

5.18 Worker Safety

This section describes the systems and procedures that will be implemented to provide occupational safety and health protection for Project workers. The section includes descriptions of the health and safety programs that will be used during both Project construction and operation, and provides information on the Project's planned fire prevention and protection program system. Descriptions of the Project's fire suppression system and fuel gas system are provided in Section 2.0, Project Description.

5.18.1 Summary of Differences between Amended Project and Original SSU6

There are no changes in the affected environment for worker safety from the original SSU6 project. As was the case with the original project, worker safety programs similar to those at the existing geothermal power plants operated by the Applicant's affiliate will be implemented for the Amended Project. There are no significant changes in the Amended Project's impacts to worker safety compared to the original SSU6. There may be minor differences in worker safety programs due to modifications in the plant processes, i.e. chemical handling systems, but these differences will result in no new or different adverse effects. Indeed, some of the original project's effects are lessened or eliminated with the Amended Project (e.g., the Amended Project will no longer use a carbon absorption abatement system, thereby eliminating possible benzene exposure during the handling of spent carbon absorption drums).

5.18.2 LORS Compliance

Construction and operations of the Project will be performed in accordance with the applicable LORS in order to ensure a safe and healthy workplace. The applicable LORS are briefly discussed following the table and summarized in Table 5.18-1.

Table 5.18-1 Worker Safety LORS Summary

LORS	Applicability	Where Discussed in AP
Federal:		
Occupational Safety and Health Act of 1970: 29 U.S. Code (U.S.C.), sections 651 et seq.	Created Occupational Safety and Health Administration (OSHA) and provides federal regulations for worker safety and health in industrial facilities.	Section 5.18.1
Occupational Safety and Health Standards: Title 29, Code of Federal Regulations (CFR), Part 1910 et seq.	Contains federal minimum occupational safety and health standards for industrial facilities.	Section 5.18.1
Safety and Health Regulations for Construction: Title 29, CFR, Part 1926 et seq.	Contains federal minimum occupational safety and health standards for the construction industry.	Section 5.18.1

Table 5.18-1 Worker Safety LORS Summary

LORS	Applicability	Where Discussed in AP
Approved State Plans for Enforcement of State Standards: 29 CFR sections 1952.170 to 1952.175	These sections provide federal approval of California's plan for enforcement of its own safety and health requirements, in lieu of most of the Federal requirements found in 29 CFR §1910.1 to 1910.1500.	Section 5.18.1
State:		
Title 8, California Code of Regulations (CCR)	Establishes requirements for a safe and hazard-free work environment. Categories of requirements include General Industrial Safety Orders, General Construction Safety Orders, Electrical Safety Orders, and Pressure Vessel Safety Orders (see Table 5.18-2 for list of applicable topics covered).	Section 5.18.3.
24 CCR Section 3, et seq.	Incorporates the current addition of the Uniform Building Code.	Section 5.18.3
California Health and Safety Code, Sections 25500 through 25541	These sections address the requirements for the preparation of a Hazardous Material Business Plan and an Emergency Response Plan for a hazardous materials emergency at the facility.	Sections 5.18.3 and 5.6.2, Hazardous Materials
California Health and Safety Code, Section 25531 to 25543.4	The California Accidental Release Program (Cal-ARP) requires the preparation of a Risk Management Plan (RMP) and Offsite Consequence Analysis (OCA) and submittal to the local Certified Unified Program Authority for approval.	Section 5.18.3
Local:		
Imperial County Codified Ordinances, Chapter 8.20	Adoption by the Imperial County of the Uniform Fire Code (see below).	Section 5.18.3 and 5.6.1, Hazardous Materials
Uniform Fire Code, Article 79, 80	Address prevention, control and mitigation of dangerous conditions related to storage, dispensing, uses, and handling of various flammable and combustible liquids (Article 79) and hazardous materials (Article 80). Also identifies information needed by emergency response personnel.	Section 5.18.3 and 5.6.1, Hazardous Materials
Imperial County Codified Ordinances, Division 10 Chapter 3	Adoption by the Imperial County of the California Building Code (see below).	Sections 5.18.3 and 5.6.1, Hazardous Materials
California Code of Regulations, Title 24, Section 501 et seq.; California Building Code	Specifies the relevant building codes required.	Sections 5.18.3 and 5.6.1, Hazardous Materials

Table 5.18-1 Worker Safety LORS Summary

LORS	Applicability	Where Discussed in AP
Industry Codes and Standards:		
National Fire Protection Association (NFPA)	Standards needed to establish a reasonable level of safety and property protection from hazards created by fire and explosion (see Table 5.18-3 for list of standards).	Sections 5.18.3 and 5.6.1, Hazardous Materials
American National Standards Institute and American Society of Mechanical Engineers	Provides specifications and other requirements for pressure vessels.	Appendix C

5.18.2.1 Federal LORS

Federal regulations dealing with worker health and safety are administered by OSHA under the Occupational Safety and Health Act of 1970. The Occupational Safety and Health Act provide regulations dealing with equipment and employee safety practices during construction and operation of an industrial facility. Occupational health and safety standards are provided in 29 CFR §1910 et seq., including § 1910.100 (permissible exposure limits for toxic air contaminants), § 1910.137 (electrical protective equipment requirements), § 1910.269 (electrical worker safety standards), and § 1910.1200 (requirement for employers to provide information to employees concerning hazards associated with the use of all chemicals). Construction health and safety regulations are provided in 29 CFR § 1926. Worker personal protective equipment (PPE) requirements are addressed in Subpart I of §1910 and Subpart E of §1926. Federal safety and health regulations for construction are also provided in 40 USC 327 et seq.; these requirements are addressed in California's Title 8, CCR, Chapter 4, Subchapter 4, General Construction Safety Orders.

Per the 1989 Occupational Status Agreement between Federal OSHA and the California Division of Occupational Safety and Health, housed within the Department of Industrial Relations, the State enforces California Standards set forth in Title 8 of the California Code of Regulations in lieu of most Federal regulations and standards, although the Federal OSHA has retained concurrent enforcement jurisdiction for certain Federal standards (e.g., those related to hazardous waste).

Construction

Construction health and safety regulations are provided in 29 CFR § 1926 and Title 8 CCR. Part 1926 addresses several types of construction activities, such as general safety and health provisions (Subpart C); occupational health and environmental controls (Subpart D); personal protective and life-saving equipment (Subpart E); fire protection and prevention (Subpart F); material handling, storage, use, and disposal (Subpart H); welding and cutting activities (Subpart J); electrical work (Subpart K); scaffolding (Subpart L) and fall protection (Subpart M); cranes, derricks, hoists, elevators, and conveyors (Subpart N); motor vehicles and mechanized equipment (Subpart O); excavations (Subpart P); concrete and masonry construction activities (Subpart Q); steel erection activities (Subpart R); underground construction, caissons, cofferdams, and compressed air; demolition (Subpart T); power transmission and distribution (Subpart V); rollover protection structures and overhead protection (Subpart W); stairways and ladders (Subpart X); and toxic and hazardous substances (Subpart Z). Federal safety and health regulations for construction are also

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provided in 40 USC 327 et seq.; these requirements are addressed in Title 8, CCR, Chapter 4, Subchapter 4, General Construction Safety Orders.

