

8.5 Hazardous Materials Handling

This section evaluates the potential effects on human health and the environment from the storage and use of hazardous materials in conjunction with the proposed SVEP. Section 8.5.1 describes the existing environment that may be affected, and Section 8.5.2 identifies potential impacts on the environment and on human health from site development. Section 8.5.3 addresses potential cumulative impacts, Section 8.5.4 presents proposed mitigation measures, and Section 8.5.5 presents the LORS applicable to hazardous materials. Section 8.5.6 describes the agencies involved and provides agency contacts. Section 8.5.7 describes permits required and the permit schedule. Section 8.5.8 provides the references used to develop this section. Hazardous waste management, including handling of potentially contaminated soil and groundwater, is addressed in Section 8.14, Waste Management.

8.5.1 Affected Environment

8.5.1.1 Local Land Use

The project site is located near the community of Romoland, in Riverside County. Land use in the surrounding area (discussed in detail in Section 8.6, Land Use) is primarily agricultural with a mix of light industrial and scattered rural residences. Sensitive receptors within a 6-mile radius of the project site include 23 schools and day care facilities, one hospital, and one senior care facility. These receptors are listed and shown on a map in Appendix 8.9A. The nearest of these is the Boulder Ridge Elementary School approximately 0.52 miles south of the project site.

8.5.1.2 SVEP Hazardous Materials Use

The SVEP will use hazardous materials both during construction and during project operation. Most of the hazardous materials that will be used for the project are required for treatment and laboratory analysis of the cooling water, facility maintenance, and lubrication of equipment or will be contained within transformers and electrical switches. The project will comply with applicable LORS for the storage of these materials to minimize the potential for a release of hazardous materials and will conduct emergency response planning to address public health concerns regarding hazardous materials storage. The following sections describe this use, followed by tables detailing the hazardous materials used, their characteristics, the quantities of use, and use locations.

8.5.1.2.1 Construction Phase

The quantities of hazardous materials that will be onsite during construction are small relative to the quantities used during operation. They will be limited to gasoline, diesel fuel, motor oil, hydraulic fluid, solvents, cleaners, sealants, welding flux, various lubricants, paint, and paint thinner. There are no feasible alternatives to vehicle fuels and oils for operating construction equipment. The types of paint required are dictated by the types of equipment and structures that must be coated and by the manufacturers' requirements for coating.

Regulated substances, as defined in California's Health and Safety Code, Section 25531, will not be used during construction of the project. Therefore, no discussion of regulated substances storage or handling is included in this section.

8.5.1.2.2 Operations Phase

Storage locations for the hazardous materials that will be used during operation are described in Table 8.5-1. Table 8.5-2 presents information about these materials, including trade names, chemical names, Chemical Abstract Service (CAS) numbers, maximum quantities onsite, reportable quantities (RQs), California Accidental Release Program (CalARP) threshold planning quantities (TPQs), and status as a Proposition 65 chemical (a chemical known to be carcinogenic or cause reproductive problems in humans). Health hazards and flammability data are summarized for these materials in Table 8.5-3, which also contains information on incompatible chemicals (e.g., sodium hypochlorite and ammonia).

Most of the hazardous substances that will be used by the project are required for treatment and laboratory analysis of the cooling water, facility maintenance, and lubrication of equipment, or will be contained within transformers and electrical switches. The only regulated substance that will be used for the project is aqueous ammonia; toxicity characteristics and the exposure level criteria for this regulated substance is included in Table 8.5-4.

8.5.2 Environmental Consequences

Construction and operation of the project will involve the use of various hazardous materials and one regulated substance. The use of these materials and their potential to cause adverse environmental and human health effects related to the use of these materials are discussed in this section.

8.5.2.1 Significance Criteria

The project could have a significant effect on the environment in terms of hazardous materials handling if it would do the following (CEQA Guidelines Section 15002(g), Appendix G):

- Create a significant hazard to the public or the environment through the routine transport or use of hazardous materials.
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

TABLE 8.5-1
Use and Location of Hazardous Materials

Chemical	Use	Storage Location	State	Type of Storage
Aqueous ammonia (19% NH ₃ by weight)	Control oxides of nitrogen (NO _x) emissions through selective catalytic reduction	Outside, northeast of turbines (13)	Liquid	Continuously onsite
Antifreeze	Closed loop cooling systems	Maintenance shop (46)	Liquid	Continuously onsite
Antiscalant	Prevent scale in reverse osmosis membranes	Water treatment building (32)	Liquid	Continuously onsite
Sodium bisulfite	Reduce chlorine in reverse osmosis feedwater	Water treatment building (32)	Liquid	Continuously onsite
Coagulant polymer	Coagulate particles in multimedia filter feedwater	Water treatment building (32)	Liquid	Continuously onsite
Cleaning chemicals/detergents	Periodic cleaning combustion turbine	Maintenance shop (46)	Liquid	Continuously onsite
Corrosion Inhibitor (NALCO 8305 Plus)	Cooling tower cooling water corrosion inhibitor	Cooling tower chemical feed area	Liquid	Continuously onsite
Dispersant (NALCO TRASAR 23263)	Cooling tower cooling water dispersant	Cooling tower chemical feed area	Liquid	Continuously onsite
Hydraulic oil	High-pressure combustion turbine starting system, turbine control valve actuators	Contained within equipment	Liquid	Continuously onsite
Laboratory reagents	Water/wastewater laboratory analysis	Water treatment building (32)	Liquid and granular solid	Continuously onsite
Lubrication oil	Lubricate rotating equipment (e.g., gas turbine bearings)	Contained within equipment	Liquid	Continuously onsite
Mineral insulating oil	Transformers/switchyard	Contained within transformers	Liquid	Continuously onsite
Non-oxidizing biocide (e.g., NALCO 7330)	Cooling tower biological control, used periodically	Cooling tower chemical feed area	Liquid	Continuously onsite
Scale inhibitor (polyacrylate)	Cooling tower scale inhibitor	Cooling tower chemical feed area	Liquid	Continuously onsite
Sodium bromide	Cooling tower biocide	Cooling tower chemical feed area	Liquid	Continuously onsite
Sodium hypochlorite (NaOCl)	Biocide for circulating water system and process water pretreatment	Water treatment building (32)	Liquid	Continuously onsite
Stabilized bromine (e.g., NALCO STABREX ST70)	Biocide for circulating water system	Water treatment building (32)	Liquid	Continuously onsite
Sulfur hexafluoride	Switchyard/switchgear devices	Contained within equipment	Liquefied gas	Continuously onsite
Sulfuric acid (H ₂ SO ₄)	Circulating water pH control	West of cooling tower chemical feed building (38)	Liquid	Continuously onsite

TABLE 8.5-2
Chemical Inventory, Description of Hazardous Materials Stored Onsite, and Reportable Quantities

