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Description:	This revised section summarizes the worker health and safety issues that may be encountered during construction, operation, and decommissioning of the project.
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Attachment 25

Revised Section 3.16, Worker Health and Safety

3.16 Worker Health and Safety

This subsection summarizes the worker health and safety issues that may be encountered during construction, operation, and decommissioning of the proposed Project. Because of the subject matter, this subsection follows a slightly different format than other subsections in Section 3. Instead of a standard discussion of affected environment followed by the Project's environmental consequences and proposed mitigation measures for significant impacts, this subsection contains worker safety information, including the laws, ordinances, regulations, and standards (LORS) that apply to the proposed Project. Section 3.16.1 describes the environmental setting related to the proposed Project. Section 3.16.2 describes the health and safety programs in terms of analyses conducted to identify hazards and also the safety compliance and training programs that will be established onsite. Section 3.16.3 discusses the applicable LORS. Section 3.16.4 lists the regulatory agencies involved and key agency contacts. Section 3.16.5 provides information regarding required permits and permitting schedules.

3.16.1 Environmental Setting

The Project is in eastern Alameda County, approximately 2.5 miles west of the City of Tracy. The site is comprised of vacant rural agricultural lands used for cattle grazing. Climate in the Project area is characterized as a hot-summer Mediterranean climate with cool, wet winters and hot, dry summers. Temperatures in the Project area range between average lows of 48°F during the coldest months to average highs of 75°F during the summer months. From May to September maximum temperatures exceed 90°F. Extreme weather conditions are not common in the Project area.

3.16.2 Impact Analysis

3.16.2.1 Impact Evaluation Criteria

Impacts would generally be evaluated with respect to the California Environmental Quality Act (CEQA) checklist, which does not have specific questions for worker health and safety. However, this section addresses the CEC's requirement to evaluate worker health and safety per Appendix B of Title 20, California Code of Regulations, Section 1704. Worker health and safety is also addressed in Section 3.5, Hazardous Materials Handling, and Section 3.7, Noise, and Section 3.17, Wildfire.

3.16.2.2 Hazard Analysis

Workers would be potentially exposed to activities that pose potential safety hazards. A hazard analysis is included to evaluate the hazards and assess control measures. The analysis identifies the hazards anticipated during construction, operation, and decommissioning and indicate which safety programs should be developed and implemented to avoid, mitigate, and appropriately manage those hazards. The hazard analysis for Project construction and decommissioning activities is presented in Table 3.16-1, and the hazard analysis prepared for Project operation is presented in Table 3.16-2. The types of hazards anticipated during construction, operation, and decommissioning are similar, thus there is duplication between the tables.

Programs and plans described in this section set forth the methods that will be followed to achieve particular health and safety objectives. The programs or plans will be in written and electronic formats that will be kept at specific locations in the facility and readily available to staff and first responders. Each program or plan will contain job

specific training requirements that are translated into detailed training courses. These courses are taught to construction and operating personnel as needed.

Table 3.16-1. Construction and Decommissioning Hazard Analysis

Activity	Hazard ^a	Control
Motor vehicle and heavy equipment use	<ul style="list-style-type: none"> Employee injury and property damage from collisions between people and equipment 	<ul style="list-style-type: none"> Motor Vehicle and Heavy Equipment Safety Program
Forklift operation	<ul style="list-style-type: none"> Same as heavy equipment 	<ul style="list-style-type: none"> Forklift Operation Program
Trench and excavation	<ul style="list-style-type: none"> Employee injury and property damage from the collapse of trenches and excavations or exposure to fumes or vapors that have collected in the trench/excavation 	<ul style="list-style-type: none"> Excavation/Trenching Program Confined Space Training
Working at elevated locations	<ul style="list-style-type: none"> Falls from the same level and elevated areas 	<ul style="list-style-type: none"> Fall Prevention Program Scaffolding/Ladder Safety Program Articulating Boom Platforms Program Working at Heights
Using cranes	<ul style="list-style-type: none"> Property damage from falling loads Employee injuries from falling loads Injuries and property damage from contact with crane 	<ul style="list-style-type: none"> Crane and Material Handling Program Critical Lift Studies as necessary Crane Operator Certification
Working with flammable and combustible liquids	<ul style="list-style-type: none"> Fire/spills 	<ul style="list-style-type: none"> Fire Protection and Prevention Program Housekeeping and Material Handling and Storage Program
Hot work (including cutting and welding)	<ul style="list-style-type: none"> Employee injury and property damage from fire Exposure to fumes during cutting and welding Ocular exposure to ultraviolet and infrared radiation during cutting and welding 	<ul style="list-style-type: none"> Hot Work Safety Program Respiratory Protection Program Employee Exposure Monitoring Program PPE Program Fire Protection and Prevention Program
Inspection and maintenance of temporary systems used during construction activities	<ul style="list-style-type: none"> Employee injury and property damage from contact with hazardous energy sources (e.g., electrical, thermal, and mechanical) 	<ul style="list-style-type: none"> Electrical Safety Program LO/TO Program
Working on electrical equipment and systems	<ul style="list-style-type: none"> Employee contact with live electricity and energized equipment 	<ul style="list-style-type: none"> Electrical Safety Program <u>LO/TO Program</u> PPE Program

