

5.12 HAZARDOUS  
MATERIALS AND  
HANDLING

**SECTION 5.12 HAZARDOUS MATERIALS HANDLING  
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## 5.12 HAZARDOUS MATERIALS HANDLING

### 5.12.1 Environmental Setting

The proposed Tesla Power Project (TPP) site is located in northeastern Alameda County. The area surrounding the plant site consists primarily of agriculture uses (grazing). There are no sensitive receptors (such as schools, daycare facilities, convalescent centers, or hospitals), within a 3-mile radius of the project site. The nearest residence is located approximately 1.0 miles to the (southeast) (see Figure 5.12-1). Sensitive receptors are discussed further in Section 5.15 Public Health.

### 5.12.2 Environmental Impacts

#### 5.12.2.1 Construction Phase

Hazardous materials to be used during construction include gasoline, diesel fuel, oil, welding gases, lubricants, and small quantities of solvents and paint. There are no feasible alternatives to these materials for operation of construction vehicles and equipment. No acutely hazardous materials (AHMs) will be used or stored onsite during construction.

There is only minimal potential for environmental impacts from hazardous material incidents during construction. Small volumes of hazardous materials will be temporarily stored onsite inside fuel and lubrication service trucks. Paints and solvents will be stored in flammable materials cabinets. Maintenance and service personnel will be trained in handling these materials. The most likely incidents involving these hazardous materials would be associated with minor spills or drips. Impacts from such incidents will be mitigated by thoroughly cleaning up minor spills as soon as they occur. An accident involving the release of these products from a service truck during equipment maintenance or storage container loading is the worst-case scenario. The risk of such an occurrence will be mitigated through the emergency response training program and procedures. In the case of a large spill of hazardous material, contaminated soil will be excavated and stored in drums or roll-off bins for offsite disposal as a hazardous waste. Details on hazardous waste disposal are contained in Section 5.13.2.3, Hazardous Wastes.

#### 5.12.2.2 Operational Phase

Hazardous materials will be used and stored onsite during operation of the generating plant. Table 3.4-17 provides a list, approximate quantities, and CAS number for the major hazardous materials to be stored and/or used at the site. In addition to the chemicals noted in Table 3.4-17, small quantities (less than 5 gallons) of paints, oils, solvents, pesticides, and cleaners, typical of those purchased at a retail hardware store, may also be used at the facility. Natural gas will be continuously delivered to the power plant site through a pressurized natural gas pipeline.

**Fuel Gas Delivery**

Natural gas will be delivered to the plant site via a 2.8-mile, 20-30 inch diameter pipeline. The new pipeline will be buried in an area dominated by agricultural (grazing) use and will not pose a risk to the public. Additionally, because no onsite storage of natural gas will occur at the facility, the risk of explosion or fire from natural gas at the facility is greatly reduced and is considered insignificant.

**Gas Storage**

Hydrogen will be used as a generator coolant for TPP. Hydrogen is a flammable gas and has a National Fire Protection Association (NFPA) hazard rating of 4 (NFPA, 1997). The compressed hydrogen make-up gas will be stored in hydrogen bottles arranged in a rack, near the combustion turbine generators, away from electrical lines and other potential ignition sources as required by applicable building and fire codes. The hydrogen bottles area will also be protected from vehicular impact by installation of crash posts. Carbon dioxide is used for generator purging and fire suppression. Other compressed gases to be stored and used at the facility may include gases typically used for maintenance activities such as shop welding and emissions monitoring. These gases include acetylene, argon, nitrogen and oxygen. The potential impacts presented by the use of these gases at the facility do not appear to be significant based on the following facts:

- Small quantities of each gas will be stored at the facility (200 cu. ft. per gas cylinder) in total quantities of less than 25,000 cu. ft.
- The compressed gases will be delivered and stored in DOT-approved safety cylinders and secured by chains to prevent tipping and physical damage.
- The compressed gases will be stored in an isolated storage area surrounded by crash posts to minimize potential for accidents or upset.
- Incompatible gases (e.g., flammable gases and oxidizers) will be stored in separate, isolated areas.

The compressed gases will be stored in standard portable cylinders thus limiting the quantity released from an individual cylinder to less than 200 cubic feet in the unlikely event of a cylinder failure.