Trade Name	Chemical Name	CAS Number	Maximum Quantity Onsite	CERCLA SARA RQ ^a	RQ of Material as Used Onsite ^b	LaFollette Bill TPQ ^c	Prop 65
Aqueous ammonia (19% solution)	Ammonium hydroxide	1336-21-6 (for NH ₃ -H ₂ O)	16,000 gal	100 lb	500 lb	500 lb	No
Antifreeze	Propylene glycol	57-55-6	55 gal	e	e	e	No
Antiscalant	Anti-scalant	None	200 gal	e	e	e	No
Cleaning chemicals/detergents	Various	None	20 gal	e	e	e	No
Coagulant Aid Polymer (e.g., NALCO NALCOLYTE 8799)	Sodium chloride	7647-14-5	400 gal	e	e	e	No
	Polyquaternary amine	20507700000-5062P		e	e	e	
Corrosion Inhibitor (NALCO 8305 Plus)	Cooling tower cooling water corrosion inhibitor	None	200 gal	e	e	e	No
Dispersant (NALCO TRASAR 23263)	Cooling tower cooling water dispersant	64665-57-2	200 gal	e	e	e	No
Hydraulic oil	Oil	None	500 gal	42 gal ^{f,g}	42 gal ^{f,g}	e	No
Laboratory reagents (liquid)	Various	None	20 gal	e	e	e	No
Laboratory reagents (solid)	Various	None	100 lb	e	e	e	No
Turbine and generator lubrication oil	Oil	None	30,000 gal	42 gal ^f	g	e	Yes
Mineral transformer insulating oil	Oil	8012-95-1	70,000 gal	42 gal ^f	g	e	Yes
Non-oxidizing biocide (e.g., NALCO 7330)	5-chloro-2-methyl-4-isothiazolin-3-one (0.3%)	2682-20-4	200 gal	e	e	e	No
Scale inhibitors (various)	Polyacrylate	Various	400 gal	e	e	e	No
Sodium bisulfite	Sodium bisulfite (38 to 40%)	7631-90-5	450 gal	5,000 lb		e	No
Sodium bromide	Sodium hydroxide (1 to 5%)	1310-73-2	200 gal	1,000 lb	20,000 lb	e	No
Sodium hypochlorite (bleach)	Sodium hypochlorite (10.3 to 12 %)	7681-52-9	400 gal	100 lb	1,000 lb	e	No

TABLE 8.5-2
Chemical Inventory, Description of Hazardous Materials Stored Onsite, and Reportable Quantities

Trade Name	Chemical Name	CAS Number	Maximum Quantity Onsite	CERCLA SARA RQ ^a	RQ of Material as Used Onsite ^b	LaFollette Bill TPQ ^c	Prop 65
Stabilized bromine (NALCO STABREX ST70)	Sodium hydroxide (1 to 5%)	1310-73-2	2,000 gal	1,000 lb	20,000 lb	^e	No
	Sodium hypobromite (10 to 50%)	13824-96-9					
Sulfur hexafluoride	Sulfur hexafluoride	2551-62-4	200 lb	^e	^e	^e	No
Sulfuric acid	Sulfuric acid (93 to 98 %)	7664-93-0	400 gal	1,000 lb	1,075 lb	^e	No

^a Reportable quantity for a pure chemical, per the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) [Ref. 40 CFR 302, Table 302.4]. Release equal to or greater than RQ must be reported. Under California law, any amount that has a realistic potential to adversely affect the environment or human health or safety must be reported.

^b Reportable quantity for materials as used onsite. Since some of the hazardous materials are mixtures that contain only a percentage of a reportable chemical, the reportable quantity of the mixture can be different than for a pure chemical. For example, if a material only contains 10 percent of a reportable chemical and the RQ is 100 lb, the reportable quantity for that material would be (100 lb)/(10%) = 1,000 lb.

^c Threshold Planning Quantity [Ref. 40 CFR Part 355, Appendix A]. If quantities of extremely hazardous materials equal to or greater than TPQ are handled or stored, they must be registered with the local Administering Agency.

^d Some of the chemicals have alternatives, thus the maximum quantity stored onsite can be zero if an alternative chemical is being used.

^e No reporting requirement. Chemical has no listed RQ or TPQ.

^f State reportable quantity for oil spills that will reach California state waters [Ref. CA Water Code Section 13272(f)].

^g Per the California Regional Water Quality Control Board, Region 4, they would like all oil spills to surface water reported, even for less than the state reportable quantity of 42 gal.

TABLE 8.5-3
Toxicity, Reactivity, and Flammability of Hazardous and Regulated Substances Stored Onsite

Hazardous Materials	Physical Description	Health Hazard	Reactive & Incompatibles	Flammability*
Aqueous ammonia	Liquid, vapor is colorless gas with pungent odor	Corrosive: Irritation to permanent damage from inhalation, ingestion, and skin contact	Acids, halogens (e.g., chlorine), strong oxidizers, salts of silver and zinc	Liquid is incombustible; vapor is combustible, but difficult to burn
Antifreeze	Green, sweet smelling viscous liquid	Causes irritation	Strong oxidizing agents	Combustible
Antiscalant	Amber liquid	May cause slight irritation to the skin and moderate irritation to the eyes	None	Nonflammable
Cleaning chemicals/detergents	Liquid	Refer to individual chemical labels	Refer to individual chemical labels	Refer to individual chemical labels
Coagulant aid polymer (e.g., NALCO NALCOLYTE 8799)	Light yellow liquid	May cause irritation to skin and eyes with prolonged contact	Strong oxidizers	Nonflammable
Corrosion inhibitor (NALCO 8305 Plus)	Light yellow liquid, sweet organic odor	Irritant to eyes, skin, and respiratory tract	Strong oxidizers, strong acids, and reactive metals	Nonflammable
Dispersant (NALCO TRASAR 23263)	Clear amber liquid	None	None	Nonflammable
Hydraulic oil	Oily, dark liquid	Hazardous if ingested	Sodium hypochlorite	Combustible
Laboratory reagents	Liquid and solid	Refer to individual chemical labels	Refer to individual chemical labels	Refer to individual chemical labels
Lubrication oil	Oily, dark liquid	Hazardous if ingested	Sodium hypochlorite	Flammable
Mineral insulating oil	Oily, clear liquid	Minor health hazard	Sodium hypochlorite	Can be combustible, depending on manufacturer
Scale inhibitors (polyacrylate)	Yellow green liquid	Corrosive and toxic: slight to moderate toxicity; irritation to skin and eyes	Strong acids	Nonflammable
Sodium bisulfite	Yellow liquid	Corrosive: irritation to eyes, skin, and lungs; may be harmful if digested	Strong acids and strong oxidizing agents	Nonflammable

TABLE 8.5-3
Toxicity, Reactivity, and Flammability of Hazardous and Regulated Substances Stored Onsite

Hazardous Materials	Physical Description	Health Hazard	Reactive & Incompatibles	Flammability*
Sodium bromide	White crystals, granules, or powder; odorless	Causes irritation to skin, eyes, and respiratory tract; can cause damage to central nervous system if ingested	Acids, alkaloid and heavy metal salts, oxidizers, and bromine trifluoride	Nonflammable
Sodium hypochlorite (bleach)	Pale green; sweet, disagreeable odor. Usually in solution with H ₂ O or sodium hydroxide	Corrosive and toxic: toxic by ingestion; strong irritant to tissue	Ammonia and organic materials	Fire risk when in contact with organic materials
Stabilized bromine (e.g., NALCO STABREX ST70)	Clear, light yellow liquid	Corrosive: irritant to eyes and skin. Harmful if ingested or inhaled	Strong acids, organic materials, sodium hypochlorite	Nonflammable
Sulfur hexafluoride	Colorless gas with no odor.	Hazardous if inhaled	Disilane	Nonflammable
Sulfuric acid	Colorless, dense, oily liquid	Strongly corrosive: strong irritant to all tissue; minor burns to permanent damage to tissue	Organic materials, chlorates, carbides, fulminates, metals in powdered form; reacts violently with water	Nonflammable

Data were obtained from Material Safety Data Sheets (MSDSs) and Lewis, 1991.