Table 3.16-1. Construction and Decommissioning Hazard Analysis

Activity	Hazard ^a	Control
Exposure to hazardous waste	<ul style="list-style-type: none"> Personnel who are working with or have the potential to be exposed to contaminated soil, groundwater, or debris during construction 	<ul style="list-style-type: none"> Hazardous Waste Program
Confined space entry	<ul style="list-style-type: none"> Employee injury from physical and chemical hazards 	<ul style="list-style-type: none"> Permit-required, Confined-space Entry program, <u>air monitoring requirements</u>
General construction activity	<ul style="list-style-type: none"> Employee injury from hand and portable power tools 	<ul style="list-style-type: none"> Hand and Portable Power Tool Safety Program PPE Program Powder-actuated Tools Program
	<ul style="list-style-type: none"> Employee injury/property damage from inadequate walking and working surfaces 	<ul style="list-style-type: none"> Housekeeping and Material Handling and Storage Program
	<ul style="list-style-type: none"> Employee exposure to occupational noise 	<ul style="list-style-type: none"> Hearing Conservation Program PPE Program
	<ul style="list-style-type: none"> Employee injury from improper lifting and carrying materials and equipment 	<ul style="list-style-type: none"> Back Injury Prevention Program
	<ul style="list-style-type: none"> Employee injury to head, eye/face, hand, body, foot, and skin 	<ul style="list-style-type: none"> PPE Program
	<ul style="list-style-type: none"> Employee exposure to hazardous gases, vapors, dusts, and fumes, <u>including wildfire smoke</u> 	<ul style="list-style-type: none"> Hazard Communication Program Respiratory Protection Program PPE Program <u>Employee Exposure Monitoring Program</u> Air Monitoring Program
	<ul style="list-style-type: none"> Employee exposure to various hazards Reporting of hazardous conditions during construction 	<ul style="list-style-type: none"> Injury and Illness Prevention Program
	<ul style="list-style-type: none"> Heat and cold stress (<u>i.e., heat illness</u>) 	<ul style="list-style-type: none"> Heat and Cold Stress Monitoring Control Program, <u>including Heat Illness Prevention Plan (outdoor/indoor)</u>
Working Outdoors/Remote	<ul style="list-style-type: none"> Employee working alone outdoors could suffer an injury Lightning Strike during a storm 	<ul style="list-style-type: none"> Working alone/Man Down plan Lightning Procedure

Notes: LO/TO = lock-out/tag-out; PPE = personal protective equipment.

^a The hazards and hazard controls provided are generic to construction and decommissioning activities. During various phases of construction and decommissioning, additional hazard analysis would be performed to evaluate the relevant hazards more specifically and to develop appropriate controls.

Table 3.16-2. Operation Hazard Analysis

Activity	Hazard ^a	Control
Motor vehicle and heavy equipment use	<ul style="list-style-type: none"> Employee injury and property damage from collisions between people and equipment 	<ul style="list-style-type: none"> Motor Vehicle and Heavy Equipment Safety Program
Forklift operation	<ul style="list-style-type: none"> Same as heavy equipment 	<ul style="list-style-type: none"> Forklift Operation Program
Trench and excavation	<ul style="list-style-type: none"> Employee injury and property damage from the collapse of trenches and excavations 	<ul style="list-style-type: none"> Excavation/Trenching Program Confined Space Training
Working at elevated locations	<ul style="list-style-type: none"> Falls from the same level and elevated areas 	<ul style="list-style-type: none"> Fall Prevention Program Scaffolding/Ladder Safety Program Working at Heights
Using cranes and derricks	<ul style="list-style-type: none"> Property damage from falling loads Employee injuries from falling loads Injuries and property damage from contact with crane or derrick 	<ul style="list-style-type: none"> Crane and Material Handling Program Critical Lift Studies as necessary Crane Operator Certification
Working with flammable and combustible liquids	<ul style="list-style-type: none"> Fire/spills 	<ul style="list-style-type: none"> Fire Protection and Prevention Program
Working with hazardous materials	<ul style="list-style-type: none"> Employee injury (chemical burns, inhalation, digestion, absorption) 	<ul style="list-style-type: none"> Safe Use Handling Procedures Job Specific Training PPE Program Spill Response Procedures Emergency Response Program
<u>Exposure to hazardous waste</u>	<ul style="list-style-type: none"> <u>Personnel who are working with or have the potential to be exposed to contaminated soil, groundwater, or debris during construction</u> 	<ul style="list-style-type: none"> <u>Hazardous Waste Program</u>
Hot work (including cutting and welding)	<ul style="list-style-type: none"> Employee injury and property damage from fire Exposure to fumes during cutting and welding Ocular exposure to ultraviolet and infrared radiation during cutting and welding 	<ul style="list-style-type: none"> Hot Work Safety Program Respiratory Protection Program Employee Exposure Monitoring Program PPE Program Fire Protection and Prevention Program Hexavalent Chromium Program
Troubleshooting and maintenance of systems and general operational activities	<ul style="list-style-type: none"> Employee injury and property damage from contact with hazardous energy sources (e.g., electrical, thermal, and mechanical) 	<ul style="list-style-type: none"> Electrical Safety Program LO/TO Program
Working on electrical equipment and systems	<ul style="list-style-type: none"> Employee contact with live electricity 	<ul style="list-style-type: none"> Electrical Safety Program PPE Program
Confined space entry	<ul style="list-style-type: none"> Employee injury from physical and chemical hazards 	<ul style="list-style-type: none"> Confined-space Program