**Regulated Substances**

Aqueous ammonia is the only chemical stored in sufficient quantities at the TPP site that is classified as a regulated substance subject to the requirements of the California Accidental Release Prevention (CalARP) Program. Aqueous ammonia (19 percent solution), stored in one (1) 50,000-gallon above ground storage tank, will be used for emissions control at this site. Although hydrogen gas, sulfuric acid can also be classified as regulated substances under certain conditions, they are not considered regulated substances in this setting because they do not exceed threshold quantities under the CalARP Program. Up to 10,000 gallons of sulfuric acid will be stored at the plant site.

The CalARP Program regulations were developed by the California Office of Emergency Services (CCR Title 19, Division 2, Chapter 4.5) to merge the federal and state programs for the prevention of accidental release of regulated toxic and flammable substances. The new CalARP Program, effective June 1997, is designed to streamline the compliance requirements for applicants and eliminate the need for two chemical risk management programs. The following is a summary of the federal and state regulated substances to be used at TPP:

- Section 2770.5 - Tables 1 and 2 of Section 2770.5 list Federal Regulated Substances and threshold quantities for accidental release prevention, including flammable substances. Aqueous ammonia and hydrogen are on the list; however, sulfuric acid is not listed. Aqueous ammonia is only listed for concentrations greater than 20 percent. A 19 percent solution is proposed at TPP; therefore, aqueous ammonia is not considered a Regulated Substance for which a federal Risk Management Plan (RMP) is required. The proposed maximum quantity of hydrogen (approximately 300 pounds) does not exceed the threshold quantity on the list (10,000 pounds).
- Section 2770.5 - Table 3 of Section 2770.5 lists State Regulated Substances and threshold quantities for accidental release prevention. Ammonia and sulfuric acid are included on this list. The maximum quantity of aqueous ammonia proposed for the TPP facility (50,000 gallons or approximately 400,000 pounds) exceeds the threshold quantity on the list (500 pounds). The established toxic endpoint for aqueous ammonia pursuant to Appendix A of the CalARP regulations is 0.14 mg/l or 201 ppm. In addition, ammonia in aqueous forms must have a vapor pressure at Standard Temperature and Pressure (STP) greater than 10 millimeters of mercury in order to exceed the threshold quantity. Aqueous ammonia at 19 percent concentration has a vapor pressure at STP greater than 10 millimeters of mercury. Additionally, the state program does not currently exempt aqueous ammonia solutions less than 20%, therefore, aqueous ammonia is considered a Regulated Substance for which a state RMP is required.
- Based on the proposed use and storage of sulfuric acid, it is not considered a Regulated Substance. Sulfuric acid is a state Regulated Substance only if: 1) it is concentrated with greater than 100 pounds of sulfuric trioxide; 2) the acid meets the definition of oleum; or 3) the sulfuric acid is in a container with flammable hydrocarbons.

Based on the above regulatory threshold planning quantities, an RMP is required only for the aqueous ammonia.

An SCR system (including aqueous ammonia injection) will be used to control NO<sub>x</sub> emissions in the stack exhaust. Monitoring equipment will include sensors to control injection rates. The aqueous ammonia storage and handling facilities will be equipped with continuous tank level monitors, temperature and pressure monitors and alarms, excess flow and emergency island valves, and a steel-reinforced concrete containment structure surrounding the tank and piping. Only trained technicians will conduct system maintenance and repairs.

Aqueous ammonia will be stored onsite in one 50,000-gallon tank. As with bulk storage of other hazardous materials, each ammonia storage tank will be surrounded by spill containment walls. The spill containment walls will be designed to contain the tank volume plus an allowance for rainwater from a 25-year, 24-hour storm.

The aqueous ammonia will be delivered to the facility in 8-9,000-gallon tank trucks. Tank trucks will be unloaded in a tank truck unloading area paved with concrete and with sufficient berms to provide secondary containment to hold the contents of the worst-case release scenario from an unloading accident.

### **Risk Management Plan Components**

According to CCR Title 19, Division 2, Chapter 4.5, the owner or operator of a facility that handles more than a threshold quantity of a Regulated Substance, shall submit a RMP that reflects all covered processes. The CalARP Program defines three program levels for a RMP depending upon the complexity, accident history and potential impact of releases of regulated substances. For this project, the Applicant will prepare a Program Level 3 RMP, which will include an ammonia hazard analysis, an off-site consequence analysis, a seismic assessment, an emergency response plan, and training procedures.