* Per Department of Transportation regulations, under 49 CFR 173: "Flammable" liquids have a flash point less than or equal to 141° F; "Combustible" liquids have a flash point greater than 141° F.

TABLE 8.5-4
Toxic Effects and Exposure Levels of Regulated Substances

Name	Toxic Effects	Exposure Levels-Pure NH ₃
Aqueous ammonia (19 percent solution)	Toxic effects for contact with pure liquid or vapor causes eye, nose, and throat irritation, skin burns, and vesiculation. Ingestion or inhalation causes burning pain in mouth, throat, stomach, and thorax, constriction of thorax, and coughing followed by vomiting blood, breathing difficulties, convulsions, and shock. Other symptoms include dyspnea, bronchospasms, pulmonary edema, and pink frothy sputum. Contact or inhalation overexposure can cause burns of the skin and mucous membranes, headache, salivation, nausea, and vomiting. Other symptoms include labored breathing, bloody mucous discharge, bronchitis, laryngitis, hemmoptysis, and pneumonitis. Damage to eyes may be permanent, including ulceration of conjunctiva and cornea and corneal and lenticular opacities.	Occupational Exposures: PEL = 35 mg/m ³ OSHA TLV = 18 mg/m ³ ACGIH TWA = 25 mg/m ³ NIOSH STEL = 35 mg/m ³ Hazardous Concentrations: IDLH = 500 ppm LD ₅₀ = 350 mg/kg—oral, rat ingestion of 3 to 4 ml may be fatal Sensitive Receptors: ERPG-1 = 25 ppm ERPG-2 = 200 ppm ERPG-3 = 1,000 ppm
ACGIH	American Conference of Government Industrial Hygienists	
ERPG	Emergency Response Planning Guideline	
ERPG-1	Maximum airborne concentration below which nearly all individuals could be exposed for up to 1 hour without experiencing other than mild transient adverse health effects	
ERPG-2	Maximum airborne concentration below which nearly all individuals could be exposed for up to 1 hour without developing irreversible or serious health effects	
ERPG-3	Maximum airborne concentration below which nearly all individuals could be exposed for up to 1 hour without experiencing life-threatening health effects	
IDLH	Immediately dangerous to life and health	
LD ₅₀	Dose lethal to 50 percent of those tested	
mg/kg	Milligrams per kilogram	
mg/m ³	Milligrams per cubic meter	
NIOSH	National Institute of Occupational Safety and Health	
OSHA	Occupational Safety and Health Administration	
PEL	OSHA permissible exposure limit for 8-hr workday	
ppm	parts per million	
STEL	Short-term exposure limit, 15-min. exposure	
TCLO	Lowest published toxic concentration	
TLV	ACGIH threshold limit value for 8-hr workday	
TWA	NIOSH time-weighted average for 8-hr workday	

8.5.2.2 Transportation of Hazardous Materials

Project operation will require weekly transportation of hazardous materials to the project site (see also Section 8.12, Traffic and Transportation). Transportation of hazardous materials will comply with all Department of Transportation (Caltrans), U.S. Environmental Protection Agency (USEPA), California Department of Toxic Substances Control (DTSC), California Highway Patrol (CHP), and California State Fire Marshal regulations. A low concentration of aqueous ammonia a regulated substance, will be delivered to the facility, and transported in accordance with California Vehicle Code Section 32100.5, which regulates the transportation of hazardous materials that pose an inhalation hazard. In

addition, ammonia will only be transported along approved transportation routes. The approved route would be from Interstate 215 along Ethanac Road, to Matthews Road, to Menifee Road, to Rouse Road, to the project site. The route has been specifically designed to avoid all schools within the area (see Figure 8.12-2).

8.5.2.3 Hazardous Materials Use

8.5.2.3.1 Construction Phase

Construction will involve the transport of limited quantities of hazardous materials to the project site and will pose minor hazards associated with their use. Small oil spills may occur during onsite refueling. Equipment refueling will be performed away from water bodies to prevent contamination of water in the event of a fuel spill. Therefore, the potential environmental effects from fueling operations are expected to be limited to small areas of contaminated soil. If a fuel spill occurs on soil, the contaminated soil will be placed into barrels or trucks for offsite disposal as a hazardous waste. The worst-case scenario for a chemical release from fueling operations would be a vehicle accident involving a service or refueling truck.

The quantities of hazardous materials that will be handled during construction are relatively small and Best Management Practices (BMPs) will be implemented by contractor personnel. Therefore, the potential for environmental effects is expected to be small.

8.5.2.3.2 Project Operation

As stated above, most of the hazardous substances that will be used by the project are required for treatment and laboratory analysis of the cooling water, facility maintenance, and lubrication of equipment, or will be contained within transformers and electrical switches. Their storage will be carefully contained within designated hazardous materials storage areas and their use will be carefully prescribed in terms of hazardous materials handling plans, facility Health and Safety Plans, and the Hazardous Materials Business Plan (HMBP). For the non-regulated materials, therefore, the risk of public exposure and serious hazard is low and would not be significant. The only regulated substance that will be used for the project is aqueous ammonia, described in Table 8.4-4, above.

Aqueous Ammonia

The SVEP facility will store the 19-percent aqueous ammonia solution in a single stationary aboveground storage tank (AST). The capacity of the tank will be approximately 16,000 gallons. The tank will be surrounded by a secondary containment structure capable of holding the full contents of the tank and accumulated precipitation.

Storage and use of ammonia would be subject to the requirements of the California Fire Code, Article 80, as well as the CalARP (described below). Article 80 of the California Fire Code contains specific requirements for control of liquid and gaseous releases of hazardous materials. Secondary containment in the form of an underground spill containment vault, will be provided for the ammonia storage tank and loading area. In addition, the facility will be required to prepare a Risk Management Plan (RMP) in accordance with the CalARP, further specifying safe handling procedures for the ammonia as well as emergency response procedures in the event of an accidental release.

Because sodium hypochlorite and aqueous ammonia are incompatible chemicals, the sodium hypochlorite will be stored in a bermed area for secondary containment (an area capable of capturing any spills) that will be designed such that it separates the ammonia from incompatible chemicals, to eliminate potential interactions/reactions in the event that the chemicals are accidentally released.

