, correct font size).

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

- A list of safe work rules for the P3 facility 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 requirements for personal protection for the types of hazards that may be encountered at the P3 facility site will be explained and documented.
- Unusual hazards that are found on site 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 foreman upon initial assignment and upon any re-assignment.

Table 4.16-3 provides an overview of the training programs that will be available to operations and maintenance personnel.

4.16.5.3 Contractors

An element of the Operations and Maintenance Safety Training Program includes addressing compliance with contractor safety while on site. Contractors will be provided with a list of potential job safety hazards for their assigned activity by a foreman, including safety rules, chemical exposure hazards, physical hazards, and PPE. Contractors will also be invited to attend "tailgate" safety meetings.

4.16.6 Fire Protection

The proposed project will use the existing MGS firewater pumps and service water tank to service the new facility. The existing firewater loop will be expanded as required, as shown on Figure 2.7-9. The plant fire protection system will be designed to protect personnel and limit property loss and plant downtime in the event of a fire. All fire protection equipment will be approved by Factory Mutual Research Corporation and/or listed by Underwriter Laboratories for fire protection equipment. The system will include a multi-zone water-mist fire protection system for the CTG, furnished by the CTG manufacturer; fire hydrants; and portable fire extinguishers. The primary source of fire protection water will be water stored in the existing MGS Service Water Storage Tank. Approximately 100,000 gallons of water are reserved in the tank for fire water use. There are two existing electric fire pumps at the tank.

The power supply to these pumps will be revised. One pump will be connected to the new P3 switchgear, with back up from the new P3 emergency diesel generator; and one pump will be connected to MGS Unit 3, which gets its electrical feed from a separate Southern California Edison 66-kilovolt switchyard (this pump will become the emergency backup pump). Each pump is rated 1,000 gallons per minute at 120 pounds per square inch. The new gas turbine unit is equipped with a fire detection and water misting system that receives water supply from the fire water system. The fire pumps will start automatically when called for by the gas turbine fire detection system, or manually via the plant control system. The system is designed in accordance with:

- Federal, state, and local fire codes, occupational health and safety regulations, and other jurisdictional requirements;
- The California Building Code; and
- National Fire Protection Association (NFPA) standard practices.

The existing firewater supply and pumping system will provide an adequate quantity (volume and pressure) of fire-fighting water to yard hydrants and CTG-supplied water-based fire suppression systems as required. The system is capable of supplying maximum water demand for any automatic system, plus water for fire hydrants. Hydraulic calculations will be performed to demonstrate that the fire protection loop has sufficient capacity to provide all the required fire-fighting water for the new power plant. A plant firewater loop, designed and installed in accordance with NFPA 24, is provided to reach all parts of the facility. The existing MGS fire pumps will discharge to the new dedicated extension of the existing underground firewater loop piping system. Both the fire hydrants and the fixed suppression systems will be supplied from the firewater loop. The firewater system has sectionalizing valves to allow a failure in any part of the system to be isolated, so that the remainder of the system can continue to function properly.

Fixed water mist fire suppression systems for turbine lube oil and other CTG-supplied equipment will be factory supplied and installed by the CTG supplier, in accordance with NFPA 750, Water Mist Fire Protection Systems, and will be fed from the new firewater loop as required. Upon activation of the CTG extinguishing system or any detectors, the fire incident will be alarmed locally and in the main plant control room Main Fire Control Panel. The administration and control room buildings already exist, and will not receive additional fire protection equipment. Hydrants will be placed at appropriate spacing around the plant in accordance with NFPA 24 and local fire codes. Handheld fire extinguishers of the appropriate size and rating will be stored throughout the facility, in accordance with NFPA 10. Valves requiring periodic testing will be made accessible.

Table 4.16-10 lists fire protection system design conditions.

4.16.6.1 Local Fire Protection Services

The P3 will receive fire protection services from the nearest Oxnard Fire Department (OFD) Stations, which are approximately 4 to 6 miles east of the facility. The RMP described in Section 4.6, Hazardous Materials Handling, will provide necessary information on hazardous materials to ensure that safe and effective fire-fighting measures are used. Additional information on local emergency services can be found in Section 4.10, Socioeconomics.

4.16.6.2 Construction and Commissioning Fire Suppression and Prevention

P3 will rely on both onsite fire protection systems and local fire protection services. The contractor will develop a Fire Protection and Prevention Plan to be followed throughout all phases of construction and commissioning, and will provide the specified fire-fighting equipment. The fire protection and prevention program will address each of the following requirements:

- General requirements;
- Responsibilities;
- Housekeeping;
- Employee alarm/communication system;
- Portable fire extinguishers;
- Fixed fire-fighting equipment;
- Fire control;
- Perimeter fire buffer maintenance;
- Flammable and combustible liquid storage;
- Use and handling of flammable and combustible liquids;
- Dispensing and disposal of flammable and combustible liquids;
- Servicing and refueling areas; and
- Training.

Table 4.16-11 provides an example outline of a construction and commissioning safety fire protection and prevention program.