### **Offsite Consequences Analysis Protocol - Aqueous Ammonia**

For the area surrounding the proposed TPP site, an offsite consequence analysis was performed during the Application for Certification (AFC) preparation process to assess the risk to humans at various distances from the site if a spill or rupture of the ammonia storage tank were to occur. Two basic release scenarios were evaluated as follows:

- Worst-case release involving the failure of the main storage tank and loss of contents into the secondary containment area.
- Alternate release case involving the rupture of the truck unloading hose and loss of hose contents to the ground surface.

The worst-case scenario for modeling purposes will assume a 5-inch diameter hole is punctured in the aqueous ammonia storage tank, and that the tank empties within 10 minutes. The alternate case also assumes a spill duration and release time of 10 minutes. Other parameters addressed in the modeling (offsite consequence analysis) as delineated in the CalARP regulations are worst-case wind speed, atmospheric stability, temperature, and humidity values. Offsite consequence analysis results are presented in graphical form, i.e., concentrations versus downwind distance for each applicable modeling scenario. The offsite consequence analysis (OCA) results for the worst case and alternate case release scenarios are presented in Appendix K-14. These results indicate that no significant impacts would occur offsite or at any identified sensitive receptor from an aqueous ammonia release at the TPP.

### Other Large Quantity Hazardous Materials

Storage of large quantities of sulfuric acid (10,000 gallons), due to its highly corrosive nature, will require special precautions. Sulfuric acid will be stored in a lined carbon steel tank to minimize the potential for catastrophic failure of the tank. A spill containment structure surrounding the storage tank will also be provided in order to contain small spills and leaks that may occur (see general operating procedures below). The spill containment area will be lined with a corrosive-resistant coating.

A summary of relative toxicity and human exposure limits for the large quantity hazardous materials handled at the site is provided in Table 5.12-1.

**Table 5.12-1. Summary of Special Handling Precautions for Hazardous Materials**

Hazardous Material	Relative Toxicity/ Hazard	Exposure Limit	Storage Container/Size	Special Handling Precautions
Aqueous Ammonia	High/ Respiratory hazard	25 ppm (NIOSH)	Carbon steel tanks-1 50,000 gallons each	Risk Management Plan, spill containment dikes, alarms
Hydrogen Gas	Low/ Flammable gas	None Established	Carbon steel tank	Pressure safety tank, crash posts, safety valves
Natural Gas (methane)	Low/ Flammable gas	None Established	Pressurize carbon steel pipeline	Pressure safety relief valves
Alkaline Phosphate Solution	Acute	None Established	400 gallon containers	Spill containment area
Carbohydrazide	Acute, chronic	None Established	400 gallon containers	Spill containment area
Aqueous ammonia 19%	Acute, chronic, fire	None Established	250 gallon containers	Spill containment area
Sodium hydroxide 50% wt	Acute, chronic, reactive	None Established	400 gallon containers	Spill containment area
Sodium Hypochlorite	Moderate/ Corrosive and irritant	None Established	Plastic tank 5,000 gallons	Spill containment area
Sulfuric Acid	High/ Highly corrosive, Highly reactive	1 mg/m <sup>3</sup> OSHA	Lined, carbon steel tank 10,000 gallons	Isolated from incompatible chemicals, lined tank, and lined spill containment area

### General Operating Practices

Chemicals will be stored in chemical storage vessels and tanks specifically designed for their individual characteristics. Large quantity (bulk) chemicals will be stored outdoors in aboveground storage tanks manufactured of carbon steel. Spill containment curbs or dikes to contain the chemicals in the event of leaks or spills will be constructed around each of the major hazardous chemical storage areas. Bulk storage tanks containing ammonia and sulfuric acid will each have secondary containment dikes capable of holding the tank volume plus an

allowance for rainfall from a 25-year, 24-hour storm. Boiler water treatment chemicals include the following chemicals: tri-sodium phosphate (2 x 400 gallons); aqueous ammonia, 19.0 wt% (2 x 250 gallons); sodium hydroxide 50% wt (400 gallons); and carbonylhydrazine (2 x 400 gallons). These will be stored in 400 or 250-gallon containers within a curbed area. Reactive materials, such as acid and caustic, will be stored in isolated containment areas. A summary of the special handling requirements for the large quantity hazardous materials stored at the site is provided in Table 5.12-1. All hazardous materials storage vessels will be designed in conformance with the Uniform Fire Code, Article 80 (1997). A Hazardous Materials Business Plan, in compliance with the Federal Emergency Planning and Community Right-to-Know Act (1986), will be prepared and submitted to the Alameda County Environmental Health Department, Hazardous Materials Division for approval.