8.5.2.4 Accidental Release Hazards

If a chemical release were to occur without proper engineering controls in place, the public could be exposed to harmful vapors, and incompatible chemicals could mix, causing vapors that could also potentially have harmful effects. In addition, an uncontrolled release of liquid chemicals could run off and drain into the storm water system and potentially degrade water quality. However, the California Fire Code, Articles 79 and 80, includes specific requirements for the safe storage and handling of hazardous materials that would reduce the potential for a release of hazardous materials, and mixing of incompatible materials. The design of the project will incorporate state-of-the-art chemical storage and handling facilities in compliance with the current California Fire Code and other applicable LORS.

8.5.2.4.1 Ammonia Release

Because of its hazardous properties, aqueous ammonia is classified as a regulated substance, and an accidental release of the 19 percent aqueous ammonia could present a human health hazard. Pure ammonia (NH₃) is a volatile substance that is very soluble in water. Aqueous ammonia consists of a solution of ammonia and water. If the aqueous ammonia solution were to leak or be released without proper controls, the ammonia in solution could escape or evaporate as a gas into the atmosphere.

Ammonia gas can be toxic to humans at sufficient concentrations. Potential toxic effects of ammonia and acceptable exposure levels are summarized in Table 8.5-4. The odor threshold of ammonia is about 5 parts per million (ppm), and minor irritation of the nose and throat will occur at 30 to 50 ppm. Ammonia concentrations greater than 140 ppm will cause detectable effects on lung function even for short-term exposures (0.5 to 2 hours). At higher concentrations of 700 to 1,700 ppm, ammonia gas will cause severe effects; death occurs at concentrations of 2,500 to 6,000 ppm (Smyth, 1956).

8.5.2.4.2 Offsite Consequences Analysis

Because there is human activity in the vicinity of the proposed SVEP site, an offsite consequence analysis will be performed during the Application for Certification (AFC) process. The analysis will assess the risk to humans at various distances from the site if a spill or rupture of the aqueous ammonia storage tank were to occur or if a spill from the supply truck were to occur while refilling the storage tank. The modeling protocol for the offsite consequences analysis for ammonia is presented in Appendix 8.5A.

The worst-case accidental release scenario assumes the aqueous ammonia storage tank is punctured and the entire contents spills into a catch basin or bermed area located beneath the tank. Parameters used to calculate the initial ammonia emission rate include an atmospheric stability classification of "F," a wind speed of 1.5 meters/second and a temperature of 97 degrees Fahrenheit (°F).

8.5.2.5 Fire and Explosion Hazards

Table 8.5-3 describes the flammability for the hazardous materials that will be onsite. With the exception of ammonia and lubricating oils, all hazardous materials are nonflammable. Article 80 of the California Fire Code requires all hazardous materials storage areas to be equipped with a fire extinguishing system and also requires ventilation for all enclosed hazardous material storage areas.

Aqueous ammonia, which constitutes the largest quantity of hazardous materials stored onsite, is incombustible in its liquid state. Under normal storage conditions, ammonia would not evaporate to the atmosphere because it would be contained within a totally enclosed system equipped with ventilation as required by Article 80 of the California Fire Code. In the unlikely event that a release were to occur, ammonia could evaporate. Ammonia vapor is combustible only within a narrow range of concentrations in air. The evaporation rate of aqueous ammonia is similar to water, which is sufficiently low that the lower explosion limit (LEL) of 15 percent (or 15,000 parts per million) will not be reached.

The lubrication oil is flammable. In accordance with Article 80 of the California Fire Code, the storage area for the lubrication oil would be equipped with a fire extinguishing system and the lubrication oil would be handled in accordance with an HMBP approved by the Riverside County Environmental Health Department (EHD) and the California Energy Commission (CEC). With proper storage and handling of flammable materials in accordance with the California Fire Code and the site-specific HMBP, the risk of fire and explosion at the generating facility would be minimal.

The natural gas fuel the facility will use is flammable and could leak from the pipeline that brings the gas from the main SoCal Gas distribution pipeline. Natural gas is composed mostly of methane, but also may contain ethane, propane, nitrogen, butane, isobutene, and isopentane. It is colorless, odorless, tasteless, and is lighter than air. Methane is flammable when mixed in air at concentrations of 5 to 14 percent, which is also the detonation range. Natural gas, therefore, poses a risk of fire and explosion if an accidental release were to occur. However, the risk of a fire and/or explosion would be reduced through compliance with applicable LORS.

The federal safety and operating requirements for natural gas pipelines are contained in Title 49 of the Code of Federal Regulations, Parts 190 through 192. These requirements vary according to population density and land use; the pipeline classes are defined as follows:

- Class 1 includes pipelines in locations with 10 or fewer buildings intended for human occupancy.
- Class 2 includes pipelines in locations with more than 10, but fewer than 46 buildings intended for human occupancy.
- Class 3 includes pipelines in locations with more than 46 buildings intended for human occupancy, or where the pipeline is within 100 yards of any building or small well-defined outside area occupied by 20 or more people on at least 5 days per week for 10 weeks in any 12-month period.
- Class 4 includes pipelines in locations where buildings with 4 or more stories aboveground are prevalent.

The project's pipeline will be designed to meet Class 3 service and will meet California Public Utilities Commission General Order 112-D and 58-A standards, in addition to the federal requirements for gas pipeline construction and safety.

The closest fire station is Riverside County Fire Department Station #54, 25730 Sultanas Road, Homeland, California. The station is approximately 2.5 miles away and would provide the first response to a fire at the project site. If hazardous materials were involved in the incident, the Hazardous Materials Team at Station #34, 32655 Haddock Street, Winchester, would respond. This station is approximately 5.8 miles from the SVEP site.

8.5.2.6 Schools

The nearest school to the SVEP is the Boulder Ridge Elementary School, which is located approximately 0.52 miles from the SVEP. The proposed route of transport for regulated materials such as aqueous ammonia, as well as for all other hazardous materials used at the SVEP, would not pass this school or any other school. This route runs from Interstate 215 along Ethanac Road, to Matthews Road, to the project site. In addition, with the controls incorporated into the design of the ammonia tank and system including the delivery procedures, an accidental release of the entire contents of the ammonia tank will not endanger the school.

8.5.3 Cumulative Impacts

A cumulative impact of the use and storage of hazardous materials could occur if there were a simultaneous offsite release of hazardous chemicals from two or more different sites. Potentially, the two or more migrating releases could combine, thereby posing a greater threat to the offsite population than a single release from any single site. Ammonia is the only hazardous material that will be used during project operation that would be stored in sufficient quantity onsite to have the potential to cause such a cumulative impact. To determine the potential for cumulative impacts, other sites in the vicinity that store and use ammonia must be identified and analyzed. In addition, other chemicals in the vicinity with the ability to migrate offsite that could combine or interact with released ammonia must be identified and analyzed.

To determine if other facilities have the potential to result in cumulative release of chemicals, the facilities that have filed a chemical inventory with the Riverside County Environmental Health Department were identified and are summarized in Table 8.5-5. As shown in Table 8.5-5, the identified facilities in the vicinity of SVEP are small companies that use small amounts of hazardous materials. No significant interactions between the ammonia that will be used at SVEP and chemicals used at other facilities were identified, therefore the cumulative impacts are assumed to be negligible.