Operation

Occupational health and safety standards for industrial facilities are provided in 29 CFR §1910 et seq. and Title 6 CCR. Part 1910 addresses several types of operational activities, such as walking and working surfaces (Subpart D); means of egress (Subpart E); powered platforms, man lifts, and vehicle-mounted work platforms (Subpart F); occupational health and environmental controls (Subpart G); hazardous materials (Subpart H); personal protective equipment (Subpart I); medical and first aid (Subpart K); fire protection (Subpart L); compressed gas and compressed air equipment (Subpart M); material handling and storage (Subpart N); machinery and machine guarding (Subpart O); hand and portable powered tools and other hand-held equipment (Subpart P); welding, cutting, and brazing (Subpart Q); special industries – electric power generation, transmission, and distribution (§1910.269); and electrical (Subpart S).

Per the 1989 Occupational Status Agreement between the Federal OSHA and the California Department of Occupational Safety and Health, the state enforces most Federal regulations and standards, although the Federal OSHA has retained concurrent enforcement jurisdiction for certain Federal standards (e.g., those related to hazardous waste). Federal safety and health regulations for construction are also provided in 40 USC 327 et seq.; these requirements are addressed in Title 8, CCR, Chapter 4, Subchapter 4, General Construction Safety Orders.

5.18.2.2 State LORS

The California Occupational Safety and Health Administration (Cal/OSHA) is responsible for enforcing most health and safety regulations and standards during industrial facility construction and operation. These regulations deal with a variety of issues such as equipment design, personnel training, operational procedures, and safety devices, and are found primarily in CCR, Title 8. Table 5.18-2 identifies specific topical areas covered in applicable portions of CCR Title 8.

Table 5.18-2 Potentially Applicable Topics Addressed in Title 8 CCR

Standard	Description
Occupational Health and Safety Standards, Title 8, §§ 401-428	Definitions Administration Variances Appeals Officers Hearing Board
General Industrial Safety Orders Title 8, §§ 3200-6184	Employee/Employer Communications Injury and Illness Prevention Program Emergency Action Plan Fire Prevention Plan Hazardous Materials Control of Hazardous Substances Hazard Communications Emergency Medical Procedures Personal Protective Equipment Airborne Contaminants Signs, Tags, and Barriers Noise Levels Ventilation Flammable/Combustible Materials Handling and Storage Fire Protection Systems Machine Guarding Crane and Hoist Operation Heavy Equipment and Machinery Operation Rigging Sanitary Facilities Traffic Safety Interface with Other Contractors Miscellaneous Hazards (including hot pipes, compressed air systems, relief valves, pipelines, loading docks)
General Construction Safety Orders High Voltage Electrical Safety Orders Title 8, §§ 1500-1938	Construction Accident Prevention Plan Weekly Toolbox Meeting Traffic Accidents and Earth Moving Hoist equipment Reinforcing Concrete Fall Protection and Scaffolding Electrical Installation Evacuation Plan and Procedures Fire Safety Airborne Contaminants Emergency Medical Procedures Personal Protective Equipment Hand and power Tool Use Crane and Hoist Operations Illumination Housekeeping Excavations
Electrical Safety Orders Title 8, §§ 2299-2974	High Voltage Installation, Operation, and Maintenance Low and High Voltage Hazards

Table 5.18-2 Potentially Applicable Topics Addressed in Title 8 CCR

Standard	Description
Unfired Pressure Vessel Safety Orders, Title 8, §§ 450-460 Boiler and Fired Pressure Vessel Safety Orders, Title 8, §§ 750-797	Design and Construction Air Tanks Pressure Vessels other than Air Tanks LP Gas Systems Aqueous Ammonia Safe Practices Design and Construction Installation, Inspection, Operation, Repairs

Construction

Construction safety orders are published at Title 8 of the CCR, sections 1502, et seq. These requirements are promulgated by Cal/OSHA and apply to the construction phase of the Project. The construction safety and health program will include the following:

- Construction Injury and Illness Prevention Plan (8 CCR § 1509);
- Construction Fire Protection and Prevention Plan (8 CCR § 1920);
- Personal Protective Equipment Program (8 CCR §§ 1514-1522); and
- Emergency Action Program and Plan (8 CCR § 3220).

Additional programs under General Industry Safety Orders (8 CCR §§ 3200-6184), Electrical Safety Orders (8 CCR §§ 2299-2974), and Unfired Pressure Vessel Safety Orders (8 CCR §§ 450-544) will include: electrical safety program; motor vehicle and heavy equipment safety program; forklift operation program; excavation/trenching program; fall protection program; scaffolding/ladder safety program; articulating boom platforms program; crane and material handling program; housekeeping and material handling and storage program; respiratory protection program; employee exposure monitoring program; hand and portable power tool safety program; hearing conservation program; back injury prevention program; hazard communication program; heat and cold stress monitoring and control program; pressure vessel and pipeline safety program; hazardous waste program; hot work safety program; permit-required confined space entry program; and demolition procedure (if applicable).

Title 24 CCR, also known as the California Building Standards Code, is a compilation of three types of building standards from three different origins: building standards that have been adopted by State agencies without change from building standards contained in national codes; building standards that have been adopted and adapted from the national model code standards to meet California conditions; and building standards, authorized by the California legislature, that constitute extensive additions not covered by the model codes that have been adopted to address particular California concerns. Within 24 CCR there are several potentially applicable parts, such as Part 3 - California Electrical Code; Part 4 - California Mechanical Code; Part 5 - California Plumbing Code; Part 6 - California Energy Code; Part 9 - California Fire Code; and Part 10 - California Code for Building Conservation.

Operation

Prior to operations, an operations and maintenance safety and health program will be prepared. This program will include the following programs and plans:

- Injury and Illness prevention Program (8 CCR § 3203);
- Fire Protection and Prevention Program (8 CCR § 3221);
- Personal Protective Equipment Program (8 CCR §§ 3401-3411); and
- Emergency Action Plan (8 CCR § 3220).