Small quantity chemicals will be stored in their original delivery containers in order to minimize risk of upset. Personal protection equipment (PPE) will be provided. Personnel working with chemicals will be trained in proper handling techniques and in emergency response procedures for chemical spills or accidental releases.

Appropriate safety programs will be developed addressing hazardous materials storage locations, emergency response procedures, employee training requirements, hazard recognition, fire safety, first-aid/emergency medical procedures, hazardous materials release containment/control procedures, hazard communications training, personal protective equipment training and release reporting requirements. These programs include a chemical Risk Management Plan for aqueous ammonia in accordance with the CalARP emergency regulations, Hazardous Materials Business Plan, workers safety program, fire response program, plant safety program and facility standard operating procedures.

### 5.12.3 Mitigation Measures

This section describes the Applicant proposed mitigation measures that will be implemented to reduce project impacts resulting from hazardous materials handling.

#### 5.12.3.1 Construction Phase

During construction, hazardous materials stored onsite will be limited to small quantities of paint, coatings and adhesive materials, and emergency refueling containers. These materials will be stored in their original containers inside a locked utility shed or secured in a fenced area. It is anticipated that fuels, lubricants, and various other liquids needed for operation of construction equipment will be transported to the construction site on an as-needed basis by equipment service trucks.

An onsite safety officer will be designated to implement health and safety guidelines and, if necessary, contact emergency response personnel and the local hospital. Material Safety Data Sheets (MSDS) for each onsite chemical will be maintained. Employees will be made aware of the chemicals and the location of MSDS sheets.

Construction contractors for TPP, including transmission line and pipeline contractors, will be required to develop standard operating procedures for servicing and fueling construction equipment. These procedures will, at a minimum, include the following:

- No smoking, open flames, or welding will be allowed in fueling/service areas.
- Servicing and fueling of vehicles and equipment will occur only in designated areas. These areas will be bermed, covered with concrete, or fashioned in some other manner to control potential spills.
- Fueling, service and maintenance will be conducted only by authorized, trained personnel.
- Refueling will be conducted only with approved pumps, hoses, and nozzles.
- All disconnected hoses will be handled in a manner to prevent residual fuel and liquids from being released into the environment.
- Drip pans will be placed under equipment to collect small drips and minimize potential spills during servicing.
- Service trucks will be equipped with fire extinguishers, personal protective equipment, and spill containment equipment, such as absorbents.
- Service trucks will not remain on the job site after fueling and service are complete.
- Spills that occur during vehicle maintenance will be cleaned up immediately and contaminated soil will be containerized and managed as a hazardous waste, if appropriate. A log of spills and clean-up actions will be maintained.
- Emergency phone numbers will be available onsite.
- All containers used to store hazardous materials will be properly labeled and kept in good condition.

It is anticipated that adherence to these standard operating procedures will minimize the potential for incidents and lessen the impact of spills involving hazardous materials during construction.

### 5.12.3.2 Operational Phase

Concrete spill containment berms or dikes will be constructed surrounding each of the bulk chemical storage tanks, including ammonia, sulfuric acid, sodium hydroxide, and sodium hypochlorite. The secondary containment dikes surrounding each tank will be designed to contain the tank volume plus rainfall from a 25-year, 24-hour storm. Sumps will be provided within the diked area in order to easily remove collected rainwater and spilled chemicals.

A fire protection system will be included to detect, alarm, and suppress a fire, in accordance with the applicable laws, ordinances, regulations, and standards (LORS).

Construction of the aqueous ammonia storage system will be in accordance with applicable LORS. The aqueous ammonia storage and handling facility will be equipped with the following safety features:

- Carbon steel tanks equipped with continuous tank level monitors, temperature gage, and pressure monitor. Safety alarms will also be provided on each monitoring system.
- A steel-reinforced concrete containment structure surrounding each tank and piping. The containment dike will be designed to contain the tank volume plus rainfall from a 25-year, 24-hour storm. A concrete-lined sump will be provided within the containment area in order to easily remove collected rainwater and spilled chemicals.
- Pressure relief valves and excess flow control valves on tank and fill connections.

