

5.17 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 Bullard Energy Center (BEC) 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, are addressed below. Section 5.17.1, Affected Environment, 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 5.17.2, Environmental Consequences. Mitigation measures are discussed in Section 5.17.3, Mitigation Measures. Section 5.17.4, Applicable Laws, Ordinances, Regulations, and Standards, addresses compliance with LORS and Section 5.17.5, References, presents references.

5.17.1 Affected Environment

The BEC includes the construction and operation of a simple-cycle natural gas-fired facility with ancillary facilities such as a switchyard, pipelines, and access roads. Maps depicting the physical plant layout are presented as Figure 3.1-3, Site Arrangement Plan, and Figure 3.1-4, Facility Plot Plan. Descriptions of the facility fire protection and safety features are presented in Section 3.4.11, Plant Auxiliaries, and shown in Figure 3.4-5, Fire Protection System. Descriptions of hazardous material and wastes to be used and stored on the BEC site are discussed in Section 5.15, HazMat Handling, and Section 5.14, Waste Management.

5.17.2 Environmental Consequences

5.17.2.1 *Occupational Health and Safety*

Construction, operation, and maintenance activities may expose workers to the hazards identified in Table 5.17-1, Potential Work Hazards During Facility Construction and Operation. 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.

**TABLE 5.17-1
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

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 (Cal/OSHA) Injury and Illness Prevention Program IIPP requirements. The IIPP will include:

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

- 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 and Safety Programs

Written safety programs that will be implemented in conjunction with the Code of Safe Practices may 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
- Lockout/Tagout 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 (PPE) 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 and 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 5.17-2, Basic Protective Equipment Guide, and will comply with Cal/OSHA requirements. When protective-insulating equipment is used, it will comply with the Electrical Safety Codes.

**TABLE 5.17-2
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
	Oxygen deficiencies or gases	Self-contained breathing apparatus
Hands and arms	Handling rough or sharp objects	Leather gloves
	Handling hot objects	Insulated gloves
	Using solvents	Impervious synthetic gloves
Feet and legs	General wear for light handling	Safety-toe shoes
	Handling heavy objects	Metatarsal safety shoes
	Using brush hooks or scythes	Shin guards
	Working with corrosive liquids	Safety-toe boots
	Underground work	Safety-toe synthetic boots
Trunk and full body	Hot or corrosive liquids	Synthetic apron
	Punctures, impact, or cuts	Canvas or leather kickback apron or metal mesh apron
	Breaking acid containers	Full body suit made of appropriate materials
Fall protection/Rescue	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

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 BEC will rely on both on-site fire protection systems and local fire protection services. A Fire Protection and Prevention Plan will be developed and followed throughout all phases of construction. The specified firefighting equipment will be provided to site personnel.

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 BEC site are described in Section 3.4.11, Plant Auxiliaries. 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 (UFC) Standards
- California Building Code (CBC) Title 24, CCR (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 on site 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 applicable regulations. 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.

On-site fire prevention during construction will consist of portable and fixed firefighting equipment. Portable firefighting equipment will consist of fire extinguishers and small hose lines in conformance with Cal/OSHA 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 on-site. Designated, approved storage areas and containers for flammable materials shall be used with adequate fire control services.

Plant Operational Safety Program

The locations of potential worker hazards during the operational phase are listed in Table 5.17-3, Location of Potential Worker Hazards at the Bullard Energy Facility (Operational Phase).

Programs that address these hazards will include:

- 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

SECTION FIVE

Environmental Information

**TABLE 5.17-3
LOCATION OF POTENTIAL WORKER HAZARDS AT THE
BULLARD 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		
De-aerator									X

Notes:

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

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 may 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 BEC 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 BEC 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 BEC site will be explained to employees. This training will be 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 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 5.17-2, Basic Protective Equipment Guide, contains a list of the basic protective equipment that will be used at the BEC.

Hazardous Materials Handling and Storage

Various hazardous materials will be stored and used during construction and operation of the BEC. 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 on site. 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. The 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 BEC 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 BEC 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 BEC will develop a site-specific Emergency Action Plan/Emergency Response Plan. A typical plan outline is provided in Table 5.17-4, Sample Emergency Action/Emergency Response Plan Outline. 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, 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.

**TABLE 5.17-4
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

**TABLE 5.17-4
SAMPLE EMERGENCY ACTION/EMERGENCY
RESPONSE PLAN OUTLINE**

Section Number	Description
	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
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

**TABLE 5.17-4
SAMPLE EMERGENCY ACTION/EMERGENCY
RESPONSE PLAN OUTLINE**

Section Number	Description
5.13	Work Site Inspections

Fire Protection and Prevention Plan

Fire protection at the BEC 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 Protection and Prevention Plan provides for fire protection practices including routine inspections of the BEC plant by the designated safety representative. It requires prompt action to correct situations deemed to be a fire hazard and 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 Protection and Prevention Plan.