In addition, the requirements under General Industry Safety Orders (8 CCR §§ 3200-6184), Electrical Safety Orders (8 CCR §§ 2299-2974), and Unfired Pressure Vessel Safety Orders (8 CCR §§ 450-560) will apply to this project. Written (operations) safety programs for the Project will ensure compliance with those requirements. Table 5.18-2 identifies specific topical areas covered in applicable portions of CCR Title 8.

5.18.2.3 Local LORS

Uniform Fire Code, Articles 80, 79, 4

Article 80 includes provisions for storage and handling of hazardous materials. Other articles that may be applicable include Article 4, Permits, and Article 79, Flammable and Combustible Liquids. The administering agency for the above regulations is the Imperial County Fire Department. The Project would be designed and constructed to comply with all applicable Uniform Fire Code requirements.

California Code of Regulations, Title 24, Section 501 et seq.; California Building Code

This regulation specifies the relevant building codes required by the State of California for the design and construction of buildings related to fire and life safety, and structural safety. By incorporation, this regulation references requirements of the 2007 Uniform Building Code (UBC). The Imperial County Planning and Building Department, which enforces these provisions, uses the 2007 UBC, the 2007 California Building Codes, and the 1996 National Electric Code as its guidance.

5.18.2.4 Industry Codes and Standards

Several industry codes and trade association standards designed to ensure worker safety and health may be applicable to the Project. Table 5.18-3 provides a listing of potentially applicable industry codes and standards. Many of these standards have been incorporated into Federal and State regulations and into building codes. Of particular relevance to worker safety are the fire and explosion hazards-related standards of the NFPA, which are identified in Table 5.18-4.

Table 5.18-3 Potentially Applicable Industry Codes and Standards

American Association of State Highway Officials (AASHO)
American National Standards Institute (ANSI)
American Petroleum Institute (API)
American Society for Testing and Materials (ASTM)
American Society of Nondestructive Testing (ASNT)
American Society of Mechanical Engineering (ASME)
American Water Works Association (AWWA)
American Welding Society (AWS)
Underwriters Laboratories (UL)
Uniform Building Code (UBC)
Uniform Fire Code (UFC)
Standards of Tubular Exchanger Manufacturers Association (TEMA)
American Institute of Steel Construction (AISC) Specifications
American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE)
Asphalt Institute, Pacific Coast Division
California State Fire Marshall (CSFM)
Heat Exchanger Institute
Hydraulic Institute Standards
Institute of Electrical and Electronic Engineers (IEEE)
Instrument Society of America (ISA)
National Association of Corrosion Engineers (NACE)
California Building Code (CBC)
Steel Structures Painting Council Standards (SSPC)
Uniform Plumbing Code (UPC)
Uniform Mechanical Code (UMC)

Table 5.18-4 Fire Protection Association Fire and Explosion Hazards Standards

Standard	Description
NFPA 1	Fire Prevention Code
NFPA 10	Portable Fire Extinguishers
NFPA 12	Carbon Dioxide Fire Extinguishers
NFPA 13	Sprinkler Systems
NFPA 14	Installation of Standpipe and Hose Systems
NFPA 15	Water Spray Fixed Systems
NFPA 17	Dry Chemical Fire Extinguishing Systems
NFPA 20	Centrifugal Fire Pumps
NFPA 22	Water Tanks for Private Fire Protection
NFPA 24	Private Fire Service Mains and Appurtenances
NFPA 26	Valves Controlling Water-Supplied Fire Suppression Systems
NFPA 30	Flammable and Combustible Liquids Code
NFPA 37	Combustion Engines and Gas Turbines
NFPA 50A	Gaseous Hydrogen at Consumer Sites
NFPA 68	Explosion Venting
NFPA 69	Explosion Preventing
NFPA 70	National Electric Code
NFPA 71	Installation, Maintenance, and Use of Central Station Signaling Systems
NFPA 72	National Fire Alarm Code
NFPA 78	Lighting Protection Systems
NFPA 80	Fire Doors and Windows
NFPA 90A	Air Conditioning and Ventilating Systems
NFPA 101	Design Requirements for Means of Exiting Facilities
NFPA 291	Testing and Marking Hydrants
NFPA 496	Purged and Pressurized Enclosures for Electrical Equipment
NFPA 497	Flammable and Combustible Liquids Classification
NFPA 1961	Fire Hose
NFPA 1962	Care, Use, and Service of Fire Hose including Couplings and Nozzles
NFPA 1963	Screw, Threads, and Gaskets for Fire Hose Connections
NFPA 2001	Clean Agent Fire Extinguishing Systems

5.18.2.5 Involved Agencies and Required Permits

Agency contacts regarding worker health and safety for the Project are shown in Table 5.18-5.

Table 5.18-5 Agencies and Agency Contacts

Agency Contact	Phone/E-mail	Permit/Issue
Cal/OSHA Duty Officer 464 West 4th Street, Room 339 San Bernardino, CA 92408	Duty Officer Consultation Services (909) 383-4567 Compliance Division (909) 383-4321	See Permits in Table 5.18-6
Mr. Jurg Heuberger, Director Imperial County Planning and Building Department 939 W. Main Street, Suite B1 El Centro, CA 92243	(760) 482-4236 jurgheuberger@imperialcounty.net	Building and Safety Code adherence

Table 5.18-5 Agencies and Agency Contacts

Agency Contact	Phone/E-mail	Permit/Issue
Tony Rouhotas, Fire Chief Imperial County Fire Department 2514 La Brucherie Road Imperial, CA 92251	(760) 482-2422 jtonyrouhotas@imperialcounty.net	Cal-ARP Uniform Fire Code and NFPA compliance

Table 5.18-6 provides a listing of applicable health and safety permits, which will be required for the Project. Additionally, this table provides the activities covered for each permit as well as the application requirements to obtain the permit. Although the Federal OSHA program does not require permits, instead requiring compliance with regulations, Cal/OSHA does require some permits for what Cal/OSHA regards as high hazard work.

All permits given in Table 5.18-6 can be obtained from any district or field office of Cal/OSHA. The permit notification or application requirement is generally 24 hours prior to commencement of work. A specific permitting schedule is not provided because the permits may be required at several points in the construction of the plant or during operation.

Table 5.18-6 Permits and Approvals

Permit/Approval	Issuing Agency	Law/Application Requirements	Permit Schedule
Trenching, Excavation, and Erection or Demolition Permit	Cal/OSHA	Permits are required for the following operations: Trenches and excavations of more than five feet below ground surface where personnel are required to enter. Construction of buildings, structures, scaffolding, or false work that are more than three stories high. Demolition of any building, structure, or the dismantling of scaffolding or false work that are more than three stories high.	Submit completed permit application within 24 hours to any Cal-OSHA district or field office prior to commencing construction.
Erection of a Fixed Tower Crane Permit	Cal/OSHA	Permits are required for the following operations: Erection, climbing, and dismantling of fixed tower cranes. Additionally, notifications to the Cal/OSHA must be made at least 24 hours prior to the initiation of the following activities: Completion of erection and commencement of operation. Climbing of the tower crane. Dismantling of the tower crane.	Submit completed permit application to any Cal/OSHA district or field office 24 hours prior to beginning work.