A Program Level 3 Risk Management Plan (RMP) for handling aqueous ammonia at the facility will be prepared before start of operations. The RMP will include an ammonia hazard analysis, off-site consequence analysis, seismic assessment, emergency response plan, and training procedures. The RMP process will identify and propose adequate mitigation measures to reduce the risk to the lowest possible level.

Hazardous materials will be stored and handled in accordance with all local, state and federal regulations and codes. A safety program will be implemented including safety training programs for contractors and operations personnel, respectively. A Hazardous Materials Business Plan will be prepared for approval by the Alameda County Environmental Health Department, Hazardous Materials Division.

All areas subject to potential leaks of hazardous materials will be paved and bermed. Incompatible materials will be stored in separate containment areas.

### 5.12.3.3 Monitoring

Because environmental impacts caused by hazardous materials usage during construction and operation of the facility are expected to be minimal, an extensive monitoring program is not required.

Visual monitoring during construction and operation will be performed to determine compliance with and the effectiveness of the proposed mitigation measures. Written records of all monitoring events will be kept, including observations, actions taken, persons involved, and any recommendations.

### 5.12.4 Significant Unavoidable Adverse Impacts

Compliance with applicable LORS and implementation of the Applicant proposed mitigation measures, no significant unavoidable adverse impacts are anticipated from the proposed project.

### 5.12.5 Cumulative Impacts

The primary potential cumulative impact from the use and storage of hazardous materials would be a simultaneous release of hazardous materials from two or more sites which, when

combined, pose a greater threat to the offsite population than a single release by any one site. The hazardous material that has the potential to migrate off site from TPP is ammonia. The offsite consequence analysis (OCA) results for the worst case and alternate case release scenarios are presented in Appendix K-14. These results indicate that no significant impacts would occur offsite or at any identified sensitive receptor from an aqueous ammonia release at the TPP. Presently, no offsite stationary storage of aqueous ammonia within a 3-mile radius of the plant site has been identified. The Phase I site assessment did not identify any existing hazards in the immediate vicinity of the site.

### 5.12.6 Applicable Laws, Ordinances, Regulations and Standards (LORS)

Design, construction and operation of TPP including transmission lines, pipelines, and ancillary facilities will be conducted in accordance with all LORS pertinent to hazardous materials handling. The project will prepare a quantitative Health Risk Assessment for aqueous ammonia, a hazardous materials business plan, and a risk management plan; and will comply with all storage, handling and reporting requirements specified by the above-referenced LORS. TPP will comply with all requirements regarding transportation of hazardous materials to the site. Compliance with LORS is summarized in Table 6.1-1.

The following LORS are applicable or potentially applicable to the proposed project in the context of hazardous materials handling and hazardous waste management.

#### 5.12.6.1 Federal Authorities and Administering Agencies

**Resource Conservation and Recovery Act (RCRA), 42 USC § 6901 et seq., 40 CFR Parts 260 - 272.** These codes and regulation sections set forth federal standards for the generation and management of solid waste (42 USC § 6922). Application to the EPA will be coordinated with application to California Department of Toxic Substances Control for an EPA identification number and hazardous waste generator license.

The administering agencies for the above authority are the EPA, Region IX and Cal-EPA, Department of Toxic Substances Control.

**Comprehensive Environmental Response, Compensation and Liability Act (CERCLA or Superfund), 42 USC 9601 et seq. 40 CFR 302 as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA). Emergency Planning and Community Right-to-Know Act of 1986 (SARA Title 111). 42 USC § 11001 et seq.; 40 CFR Parts 350, 355 and 370.** CERCLA prescribes that the National Response Center be notified for any release of a reportable quantity of a hazardous substance (42 USC § 9603); notification requirements for any potentially injured parties in connection with any such release (42 USC § 9611 (g)); and requirements for demonstration of financial responsibility in connection with storage of hazardous substances (42 USC § 9608(b)).

Superfund regulations define "hazardous substance" as any material appearing in lists referenced in 42 USC 9601 (14) (Section 101). EPA's regulations at 40 CFR 302.4 set forth the list of hazardous substances under CERCLA and the reportable quantities for each.