TABLE 8.5-5
Facilities Near SVEP That Have Submitted a Chemical Inventory to the Riverside County EHD

Site Name	Address	Chemicals Stored Onsite
Datatronics	Pinacate Road	Liquid carbon dioxide, acids, resins, solvents
Calmat	Pinacate Road	Asphalt, oils
Matthews Casting Co.	Pinacate Road	Acids, solvents

TABLE 8.5-5
Facilities Near SVEP That Have Submitted a Chemical Inventory to the Riverside County EHD

Site Name	Address	Chemicals Stored Onsite
Block Graphics	Matthews Road	Inks, solvents
Orco Block	Palomar Road	Releasing agents, lime
Sannipoli	Palomar Road	Releasing agents, lime
Crematorium	Palomar Road	Propane
Family Auto	Ethanac Road	Oils, greases, fuel, welding gases
Chaney Auto	Ethanac Road	Oils, greases, fuel, welding gases
Secard Pools	Watson Road	Chlorine, acids
Proposed carbon recycling facility	Sherman Road	Unknown

Source: IEEC, LLC, 2001

8.5.4 Proposed Mitigation Measures

The following sections present measures included in the project to mitigate potential public health and environmental impacts of handling hazardous materials and regulated substances during construction and operation.

8.5.4.1 Construction Phase

The hazardous materials that would be used during construction present a relatively low public health risk, but could contaminate surface water or groundwater if a release occurred. Use of best management practices would reduce the potential for the release of construction-related fuels and other hazardous materials to storm water and receiving waters as discussed in Section 8.15, Water Resources. Best management practices prevent sediment and storm water contamination from spills or leaks, control the amount of runoff from the site, and require proper disposal or recycling of hazardous materials.

Construction service personnel will follow general industry health, safety, and environmental standards for filling and servicing construction equipment and vehicles. The standards are designed to reduce the potential for incidents involving the hazardous materials. They include the following:

- Refueling and maintenance of vehicles and equipment will occur only in designated areas that are either bermed or covered with concrete, asphalt, or other impervious surfaces to control potential spills. Employees will be present during refueling activities.
- Vehicle and equipment service and maintenance will be conducted only by authorized personnel.
- Refueling will be conducted only with approved pumps, hoses, and nozzles.
- Catch-pans will be placed under equipment to catch potential spills during servicing.
- All disconnected hoses will be placed in containers to collect residual fuel from the hose.

- Vehicle engines will be shut down during refueling.
- No smoking, open flames, or welding will be allowed in refueling or service areas.
- Refueling will be performed away from bodies of water to prevent contamination of water in the event of a leak or spill.
- When refueling is completed, the service truck will leave the project site.
- Service trucks will be provided with fire extinguishers and spill containment equipment, such as absorbents.
- Should a spill contaminate soil, the soil will be put in containers and disposed of as appropriate. All containers used to store hazardous materials will be inspected at least once per week for signs of leaking or failure. All maintenance and refueling areas will be inspected monthly. Results of inspections will be recorded in a logbook that will be maintained onsite.

In the unlikely event of a spill, the spill may need to be reported to the appropriate regulatory agencies and cleanup of contaminated soil could be required. Small spills will be contained and cleaned up immediately by trained, onsite personnel. Larger spills will be reported via emergency phone numbers to obtain help from offsite containment and cleanup crews. All personnel working on the project during the construction phase will be trained in handling hazardous materials and the dangers associated with hazardous materials. An onsite health and safety person will be designated to implement health and safety guidelines and to contact emergency response personnel and the local hospital, if necessary.

If there is a large spill from a service or refueling truck, contaminated soil will be placed into barrels or trucks by service personnel for offsite disposal at an appropriate facility in accordance with law. If a spill involves hazardous materials equal to or greater than the specific reportable quantity (25 gallons for petroleum products), all federal, state, and local reporting requirements will be followed. In the event of a fire or injury, the local fire department will be called (Riverside County Fire Department Station No. 54, 25730 Sultanas Road, Homeland, California).

8.5.4.2 Operation Phase

During facility operation, various hazardous materials and one regulated substance will be stored onsite as shown in Table 8.5-1. Table 8.5-2 presents information about these materials, including trade names, chemical names, CAS numbers, maximum quantities onsite, RQs, CalARP TPQs, and status as a Proposition 65 chemical (a chemical known to be carcinogenic or cause reproductive problems in humans). Health hazards and flammability data are summarized for these materials in Table 8.5-3, which also contains information on incompatible chemicals (e.g., sodium hypochlorite and ammonia). Table 8.5-4 describes the toxicity of the regulated substance (aqueous ammonia) and hazardous materials. Listed below are proposed mitigation measures for minimizing the public health risks associated with hazardous material and regulated substance handling during facility operation.

8.5.4.2.1 Hazardous Materials

All hazardous materials will be handled and stored in accordance with applicable codes and regulations specified in Section 8.5.6. Specific requirements of the California Fire Code that reduce the risk of fire or the potential for a release of hazardous materials that could affect public health or the environment include:

- Provision of an automatic sprinkler system for indoor hazardous material storage areas.
- Provision of an exhaust system for indoor hazardous material storage areas.
- Separation of incompatible materials by isolating them from each other with a noncombustible partition.
- Spill control in all storage, handling, and dispensing areas.
- Separate secondary containment for each chemical storage system. The secondary containment is required to hold the entire contents of the tank plus the volume of water for the fire suppression system that could be used for fire protection for a period of 20 minutes in the event of a catastrophic spill.

In addition, an HMBP is required by California Code of Regulations (CCR) Title 19 and the Health and Safety Code (Section 25504). In accordance with these regulations, the HMBP will include an inventory and location map of hazardous materials onsite and an emergency response plan for hazardous materials incidents. Specific topics to be covered in the plan include:

- Facility identification
- Emergency contacts
- Chemical inventory information (for every hazardous material)
- Site map
- Emergency notification data
- Procedures to control actual or threatened releases
- Emergency response procedures
- Training procedures
- Certification

The HMBP will be filed with the Riverside County EHD and updated annually in accordance with applicable regulations. The EHD will ensure review by and distribution to other potentially affected agencies including the Riverside County Fire Department.

In accordance with emergency response procedures specified in the HMBP, designated personnel will be trained as members of a plant hazardous material response team, and team members will receive the first responder and hazardous material technical training to be developed in the HMBP, including training in appropriate methods to mitigate and control accidental spills. However, in the event of a chemical emergency, plant personnel will defer to the Hazardous Materials Support Unit at Riverside County Fire Station No. 34, located at 32655 Haddock Street, Winchester, California, approximately 5.8 miles from the SVEP site.

8.5.4.2.2 Aqueous Ammonia

Aqueous ammonia will be used in a selective catalytic reduction (SCR) process to control NO_x emissions created in the combustion chambers of the combustion turbines. The SCR system will include catalyst modules, an ammonia storage system, and an ammonia injection system. The aqueous ammonia, stored as a liquid solution of 19 percent ammonia and 81 percent water, will be injected into the turbine exhaust housing upstream of the catalyst modules. The rate of injection will be controlled by a monitoring system that uses sensors to determine the correct quantity of ammonia to feed to the injection system.