5.18.3 Affected Environment

Because the Project facilities have not yet been constructed, and because there are no industrial activities currently on the Project site, there are no relevant baseline conditions to describe.

5.18.4 Environmental Impacts

Project workers may be exposed to hazardous materials during construction, operation, and maintenance activities. Potential impacts to worker safety are defined as impacts that could adversely affect Project personnel, including individuals employed directly by the Project as well as the employees of the contractors, vendors, or others working on site, during Project construction and/or operation. Impacts to workers can be minimized through the implementation of appropriate engineering and administrative controls and the use of personal protective equipment. The Applicant operates several existing geothermal facilities in the Project vicinity, and there are well established health and safety programs in place at these facilities. These existing health and safety programs provide a strong foundation for the health and safety programs that will be implemented for the Amended Project (with, of course, prudent Project-specific adaptations).

Hazards, impacts, and control measures are similar for the construction and operation phases of the Project. Therefore, many of the health and safety programs and plans that will be developed and implemented during the construction phase will be revised as the Amended Project transitions to operations. The health and safety programs and plans for each phase of the Project are discussed in Section 5.18.4.1, Construction and Section 5.18.4.2, Operations.

5.18.4.1 Construction

Health and safety programs designed to mitigate hazards and comply with applicable LORS will be developed and implemented to protect worker health and safety during Project construction. Periodic audits will be performed by qualified individuals to determine whether proper work practices and programs are being used to mitigate hazardous conditions and to evaluate regulatory compliance.

Construction Safety Program

During construction, the Applicant will hold the general construction contractor (Contractor) responsible for enforcing contract provisions to assure compliance with the all health and safety requirements to comply with California Occupational Safety and Health Administration (Cal/OSHA) regulations and to ensure the safety and health of its employees and its subcontractors. The Contractor will ensure that an appropriate number of onsite persons are trained in rendering first aid. The closest emergency medical clinic to the site is the Pioneers Memorial Healthcare at 207 W. Legion Road, Brawley, California, approximately 18 miles south of the site.

Safety Permits, Certifications and Registrations

Prior to construction, the relevant contractor will possess or obtain a valid construction activity permit and provide the proper Activity Notification Form for Holders of Annual Permits pursuant to Title 8, CCR, Chapter 4, Subchapter 4, from Cal/OSHA to enable construction of buildings/structures greater than 36 feet or three stories high. The relevant contractor will also possess or obtain a valid permit if a mobile tower crane is used. All cranes with a rated capacity exceeding three tons will be certified per 8 CCR § 5021. Applications for permits and requirements for certifications will be addressed to the San Diego District Office of Cal/OSHA. An erection plan or notification will be submitted to Cal/OSHA prior to installation of any elevators pursuant to 8 CCR § 3001(a)(1). The Applicant will follow similar procedures as required for excavations.

Hazard Analysis

Table 5.18-7 summarizes a hazard analysis of the Project. This table lists work activities and associated hazards, and also shows programs designed to reduce the occurrence of each exposure, workplace, or occupational hazard. Because the types of work activities, associated hazards, and hazard control approaches shown are generic and apply to both construction and operations work activities, Table 5.18-7 applies to both Project construction and Project operations. As Project design, construction, and operation proceeds, the analyses of hazards and the specifics of control strategies will be updated as needed to ensure that they are appropriate for Project activities at that time.

Table 5.18-7 Project Hazard Analysis (Construction and Operations Phases)

Activity	Hazard	Control
Motor Vehicle and Heavy Equipment Use	Collisions between equipment, injury to operators and construction workers, and damage to construction and operation equipment.	Establish a Motor Vehicle and Heavy Equipment Safety Program.
Forklift Operation	Similar to motor vehicle and heavy equipment use.	Same as above and provide Forklift Operator Training Program.
Working in Elevated Locations	Injury to employees from falls from elevated locations.	Establish a Fall Protection Program and Scaffolding Safety Program.
Trenching and Excavation Operations	Injury to employee and property damage from unsafe trenches and excavations.	Establish a Trenching and Excavation Safety Program, and a confined space permits and use of Excavation Permits per Cal/OSHA.
Use of Cranes or Derricks	Equipment and property damage from falling loads and injuries to construction workers.	Implementation of Crane Permits per Cal/OSHA requirements and establishing a Hoisting and Rigging Safety Program.
Plant Systems, Maintenance, and General Construction Activities	Injury to Employee and property damage from various contacts with hazardous energy sources (e.g., heat sources, electrical, tools, and mechanical equipment).	Establish procedures to control energy sources (e.g., Lockout/Tagout Program, Hot Work Permits, and Cold Work Permits).
Working with Flammable and Combustible Liquids	Danger of fire or explosions and damage to property and injury to personnel.	Establish Flammable and Combustible Liquid Storage and a Chemical Handling Program. Implement Fire Prevention and Protection Program. Implement Proper Housekeeping Policy and Program.

Table 5.18-7 Project Hazard Analysis (Construction and Operations Phases)

Activity	Hazard	Control
Working with Toxic Chemicals (e.g., Aqueous Ammonia)	Toxic material, maybe fatal if inhaled, ingested, or absorbed through skin.	Establish Chemical Handling Program, including storage. Establish a RMP and OCA in the event of a release. Establish a Hazard Communication Program
Cutting and Welding (Hot Work)	Injury to employee and property damage from fire. Employee exposure to toxic fumes during cutting and welding operations. Eye injury due to exposure to ultraviolet and infrared radiation during cutting and welding.	Establish a Respiratory Protection Program, Hot Work Program, Industrial Hygiene Monitoring Program, and a Housekeeping Policy.
Working on or with Electrical Equipment and Systems	Injury to employee and equipment from flashovers and contact with electricity.	Implement an Electrical Safety Program, Personal Protective Equipment Program, Hazardous Energy Control, Lockout/Tagout) Program, etc.
Construction Assembly, Repair, and/or Maintenance Activities	Injury to employee from hand and portable power tools.	Implement Hand and Portable Power Tool Safety Program, Personal Protective Equipment Program, and Tool Inspection Program.
Aggress and Egress Issues	Injury to employee and property damage from inadequate walking and work surfaces areas.	Establishing a Housekeeping Policy and Program.
Hearing Loss	Injury to employee from overexposure or inadequate ear protection.	Implement a Hearing Conservation Program and a Personal Protective Equipment Program.
Lifting Heavy Objects	Injury to employee from improper carrying or lifting and of materials and equipment.	Establish a Safe Lifting Program and Personal Protection Equipment Program for adequate material handling.
Driving Small Vehicle	Collisions between equipment, injury to operators and construction workers, and damage to construction and operation equipment.	Establish a Safe Driving Program.
Exposure to Hazardous Gases, Vapors, Dust, and Fumes	Injury to employee exposure or overexposure to hazardous gases, vapors, dusts, and fumes.	Establish a Hazardous Substances Program, Respiratory Protection Program, Personal Protective Equipment Program, and Industrial Hygiene Exposure Monitoring Program/Records.