SARA Title III established a nationwide emergency planning and response program and imposed reporting requirements for businesses, which store, handle, or produce significant quantities of hazardous or acutely toxic substances above certain threshold quantities as defined under federal laws. It requires states to implement a comprehensive system to inform federal authorities, local agencies, and the public when a significant quantity of hazardous acutely toxic substance is stored or handled at a facility. In California, many of the requirements of SARA are reflected in Chapter 6.95 of the California Health and Safety Code.

The administering agencies for the above authority are the EPA, Region IX, the National Response Center, and Alameda County Environmental Health Department.

**29 USC § 65129; CFR § 1910 et seq and § 1926 et seq.** These sections contain requirements for equipment used to store and handle hazardous materials. This regulation also addresses requirements for equipment necessary to protect workers in emergencies. It is designed primarily to protect worker health, but also contains requirements which affect general facility safety. The California regulations contained in Title 8 (California equivalent of 29 CFR) are generally more stringent than those contained in Title 29.

The administering agency for the above authority is the EPA and OSHA.

**49 CFR Parts 172, 173, and 179.** The code provides standards for labels, placards, and markings on hazardous waste shipments by truck (Part 172) and standards for packaging hazardous wastes (Part 173 and 179).

The administering agency for the above authority is the California Highway Patrol and Federal Department of Transportation.

#### **5.12.6.2 State Authorities and Administering Agencies**

**Hazardous Waste Control Act of 1972, as amended; California Health & Safety Code 25100 et seq.; 22 CCR § 66001 et seq.** These code and regulation sections address the management of hazardous wastes. Because the TPP activities will not include hazardous waste treatment and all hazardous waste will be transported offsite by a contractor, the requirements of principal concern are those governing the generation, storage and preparation for shipment of hazardous wastes. Potentially applicable requirements include the following:

- Determining Waste Characterization (22 CCR §§ 25100 et seq., 66305, 66471).
- Obtaining a Waste Identification Number (22 CCR 66472).
- Certifying on waste shipment manifests that the Applicant has a program to reduce the volume and toxicity of the waste to the degree that it has determined to be economically practicable, and reporting to Department of Toxic Substances Control (DTSC), at least every two years, the changes in volume and toxicity of wastes achieved through waste reduction (42 USC § 6922(a) and (b); California Health & Safety Code § 25244).

- Complying with standards for the storage of hazardous wastes (California Health & Safety Code §§ 25123.3; 15117.12; 22 CCR §§ 66508, 25159 - 25159.5).
- Arranging proper transport and disposal or treatment of hazardous wastes (California Health & Safety Code §§ 25163, 25203; 22 CCR §§ 66472, 66480).
- Preparing a manifest for the transportation of hazardous wastes; providing DTSC with a biennial report regarding hazardous waste shipments (22 CCR §§ 66480 - 66484, 66493).
- Complying with packaging and labeling requirements for shipments of hazardous wastes [22 CCR §§ 66504 - incorporating the US Department of Transportation requirements at 49 CFR Parts 173, 178 and 179 (packaging), and Part 172 (labeling and marking)].
- Maintaining waste testing and disposal records for specified periods (22 § CCR 66492).
- Complying with financial responsibility requirements (California Health & Safety Code §§ 25245-25249; 22 CCR §§ 67001-67035).
- Complying with used oil management requirements, unless exempted (California Health & Safety Code § 25250-25250.25).
- Complying with emergency preparedness, prevention, and planning requirements (22 CCR §§ 67120-67126).
- Complying with monitoring requirements (22 CCR §§ 67180-67188).

The administering agencies for the above authority are the EPA, Region IX, the DTSC, and the Alameda County Environmental Health Department.

**8 CCR § 339; § 3200 et seq., 5139 et seq. and 5160 et seq.** 8 CCR § 339 lists hazardous chemicals relating to HSITA; 8 CCR § 3200 et seq. and 5139 et seq. address control of hazardous substances; 8 CCR § 5160 et seq. addresses hot, flammable, poisonous, corrosive, and irritant substances.

The administering agency for the above authorities is the CEC.

**California Public Resources Code § 25523(a); 20 CCR §§ 1752, 1752.5, 2300 - 2309, and Chapter 2. Subchapter 5. Article 1. Appendix B. Parts (c) and (1).** This authority provides for the inclusion of requirements in the CEC's decision on an AFC that will assure protection of waste handling and control and water quality protection based on Health Risk Assessment Guidelines.

The administering agency for the above authority is the CEC.