Approximately twice per week during full operation, one 6,500-gallon tanker truck will deliver aqueous ammonia to the site. The ammonia will be stored in an AST with a 16,000-gallon capacity, contained within a secondary containment system, as required by the Uniform Fire Code. This containment system will include a large, concrete curbed area, approximately 54 by 38 feet, with walls 2 feet, three inches high surrounding the tank. The aqueous ammonia storage tank will be equipped with continuous tank level monitors, automated leak detection system, temperature and pressure monitors and alarms, and excess flow and emergency block valves.

Ammonia is a regulated substance under the federal Clean Air Act pursuant to 40 CFR 68 (Subpart G) and the CalARP pursuant to Health and Safety Code Sections 25331 through 25543.3. The California program is similar to the federal program but is more stringent in some areas.

In accordance with CalARP regulations, a RMP will be required in addition to the HMBP described above. The RMP includes a hazard assessment to evaluate the potential effects of an accidental release, a program for preventing an accidental release, and a program for responding to an accidental release. The specific components of an RMP include:

- Description of the facility
- Accident history of the facility
- History of equipment used at the facility
- Design and operation of the facility
- Site map(s) of the facility
- Piping and instrument diagrams of the facility
- Seismic analysis
- Hazard and operability study
- Prevention program
- Consequence analysis
- Offsite consequence analysis
- Emergency response
- Auditing and inspection
- Record keeping
- Training
- Certification

The RMP will be filed with the Riverside County EHD, the designated CUPA for the project site. The RMP will cover acutely hazardous materials that can produce toxic clouds when inadvertently released. The RMP will include a hazard assessment to evaluate the potential

effects of accidental releases; a program for preventing accidental releases; and a program for responding to accidental releases to protect human health and the environment.

A Process Safety Management Plan (PSM) will not be required under the Occupational Safety and Health Act, because OSHA regulations apply only to aqueous ammonia solutions above 44 percent (29 CFR Part 199). The requirements for a PSM are very similar to those for an RMP although an offsite consequences analysis is not required for the PSM. The RMP may be sufficient to also meet the requirements of a PSM plan, if required.

8.5.4.2.3 Petroleum Products

Federal and California regulations require a Spill Prevention Control and Countermeasure) SPCC plan if petroleum products above certain quantities are stored. Both federal and state laws apply only to petroleum products that might be discharged to navigable waters. If stored quantities are equal to or greater than 660 gallons for a single container, or equal to or greater than 1,320 gallons total (including ASTs, oil-filled equipment, and drums), an SPCC must be prepared. Since the facility will store more than 1,320 gallons of petroleum products, an SPCC plan will be prepared.

8.5.4.2.4 Transportation/Delivery of Hazardous Materials and Regulated Substances

Hazardous materials and one regulated substance will be delivered periodically to the facility. As discussed in Section 8.12, Traffic and Transportation, transportation of hazardous materials will comply with all Department of Transportation (Caltrans), USEPA, California Department of Toxic Substances Control (DTSC), CHP, and California State Fire Marshal regulations. Under the California Vehicle Code, the CHP has the authority to adopt regulations for transporting hazardous materials in California. The CHP can issue permits and specify the route for hazardous material delivery. Aqueous ammonia, a regulated substance, will be delivered to the facility, and transported in accordance with Vehicle Code Section 32100.5, which regulates the transportation of hazardous materials that pose an inhalation hazard. In addition, ammonia will only be transported along approved transportation routes. The approved route would be from Interstate 215 along Ethanac Road, to Matthews Road, to the project site.

8.5.4.2.5 Security Plan

In addition to standard industrial business security measures, the Applicant will be preparing a security plan that will include the following elements:

- Descriptions of the site fencing and security gate
- Evacuation procedures
- A protocol for contacting law enforcement in the event of conduct endangering the facility, its employees, its contractors, or public
- A fire alarm monitoring system
- Measures to conduct site personnel background checks, including employee and routine on-site contractors consistent with state and federal law regarding security and privacy
- A site access protocol for vendors

- A protocol for Hazardous Materials vendors to prepare and implement security plans as per 49 CFR 172.800 and to ensure that all hazardous materials drivers are in compliance with personnel background security checks as per 49 CFR Part 172, Subpart I

The plan will also include a demonstration that the perimeter security measures will be adequate. The demonstration may include one or more of the following:

- Security guards
- Security alarm for critical structures
- Perimeter breach detectors and on-site motion detectors
- Video or still camera monitoring system

8.5.4.3 Monitoring

In accordance with applicable federal, state, and local regulations, site personnel would regularly inspect all hazardous materials handling facilities for compliance with LORS. In addition, the facility would be subject to regular inspections by the Riverside County EHD, which would ensure compliance with appropriate regulatory requirements for hazardous materials and regulated substances handling.

8.5.5 Laws, Ordinances, Regulations, and Standards

The storage and use of hazardous materials and regulated substances at the facility are governed by federal, state, and local laws. Applicable laws and regulations address the use and storage of hazardous materials to protect the environment from contamination, and to protect facility workers and the surrounding community from exposure to hazardous and regulated substances. The applicable LORS are summarized in Table 8.5-6 and described below.

TABLE 8.5-6
Applicable Laws, Ordinances, Regulations, and Standards

LORS	Applicability	Conformance (Section No.)
Federal CERCLA/SARA/EPCRA		
Section 302, EPCRA (Pub. L. 99-499, 42 USC 11022) Hazardous Chemical Reporting: Community Right-To-Know (40 CFR 370)	Requires one time notification if extremely hazardous substances are stored in excess of TPQs. The facility will have ammonia in concentrations greater than 20 percent and in excess of the threshold quantity of 20,000 pounds.	An HMBP and an RMP will be prepared for submittal to the Riverside County EHD (Section 8.5.4.2.1).
Section 304, EPCRA (Pub. L. 99-499, 42 USC 11002) Emergency Planning And Notification (40 CFR 355)	Requires notification when there is a release of hazardous material in excess of its RQ.	An HMBP will be prepared to describe notification and reporting procedures (Section 8.5.4.2.1).