Table 3.16-2. Operation Hazard Analysis

Activity	Hazard ^a	Control
General operation activities	<ul style="list-style-type: none"> Employee injury from hand and portable power tools 	<ul style="list-style-type: none"> Hand and Portable Power Tool Safety Program PPE
	<ul style="list-style-type: none"> Employee injury and property damage from inadequate walking and work surfaces 	<ul style="list-style-type: none"> Housekeeping and Material Handling and Storage Program
	<ul style="list-style-type: none"> Employee overexposure to occupational noise 	<ul style="list-style-type: none"> Hearing Conservation Program PPE Program
	<ul style="list-style-type: none"> Employee injury from improper lifting and carrying materials and equipment 	<ul style="list-style-type: none"> Back Injury Prevention Program
	<ul style="list-style-type: none"> Employee injury and property damage from unsafe driving 	<ul style="list-style-type: none"> Safe Driving Program
	<ul style="list-style-type: none"> Employee overexposure to hazardous gases, vapors, dusts, and fumes, <u>including wildfire smoke</u> 	<ul style="list-style-type: none"> Hazard Communication Program Respiratory Protection Program PPE Program Employee Exposure Monitoring Program
	<ul style="list-style-type: none"> Reporting and repairing hazardous conditions 	<ul style="list-style-type: none"> Injury and Illness Prevention Program
	<ul style="list-style-type: none"> Heat and cold stress (<u>i.e., heat illness</u>) 	<ul style="list-style-type: none"> Heat and Cold Stress Monitoring and Control Program, <u>including Heat Illness Prevention Plan (outdoor/indoor)</u>
Working Outdoors	<ul style="list-style-type: none"> Ergonomic injuries 	<ul style="list-style-type: none"> Ergonomic Awareness Program
	<ul style="list-style-type: none"> Employee working alone outdoors could suffer an injury Lightning Strike during a storm 	<ul style="list-style-type: none"> Working alone/Man Down Plan Lightning Procedure Heat Stress Training & Management
Biological Hazards	<ul style="list-style-type: none"> Wildlife Hazards 	<ul style="list-style-type: none"> Emergency Response Plan Working Alone/Man Down Plan Pest Management Protocol

Notes:

^a The hazards and hazard controls provided are generic to operations. During various phases of operation additional hazard analysis will be performed to evaluate the relevant hazards more specifically and to develop appropriate controls.

3.16.2.3 Training and Safety Programs

To protect the safety and health of workers during the construction, operation, and decommissioning activities associated with the Project, health and safety programs designed to mitigate hazards and comply with applicable regulations would be implemented. Periodic audits would be performed by qualified individuals to determine whether proper work practices are being used to mitigate hazardous conditions and to evaluate regulatory compliance.

The following subsections contain information on the anticipated content of the health and safety programs.

3.16.2.3.1 Construction and Decommissioning-Health and Safety Programs

Safety programs would be developed and implemented during construction and decommissioning activities of the BESS. These programs and their major components are outlined below.

Injury and Illness Prevention Program

- Philosophy and safety commitment
- Safety leadership and responsibilities
- Accountability
- Employee communication
- Planning “job hazard analysis and pre-task”
- Compliance with work rules and safe work practices
- Measurement of compliance and effectiveness of prevention methods, and inspections/audits
- Communication of performance and implementation of necessary improvements
- Training and other communication requirements

Fire Protection and Prevention Program

- General requirements
- Housekeeping and proper material storage
- Employee alarm/communication system
- Portable fire extinguishers
- Fixed firefighting equipment
- Fire control and containment
- Flammable and combustible liquid storage
- Dispensing and disposal of flammable liquids
- Service and refueling areas
- Training

Personal Protective Equipment (PPE) Program

- Personal protective devices
- Hazard analysis
- Training
- Head protection
- Eye/face protection
- Body protection
- Hand protection
- Foot protection