The comprehensive on-site 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 Suppression

The following fire suppression systems are proposed:

- Carbon Dioxide Fire Protection System. This system protects the combustion turbine, its generator, and its accessory equipment compartments from fire. The system will have fire detection sensors in all compartments.
- Deluge Spray System. This system provides fire protection to the generator transformers (outdoor design) and auxiliary power transformer in the event of fire. The deluge system will be fed by the firewater storage and supply system.
- Fire Hydrants/Hose Stations. This system will supplement the plant fire protection system. Water will be supplied from the plant underground firewater/domestic water system. These will be located at approximately 300-foot intervals around the facility in accordance with NFPA 850 and local fire codes.
- Sprinkler System. This system will provide protection to the administration and maintenance buildings.
- Smoke Detectors, Combustible Gas Detectors, and Fire Extinguishers. These will be provided at all locations having potential fire hazards due to the presence of combustible liquids, solids, or other highly flammable materials, and where major property damage could result. Extinguishers will be strategically located at code-approved intervals throughout the facility and selected for the appropriate class of service.

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 BEC on-site fire suppression systems will be backed up by fire suppression support from the Fresno City Fire Department (FCFD). Both fire and emergency service will be provided from Station No. 14, located at 6239 North Polk at Escalon, with an estimated response time of 4 minutes. Firewater will be supplied from the firewater distribution system as described in Section 3.11.1.2, Fire Protection System.

5.17.3 Mitigation Measures

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

5.17.4 Applicable Laws, Ordinances, Regulations, and Standards

The following LORS are applicable or potentially applicable to the project in the context of the public and occupational safety and health protection measures addressed in this section and in Section 5.16, Public Health. LORS applicable to worker safety are summarized in Table 5.17-5, LORS Applicable to Worker Safety.

**TABLE 5.17-5
LORS APPLICABLE TO WORKER SAFETY**

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	5.17.4.1
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	5.17.4.1
National Fire Protection Association	Meet standards necessary to establish a reasonable level of safety and property protection from the hazards created by fire and explosion	5.17.4.1
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	5.17.4.2
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	5.17.4.2
California Public Resources §25523(a); 20 CCR §1752, 1752.5, 2300.2309, and Division 2, Chapter 5, Article 1, Appendix B, Part (I), CEC		5.17.4.2
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	5.17.4.2
Local		
Fresno County Zoning Ordinance	Provide safety setbacks as required by the Fresno County Fire Protection Division	5.17.4.3
Fresno County Department of Community Health, Environmental Health Division	Provide implementation of the Hazardous Materials Business Plan and Risk Management Plan	5.17.4.3
Notes:		
CCR = California Code of Regulations		
CEC = California Energy Commission		
CFR = Code of Federal Regulations		
USC = United States Code		

5.17.4.1 Federal***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 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 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 Cal/OSHA).

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 CCR, Chapter 4, Subchapter 4, General Construction Safety Orders.

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

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 Fresno County Fire Protection Division (FCFPD).

National Fire Protection Association

The 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 FCFPD.

Compliance

BEC will comply with all federal LORS by developing appropriate plans and policies as well as by measures described in Sections 5.17.2, Environmental Consequences, and 5.17.3, Mitigation Measures.

*5.17.4.2 State**Title 8 California Code of Regulations*

These authorities prescribe general occupational safety and health regulations and standards in addition to the construction and industrial safety regulations, standards, and orders. BEC will comply with applicable sections of 8 CCR, Chapter 4, Subchapter 7 and 24 CCR. Specifically, 8 CCR §1509 (Construction) and §3203 (General Industry) make numerous changes designed to redirect the emphasis of Cal/OSHA toward ensuring that employers have an effective work site IIPP to focus Cal/OSHA 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 Cal/OSHA 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. Although such requirements primarily provide for the protection of workers, they also indirectly improve public safety and are coordinated with the Risk Management Plan process.

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 EPA, 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, and 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 BEC will develop and submit an RMP prior to operation of the BEC.

Compliance

The BEC will comply with all state LORS by developing appropriate plans and policies as well as by measures described in Section 5.17.2, Environmental Consequences, and Section 5.17.3, Mitigation Measures.

5.17.4.3 Local

Fresno County Department of Community Health, Environmental Health Division

Provides for the implementation of the HMBP and RMP.