TABLE 8.5-6
Applicable Laws, Ordinances, Regulations, and Standards

LORS	Applicability	Conformance (Section No.)
Section 311, EPCRA (Pub. L. 99–499, 42 USC 11021) Hazardous Chemical Reporting: Community Right-To-Know (40 CFR 370)	Requires that either material safety data sheets (MSDSs) for all hazardous materials or a list of all hazardous materials be submitted to the State Emergency Response Commission (SERC), Local Emergency Planning Committee (LEPC), and Riverside County	The HMBP to be prepared will include a list of hazardous materials for submission to agencies (Section 8.5.4.2.1)
Section 313, EPCRA (Pub. L. 99–499, 42 USC 11023) Toxic Chemical Release Reporting: Community Right-To-Know (40 CFR 372)	Requires annual reporting of releases of hazardous materials.	The HMBP to be prepared will describe reporting procedures (Section 8.5.4.2.1).
Section 112, Clean Air Act Amendments (Pub. L. 101–549, 42 USC 7412) Chemical Accident Prevention Provisions (40 CFR 68)	Requires facilities that store a listed hazardous material at a quantity greater than the TQ to develop a Risk Management Plan. The facility will have ammonia in concentrations greater than 20 percent and in excess of the threshold quantity of 20,000 pounds.	An RMP will be prepared for submittal to the Riverside County EHD (Section 8.5.4.2.1)
Section 311, Clean Water Act (Pub. L. 92–500, 33 USC 1251 et seq.) Oil Pollution Prevention (40 CFR 112)	Requires preparation of an SPCC plan if oil is stored in a single aboveground storage tank with a capacity greater than 660 gallons or if the total petroleum storage (including ASTs, oil-filled equipment, and drums) is greater than 1,320 gallons. The facility will have petroleum in excess of the aggregate volume of 1,320 gallons.	An SPCC will be prepared (Section 8.5.2.3)
Pipeline Safety Laws (49 USC 60101 et seq.) Hazardous Materials Transportation Laws (49 USC 5101 et seq.) Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards (49 CFR 192)	Specifies natural gas pipeline construction, safety, and transportation requirements.	The natural gas pipeline will be constructed in accordance with 49 CFR requirements (Section 8.5.4.1)
California		
Health and Safety Code, Section 25500, et seq. (HMBP)	Requires preparation of an HMBP if hazardous materials are handled or stored in excess of threshold quantities.	An HMBP will be prepared for submittal to the Riverside County EHD (Section 8.5.4.2.1)
Health and Safety Code, Section 25531 through 25543.4 (CalARP)	Requires registration with local CUPA or lead agency and preparation of an RMP if regulated substances are handled or stored in excess of TPQs.	An RMP will be prepared for submittal to the Riverside County EHD (Section 8.5.4.2.1)

TABLE 8.5-6
Applicable Laws, Ordinances, Regulations, and Standards

LORS	Applicability	Conformance (Section No.)
Health and Safety Code, Section 25270 through 25270.13 (Aboveground Petroleum Storage Act)	Requires preparation of an SPCC plan if oil is stored in a single aboveground storage tank with a capacity greater than 660 gallons or if the total petroleum storage (including ASTs, oil-filled equipment, and drums) is greater than 1,320 gallons. The facility will have petroleum in excess of the aggregate volume of 1,320 gallons.	An SPCC plan will be prepared (Section 8.5.4.2.3)
Health and Safety Code, Section 25249.5 through 25249.13 (Safe Drinking Water and Toxics Enforcement Act) (Proposition 65)	Requires warning to persons exposed to a list of carcinogenic and reproductive toxins and protection of drinking water from same toxins.	The site will be appropriately labeled for chemicals on the Proposition 65 list. (Section 8.5.4.2.1)
California Public Utilities Commission (CPUC) General Order Nos. 112-E and 58-A	Specify standards for gas service and construction of gas gathering, transmission, and distribution piping systems.	Construction of the natural gas pipeline will comply with the standards specified in these General Orders (Section 8.5.4.1)
Local		
Riverside County Ordinance 651.3	Requires preparation of a Hazardous Materials Certificate of Registration and Hazardous Materials Business Plan for storage of hazardous materials.	A Hazardous Materials Certificate of Registration and HMBP will be prepared for submittal to the Riverside County Environmental Health Department. (Section 8.5.7.3.1).
Riverside County Ordinance 651.3, Section 9	Requires preparation of a Risk Management Plan for regulated substances.	An RMP will be prepared for submittal to the Riverside County Environmental Health Department. (Section 8.5.7.3.1).
Riverside County Ordinance 787.2 Fire Code	Requires proper storage and handling of hazardous materials.	Riverside County Fire Code will be followed for design and construction of the hazardous materials handling facilities (Section 8.5.7.4).

Notes:

Cal ARP	California Accidental Release Program	MSDS	Material Safety Data Sheet
CAA	Clean Air Act [Amendments]	Pub. L.	Public Law
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act	RMP	Risk Management Plan
CFR	Code of Federal Regulations	RQ	Reportable Quantity
CWA	Clean Water Act	SARA	Superfund Amendments and Reauthorization Act
CUPA	Certified Unified Program Agency	SERC	state emergency response commission
EHS	extremely hazardous substance	SPCC	Spill Prevention Control and Countermeasure Plan
EPCRA	Emergency Planning and Community Right-to-Know Act	TPQ	Threshold Planning Quantity
HMBP	Hazardous Materials Business Plan	TQ	Threshold Quantity
LEPC	local emergency planning committee	USC	United States Code

8.5.5.1 Federal

Hazardous materials are governed under the Comprehensive Environmental Response and Liability Act (CERCLA), the Clean Air Act (CAA), and the Clean Water Act (CWA).

8.5.5.1.1 CERCLA

The Superfund Amendments and Reauthorization Act (SARA) amends CERCLA and governs hazardous substances. The applicable part of SARA for the proposed project is Title III, otherwise known as the Emergency Planning and Community Right-To-Know Act of 1986 (EPCRA). Title III requires states to establish a process for developing local chemical emergency preparedness programs and to receive and disseminate information on hazardous substances present at facilities in local communities. The law provides primarily for planning, reporting, and notification concerning hazardous substances. Key sections of the law are:

- Section 302 – Requires one time notification when extremely hazardous substances (EHSs) are present in excess of their TPQs. EHSs and their TPQs are found in Appendices A and B to 40 Code of Federal Regulations (CFR) Part 355.
- Section 304 – Requires immediate notification to the local emergency planning committee (LEPC) and the state emergency response commission (SERC) when a hazardous material is released in excess of its RQ. If a CERCLA-listed hazardous substance RQ is released, notification must also be given to the National Response Center in Washington, D.C. (RQs are listed in 40 CFR Part 302, Table 302.4). These notifications are in addition to notifications given to the local emergency response team or fire personnel.
- Section 311 – Requires that either material safety data sheets (MSDSs) for all hazardous materials or a list of all hazardous materials be submitted to the SERC, LEPC, and local fire department.
- Section 313 – Requires annual reporting of hazardous materials released into the environment either routinely or as a result of an accident.

8.5.5.1.2 Clean Air Act

Regulations (40 CFR 68) under the CAA are designed to prevent accidental releases of hazardous materials. The regulations require facilities that store a Threshold Quantity (TQ) or greater of listed regulated substances to develop an RMP, including hazard assessments and response programs to prevent accidental releases of listed chemicals. Section 112(r)(5) of the CAA discusses the regulated substances. These substances are listed in 40 CFR 68.130. Aqueous ammonia is a listed substance and its TQ for solutions of 20 percent and greater is 20,000 pounds of solution.

8.5.5.1.3 Clean Water Act

The SPCC program under the CWA is designed to prevent or contain the discharge or threat of discharge of oil into navigable waters or adjoining shorelines. Regulations (40 CFR 112) under the CWA require facilities to prepare a written SPCC plan if they store oil and its release would pose a threat to navigable waters. The SPCC program is applicable if a facility has a single oil AST with a capacity greater than 660 gallons, total petroleum storage (including ASTs, oil-filled equipment and drums) greater than 1,320 gallons, or underground storage capacity greater than 42,000 gallons.

Other related federal laws that address hazardous materials but do not specifically address their handling, are the Resource Conservation and Recovery Act (RCRA), which is discussed in Section 8.14, Waste Management, and the Occupational Safety and Health Act, which is discussed in Section 8.16, Worker Health and Safety.