- Skin protection
- Fall protection
- Electrical arc flash protection
- Respiratory protection
- Hearing protection

First Aid, CPR, and Automated External Defibrillator

- General requirements
- Written program
- Training
- Maintenance

Emergency Action Program/Plan

- Emergency procedures for the protection of personnel, equipment, the environment, and materials:
 - Fire and emergency reporting procedures
 - Response actions for accidents involving personnel and/or property
 - Site assembly and emergency evacuation route procedures
 - Natural disaster response
- Reporting and notification procedures for emergencies and contacts, including offsite and local authorities:
 - Alarm and communication systems
 - Spill response, prevention, and control action plan
 - Emergency response equipment
 - Emergency personnel (response team) responsibilities and notification roster
 - Training requirements

Construction Safety Programs

- Motor Vehicle and Heavy Equipment Safety Program
 - Operation and maintenance of vehicles
 - Inspection
 - PPE
 - Training
- Forklift Operation Program
 - Trained and certified operators
 - Fueling operations
 - Safe operating parameters
 - Training
- Excavation/Trenching Program
 - Shoring, sloping, and benching requirements

- California Division of Occupational Safety and Health (Cal/OSHA) permit requirements
- Inspection
- Access and egress
- Fall Protection Program
 - Evaluation of fall hazards
 - Protective devices
 - Training
- Scaffolding/Ladder Safety Program
 - Inspection of equipment
 - Load ratings
 - Safe operating parameters
 - Operator training
- Crane and Material Handling Program
 - Certified and licensed operators
 - Inspection of equipment
 - Load ratings
 - Safe operating parameters
 - Training
- Hazardous Waste Program
 - Evaluation of hazard
 - Training
 - Air monitoring
 - Medical surveillance
 - Health and Safety Plan preparation
 - Documentation procedures
- Hot Work Safety Program
 - Welding and cutting procedures
 - Acetylene and fuel gas safety procedures
 - Fire watch
 - Hot work permit
 - PPE
 - Training
 - Documentation procedures
- Employee Exposure Monitoring Program
 - Exposure evaluation
 - Monitoring requirements
 - Reporting of results
 - Medical surveillance

- Training
- Documentation procedures
- Protection from Wildfire Smoke
 - Monitoring forecast and current air quality index for PM2.5 of 151 or greater when there is exposure to wildfire smoke
 - Communication
 - Training
 - Controls (i.e., providing enclosed buildings, structures, or vehicles where the air is filtered, changing work schedules/reducing work intensity, or respiratory protective equipment)
- Electrical Safety Program
 - Grounding procedure
 - Overhead and underground utilities
 - Utility clearance
 - Assured Grounding Program/Ground Fault Circuit Interrupters
 - Training
 - Documentation procedures
- Lock-out/tag-out (LO/TO) Program
 - Allocation of devices (e.g., locks, tags, and adaptors)
 - LO/TO sequencing
 - Types/magnitudes of energy
 - Types/locations of machines
 - Verification
 - Training
 - Documentation procedures
- Permit-required Confined-space Entry Program
 - Air monitoring and ventilation requirements
 - Rescue procedures
 - LO/TO and blocking, blinding, and blanking requirements
 - Permit completion
 - Training
 - Documentation procedures
- Hand and Portable Power Tool Safety Program
 - Guarding and proper operation
 - Training
- Powder-actuated Tool Safety Program
 - Operator qualification
 - Inspection requirements
 - Repair requirements

- Storage requirements
- Training
- Housekeeping and Material Handling and Storage Program
 - Storage requirements
 - Walkways and work surfaces
 - Equipment handling requirements
 - Training
- Hearing Conservation Program
 - Identifying high-noise environments
 - Exposure monitoring
 - Medical surveillance requirements
 - Hearing-protective devices
 - Training
- Back Injury Prevention Program
 - Proper lifting and material handling procedures
 - Training
- Hazard Communication Program
 - Labeling requirements
 - Storage and handling
 - Safety data sheets
 - Chemical inventory
 - Training
 - Documentation procedures
- Respiratory Protection Program
 - Selection and use
 - Storage
 - Fit testing
 - Medical requirements
 - Inspection and repair
 - Training
 - Documentation procedures
- Heat and Cold Stress Monitoring and Control Program, including Heat Illness Prevention Plan (Outdoor/Indoor)
 - Prevention and control (i.e., provision of clean drinking water, provision of access to shade or cool down areas, encourage cool down periods)
 - High heat procedures
 - Monitoring (i.e., measure temperatures and heat index and maintain records)
 - Emergency response procedures