The fire protection systems for the facility are described in Section 2.7.9. Construction fire prevention procedures will be developed in accordance with applicable regulations (8 CCR, Section 1620 et seq.) and will be followed as necessary to prevent construction-related fires. Special emphasis will be given to operations involving open flames, such as welding, metal cutting, and brazing. Hot work permits will be required for specific activities that present a potential for fire, and personnel involved in such operations will receive appropriate training by the contractor. In addition, a fire watch, using the appropriate class of extinguishers or other equipment, will be maintained during hot work operations. Site personnel will not be expected to fight fires past the incipient stage.

Materials brought on site by contractors 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 gases and storage of fuels, solvents, and paint.

Elements of the onsite fire-suppression system during construction will consist of portable and fixed fire-fighting equipment. Portable fire-fighting equipment will consist of hand-held fire extinguishers and small hose lines in conformance with Cal/OSHA and the NFPA. Periodic fire prevention inspections will be conducted by the contractor's safety representative.

Hand-held fire extinguishers will be inspected monthly and replaced immediately if defective or in need of recharge. All fire-fighting equipment will be located to allow for unobstructed access to the equipment, and will be conspicuously marked. A water supply of sufficient volume, duration, and pressure to operate the required fire-fighting equipment will be provided. Combustible materials will be properly managed and controlled; and designated, approved flammable materials storage areas and flammable materials storage containers will be provided with adequate fire prevention systems.

4.16.6.3 Offsite Construction Fire Suppression Support

The P3 onsite fire suppression system will be supported by the OFD. The OFD will provide backup assistance and support to the P3 in the event of a construction-related fire. The local fire response units will be provided with information regarding the type and location of potential fire hazards at the site. This information will be included in emergency response planning.

4.16.6.4 Operations Fire Suppression and Prevention

Fire protection at P3 will include measures relating to safeguarding human life, preventing personnel injury, preserving property, and minimizing down time due to fire or explosion. Fire protection will principally involve physical arrangements, such as sprinkler systems, water supplies, and fire extinguishers. Fire protection measures will include steps to prevent the inception of fires. Of concern are adequate exits, fire-safe construction, reduction of ignition sources, and controlling fuel sources.

The OFD has fire protection responsibility for the P3 facility. Therefore, fire suppression systems will be subject to review by the OFD. In addition, the facility will be designed by a California Registered Fire Protection Engineer, and fire protection equipment will be installed and maintained in accordance with applicable NFPA standards and recommendations (NFPA, 1994).

The OFD representative will perform the final inspection of the proposed project when construction is complete. In addition, the OFD may conduct periodic fire and life safety inspections thereafter, including reviewing programs for regular equipment inspections and servicing, and for the training of employees in fire protection procedures. In addition, the project's insurance carrier will provide periodic inspections by a fire protection specialist. Servicing of the fixed-carbon dioxide and portable fire extinguishers will be conducted by the manufacturer or a licensed contractor.

The overall fire prevention and protection program for the facility will be designed and implemented to protect both personnel and property. The program will specifically address:

- Names and/or job titles of staff responsible for maintaining equipment and controlling the accumulation of flammable or combustible material;
- Procedures in the event of a fire;
- Fire alarm and protection equipment;
- System and equipment maintenance;
- Perimeter fire buffer maintenance;
- Monthly inspections;
- Annual inspections;
- Fire-fighting demonstrations and training; and
- Housekeeping practices.

Table 4.16-12 provides an example outline of an operations fire prevention plan.

4.16.7 Emergency Services

Emergency services will be coordinated with the OFD and Community Hospital. An urgent care facility will be contacted to set up non-emergency physician referrals. At least one person trained in first aid will be part of the construction and commissioning staff.

Hand-held fire extinguishers will be available throughout the site at strategic locations at all times during construction, commissioning, and operations.

4.16.8 Laws, Ordinances, Regulations, and Standards

Table 4.16-13 lists applicable LORS. California operates its own Occupational Safety and Health Administration. Cal/OSHA regulations will take precedence over the federal OSHA regulations at this site. Construction, operation, and maintenance of P3 will be in accordance with all LORS applicable to worker health and safety. Effective development and implementation of the safety plans and programs as described in this section, and implementation of an ongoing, comprehensive safety assessment program will ensure compliance with the established health and safety regulations.

4.16.9 Involved Agencies and Agency Contacts

Table 4.16-14 lists agency contacts regarding worker health and safety at P3.

4.16.10 Permits Required and Permit Schedule

Table 4.16-15 provides a list of applicable permits related to the protection of worker health and safety applicable to the project.

4.16.11 References

California Code of Regulations, no date. Title 8. General Industry Safety Orders, (Chapter 4, Subchapter 7) and Construction Safety Orders (Chapter 4, Subchapter 4).

Code of Federal Regulations, no date. Title 29 part 26. Health and Safety for Construction, and Title 29 Part 1910 Occupation Safety and Health Standards.

Division of Occupational Safety and Health, 2006. Policy and Procedures Manual. Construction Permits. P&PC-41. Issue date: October 1, 1993. Revised October 30, 2006 (Interim Policy and Procedure). URL: <http://www.dir.ca.gov/DOSH/Pol/P&PC-41.htm>.