Table 5.18-7 Project Hazard Analysis (Construction and Operations Phases)

Activity	Hazard	Control
High Pressure Steam/Air Systems Testing, Troubleshooting Repair, and Maintenance.	Injury to employee and property damage from sudden unexpected release of high pressure steam or air.	Install proper relief valves or vents. Establish Relief Valve Maintenance and Testing Program. Proof testing pressure system components Hazardous Energy Control, Lockout/Tagout Program, and Line Breaking Safety Program.

Construction Injury and Illness Prevention Plan (IIPP)

The written Construction Safety Program will meet the Cal/OSHA IIPP requirements of 8 CCR § 1509 by inclusion of the following:

- A written Code of Safe Practices that relates to construction operations,
- 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,
- Periodic meetings of supervisors and management to discuss past safety incidents and identify and implement corrective actions, as required,
- A system ensuring employee and subcontractor compliance,
- Procedures for promptly correcting unsafe conditions,
- Identification of the person or persons responsible for implementing the program,
- The system for identifying workplace hazards, including inspections,
- “Tool box” or “tailgate” meetings conducted for employees by supervisors emphasizing safety, and
- Methods of communicating with employees encouraging employees to identify unsafe activities.

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 subject to known job site hazards, they will be instructed to recognize the hazard, to adopt procedures to protect themselves from injury, and to perform first aid procedures in case of injury. The Contractor will ensure that all its employees and subcontractor employees are health and safety qualified (including meeting relevant health and safety training requirements) in their respective work disciplines and crafts.

Safety Training Program

The Project will develop and implement a Construction Safety Training Program that will be adapted to serve as an Operations Safety Training Program as the Project transitions from construction into routine power generation facility operations. As mentioned above for the Project Hazard Analysis and PPE Program, the elements of the Safety Training Program will be essentially the same for operations as for

construction, but specifics of the training will be adapted as needed to be suitable for the specific work activities associated with operations to the extent that the various activities differ between the two phases. Typical training courses and the employees who are required to receive the training are provided in Table 5.18-8.

Table 5.18-8 Training Programs and Target Employees (Construction and Operation Phases)

Training Course	Target Employees
Injury and Illness Prevention Training	All employees.
Emergency Action Plan Training	All employees.
PPE Training	All employees.
Heavy Equipment Safety Training	Employees working on, near, or with heavy equipment.
Forklift Operation Training	Employees working with forklifts.
Excavation and Trenching Safety Training	Employees involved with trenching or excavation operations.
Fall Protection Training	All employees.
Scaffolding and Ladder Safety Training	Employees required to erect or use scaffolding and employees using ladders.
Hoist and Rigging Program	Employees and supervisors responsible for conducting hoists and rigging operations.
Crane Safety Training	Employees supervising, crane operators, and employees involved in crane operations.
Fire Protection and Prevention Training	All employees.
Confined Space Entry Program	All employees.
Blood Borne Pathogens Training	First Responders.
Hazard Communication Training	Employees working with or handling hazardous materials.
Electrical Safety Training	Employees performing work with electrical systems, equipment, or electrical extension cords. Additionally, employees working with lockout/tagout activities.
Hand and Portable Power Tool Safety Training	All employees.
Heat Stress and Cold Stress Safety Training	All employees.
Hearing Conservation Training	All employees.
Back Injury Prevention Training	All employees.
Safe Driving Training	All employees.
Pressure Vessel and Pipeline Safety Training	Employees supervising or working on pressurized vessel, pipes, or equipment.
Respiratory Protection Training	All employees required to wear respiratory protection equipment.
Hot Work Training	All employees working with welding, heating, or other

Table 5.18-8 Training Programs and Target Employees (Construction and Operation Phases)

Training Course	Target Employees
	equipment that generates ignition sources.

Specific safety program requirements for both construction and operations are identified below.

Develop a Motor Vehicle and Heavy Equipment Safety Program that accomplishes the following:

- Establishes a program for operation and maintenance of Project equipment and vehicles;
- Develops a job site inspection procedure;
- Establishes PPE requirements for job site personnel;
- Determines and establish training and instruction requirements and programs;
- Develops a Forklift Operation Program;
- Defines training and certification requirements for operators based on equipment use;
- Determines fueling and refueling procedures and equipment;
- Establishes safe operating parameters for specific jobs and equipment; and
- Determines and establish training and instruction requirements and programs.

Develop a Forklift Operation Program that accomplishes the following:

- Defines training and certification requirements for operators based on equipment and vehicles;
- Develops a job site inspection procedure;
- Establishes PPE requirements for job site personnel; and
- Determines and establishes training and instruction requirements and programs.

Develop an Excavation and Trenching Program and permit requirements that accomplish the following:

- Establishes shoring, sloping, and benching requirements; and
- Determines job-specific Cal/OSHA permit requirements (e.g., lockout/tagout, confined space, and hot work).

Develop equipment inspection procedures that accomplish the following:

- Establishes air monitoring requirements and procedures;
- Develops access and egress requirements for job sites;
- Establish calling procedures for the Underground Services Alert program; and
- Determine and establish training and instruction requirements and programs.

Develop a Fall Protection Program that accomplishes the following:

- Evaluates specific job site of fall hazards;
- Provides requirements for protection device use;
- Determines and establishes training and instruction requirements and programs.

Develop a Scaffolding and Ladder Safety Program that accomplishes the following:

- Establishes construction and inspection requirements for scaffolding erection;
- Determines scaffolding applicability of use and proper use procedures; and
- Determines and establish training and instruction requirements and programs.

Develop an Articulating Boom Platforms Program that accomplishes the following:

- Establishes procedures for inspection of equipment;
- Determines proper load rating of equipment;
- Establishes safe operating parameters of equipment; and
- Determines and establishes training and instruction requirements and programs.

Develop a Crane and Material Handling Program that accomplishes the following:

- Determines certified and licensed requirements for operators;
- Establishes inspection requirements and procedures;
- Determines proper load rates of equipment;
- Establishes safe operating parameters of equipment; and
- Determines and establish training and instruction requirements and programs.