- Acclimatization for new workers during a 14-day period as well as all workers during a heat wave
- Training
- Establish, implement, and maintain an effective written Outdoor Heat Illness Prevention Plan that includes procedures for providing drinking water, shade, preventative rest periods, close observation during acclimatization, high-heat procedures, training, prompt emergency response
- Establish, implement, and maintain an effective written Indoor Heat Illness Prevention Plan that includes procedures for providing drinking water, cool-down areas, preventative rest periods, close observation during acclimatization, assessment and measurement of heat, training, prompt emergency response, and feasible control measures
- Monitoring requirements
- Prevention and control

3.16.2.3.2 Operations Health and Safety Program

Upon completion of construction and commencement of operations, the construction Health and Safety Plan would transition into an operation-oriented program reflecting the hazards and controls necessary during operation. The following outline sets forth the topics that would be included in the Operations Health and Safety Program:

Injury and Illness Prevention Program

- Personnel with the responsibility and authority for implementing the plan
- Safety and health policy
- Work rules and safe work practices
- System for ensuring that employees comply with safe work practices
- Employee communications
- Identification and evaluation of workplace hazards
- Methods and/or procedures for correcting unsafe or unhealthy conditions, work practices, and work procedures in a timely manner based on the severity of the hazards
- Specific safety procedures (see Operation Safety Program)

First Aid, CPR, and Automated External Defibrillator

- General requirements
- Written program
- Training
- Maintenance
- Documentation procedures

Fire Protection and Prevention Program

- General requirements
- Fire hazard inventory, including ignition sources and mitigation
- Housekeeping and proper materials storage

- Employee alarm/communication system
- Portable fire extinguishers
- Fixed firefighting equipment
- Fire control
- Flammable and combustible liquid storage
- Use of flammable and combustible liquids
- Dispensing and disposal of liquids
- Training
- Personnel to contact for information on plan contents

Emergency Action Program/Plan. This program/plan is part of the Risk Management Plan and Process Safety Management Program.

- Emergency escape procedures and emergency escape route assignments
- Procedures to be followed by employees who remain to operate critical plant operations before they evacuate
- Procedures to account for all employees after emergency evacuation has been completed
- Rescue and medical duties for those employees performing them
- Fire and emergency reporting procedures
- Alarm and communication system
- Personnel to contact for information on plan contents
- Training requirements

PPE Program

- Hazard analysis and prescription of PPE
- Personal protective devices
- Head protection
- Eye and face protection
- Body protection
- Hand protection
- Foot protection
- Skin protection
- Sanitation
- Safety belts and lifelines for fall protection
- Protection for electrical shock
- Medical services and first aid/blood-borne pathogens
- Respiratory protective equipment
- Hearing protection
- Life safety
- Training

Operation Safety Program

- Motor Vehicle and Heavy Equipment Safety Program
 - Operation and maintenance of vehicles
 - Inspection
 - PPE
 - Training
- Forklift Operation Program
 - Trained and certified operators
 - Fueling operations
 - Safe operating parameters
 - Training
- Excavation/Trenching Program
 - Shoring, sloping, and benching requirements
 - Cal/OSHA permit requirements
 - Inspection
 - Air monitoring
 - Access and egress
 - Documentation procedures
- Fall Protection Program
 - Evaluation of fall hazards
 - Protection devices
 - Training
- Scaffolding/Ladder Safety Program
 - Construction and inspection of equipment
 - Proper use
 - Training
- Articulating Boom Platforms Program
 - Inspection of equipment
 - Load ratings
 - Safe operating parameters
 - Operator training
- Hot Work Safety Program
 - Welding and cutting procedures
 - Acetylene and fuel gas safety
 - Fire Watch
 - Hot work permit
 - PPE

- Training
- Documentation procedures
- Workplace Ergonomics Program
 - Identification of personnel at risk
 - Evaluation of personnel
 - Workplace and job activity modifications
 - Training
 - Documentation procedures
- Employee Exposure Monitoring Program
 - Exposure evaluation
 - Monitoring requirements
 - Reporting of results
 - Medical surveillance
 - Training
- Electrical Safety Program
 - Grounding procedure
 - Overhead and underground utilities
 - Utility clearance
 - Training
 - High Voltage Switching
 - Documentation procedures
 - Protection of Wildfire Smoke
 - Monitoring forecast and current air quality index for PM2.5 of 151 or greater when there is exposure to wildfire smoke
 - Communication
 - Training
 - Controls (i.e., providing enclosed buildings, structures, or vehicles where the air is filtered, changing work schedules/reducing work intensity, or respiratory protective equipment)
- LO/TO Program
 - Allocation of LO/TO devices (e.g., locks, tags, and adaptors)
 - Machine-specific LO/TO procedures
 - Steps for verification of isolation
 - Training (Affected and Authorized and Interaction with Energized Electrics)
 - Annual program review
- Permit-required Confined-space Entry Program
 - Air monitoring and ventilation requirements
 - Rescue procedures
 - LO/TO and blocking, blinding, and blanking requirements