**California Health & Safety Code §§ 25500 - 25543.3 19 CCR § 2720-2734.** These sections require the preparation of a Hazardous Materials Business Plan (HMBP) by the Applicant. Such plans address in detail emergency planning and response aspects in the event of a hazardous materials release at a facility. It may also require the preparation of a California

Accidental Release Program (Cal-ARP) Risk Management Plan (§§ 25531 - 25543.3) where highly toxic or highly flammable regulated substances are used. This plan must be based on studies identifying potential hazards associated with the handling of these materials proposed for use at the facility.

The administering agencies for the above authorities are the Alameda County Environmental Health Department and the Alameda County Fire Department. The Alameda County Environmental Health Department is a Certified Unified Program Agency (CUPA) and is the administering agency for HMBPs and Risk Management Plans.

**California Accidental Release Program (CalARP), Cal. Health & Safety Code § 25531 et seq.** This authority is designed to streamline the permitting requirements for applicants and eliminate the need for two chemical risk management programs.

The administering agency for the above authorities are the Alameda County Environmental Health Department.

**California Fire Code, Article 80 and others.** The code includes provisions for storage and handling of hazardous materials. There is considerable overlap between this code and Chapter 6.95 of the California Health & Safety Code. The fire code does, however, contain independent provisions regarding fire protection and neutralization systems for emergency venting (see Section 80.303, D (compressed gases)). Article 4 establishes hazardous materials storage thresholds above which a permit is required. Article 79 presents requirements for combustible and flammable liquids.

The administering agency for the above authority is the Alameda County Fire Department.

### 5.12.6.3 Industry Codes and Standards

**American Institute of Chemical Engineers (AIChE) - Center for Chemical Process Safety, 1985 Guidelines.** These guidelines provide for chemical hazard evaluation procedures.

The administering agency for the above authority is the State Office of Emergency Services (OES).

### 5.12.7 Involved Agencies and Agency Contacts

Agencies responsible for hazardous materials handling and agency contacts are provided in Table 5.12-2.

**Table 5.12-2. Involved Agencies and Agency Contacts**

Agency/Address	Contact/Telephone	Permits/Reason for Involvement
Alameda County Environmental Health Department, Hazardous Materials Division 1131 Harbor Way Parkway Alameda, CA 94502	Rob Weston, Sr. Haz. Materials Specialist (510) 567-6700	Consolidated Hazardous Materials Permit (covers hazardous materials, hazardous waste, compressed gases and tiered treatment), Hazardous Materials Business Plans, Risk Management Plans.
Alameda County Fire Department 835 East 14 <sup>th</sup> St., Suite 200 San Leandro, CA 94579	Bob Bowman Deputy Fire Marshall (510) 670-5853	Fire Department Permits
Alameda County Fire Department 835 East 14 <sup>th</sup> St., Suite 200 San Leandro, CA 94579	Jody Naaf, Stan Silva, Vince Davis Batallion Chiefs (510) 670-5884	Hazardous Materials Emergency Response Team

### 5.12.8 Permits Required and Permit Schedule

Agency required permits related to hazardous materials handling are summarized below in Table 5.12-3.

**Table 5.12-3. Permits Required and Permit Schedule**

Permit/Approval Required	Schedule
California Accidental Release Prevention Program (Risk Management Plan)	30 days prior to start of operations.
Hazardous Materials Inventory and Emergency Business Plan	Within 60 days after operations have begun.
Tiered Treatment Permit	Within 60 days after operations have begun.
Consolidated Hazardous Materials Permit	Issued after operations begin, after operations are inspected by the County.

### 5.12.9 References

- American Institute of Governmental Industrial Hygienists. 1997. Chemical Hazard Handbook.
- California Office of Emergency Services. 1998. Risk Management Plans. Web page: [www.oes.ca.gov](http://www.oes.ca.gov).
- NFPA. 1997. Fire Protection Guide on Hazardous Materials. Twelfth Edition. Quincy, MA.
- Uniform Fire Code. 1997. Prepared by the International Fire Code Institute. March 1997.
- U.S. Environmental Protection Agency (EPA). 1996. RMP Offsite Consequence Analysis Guidance. May 24, 1996.
- U.S. Environmental Protection Agency (EPA). OSWER. Risk Management Program Guidance for Wastewater Treatment Plants, #550-B-98-010, October 1998.