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

Table 4.16-1 Construction, Commissioning, Operations and Maintenance Hazard Analysis			
Activity	Exposure Potential	Potential Hazard	Control Strategies
Heavy equipment operation	C, O, M	Employee injury and property damage from collisions with workers and/or facility equipment.	Implement heavy equipment safety program, ensure that equipment is routinely inspected and operators are properly trained.
Trenching and excavation	C, M	Employee injury and property damage from collapse of trenches and excavations or contact with underground utilities.	Implement an excavation and trenching safety program, ensure that operators are properly trained. Require digging permits prior to initiating excavation or trenching.
Vehicle operation	C, O, M	Employee injury from vehicle accident or pedestrian/vehicle accident.	Implement a vehicle safety program that incorporates driver safety training.
Work at elevation	C, O, M	Employee injury due to falls from the same level and elevated work areas.	Implement a fall protection program that requires fall protection systems whenever unprotected work is performed at greater than 6 feet.
General project work	C, O, M	Employee injury resulting from a slip, trip, or fall.	Maintain good housekeeping, adequate lighting, compliant stairways, and railings.
Crane and derrick operation	C, M	Employee injuries and property damage due to falling loads.	Implement hoisting and rigging safety program, inspect equipment routinely and ensure that operators are properly trained.
Hot work	C, O, M	Employee injuries and property damage due to fire or explosion.	Implement fire protection and prevention program, require Hot Work permits, and ensure that welders, pipe fitters, etc., are properly trained.
Working with combustible liquids	C, O, M	Employee injuries and property damage due to fire or explosion.	Implement fire protection and prevention program that includes procedures for the proper storage and use of flammable or combustible liquids.
Concrete/forms work	C	Employee injuries due to work at height, slips, trips, and falls.	Wear fall protection when working at height, protect exposed rebar, and maintain good housekeeping.

Table 4.16-1 Construction, Commissioning, Operations and Maintenance Hazard Analysis (Continued)			
Activity	Exposure Potential	Potential Hazard	Control Strategies
Electrical work	C, O, M	Employee injuries due to contact with energized parts.	Implement energy control program, including lockout/tagout of energized sources.
Materials handling	C, O, M	Employee injuries due to improper lifting.	Implement an ergonomics program, and train employees in proper lifting techniques.
Confined space entries	C, M	Employee injuries due to suffocation, exposure to toxic materials, engulfment, etc.	Implement a confined space program, including permit procedures and air monitoring requirements.
Compressed gas storage	C, O, M	Employee injuries and equipment damage due to explosive release of pressure.	Implement a compressed gas safety program, including procedures for proper use and storage.
Power tool use	C, O, M	Employee injuries due to improper use, or use of damaged power tools.	Implement procedures for inspecting power tools before operation and train employees on the proper use and care of power tools.
Working with or near hazardous or toxic materials, including contaminated soil and groundwater	C, O, M	Employee injuries due to exposure to hazardous and/or toxic materials.	Implement hazard communication program and exposure control procedures including engineering controls, administrative controls, and personal protective equipment for activities that may expose employees to hazardous/toxic materials, including specific information on ammonia storage facility.
Working with or near noisy equipment	C, O, M	Employee overexposure to noise.	Implement a hearing conservation program to include identifying high noise activities and sources, sound level monitoring, and personal protective equipment.
Working with or near exposed machinery	C, O, M	Employee injuries from entanglement in rotating or moving equipment.	Develop and implement machine guarding equipment lockout/tagout procedures.

Table 4.16-1 Construction, Commissioning, Operations and Maintenance Hazard Analysis (Continued)			
Activity	Exposure Potential	Potential Hazard	Control Strategies
Work outdoors	C, O, M	Employee injury or illness from biological hazards such as ticks, snakes, spiders and wildlife.	Develop and implement procedures for outdoor work that warn employees of the potential for exposure and provide guidelines for avoidance of contact with biological hazards.
Work in weather extremes	C, O, M	Employee injury or illness due to heat or cold stress.	Develop and implement procedures for work in hot and cold environments that provide for employee monitoring, appropriate clothing and other guidance.
Notes: C = Construction Phase O = Facility Operations M = Facilities Maintenance			

Table 4.16-2 Construction/Commissioning Training Program	
Training Course	Target Employees
Site Safety Orientation	All
Injury and Illness Prevention Plan	All
Emergency Action Plan	All
Personal Protective Equipment Program	All
Heavy Equipment Safety Program Forklift Operator Training	Employees working on, near, or with heavy equipment
Trenching and Excavation Safety Program	Employees working in or near trenches or excavations
Fall Protection Program	Employees required to work at elevation (> 6 feet)
Scaffolding Safety Program	Employees required to erect or use scaffolding
Hoisting and Rigging Safety Program	Employees responsible for performing and/or supervising hoisting and rigging
Crane Safety Program	Employees supervising or performing crane operations
Flammable and Combustible Liquid Storage and Handling	Employees responsible for the handling and storage of flammable or combustible liquids or gases
Hot Work Permits	Employees performing hot work
Hazardous Energy Control (Lockout/Tagout)	Employees performing lockout/tagout
Electrical Safety	Employees required to work on electrical systems and equipment
Permit Required Confined Space Entry	Employees required to supervise or perform confined space entry
Hand and Portable Power Tool Safety	All
Housekeeping Policy and Program	All
Hearing Conservation	All
Safe Lifting Program	All
Safe Driving Program	Employees driving motor vehicles, and their supervisors
Hazard Communication	All
Pressure Safety	Employees supervising or working on pressurized systems or equipment
Line Breaking Safety	Employees performing general maintenance or working on pressurized systems or equipment
Respiratory Protection Program	All employees required to wear respiratory protection
Fire Prevention Program	All