Develop an Employee Exposure Monitoring Program that accomplishes the following:

- Determines and evaluates exposure limitations and requirements for specific job sites (e.g., noise, chemicals, and dust);
- Establishes monitoring requirements for specific exposures;
- Establishes a medical surveillance program and record keeping requirements;
- Determines and establish training and instruction requirements and programs.

Develop an Electrical Safety Program that accomplishes the following:

- Establishes electrical grounding procedures and requirements;
- Determines lockout/tag-out permitting procedures;
- Determines overhead and underground utilities design and installation requirements;

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- Establishes utility clearance requirements;
- Implements electrical equipment inspection procedures; and
- Determines and establishes training and instruction requirements and programs.

Develop a Hand and Portable Power Tool Safety Program that accomplishes the following:

- Evaluates power tools guards and tools proper operation;
- Establishes requirements and procedures for inspecting power tools prior to use; and
- Determines and establish training and instruction requirements and programs.

Develop a Housekeeping and Material Handling and Storage Program that accomplishes the following:

- Determines chemical and other equipment storage requirements;
- Examines walkways and work surfaces for proper clearance and elimination of obstructions;
- Examines equipment handling and storage requirements; and
- Determines and establishes training and instruction requirements and programs.

Develop a Hearing Conservation Program that accomplishes the following:

- Establishes proper hearing protective devices and type to use and
- Determines and establish training and instruction requirements and programs.

Develop a Back Injury Prevention Program that accomplishes the following:

- Determines proper lifting and material handling procedures;
- Provides proper PPE; and
- Determines and establishes training and instruction requirements and programs.

Develop a Hazard Communication Program that accomplishes the following:

- Establishes labeling requirements for chemicals;
- Determines proper storage and handling requirements;
- Makes available Material Safety Data Sheets for chemicals used on site;
- Establishes chemical inventories; and
- Determine and establish training and instruction requirements and programs.

Develop a Respiratory Protection Program that accomplishes the following:

- Determines the appropriate tasks for use of job-specific respiratory equipment;
- Establishes a designated storage area for equipment;

- Performs a fit test for equipment;
- Establishes medical record keeping requirements;
- Performs proper inspection and repair; and
- Determines and establishes training and instruction requirements and programs.

Develop a Heat and Cold Stress Monitoring and Control Program that accomplishes the following:

- Determines monitoring requirements'
- Develops a process to prevent and control exposures; and
- Determines and establishes training and instruction requirements and programs.

Develop a Pressure Vessel and Pipeline Safety Program that accomplishes the following:

- Implements a pressure line-breaking program;
- Establishes equipment inspection and maintenance procedures;
- Determines blocking, bleeding, and blanking requirements; and
- Determines and establishes training and instruction requirements and programs.

Construction-Personal Protective Devices

Employees will be required to use the required PPE during construction. Required PPE shall be approved for use and distinctly marked to facilitate identification as required by 8 CCR § 1514. PPE will be used in accordance with the manufacturer's instructions. The PPE will be of such design, fit and durability as to provide adequate protection against the hazards for which they are 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 5.18-9, and will comply with Cal/OSHA requirements. When protective insulating equipment is used, it will comply with the Electrical Safety Codes as required by 8 CCR § 1518. The work atmosphere will be tested per established protocols. A respiratory protection program complying with 8 CCR § 5144 will be developed that includes respirator training, fit testing, monitoring, selection, etc., if testing results warrant the need. If monitoring suggests that the potential exposure to hydrogen sulfide (H₂S) exists, an approved supplied-air type respirator may need to be used during certain activities (e.g., drilling).

Table 5.18-9 Basic Protective Equipment Guide		
Body Area	Hazards	Recommended Action
Eyes/Face	Low-velocity flying particles High-velocity chips and sparks Corrosive liquid splash during transfer Entering an acid storage system Welding-injurious light rays	Safety glasses with side shields Impact goggles or safety glasses with full face shield Splash-proof goggles and face shield Acid hood Welding hood with appropriate eye filter lenses
Head/Ears	General wear, overhead rigging, material handling, maintenance, and general construction operations Noise exposure	Hard hat Ear plugs or muff
Respiratory System	Low-hazard inert dusts Welding fumes Low concentration solvent vapors Acid mists High-concentration dusts or vapors Oxygen deficiencies or gases	Dust mask Appropriately ventilated area Cartridge-type, positive pressure, full-face respirator Air line respirator Self-contained breathing apparatus
Hands/Arms	Handling rough or sharp objects Handling hot objects Using solvents	Leather gloves Insulated gloves Impervious synthetic gloves
Feet/Legs	General wear for light handling Handling heavy objects Using brush hooks or scythes Working with corrosive liquids Underground work Work in brush, tall grasses, or other vegetation	Safety toe shoes Metatarsal safety shoes Shin guards Safety toe boots, full leather, no breather holes Safety toe synthetic boots Snake gaiters
Trunk/Full Body	Hot or corrosive liquids Punctures, impact, or cuts Cleanup of broken acid containers.	Full body suit made of appropriate materials, synthetic apron Rubber apron for corrosive liquids Canvas or leather kickback apron or metal mesh apron Full body suit made of appropriate materials
Fall Protection/Rescue	Working from elevated structure of platform w/o standard railings Vessel entry Suspended scaffolds	Safety harness, arrestor, and lanyard Harness and lifeline or wristlets and lifeline Lifeline, safety harness/lanyard Boom lift platform with cage

Construction - Onsite Fire Suppression and Prevention

The Project 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 provide the necessary fire-fighting equipment.

During construction, the permanent facility fire suppression systems will be placed in service as early as practicable. Construction fire prevention regulations in 8 CCR §§ 1920 et seq. will be followed as necessary to prevent construction fires. Special attention will be given to operations involving open flames, such as welding, and the use of flammable materials, and to the hazards created by the potential existence of H₂S. Personnel involved in such operations will have appropriate training by the contractor. A fire watch, using the appropriate class of extinguishers or other equipment, will be maintained during hazardous or hot work operations as required. Site personnel will not be expected to fight fires past the incipient stage. As necessary, the fire protective measures shall be coordinated with the local fire protection services.

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 Electrical Safety Orders and as prescribed by 8 CCR § 5530. Outside storage areas will be designed 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.

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 fire extinguishers and small hose lines that conform to Cal/OSHA and the NFPA. The contractor's safety representative will conduct periodic fire prevention inspections.

Fire extinguishers will be inspected routinely and replaced immediately if defective or in need of recharge as required by 8 CCR § 6151. All fire-fighting equipment will be located to allow for unobstructed access to the equipment and will be conspicuously marked. A temporary or permanent water supply, of sufficient volume, duration and pressure to operate the required firefighting equipment, will be provided as combustible materials accumulate. Designated, approved flammable materials storage areas and flammable materials storage containers will be provided with adequate fire prevention systems.