Compliance

The BEC will comply with all local LORS and will develop a HMBP for construction and operation of the new facility, and will develop a RMP for operation of the new facility. In addition, the BEC will continue compliance by updating the appropriate plans and policies as well as by the measures described in Section 5.17.2, Environmental Consequences, and Section 5.17.3, Mitigation Measures.

5.17.4.4 Agencies and Agency Contacts

Agencies with jurisdiction to issue applicable permits and/or enforce LORS related to worker safety are shown in Table 5.17-6, Agency Contacts.

**TABLE 5.17-6
AGENCY CONTACTS**

Agency	Contact	Title	Telephone
Fresno County Department of Community Health, Environmental Health Division	Specialist on-call	Hazardous Materials Management Specialist	559-445-3271
Fresno City Fire Department, Station No. 14	Randy Bruegman	Fire Chief	559-621-4000

5.17.4.5 Applicable Permits

The permits required for this project are listed in Table 5.17-7, Applicable Permits. A HMBP will be developed prior to construction and will be updated prior to operation. A RMP will be developed prior to ammonia being brought onto the BEC site.

**TABLE 5.17-7
APPLICABLE PERMITS**

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

5.17.5 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.

Adequacy Issue:		Adequate	Inadequate	DATA ADEQUACY WORKSHEET		Revision No.	0	Date
Technical Area:		Worker Safety		Project:				
Project Manager:				Docket:				
SITING REGULATIONS		INFORMATION		AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS		
Appendix B (g) (1)	...provide a discussion of the existing site conditions, the expected direct, indirect and cumulative impacts due to the construction, operation and maintenance of the project, the measures proposed to mitigate adverse environmental impacts of the project, the effectiveness of the proposed measures, and any monitoring plans proposed to verify the effectiveness of the mitigation.			Sections 5.17.1, 5.17.2.1.1, 5.17.2.1.2, 5.17.3 and 5.17.4				
Appendix B (g) (11) (A)	A description of the safety training programs which will be required for construction and operation personnel.			Section 5.17.2.1.1 and 5.17.2.1.2				
Appendix B (g) (11) (B)	A complete description of the fuel handling system and the fire suppression system.			Section 5.17.2.1.2				
Appendix B (g) (11) (C)	Provide draft outlines of the Construction Health and Safety Program and the Operation Health and Safety Program, as follows: Construction Health and Safety Program: * Injury and Illness Prevention Plan (8 Cal. Code Regs., § 1509); * Fire Protection and Prevention Plan (8 Cal. Code Regs., § 1920); * Personal Protective Equipment Program (8 Cal. Code Regs., §§ 1514-1522) Operation Health and Safety Program: * Injury and Illness Prevention Program (8 Cal. Code Regs., § 3203); * Fire Prevention Plan (8 Cal. Code Regs., § 3221);			Sections 5.17.2.1.1 and 5.17.2.1.2 Section 5.17.2.1.1 Section 5.17.2.1.1 Section 5.17.2.1.1 Section 5.17.2.1.2				

Adequacy Issue:		Adequate	Inadequate	DATA ADEQUACY WORKSHEET		Revision No.	0	Date
Technical Area:		Worker Safety		Project:				
Project Manager:				Docket:				
SITING REGULATIONS		INFORMATION		AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS		
		* Emergency Action Plan (8 Cal. Code Regs., § 3220);		Section 5.17.2.1.2				
		* Personal Protective Equipment Program (8 Cal. Code Regs., §§ 3401-3411).		Section 5.17.2.1.2				
Appendix B (h) (1) (A)		Tables which identify laws, regulations, ordinances, standards, adopted local, regional, state, and federal land use plans, and permits applicable to the proposed project, and a discussion of the applicability of each. The table or matrix shall explicitly reference pages in the application wherein conformance, with each law or standard during both construction and operation of the facility is discussed;		Section 5.17.4 Table 5.17-5				
Appendix B (h) (1) (B)		Tables which identify each agency with jurisdiction to issue applicable permits and approvals or to enforce identified laws, regulations, standards, and adopted local, regional, state and federal land use plans, and agencies which would have permit approval or enforcement authority, but for the exclusive authority of the commission to certify sites and related facilities.		Section 5.17.4.4 and 5.17.4.5 Tables 5.17-6 and 5.17-7				
Appendix B (h) (2)		A discussion of the conformity of the project with the requirements listed in subsection (h)(1)(A).		Sections 5.17.2, 5.17.3 and 5.17.4				
Appendix B (h) (3)		The name, title, phone number, and address, if known, of an official within each agency who will serve as a contact person for the agency.		Section 5.17.4.4 Table 5.17-6				
Appendix B (h) (4)		A schedule indicating when permits outside the authority of the commission will be obtained and the steps the applicant has taken or plans to take to obtain such permits.		Section 5.17.4.5 Table 5.17-7				