Table 4.16-3 Operations and Maintenance Training Program	
Training Course	Target Employees
Emergency Action Plan	All
HAZWOPER/First Responder	Employees working around hazardous materials or waste
Site Safety Orientation	All
Injury and Illness Prevention Plan	All
Emergency Action Plan	All
PPE Program	All
Trenching and Excavation Safety Program	Employees performing or supervising trenching or excavation work
100% Fall Protection Program	Employees required to use fall protection
Hoisting and Rigging Safety Program	Employees responsible for the oversight or conduct of hoisting and rigging
Forklift Operator Training	Employees working on, near, or with forklifts
Crane Safety Program	Employees supervising or performing crane operations
Flammable and Combustible Liquid Storage and Handling	Employees responsible for the handling and storage of flammable or combustible liquids or gases
Hot Work Permits	Employees performing hot work
Hazardous Energy Control (Lockout/Tagout)	Employees performing lockout/tagout and working in the vicinity of locked out equipment
Electrical Safety	Employees required to work on electrical systems and equipment
Permit Required Confined Space Entry	Employees required to supervise or perform confined space entry
Hand and Portable Power Tool Safety	All
Housekeeping Policy and Program	All
Hearing Conservation	All
Safe Lifting Program	All
Safe Driving Program	Employees driving motor vehicles, and their supervisors
Hazard Communication	All
Pressure Safety	Employees supervising or working on pressurized systems or equipment
Line Breaking Safety	Employees performing general maintenance or working on pressurized systems or equipment

Table 4.16-3 Operations and Maintenance Training Program (Continued)	
Training Course	Target Employees
Relief Valve Maintenance and Testing	Employees performing maintenance or testing of relief valves
Respiratory Protection Program	All employees required to wear respiratory protection
Fire Prevention Program	All
Fire Protection Program	All
HAZWOPER/First Responder	Employees responding to emergency spills of hazardous waste or materials

Table 4.16-4 Construction/Commissioning Injury and Illness Prevention Program Example Outline 8 California Code of Regulations 1509	
1.0	Introduction
1.1	Purpose
1.2	Scope
2.0	Responsibilities
2.1	Management
2.2	Safety Department
2.3	Site Safety Officer
2.4	Employees
2.5	Contractors
3.0	Communications
3.1	Tailgate Safety Meetings
3.2	Employee Suggestions
3.3	Anonymous Reporting
4.0	Hazard Assessment
4.1	Job Hazard Analysis
4.2	Hazard Mitigation
4.3	Site Inspections
4.4	Accident Investigation
4.5	Corrective Actions
5.0	Program Evaluation/Compliance
6.0	Training
7.0	Recordkeeping

Table 4.16-5 Personal 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	Splash proof goggles and face shield
	Welding – injurious light rays	Welding hood with appropriate eye filter lenses
Head/Ears	General overhead hazards, overhead rigging, material handling, maintenance, and general construction operations	Nonconductive hard hat
	Noise exposure	Ear plugs or muff
Respiratory System	Low-hazard inert dust	Nuisance dust mask
	Welding fumes	Dust, fume, mist respirator
	Low-concentration solvent vapors	Cartridge-type air-purifying respirator with organic vapor cartridges
	Acid or base mists	Cartridge-type air-purifying respirator with appropriate acid/base cartridges
	High-concentration dusts or toxic vapors, gases	Air line respirator
	Oxygen-deficient atmospheres, immediately dangerous to life and health concentrations of vapors, gases	Self-contained breathing apparatus
Hands and Arms	Handling rough or sharp objects	Leather gloves
	Handling hot objects	Insulated gloves
	Using solvents	Chemical-resistant synthetic gloves
Feet and Legs	General wear for light handling	Safety shoes
	Handling heavy objects	Steel-toed safety shoes
	Using brush hooks or scythes	Shin guards
	Working with corrosive liquids	Chemical-resistant safety boots
	Underground work	Synthetic safety-toed boots

Table 4.16-5 Personal Protective Equipment Guide (Continued)		
Body Area	Hazards	Recommended Protection
Trunk and Full Body	Normal work attire	Cotton pants and shirt
	Hot or corrosive liquids	Chemical-resistant apron or full-body suit
	Punctures, impact, or cuts	Canvas or leather kickback apron or metal mesh apron
Fall Protection/ Rescue	Working from elevated structure or platform without standard railings	Full-body safety harness and lanyard
	Vessel (confined space) entry	Full-body safety harness and lifeline, or wristlets and lifeline
	Suspended scaffolds	Full-body safety harness/lanyard

Table 4.16-6 Construction/Commissioning Personal Protective Equipment Program Example Outline 8 California Code of Regulations 1514-1522	
1.0	Introduction
1.1	Purpose
1.2	Scope
2.0	Responsibilities
2.1	Management
2.2	Site Safety Officer
2.3	Employees
3.0	Personal Protective Equipment
3.1	Eyes and Face
3.2	Head and Ears
3.3	Respiratory System
3.4	Trunk and Full Body
3.5	Fall Protection
3.6	Hand and Arms
4.0	Training
5.0	Program Review
6.0	Recordkeeping