Construction - Offsite Fire Suppression Support

Backup support to the onsite fire suppression systems will be provided by the Calipatria City Fire Department (the Imperial County Fire Department has jurisdiction over the site and vicinity but contracts with the Calipatria City Fire Department to provide fire response services to the Project area). The local fire response units will be provided with information regarding the type and location of potential fire hazards. This information will be included in emergency response planning. Routine fire prevention inspections and annual Structure Response Drills will be conducted by the Calipatria City Fire Department.

Drilling and Construction of Wells

Because of the potential of H₂S and geothermal steam exposure during the drilling and construction of geothermal wells, the Project will develop and implement a plan to minimize risks from these hazards as guided by the State of California, Division of Oil, Gas and Geothermal Resources, Publication No. M10 ("Drilling and Operating Oil, Gas, and Geothermal Wells in an H₂S Environment"). These plans will be coordinated with local emergency service providers and may include provisions related to hazard detection and monitoring, fire prevention, site control, emergency response, and specialized equipment and techniques.

The Project's non-condensable gas (NCG) stream is expected to contain benzene, which indicates a possibility that worker exposure to benzene could occur during well installation and development. Therefore, monitoring will be conducted to determine whether benzene exposure is within the Cal/OSHA exposure limits. If monitoring results suggest possible exposures higher than the Cal/OSHA limits, a program to minimize exposures will be implemented in conformance with 8 CCR § 5218.

5.18.4.2 Operation

As noted earlier, the workplace health and safety programs for Project operation will be based on existing well-established programs at existing geothermal facilities in the Project vicinity operated by the Applicant, and will also be similar in many ways to those developed for Project construction activities. Many of the construction programs and plans will be revised so they are appropriate for routine operational activities, and the Project health and safety programs will transition from the construction phase into the operation phase as the overall Project makes the transition between phases. The discussions presented earlier for the Project construction phase concerning the Project's Hazard Analysis and IIPP apply to Project operation as well and are not repeated in this subsection.

Plant Operation Safety Programs

Employee safety programs will be implemented for the operational phase of the Project. These programs will include:

- Regular employee education and training in safe work practices for general and specific task areas;
- Accident and incident evaluations;
- Emergency response;
- Contractor and visitor safety;
- Maintenance of safety performance data;
- Communication of hazards in accordance with Federal and State standards;
- Administrative safety procedures;
- Fire prevention and fire response; and
- Security.

Operations personnel will be provided with written safety guidance. Construction safety programs and procedures applying to facility operations will be incorporated into the plant operational safety program.

Fire Protection and Prevention Program

Fire protection will include measures relating to safeguarding human life, preventing personnel injury, preservation of property, and minimizing downtime because of fire or explosion (National Safety Council, 1992). These measures shall be described in a Fire Prevention Plan as required by 8 CCR § 3221. It will principally involve physical arrangements, such as sprinkler systems, firewater pump, water supplies, and fire extinguishers. Fire protection measures will 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 facility will become the fire protection responsibility of the Imperial County Fire Department (however, Imperial County contracts fire department response services in the Project area to the Calipatria City Fire Department). The fire suppression systems will be subject to review and approval by the Imperial County Fire Department, which will have final approval responsibility. Additionally, facilities 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 Imperial County Fire Department will have the responsibility to perform the final inspection of the facility when construction is complete and periodic fire and life safety inspections thereafter, including reviewing and approving programs for regular equipment inspections and servicing and for the training of employees in fire protection procedures. Additionally, the project's insurance carrier will provide annual inspections by a fire protection specialist. A licensed contractor will conduct servicing of the fixed CO₂ or dry chemical systems.

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

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

Fire Protection System

The following fire suppression systems are proposed:

- Carbon Dioxide Extinguishers. A carbon dioxide extinguisher system will be provided for the turbine area, as necessary for specific hazards. Fixed carbon dioxide systems will be employed for sealed engineering spaces and packages. The fixed systems will be augmented by handcart extinguishers.
- Fire Hydrants/Hose Stations. This system will supplement the plant fire protection system. Water will be supplied from the Imperial Irrigation District (IID) canal water system. These will be located consistent with fire design code requirements and with 75-foot hoses.
- Sprinkler System. An automatic sprinkler system will provide protection to the turbine generator and auxiliary equipment areas; an automatic spray system will provide protection for the main step-up transformer; and automatic sprinklers will protect other administration areas.
- Smoke Detectors, Combustible Gas Detectors, and Fire Extinguishers. These will be provided at all locations having potential fire hazards because of the presence of combustible liquids, solids, or other highly flammable materials, and where major property damage could result. Detection system and fire alarm pull stations will be provided in the Control Room and other appropriate areas in accordance with NFPA 72. Extinguishers will be located consistent with the CBC at approved intervals throughout the facility as directed by the local fire inspector and selected for the appropriate class of service.

Water will be used as the primary extinguishing agent. The IID water system will be the primary supply of water to the fire suppression systems, with a firewater tank reserve capacity of 300,000 gallons. 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.

Chemical Handling System

As described in Section 5.6 Hazardous Materials, there will be a variety of chemicals stored and used during construction and operation of the Project. The storage and handling of chemicals will follow applicable LORS to minimize risk to workers. 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 permanent containment or curbing to contain leaks and spills. The containment areas will be sized to hold an appropriate volume in consideration of the potential for the local hazard contingencies (e.g., 100 percent of the largest container plus an allowance for precipitation from a 25-year, 24-hour storm), as designated by a California-registered Professional Engineer.

Safety showers and eyewash stations will be provided in or adjacent to chemical storage and use areas, including the hydrochloric acid solution storage area, in accordance with 8 CCR § 5162 requirements. Typical safety gear for chemical exposure will be provided in a readily available location for use during minor chemical spill containment and cleanup activities by plant personnel. Adequate supplies of absorbent material and neutralizing agents will be stored on site for minor spill cleanup. A hazardous material emergency response team, trained in the containment control and clean-up of accidental chemical releases, 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 plant operations manual prior to commencement of operations.

The primary chemical exposure concerns are anticipated to be H₂S that naturally exists in the geothermal brine, inorganic arsenic that can potentially build up in the scale created from the steam, hydrochloric acid,

and sodium hydroxide used in the brine handling. Although ammonia is known to be present in the geothermal brine, the concentration will not be high enough in any process stream (i.e., brine, condensate, NCG) to expose a worker to airborne concentrations exceeding OSHA or National Institute of Occupational Safety and Health (NIOSH) exposure thresholds.