8.5.5.1.4 Natural Gas Pipeline Construction and Safety

Title 40 of the Code of Federal Regulations, parts 190 through 192, specifies safety and construction requirements for natural gas pipelines. Part 190 outlines pipeline safety procedures, Part 191 requires a written report for any reportable incident, and Part 192 specifies minimum safety requirements for pipelines.

8.5.5.2 State

California laws and regulations relevant to hazardous materials handling at the facility include Health and Safety Code Section 25500 (hazardous materials), Health and Safety Code 25531 (regulated substances), and the Aboveground Petroleum Storage Act (petroleum in aboveground tanks).

8.5.5.2.1 Health and Safety Code Section 25500

California Health and Safety Code, Section 25500, et seq., and the related regulations in 19 California Code of Regulations (CCR) 2620, et seq., require local governments to regulate local business storage of hazardous materials in excess of certain quantities. The law also requires that entities storing hazardous materials be prepared to respond to releases. Those using and storing hazardous materials are required to submit an HMBP to their local CUPA and to report releases to their CUPA and the State Office of Emergency Services. The threshold quantities for hazardous materials are 55 gallons for liquids, 500 pounds for solids, and 200 cubic feet for compressed gases measured at standard temperature and pressure.

8.5.5.2.2 Health and Safety Code Section 25531 (California Accidental Release Program)

California Health and Safety Code, Section 25531, et seq., and CalARP regulate the registration and handling of regulated substances. Regulated substances are any chemicals designated as an extremely hazardous substance by USEPA as part of its implementation of SARA Title III. Health and Safety Code Section 25531 overlaps or duplicates some of the requirements of SARA and the CAA. Facilities handling or storing regulated substances at or above TPQs must register with their local CUPA and prepare an RMP, formerly known as a Risk Management and Prevention Program (RMPP). The CalARP is found in Title 19, CCR, Chapter 4.5. The TPQ for ammonia is 500 pounds. Portions of the aqueous ammonia process that can be demonstrated to have a partial pressure of the regulated substance in the mixture (solution), under the handling or storage conditions, which is less than 10 millimeters of mercury (mm Hg) do not count toward the threshold.

8.5.5.2.3 Aboveground Petroleum Storage Act

Health and Safety Code Sections 25270 to 25270.13 ensure compliance with the federal CWA. The law applies to facilities that operate a petroleum AST with a capacity greater than 660 gallons or combined ASTs capacity greater than 1,320 gallons or oil-filled equipment where there is a reasonable possibility that the tank(s) or equipment may discharge oil in "harmful quantities" into navigable waters or adjoining shore lands. If a facility falls under these criteria, it must prepare a SPCC plan.

8.5.5.2.4 Safe Drinking Water and Toxics Enforcement Act (Proposition 65)

This law identifies chemicals that cause cancer and reproductive toxicity, provides information for the public, and prevents discharge of the chemicals into sources of drinking water. Lists of the chemicals of concern are published and updated periodically. The Act is administered by California's Office of Environmental Health Hazard Assessment. Some of the chemicals to be used at the facility are on the cancer-causing and reproductive-toxicity lists of the Act.

8.5.5.2.5 Natural Gas Pipeline Construction and Safety

The California Public Utilities Commission enforces General Order No. 58-A specifying standards for natural gas service in the State of California, and General Order No. 112-E specifying rules governing the design, construction, testing, operation, and maintenance of natural gas gathering, transmission, and distribution piping systems.

8.5.5.3 Local

The Riverside County EHD is the designated CUPA and is responsible for administering HMBPs/HMMPs, SPCC plans, and RMPs filed by businesses located in the county. The County is also responsible under the CUPA program for underground storage tank compliance. In addition, Riverside County EHD is the regulatory body for all hazardous waste generated in the County (see Section 8.14, Waste Management). Riverside County EHD is responsible for ensuring that businesses and industry store and use hazardous materials safely and in conformance with various regulatory codes. Riverside County EHD performs inspections at established facilities to verify that hazardous materials are properly stored and handled and that the types and quantities of materials reported in a firm's HMBP are accurate.

8.5.5.4 Codes

The design, engineering, and construction of hazardous materials storage and dispensing systems will be in accordance with all applicable codes and standards, including the following:

- California Vehicle Code, 13 CCR 1160, et seq. – Provides the California Highway Patrol (CHP) with authority to adopt regulations for the transportation of hazardous materials in California.
- The California Fire Code, Articles 79 and 80 – The hazardous materials sections of the Fire Code. Local fire agencies or departments enforce this code and can require that an HMBP and a Hazardous Materials Inventory Statement be prepared. This requirement and the requirement for an HMBP can usually be satisfied in a single combined document. The California Fire Code is based on the Federal Fire Code.
- State Building Standard Code, Health and Safety Code Sections 18901 to 18949 – Incorporates the UBC, Uniform Fire Code, and Uniform Plumbing Code.
- The American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section VIII.
- The American National Standards Institute (ANSI) K61.1.

8.5.6 Involved Agencies and Agency Contacts

Several agencies regulate hazardous materials and they will be involved in regulating the hazardous materials stored and used at the facility. At the federal level, the USEPA will be involved; at the state level, the California Environmental Protection Agency (CalEPA) will be involved. However, local agencies are primarily responsible for enforcing hazardous materials laws. For the project, the local agencies involved will be the Riverside County EHD and the Riverside County Fire Department, Fire Prevention Bureau. The persons to contact are shown in Table 8.5-7.

TABLE 8.5-7
Agency Contacts

Type Material	Agency	Contact	Title	Telephone
Storage of Hazardous Materials and Regulated Substances	Riverside County Environmental Health Department	Robert Lehmann	Hazardous Material Management Supervisor	(951) 766-6524
Hazardous Materials Response	Riverside County Fire Department	Kevin Gaines	Battalion Chief, Hazardous Materials Team	(951) 922-1437

8.5.7 Permits Required and Permit Schedule

Riverside County EHD requires the following permits listed in Table 8.5-8 to be obtained before hazardous materials are stored on site.

TABLE 8.5-8
Permits Required and Permit Schedule for SVEP Hazardous Material Handling

Permit	Schedule	Applicability	Agency Contact
Unified program facility permit	Prior to storage of hazardous materials at the site.	Requires that businesses obtain permits for hazardous materials storage.	Riverside County EHD

8.5.8 References

Inland Empire Energy Center (IEEC), LLC. 2001. Application for Certification, Inland Empire Energy Center. Prepared by Foster Wheeler Environmental Corporation. Prepared for Calpine Corporation, Pleasanton, CA.

Lewis, Richard J. Sr. 1991. *Hazardous Chemical Desk Reference*, 2nd Edition.

Smyth H.F., Jr. 1956. "Improved Communication: Hygienic Standards for Daily Inhalation." *American Industrial Hygiene Association Quarterly*. 17 (2): 129-185.

State Building Standard Code. (Section 8.5.5.4). Incorporates the Uniform Building Code (UBC), Uniform Fire Code. (Section 8.5.4.2.2), and Uniform Plumbing Code.