Table 4.16-7 Operations Injury and Illness Prevention Program Example Outline 8 CCR 3203	
1.0	Introduction
1.1	Purpose
1.2	Scope
2.0	Responsibilities
2.1	Management
2.2	Safety Department
2.3	Site Safety Officer
2.4	Employees
2.5	Contractors
3.0	Communications
3.1	Safety Committee
3.2	Safety Meetings
3.3	Employee Suggestions
3.4	Anonymous Reporting
4.0	Hazard Assessment
4.1	Job Hazard Analysis
4.2	Hazard Mitigation
4.3	Site Inspections
4.3	Accident Investigation
4.4	Corrective Actions
5.0	Program Evaluation/Compliance
6.0	Training
7.0	Recordkeeping

Table 4.16-8 Operations Emergency Action Plan Outline 8 California Code of Regulations 3220			
1.0	Introduction	4.7	Emergency Plant Shutdown
	1.1 Purpose	4.8	Site Security
	1.2 Scope	4.9	Emergency Medical Treatment and First Aid
2.0	Responsibilities		
	2.1 Emergency Response Coordinator	4.10	Decontamination
	2.2 Alternate Emergency Evacuation Coordinator	4.11	Documentation and Recordkeeping
	2.3 Safety Coordinator	4.12	News Media
	2.4 Position Description Assignments	4.13	Emergency Notification List
	2.5 Construction/Facility Manager	4.14	Emergency Telephone Numbers List
	2.6 Construction/Facility Supervisor	5.0	Reference Procedures
	2.7 Operators	5.1	Evacuation Plan
	2.8 Health and Safety Manager	5.2	Emergency Equipment Locations
	2.9 Security	5.3	Fire Extinguisher Locations
3.0	Response and Notification Plan (Points of Contact)	5.4	Security
	3.1 Supervisor/Emergency Coordinator	5.5	Accident Reporting and Investigation
	3.2 Health and Safety Manager	5.6	Lockout/Tagout
4.0	Response Procedures	5.7	Hazard Communication
	4.1 Evacuation Routes and Procedures	5.8	Spill Containment and Reporting
	4.2 Accidents Involving Serious Injury and/or Death	5.9	First Aid and Medical Response
	4.3 Fire	5.10	Respiratory Protection
	4.4 Hazardous Waste or Chemical Spills	5.11	Personal Protective Equipment
	4.5 Earthquake	5.12	Sanitation
	4.6 Bomb Threat	5.13	Work Site Inspection

Table 4.16-9 Operations Personal Protective Equipment Program Example Outline 8 California Code of Regulations 3401-3411	
1.0	Introduction
1.1	Purpose
1.2	Scope
2.0	Responsibilities
2.1	Management
2.2	Safety Department
2.3	Employees
3.0	Personal Protective Equipment
3.1	Eyes and Face
3.2	Head and Ears
3.3	Respiratory System
3.4	Trunk and Full Body
3.5	Fall Protection
3.6	Hand and Arms
4.0	Equipment Maintenance
5.0	Training
6.0	Program Review
7.0	Recordkeeping

Table 4.16-10 Fire Protection Systems Design Conditions	
Location	Type of System
Buildings	Automatic Clean Agent System per NFPA for control room. Wet/dry/pre-action sprinkler system fire protection system for administrative areas and offices. Firewater supply is from an onsite water storage tank.
Turbine	Multi-zone water-based mist fire protection system for the CTG.
Throughout Plant	An automatic wet pipe sprinkler system, portable hand-held "BC"-rated fire extinguishers in all areas, and hose reel stations with 100-foot hose.
Outside Areas	Dry barrel-type fire hydrants are designed, installed, and located as per NFPA 24, and as required per local jurisdiction. The location of the hydrants is not more than 300 feet apart in all outside areas, as required by Code.

Table 4.16-11 Construction/Commissioning Fire Protection and Prevention Plan Example Outline 8 California Code of Regulations 1920	
1.0	Introduction
1.1	Purpose
1.2	Scope
2.0	Responsibilities
2.1	Management
2.2	Site Safety Officer
2.3	Employees
3.0	Plan Implementation
3.1	Housekeeping
3.2	Maintenance
4.0	Types of Hazards
4.1	Fuel Storage and Handling
4.2	Hazardous Materials
4.3	Hot Work
4.4	Flammable and Combustible Materials
4.5	Electrical
5.0	Site Inspections
6.0	Training
7.0	Program Review
8.0	Recordkeeping

Table 4.16-12 Operations Fire Prevention Plan Example Outline 8 California Code of Regulations 3221	
1.0	Introduction
1.1	Purpose
1.2	Scope
2.0	Responsibilities
2.1	Management
2.2	Safety Department
2.3	Employees
3.0	Plan Implementation
3.1	Site Inspections and Housekeeping
3.2	Testing, Inspection, and Maintenance of Fire Protection Equipment
4.0	Types of Hazards
4.1	Fuel Storage and Handling
4.2	Hazardous Materials
4.3	Hot Work
4.4	Flammable and Combustible Materials
4.5	Electrical
5.0	Training
6.0	Program Review
7.0	Recordkeeping