- Permit completion
- Training
- Documentation procedures
- Hand and Portable Power Tool Safety Program
 - Guarding and proper operation
 - Training
- Housekeeping and Material Handling and Storage Program
 - Storage requirements
 - Walkways and work surfaces
 - Equipment handling requirements
 - Training
 - Documentation procedures
 - Hazardous material reporting and documentation
- Hearing Conservation Program
 - Identifying high-noise environments
 - Exposure monitoring
 - Medical surveillance requirements
 - Hearing-protective devices
 - Training
 - Documentation procedures
- Back Injury Prevention Program
 - Proper lifting and material-handling procedures
 - Training
- Hazard Communication Program
 - Labeling requirements
 - Storage and handling
 - Safety data sheets
 - Chemical inventory
 - Training
 - Documentation procedures
- Respiratory Protection Program
 - Selection and use
 - Storage
 - Fit testing
 - Medical requirements
 - Inspection and repair
 - Training
 - Documentation procedures

- Heat and Cold Stress Monitoring and Control Program, including Heat Illness Prevention Plan (Outdoor/Indoor)
 - Prevention and control (i.e., provision of clean drinking water, provision of access to shade or cool down areas, encourage cool down periods)
 - High heat procedures
 - Monitoring (i.e., measure temperatures and heat index and maintain records)
 - Emergency response procedures
 - Acclimatization for new workers during a 14-day period as well as all workers during a heat wave
 - Training
 - Establish, implement, and maintain an effective written Outdoor Heat Illness Prevention Plan that includes procedures for providing drinking water, shade, preventative rest periods, close observation during acclimatization, high-heat procedures, training, prompt emergency response
 - Establish, implement, and maintain an effective written Indoor Heat Illness Prevention Plan that includes procedures for providing drinking water, cool-down areas, preventative rest periods, close observation during acclimatization, assessment and measurement of heat, training, prompt emergency response, and feasible control measures
 - Monitoring requirements
 - Prevention and control
- Safe Driving Program
 - Inspection and Maintenance
 - Training

3.16.2.3.3 Safety Training

To ensure that employees recognize and understand how to protect themselves from potential hazards, comprehensive training programs for construction, operation, and decommissioning would be implemented as indicated in Tables 3.16-3 and 3.16-4. Each of the safety procedures developed to control and mitigate potential site hazards would require some form of training. Training would be delivered in a variety of ways depending on the requirements of Cal/OSHA standards, the complexity of the topic, the characteristics of the workforce, and the degree of risk associated with each of the identified hazards.

Tables 3.16-3 and 3.16-4 summarize the safety training programs that would be provided to construction/decommissioning and operations personnel, respectively.

Table 3.16-3. Construction and Decommissioning Training Programs

Training Course	Target Employees
Injury and Illness Prevention Training	All
Emergency Action Program/Plan	All
PPE Training	All
Motor Vehicle and Heavy Equipment Safety Training	Employees working on, near, or with heavy equipment or vehicles
Forklift Operation Training	Employees operating forklifts
Excavation/Trenching Safety Training	Employees involved with trenching or excavation

Table 3.16-3. Construction and Decommissioning Training Programs

Training Course	Target Employees
Fall Protection Training	Employees working at heights greater than 6 feet required to use fall protection
Scaffolding/Ladder Safety Training	Employees required to erect or use scaffolding
Crane Safety Training	Employees supervising or performing crane operations
Fire Protection and Prevention Training	Employees responsible for the handling and storage of flammable or combustible liquids or gases
Hazard Communication Training	Employees handling or working with hazardous materials
Hazardous Waste	Employees handling or excavating hazardous waste
Hot Work Safety Training	Employees performing hot work
Electrical Safety Training	Employees performing LO/TO or working on systems that require LO/TO activities
	Employees required to work on electrical systems and equipment, or use electrical equipment and cords
Permit-required Confined-space Entry Training	Employees required to supervise or perform confined-space entry activities
Hand and Portable Power Tool Safety Training	Employees who will be operating hand and portable power tools
Powder-actuated Tool Safety Training	Employees who will be operating powder-actuated tools
Heat Stress and Cold Stress Safety Training	Employees who are exposed to temperature extremes
Hearing Conservation Training	All
Back Injury Prevention Training	All
Safe Driving Training	Employees supervising or driving motor vehicles
Respiratory Protection Training	All employees required to wear respiratory protection
Fire Protection and Prevention Training	All
First Aid, CPR, and Automated External Defibrillator	All
Worker Exposure Awareness Training	All
Worker Environmental Awareness Training	All

Table 3.16-4. Operations Training Program

Training Course	Target Employees
Injury and Illness Prevention Training	All
Emergency Action Plan	All
PPE Training	All
Excavation/Trenching Safety training	Employees involved with trenching or excavation
Scaffolding/Ladder Safety Training	Employees required to erect or use scaffolding
Fall Protection Training	Employees required to use fall protection
Forklift Operator Training	Employees operating forklifts
Crane Safety Training	Employees supervising or performing crane operations
Workplace Ergonomics	Employees performing repetitive activities
Fire Protection and Prevention Training	Employees responsible for the handling and storage of batteries or flammable or combustible liquids or gasses