The RTO abatement system for treatment of H₂S in the NCG and the ChemOx system proposed for H₂S treatment in the condensate will minimize the risk of worker exposure to H₂S emissions from routine operations. During commissioning and startup, and during outages and upset conditions, steam may be routed through the steam vent tank system. The steam vent tank would release H₂S to the atmosphere without control. Although emissions of H₂S are anticipated to be higher when routed through the steam vent tank (versus through the turbine and control system), the concentrations at the worker level are expected to be below applicable worker exposure standards including the Immediately Dangerous to Life and Health limit of 100 parts per million (ppm) and NIOSH Ceiling Limit of 10 ppm. H₂S sensors placed in the area of the steam vent tank will be used to identify any exceedances of these standards. Procedures addressing employee exposure, response and evacuation will be included in the Emergency Action Plan (see following subsection).

Potential exposures to trace amounts of toxic metals and other elements will be most likely during outages and other maintenance and repair activities that require exposing surfaces that have been subjected to steam; similarly H₂S exposure potential also could exist during outages and other maintenance and repair activities that involve exposing surfaces exposed to steam. PPE will be employed to minimize worker exposure. In addition, worker monitoring will be used to establish the exposure levels and, if necessary, the applicant will institute additional mitigation measures to protect the workers pursuant to 8 CCR § 5214.

A chemical spill response team shall be established to handle immediate responses to accidental chemical releases (e.g., leakage of hydrochloric acid or sodium hydroxide). This team will be qualified and trained in compliance with 8 CCR 5192, Hazardous Waste Operations and Emergency Response.

Emergency Action 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 Project will have a site specific Emergency Action Plan. A sample Emergency Action Plan outline is provided in Table 5.18-10. The Emergency Action Plan addresses potential emergencies, including chemical releases, fires, bomb threats, pressure vessel ruptures, and other catastrophic events. It describes evacuation routes, alarm systems, points of contact, assembly areas, responsibilities, and other actions to be taken in case of an emergency. The plan has a layout map, a fire extinguisher list, and describes arrangements with local emergency response agencies for responding to emergencies. The Emergency Action Plan will be used in conjunction with the IIPP.

Table 5.18-10 Sample Emergency Action Plan Outline

1.0 Introduction	2.0 Responsibilities	3.0 Response and Notification Plan (Points of Contact)
1.1 Purpose 1.2 Scope	2.1 Incident Command System Emergency Response Coordinator Emergency Evacuation Coordinator Safety Coordinator and Alternates 2.2 Position Description Assignments Construction/Facility Manager Construction/Facility Supervisor Operators Health and Safety Manager Security	3.1 Supervisor/Emergency Coordinator 3.2 Health and Safety Manager
4.0 Response Procedures	5.0 Reference 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 Releases 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	5.1 Evacuation Plan 5.2 Emergency Equipment Locations 5.3 Fire Extinguisher Locations 5.4 Security 5.5 Accident Reporting and Investigation 5.6 Lockout/Tagout 5.7 Hazard Communication 5.8 Spill Containment and Reporting 5.9 First Aid and Medical Response 5.10 Respiratory Protection 5.11 Personal Protective Equipment 5.12 Sanitation 5.13 Work Site Inspections	

5.18.4.3 Cumulative Impacts

Each individual project (the Amended Project as well as other projects in the vicinity), would be separately responsible for complying with applicable worker safety requirements. Thus, no cumulative impacts on worker safety are expected as a result of the Amended Project.

5.18.5 Mitigation Measures

Worker safety mitigation measures are embodied in the CEC's existing Conditions of Certification (COC) for the original project. The Applicant considers these COCs to be suitable for the Amended Project without change, as shown in the following section.

5.18.6 Conditions of Certification

Following are the applicable Conditions of Certification (COC) from the Commission Decision on the original SSU6 project. The Applicant proposes no changes to these COCs.

Worker Safety-1 The project owner shall submit to the CPM a copy of the Project Construction Injury and Illness Prevention Plan, containing the following:

- A Construction Safety Program;
- A Construction Personal Protective Equipment Program;
- A Construction Exposure Monitoring Plan;
- A Construction Emergency action Plan; and
- A Construction Fire Protection and Prevention Plan.

The Safety Program, the Personal Protective Equipment Program, and the Exposure Monitoring Program shall be submitted to the CPM for review and comment concerning compliance of the program with all applicable Safety Orders. The Construction Fire Protection and Prevention Plan and Emergency Action Plan shall be submitted to the Imperial County Fire Department for review and comment prior to submittal to the CPM.

Verification: At least 30 days prior to site mobilization, the project owner shall submit to the CPM for review and approval a copy of the Project Construction Injury and Illness Prevention Program. The project owner shall provide a letter from the Imperial County Fire department stating that they have reviewed and commented on the Construction Fire Protection and Prevention Plan Emergency Action Plan.

Worker Safety-2 The project owner shall submit to the CPM a copy of the Project Operations and Maintenance Safety and Health Program containing the following:

- An Operation Injury and Illness Prevention Plan;
- An Emergency Action Plan;
- Hazardous Materials Management Program;
- Operations and Maintenance Safety Program;

- Fire Protection and Prevention Program (Cal Code Regs., tit. 8, § 3221); and;
- Personal Protective Equipment Program (Cal Code Regs., tit. 8, § 3401-3411).

The Operation Injury and Illness Prevention Plan, Emergency Action Plan, and Personal Protective Equipment Program shall be submitted by the project owner to the Cal/OSHA Consultation Service, for review and commenting concerning compliance of the program with all applicable Safety Orders. The Operation Fire Protection Plan and the Emergency Action Plan shall also be submitted by the project owner to the City of Calipatria Fire Department for review and acceptance.

Verification: At least 30 days prior to the start of operation, the project owner shall submit to the CPM a copy of the final version of the Project Operations and Maintenance Safety & Health Program. It shall incorporate Cal/OSHA Consultation Service's comments, stating that they have reviewed and accepted the specified elements of the proposed Operations and Maintenance Safety and Health Plan.

5.18.7 References

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National Safety Council. 1992. Accident Prevention Manual. Volume 2, Chapter 6, Fire Protection

Title 8, California Code of Regulations, Division 1, Chapter 4, Subchapter 1 Unfired Pressure Vessel Safety Orders.

Title 8, California Code of Regulations, Division 1, Chapter 4, Subchapter 4. Construction Safety Orders.

Title 8, California Code of Regulations, Division 1, Chapter 4, Subchapter 5. Electrical Safety Orders.

Title 8, California Code of Regulations, Division 1, Chapter 4, Subchapter 6. Elevator Safety Orders.

Title 8, California Code of Regulations, Division 1, Chapter 4, Subchapter 7. General Industry Safety Orders.