Table 4.16-13 Applicable Laws, Ordinances, Regulations, and Standards			
Administering Agency	LORS	Applicability/Compliance	Subsection
California Division of Occupational Safety and Health California Occupational Safety and Health Act 1973	Title 8, CCR	The Act establishes the Cal/OSHA, and establishes minimum safety and health standards for work operations occurring in the State.	4.16
	8 CCR, Section 339	Requires listing of hazardous chemicals relating to the Hazardous Substance Information and Training Act.	4.16.4.1, 4.16.4.2, 4.16.5.1, and 4.16.5.2
	8 CCR, Section 450 et seq. – 560 et seq.	Establishes safety orders for pressurized vessels, including: air tanks, anhydrous ammonia, and general safe work practices.	4.16.4.2
	8 CCR, Section 750 et seq.	Establishes safety orders of work with high-pressure steam.	4.16.4.2
	8 CCR, Construction Safety Orders, Sections 1500 et seq. – 1938 et seq.	Establishes safety orders for construction work.	4.16.4.1
	8 CCR, Sections 1508 et seq. – 1527 et seq.	Requirements for IIPP, PPE, and general site safety.	4.16.4.1
	8 CCR, Sections 1528 et seq. – 1537 et seq.	Requirements for controlling exposures to hazardous air contaminants.	4.16.4.1
	8 CCR, Sections 1539 et seq. – 1547 et seq.	Requirements for excavations and trenching.	4.16.4.1
	8 CCR, Sections 1590 et seq. – 1596 et seq.	Requirements for earth-moving and haulage.	4.16.4.1
	8 CCR, Sections 1597 et seq. – 1599 et seq.	Requirements for vehicles, traffic control, flaggers, barricades, and warning signs.	4.16.4.1
	8 CCR, Sections 1604 et seq. – 1605 et seq.	Requirements for construction hoists.	4.16.4.1

Table 4.16-13 Applicable Laws, Ordinances, Regulations, and Standards (Continued)			
Administering Agency	LORS	Applicability/Compliance	Subsection
California Division of Occupational Safety and Health California Occupational Safety and Health Act 1973 (Continued)	8 CCR, Sections 1620 et seq. – 1635 et seq.	Requirements for railings, ramps, stairs, access and egress, openings in floors, roofs and walls, and temporary floors.	4.16.4.1
	8 CCR, Sections 1635 et seq. – 1667 et seq.	Requirements for scaffolding.	4.16.4.1 and 4.16.4.2
	8 CCR, Sections 1669 et seq. – 1678 et seq.	Requirements for safety belts, nets, and ladders.	4.16.4.1 and 4.16.4.2
	8 CCR, Sections 1680 et seq. – 1708 et seq.	Requirements for saws, powder-actuated tools, miscellaneous tools, and equipment.	4.16.4.1 and 4.16.4.2
	8 CCR, Sections 1709 et seq. – 1722 et seq.	Requirements for steel reinforcing, concrete pouring, and structural steel erection operations.	4.16.4.1
	8 CCR, Sections 1760 et seq.	Electrical requirements for construction work.	4.16.4.1
	8 CCR, Sections 1920 et seq. – 1938 et seq.	Requirements for construction-related fire protection and prevention.	4.16.6.1
	8 CCR, Electrical Safety Orders, Sections 2299 et seq. – 2974 et seq.	Establishes safety orders for installation of low and high voltage electrical systems.	4.16.4.1
	8 CCR, General Industry Safety Orders, Sections 3200 et seq. – 6184 et seq.	Establishes safety orders for general industry work, including operations and maintenance.	4.16.4.2
	8 CCR, Sections 3200 et seq. – 3583 et seq.	Requirements for IIPP, PPE, and general site safety.	4.16.4.2
	8 CCR, Sections 3620 et seq. – 3920 et seq.	Requirements for mobile equipment operation.	4.16.4.2

**Table 4.16-13
Applicable Laws, Ordinances, Regulations, and Standards
(Continued)**

Administering Agency	LORS	Applicability/Compliance	Subsection
California Division of Occupational Safety and Health California Occupational Safety and Health Act 1973 (Continued)	8 CCR, Sections 3940 et seq. – 4647 et seq.	Requirements for power transmission equipment, rotating equipment, moving parts points of operation, etc.	4.16.4.2
	8 CCR, Sections 4794 et seq. – 4884 et seq.	Requirements for compressed gases and gas systems for cutting and welding.	4.16.4.2
	8 CCR, Sections 4850 et seq. – 4853 et seq.	Requirements for electric welding.	4.16.4.2
	8 CCR, Sections 4884 et seq. – 5049 et seq.	Requirements for cranes and other hoisting equipment.	4.16.4.2
	8 CCR, Sections 5094 et seq. – 5100 et seq.	Requirements for control of excessive noise exposure and ergonomic hazards.	4.16.4.2
	8 CCR, Sections 5139 et seq. – 5223 et seq.	Requirements for the control of hazardous substances, including Hazard Communication program requirements.	4.16.4.2
	8 CCR, Sections 5615 et seq. – 5629 et seq.	Requirements for the control of hazards from flammable liquids, gases, and vapors.	4.16.4.2
	8 CCR, Sections 6150 et seq. – 6184 et seq.	Requirements for fire protection and prevention.	4.16.6.2
	8 CCR, Part 6	Provides health and safety requirements for working with tanks and boilers.	4.16.4.2
	29 CFR 1926	Contains federal health and safety regulations pertaining to construction activities.	4.16.4.1
	29 CFR 1910	Contains federal health and safety regulations pertaining to general industry.	4.16.4.2