Table 3.16-4. Operations Training Program

Training Course	Target Employees
Hot Work Safety Training	Employees performing hot work
Electrical Safety Training	Employees performing LO/TO or required to work on electrical systems and equipment
Permit-required Confined-space Entry	Employees required to supervise or perform confined-space entry
Hand and Portable Power Tool Safety Training	Employees operating hand and portable power tools
Heat Stress and Cold Stress Safety Training	Employees exposed to temperature extremes
Hearing Conservation Training	All
Back Injury Prevention Training	All
Safe Driving Training	Employees Supervising or driving motor vehicles
Hazard Communication Training	Employees handling or working around hazardous materials
Respiratory Protection Program	All employees required to wear respiratory protection
Fire Protection and Prevention Training	All
First Aid, CPR, and Automated External Defibrillator	All
Worker Exposure Awareness Training	All
Worker Environmental Awareness Training	All

3.16.1.4 Fire Protection

In addition to this Fire Protection Section related to worker health and safety, additional Fire Prevention actions will be taken as discussed herein at Section 3.17 – Wildfire and Fire Prevention. The applicant has prepared a detailed Fire Protection Technical Assistance Report, Fire Master Plan, and Emergency Response Plan, consistent with SB 38 and in coordination with local public safety agencies and will include annual training and coordination.

A Fire Protection Technical Assistance Report was be prepared in compliance with UL 9540A . This Report includes consideration of potential thermal runaway fault conditions occurring within a single battery storage rack, cell module or cell array (i.e., cell level, module level, unit level and installation level). Additionally, the analysis includes measures to prevent flammable gases released during fire, battery overcharging, and other abnormal operating conditions within the BESS from creating an explosion hazard that could injure workers or emergency first responders.

Fire protection at the site would incorporate facilities designed in compliance with California Fire Code (CFC). The BESS would consist of NFPA 855 Standard compliant, and UL certified systems. These systems include built-in failsafe and cooling systems designed to prevent thermal runaway and the spread of fire. A fire protection system would be installed to automatically shut down any affected battery storage components and prevent the spread of the fire to other battery storage modules. The interior of a BESS enclosure would be cooled after a fire event. The BESS would include leak detection equipment and detection and venting equipment for hydrogen gas.

Based on an evaluation of the proposed Project and the fire environment at the Project location, the following elements would be incorporated into the Project to address fire protection.

- Project to be compliant with 2022 CFC 1206, Electrical Energy Storage Systems
- Fire suppression systems inside each container as proposed (NFPA 855 Standard compliant)
- 20-foot fuel modification zone (FMZ) - entire area within walls to be void of vegetative fuel - gravel or similar surface
- 10-foot FMZ - vegetation maintenance area around outside perimeter of fence
- Maintain FMZs twice-yearly or more as needed
- Access roads per Alameda standards

CAL FIRE would provide initial response in the event of a fire or emergency spill. The two closest County fire stations are the Alameda County Fire Department Station No. 20, located at 7000 East Avenue, Building 323, Livermore, CA and the Alameda County Fire Department Station No. 21, located at Site 300, L-890, 15999 W. Corral Hollow Road, Tracy, California. Station 20 is approximately nine (9) miles southwest of the BESS facility and Station 21 is approximately 4.3 miles southeast of the BESS facility. Both stations could provide backup to CAL FIRE in the event of a fire or emergency spill at the site.

3.16.3 Laws, Ordinances, Regulations, and Standards

The construction, operation, and decommissioning of the Project would be conducted in accordance with all applicable laws, ordinances, regulations, and standards (LORS). Table 3.16-5 summarizes the federal, state, and local (Alameda County) LORS relating to worker health and safety. Table 3.16-5 also provides a summary of the applicable national consensus standards.

Table 3.16-5. Laws, Ordinances, Regulations, and Standards

LORS	Requirements/ Applicability	Administering Agency
Federal		
Title 29 Code of Federal Regulations Part 1910	Contains the minimum occupational safety and health standards for general industry in the United States	OSHA
Title 29 Code of Federal Regulations Part 1926	Contains the minimum occupational safety and health standards for construction industry in the United States	OSHA
State		
California Occupational Safety and Health Act, 1970	Establishes minimum safety and health standards for construction and general industry operations in California	Cal/OSHA
<ul style="list-style-type: none"> ▪ <u>Title 8 California Code of Regulations Section 3395 Heat Illness Prevention (outdoors)</u> 	<u>Cal/OSHA's Heat Illness Prevention for Outdoor Places of Employment regulation applies to all outdoor places of employment such as those in the agriculture, construction, and landscaping industries. For outdoor workplaces, employers must take steps to protect workers from heat illness. Some of the requirements include providing water, shade, rest, and training. The</u>	<u>Cal/OSHA</u>