Table 4.16-13 Applicable Laws, Ordinances, Regulations, and Standards (Continued)			
Administering Agency	LORS	Applicability/Compliance	Subsection
Oxnard Fire Department	Section 25500 et seq. (LaFollette Bill)	Requires that every new or modified facility that handles, treats, stores, or disposes of more than the threshold quantity of any of the listed acutely hazardous materials prepare and maintain a Risk Management Plan.	4.5, 4.16.4.1, and 4.16.4.2
	Section 25500 et seq. – 25541 et seq.	Requires the preparation of a Hazardous Materials Business Plan that details emergency response plans for a hazardous materials emergency at the facility.	4.5
	IFC	Requires the prevention, control, and mitigation of dangerous conditions related to storage, dispensing, use, and handling of hazardous materials and information needed by emergency response personnel.	4.5
	NFPA 10: Portable Fire Extinguishers	Requirements for the selection, placement, inspection, maintenance, and employee training for portable fire extinguishers.	4.16.6 and 4.16.7
	NFPA 12: Carbon Dioxide Fire Extinguishing Systems	Requirements for the installation and use of carbon dioxide extinguishing systems.	2.7.9 and 4.16.6
	NFPA 13 and 13A: Sprinkler Systems	Guidelines for selection, installation, maintenance, and testing of fire sprinkler systems.	2.7.9 and 4.16.6
	NFPA 14: Standpipe and Hose Systems	Guidelines for the selection and installation of standpipe and hose fire protection systems.	2.7.9 and 4.16.6
	NFPA 15: Water Spray Fixed Systems	Guidelines for selection and installation of fixed water spray systems.	2.7.9 and 4.16.6
	NFPA 22: Water Tanks and Private Fire Protection	Requirements for water tanks that are used for private fire protection.	2.7.9 and 4.16.6
	NFPA 24: Installation of Private Fire Service Mains and their Appurtenances	Requirements for installation of private fire service mains and appurtenances.	2.7.9 and 4.16.6

Table 4.16-13 Applicable Laws, Ordinances, Regulations, and Standards (Continued)			
Administering Agency	LORS	Applicability/Compliance	Subsection
Oxnard Fire Department (Continued)	NFPA 26: Supervision of Valves Controlling Water Supplies	Provides guidance for installation and supervision of valves used to control water supplies.	2.7.9 and 4.16.6
	NFPA 30: Flammable and Combustible Liquids	Requirements for storage, transfer, and use of flammable and combustible liquids.	4.16.4.1 and 4.16.4.2
	NFPA 37: Stationary Combustion Engines and Gas Turbines	Provides fire protection requirements for the installation and use of combustion engines and gas turbines.	2.7.9 and 4.16.6
	NFPA 50A: Gaseous Hydrogen Systems	Provides fire protection requirements for hydrogen systems.	4.16.6
	NFPA 54: National Fuel Gas Code	Provides fire protection requirements for the use of fuel gas.	2.7.9 and 4.16.6
	NFPA 70, 70B and 70E: National Electric Code	Guidance on the safe selection and work practices associated with the design, installation, construction, and maintenance of electrical systems.	4.16.4.1 and 4.16.4.2
	NFPA 71: Installation, Maintenance and use of Central Station Signaling Systems	Provides requirements for the installation, maintenance, and use of central station signaling systems.	2.7.9 and 4.16.6
	NFPA 72A, 72E and 72F: Local Protective Signaling System, Automatic Fire Detection System, Emergency Voice/Alarm Communication System	Provides requirements for the design, installation, use, and maintenance of local protective signaling systems, automatic fire detection systems, and emergency communication systems.	2.7.9 and 4.16.6
	NFPA 78: Lightning Protection Code	Provides requirements for lightning protection.	4.16.4.1
	NFPA 80: Fire Doors and Windows	Provides requirements for fire doors and windows.	4.16.4.1
NFPA 90A: Installation of Air Conditioning and Ventilation Systems	Provides guidance for the installation of air conditioning and ventilation systems.	4.16.4.1	

Table 4.16-13 Applicable Laws, Ordinances, Regulations, and Standards (Continued)			
Administering Agency	LORS	Applicability/Compliance	Subsection
Oxnard Fire Department (Continued)	NFPA 101: Life Safety, Fire in Buildings and Structures	Requirements for the design and construction of means of egress from structures.	4.16.4.1
	NFPA 291: Fire Flow Testing and Marking of Hydrants	Requirements for flow testing and marking of fire hydrants.	4.16.4.2
	NFPA 1962: Care, Maintenance and Use of Fire Hoses	Requirements for the care, use, and maintenance of fire hoses, connections, and nozzles.	4.16.4.1
Cal/OSHA	ANSI/ASME Boiler and Pressure Vessel Code	Provides specifications and requirements for boilers and pressure vessels.	4.16.4
	ANSI, B31.2, Fuel Gas Piping	Provides specifications and requirements for fuel gas piping.	4.16.4.1
<p>Notes:</p> <p>Cal/OSHA has primary jurisdiction for worker health and safety in California. These regulations are provided for reference purposes and apply as referenced in Cal/OSHA regulations.</p> <p>ANSI/ASME = American National Standards Institute/American Society for Mechanical Engineers Cal/OSHA = California Occupational Safety and Health Commission CCR = California Code of Regulations CFR = Code of Federal Regulations IIPP = Injury and Illness Prevention Program IFC = International Fire Code LORS = Laws, Ordinances, Regulations, and Standards NFPA = National Fire Protection Association PPE = Personal Protective Equipment</p>			