Table 3.16-5. Laws, Ordinances, Regulations, and Standards

LORS	Requirements/ Applicability	Administering Agency
	Project will comply with the regulation and prepare and implement a Heat Illness Prevention Plan.	
<ul style="list-style-type: none"> Title 8 California Code of Regulations Section 3396 Heat Illness Prevention (indoors) 	Cal/OSHA's Heat Illness Prevention in Indoor Places of Employment regulation applies to most indoor workplaces, such as restaurants, warehouses, and manufacturing facilities where temperatures can get high. For indoor workplaces where the temperature reaches 82 degrees Fahrenheit, employers must take steps to protect workers from heat illness. Some of the requirements include providing water, rest, cool-down areas, methods for cooling down the work area under certain conditions, and training. The Project will comply with the regulation and prepare and implement a Heat Illness Prevention Plan.	Cal/OSHA
<ul style="list-style-type: none"> Title 8 California Code of Regulations Section 5141.1 Protection from Wildfire Smoke 	Section 5141.1 requires employers to determine employee exposure to PM2.5 for worksites, at the start of each shift and periodically thereafter as needed. Employers must implement measures and controls to protect workers when the current AQI is 151 or greater, including communication systems, training, engineering controls, changes to work schedules or procedures, providing respiratory protection, etc. The Project's Employee Exposure Monitoring Program will incorporate air quality and wildfire monitoring requirements and controls.	Cal/OSHA
Title 24, Part 3, California Electrical Code	Requirements for electrical safety, which include the Uniform Electrical Code, Title 24, Part 3	Cal/OSHA
Title 24, Part 9, Chapter 6, Section 608	California Fire Code requirements for stationary storage battery systems	Cal/OSHA
Health and Safety Code Sections 25500 through 25541	Requirements for the preparation of a Hazardous Material Business Plan that details emergency response plans for a hazardous materials emergency at the facility	Cal/OSHA
Local		
Specific hazardous material handling requirements	Hazardous materials used or stored shall conform to the Uniform Fire Code.	Alameda County Department of Environmental Health and Alameda County Fire Department
Hazardous Materials Business Plan	Alameda County Environmental Health Division is the designated CUPA and is responsible for administering Hazardous Materials Business Plans.	Alameda County Department of Environmental Health

Table 3.16-5. Laws, Ordinances, Regulations, and Standards

LORS	Requirements/ Applicability	Administering Agency
National Standards		
National Fire Protection Association (NFPA) 855 Standard for the Installation of Stationary Energy Storage Systems	This standard provides the minimum requirements for mitigating the hazards associated with BESS.	NFPA

Notes: NFPA = National Fire Protection Association; CUPA = Certified Unified Program Agency; and OSHA = Occupational Safety and Health Administration.

3.16.4 Agencies and Agency Contacts

Applicable agency contacts for worker health and safety are shown in Table 3.16-6. Approval of the HMBP from the Alameda County Environmental Health Department would be superseded by CEC approval of the Project under the Opt-In Program. In addition, the Project would be designed per Alameda County Fire Department requirements and standards for BESS, however, approval from the Alameda County Fire Department would also be superseded by CEC approval of the Project under the Opt-In Program.

Table 3.16-6. Permits and Agency Contacts

Issue/Approval	Agency	Applicability
Worker Health and Safety	Cal/OSHA, Modesto District Office <u>Eddie Miranda, District Manager</u> 4206 Technology Drive, Ste. 3 Modesto, California 95356 209.545.7310	Incident reporting
Hazardous Materials Business Plan (HMBP)*	Office of Solid/Medical Waste Management & Body Art Programs Arthur Surdilla <u>Supervising Hazardous Materials Specialists</u> 1131 Harbor Bay Parkway Alameda, California 94502-6577 Telephone 510.567.6790 Fax 510.337.9234	Hazardous materials compliance
Plan Approval*	Alameda County Fire Department/CAL FIRE Station 21 <u>Bonnie S. Terra, Division Chief Alameda County Fire</u> Site 300, L-890, 15999 W. Corral Hollow Road, Tracy 925.423.5201	Fire protection compliance

* Approval of the HMBP from the Alameda County Environmental Health Department would be superseded by CEC approval of the Project under the opt-in program. In addition, approval from the Alameda County Fire Department would also be superseded by CEC approval of the Project under the opt-in program.

3.16.5 Permits and Permit Schedule

There are no applicable permits or permit schedule for worker health and safety. Pending Project approval from the CEC, construction of the Project would commence.

3.16.6 References

California Energy Commission. July 2021. California Code of Regulations, Title 20. Public Utilities and Energy, Division 2. State Energy Resources Conservation and Development Commission. Available: <https://www.energy.ca.gov/sites/default/files/2021-07/Title%2020%20Updated%20July%2023%2C%202021.pdf>.