Table 4.16-14 Involved Agencies and Agency Contacts			
Issue	Agency/Address	Contact/Title	Telephone
Fire Protection and Certified Unified Program Agency	Oxnard Fire Department 360 W. Second Street Oxnard, CA 93030	Miguel Trujillo	(805) 385-8364
Building Inspection	City of Oxnard Building and Engineering Services City of Oxnard Service Center 214 South C Street Oxnard, CA 93030	Paul Wendt, Interim Building and Engineer Services Manager	(805) 385-7925
Worker Health and Safety	Cal/OSHA Consultation Service Office Area: San Fernando Valley 6150 Van Nuys Boulevard Suite 307 Van Nuys, CA 91401	Service Area Manager: Dan Leiner DLeiner@dir.ca.gov or On-Call Safety Engineer	(818) 901-5754
Pressure Vessel Permit	Cal/OSHA Consultation Service Office Area: San Fernando Valley 6150 Van Nuys Boulevard Suite 307 Van Nuys, CA 91401	Service Area Manager: Dan Leiner DLeiner@dir.ca.gov or On-Call Safety Engineer	(818) 901-5754
Commission Decision	California Energy Commission Siting, Transmission and Environmental Protection Division California Energy Commission 1516 Ninth Street, MS-2000 Sacramento, CA 95814	Compliance Project Manager	(916) 651-8891

Table 4.16-15 Required Safety Permits		
Responsible Agency	Permit/Approval	Schedule
<p>Cal/OSHA Service Area Office</p>	<p>Construction Activity Permit A construction activity permit is required for:</p> <ul style="list-style-type: none"> • Construction of trenches or excavations that are 5 feet or deeper and into which a person is required to descend; • Construction of any building, structure, scaffolding or falsework more than three stories high or an equivalent height (36 feet); • Demolition of any building or structure, or dismantling of scaffolding or falsework more than three stories high or an equivalent height (36 feet); and • Erection or dismantling of vertical shoring systems more than three stories high, or an equivalent height (36 feet). <p>The construction activity permit process is as follows:</p> <ul style="list-style-type: none"> • The permit applicant will schedule a safety permit conference appointment with the nearest Cal/OSHA district office. • The safety permit conference shall be attended by the permit applicant, who must be knowledgeable about and in a position of authority and responsibility with respect to the permitted activity. • The potential safety and health risk of the activity shall be discussed, and the contractor shall identify specific measures to be taken to minimize these risks to employees. • Details of the activity shall be reviewed along with Title 8 Safety Orders applicable to the activity in which the permit applicant will engage. • The permit applicant shall provide enough detail about the construction activity to allow the district office to make a reliable determination that the activity will proceed safely. The applicant shall provide the following for evaluation and review: <ul style="list-style-type: none"> – Applicant’s completed permit application form – Applicant’s completed activity notification form or activity notification form for holders of annual permits – Copy of the permit applicant’s IIPP Program – Copy of the permit applicant’s Code of Safe Practices <p>Permit forms and checklists may be found online at the Division of OSHA Policy Procedures Manual (2006).</p>	<p>Safety permit conference must be scheduled at least two weeks prior to beginning of construction.</p>

Table 4.16-15 Required Safety Permits (Continued)		
Responsible Agency	Permit/Approval	Schedule
Cal/OSHA Consultation Service Area Office	<p>Trenching and Excavation Permit</p> <p>A trenching and excavation permit is required for the following:</p> <ul style="list-style-type: none"> • Trenches and excavations more than 5 feet into which personnel are required to enter or that are adjacent to structures • Construction of buildings, structures, scaffolding or falsework more than three stories high • Demolition of any building, structure, or the dismantling of scaffolding or falsework more than three stories high 	Submit completed permit application to any Cal/OSHA district or field office prior to commencing construction; submit at least 24 hours prior to “trigger event.”
Cal/OSHA Consultation Service Area Office	<p>Permit for Crane</p> <p>Permit for the erection of a fixed tower crane is required for the following:</p> <ul style="list-style-type: none"> • Erection; • Climbing; and • Dismantling of fixed tower cranes. <p>Notifications to the Cal/OSHA must be made at least 24 hours prior to the initiation of the following activities:</p> <ul style="list-style-type: none"> • Completion of erection and commencement of operation; • Climbing of the tower crane; and • Dismantling of the tower crane. 	Submit completed permit application to any Cal/OSHA district or field office; submit at least 24 hours prior to “trigger event.”
Cal/OSHA Consultation Service Area Office - Pressure Vessel Unit	Pressure Vessel Permit	4 to 6 weeks
<p>Notes:</p> <p>Cal/OSHA = California Occupational Safety and Health Administration IIPP = Injury and Illness Prevention Program</p>		