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5.5 Hazardous Materials Handling

This section discusses the use and storage of hazardous materials associated with the Pecho Energy Storage Center (Pecho, PESC) and the potential effects on human health and the environment. Section 5.5.1 describes the existing environment that may be affected, and Section 5.5.2 identifies potential impacts to the environment and on human health during construction and operations. Section 5.5.3 discusses potential cumulative effects; Section 5.5.4 identifies proposed mitigation measures; Section 5.5.5 presents laws, ordinances, and standards (LORS) applicable to hazardous materials. Section 5.5.6 identifies agencies involved and provides agency contacts. Section 5.5.7 describes permits and Section 5.5.8 provides all references used to develop this section.

5.5.1 Affected Environment

5.5.1.1 Land Use

According to the County of San Luis Obispo Land Use Maps, the proposed property location for the PESC facility is located in unincorporated region, outside the city limits of Morro Bay (County of San Luis Obispo 2021). As discussed in Chapter 5.6, Land Use, the immediate vicinity is dominated by what appear to be small residences, agricultural farms, and undeveloped natural landscape to the south. The nearest residence is approximately 230 feet southeast of the subject property boundary. No schools or medical facilities are with a 3-mile radius of the PESC site. The Site is currently zoned and used for agriculture (County of San Luis Obispo 2021).

5.5.1.2 Hazardous Materials Use

Hazardous materials will be used during PESC construction and operation; the facility will comply with all applicable laws and regulations. Proper use and storage of hazardous materials will minimize potential for accidental release. Additionally, PESC will conduct an emergency response planning session to address public health concerns regarding hazardous-materials storage and use. The following sections describe use, followed by general characteristics of hazardous materials.

5.5.1.2.1 Construction and Commissioning Phase

General construction will require the use of hazardous materials such as sealants, adhesives, spent welding materials, paint and paint thinner, solvents, detergents, glycols, and refrigerants. Passivating and chemical cleaners and lube oil will be used on various mechanical equipment during construction. Hydraulic fluid, motor oil, diesel fuel, and gasoline will also be used on Site for motorized equipment. There are no feasible alternatives to vehicle fuels and oils for operating construction equipment. To power small equipment, lead acid batteries, alkaline batteries, and electrical fuses will be used on site. The types of paint required are dictated by the equipment and structures that must be coated, and by the service conditions and environment. As discussed in 5.16 Worker Health and Safety, construction of the cavern will require blast hole drilling and charging them with explosives. Should regulated substances be used during construction of PESC, they will be stored and handled in compliance with all applicable regulations.

5.5.1.2.2 Operations Phase

Most of the hazardous substances that will be stored and used at PESC are required for water treatment. Some hazardous materials, such as lubricating oil and insulating oil, will also be stored for equipment maintenance. An electro-motor driven pump, that is connected to an emergency back-up generator as well as a diesel-powered pump, will be used for the fire protection system onsite. Therefore, a 600-gallon capacity above ground, dual-walled integral tank, will store diesel onsite to provide temporary operation in the event of an emergency. Regulated substances used during PESC operations will be minimized, stored, and handled per regulations.

Hazardous water treatment chemicals' use, and storage locations are described in **Table 5.5-1**. Trade names, chemical names, Chemical Abstract Service (CAS) numbers, maximum quantities onsite, RQs, California Accidental Release Program (CalARP) threshold planning quantities (TPQs), and status as Proposition 65 chemicals (chemicals known to the State of California be carcinogenic or cause reproductive problems in humans) are summarized in **Table 5.5-2**. **Table 5.5-3** summarizes the health hazards, flammability data and incompatible chemicals; **Table 5.5-4** summarizes the toxic effects and exposure levels of sulfuric acid, which is a regulated substance.

Table 5.5-1: Use and Location of Hazardous Materials

Chemical	Use	Quantity	Storage Location	State	Type of Storage
ChemTreat BL 1280	Boiler Water Treatment	15 gallons	On Site	Liquid	Continuously onsite
ChemTreat BL 1559	Steam Line Treatment	10 gallons	On Site, tight, closed container, cool and locked	Liquid	Continuously onsite
ChemTreat CL 2900	Cooling Water Treatment	1,500 gallons	On Site	Liquid	Continuously onsite
ChemTreat CL 2150	Slimicide	3,000 gallons	On Site, store locked	Liquid	Continuously onsite
Sodium Hydroxide (50%)	Alkali Wash	275 gallons	On Site	Liquid	Continuously onsite
Sodium Hydroxide (12%)	Alkali Wash, pH adjustment	1,375 gallons	On Site	Liquid	Continuously onsite
Sulfuric Acid	Wash/pH adjustment	825 gallons	On Site, tight, closed container, cool and locked	Liquid	Continuously onsite
FLOCON 260	RO Antiscalant	825 gallons	On Site, corrosive storage	Liquid	Continuously onsite
Sodium Hypochlorite	Oxidant Wash, Chlorination, Pre-chlorination	1,375 gallons	On Site,	Liquid	Continuously onsite
Sodium Metabisulfite	Dichlorination	825 gallons	On Site,	Liquid	Continuously onsite
Hydrochloric Acid	Hydrogen Chloride	275 gallons	On Site,	Liquid	Continuously onsite

Source: (Hydrostor and TWD 2021)

Table 5.5-2: Chemical Inventory, Description of Hazardous Materials Store Onsite, and Reportable Limits

Storage on PESC				Regulatory constraints					
Trade Name	Chemical Name	CAS Number	Maximum Quantity Onsite (gallons, lbs, cu ft)	CERCLA SARA RQ[a]	RQ of Material as Used Onsite[b]	EHS TPQ[c]	Federal Regulated Substance TQ[d]	State Regulated Substance TQ[d]	Prop 65[g]
ChemTreat BL 1280	Diemethyl-hydroxidylamine and hydroquinone	3710-84-7, 123-31-9	15 gallons	100 lbs	157 gallons	500 or 10,000	e	500 or 10,000[h] lbs	No
ChemTreat BL 1559	Cyclohexylamine. Methoxypropylamine,	108-91-8, 5332-73-0	10 gallons	e	e	10,000 lbs	15,000 lbs	10,000 lbs	No
ChemTreat CL 2900	Sodium Molybdate	7631-95-0	1,500 gallons	e	e	e	e	e	No
ChemTreat CL 2150	5-chloro-2-methyl-4-isothiazolin-3-one, 2-methyl-4-isothiazolin-3-one	26172-55-4, 2682-20-4	3,000 gallons	e	e	e	e	e	No
Sodium Hydroxide (12%)	Sodium Hydroxide	1310-73-2	1,375 gallons	1,000 lbs	8,333 lbs	e	e	e	No
Sodium Hydroxide (50%)	Sodium Hydroxide	1310-73-2	275 gallons	1,000 lbs	2,000 lbs	e	e	e	No
Sulfuric Acid	Sulfuric Acid	7664-93-9	825 gallons	1,000 lbs	1,000 lbs	1,000	e	1,000 lbs[f]	No
FLOCON 260	Mixture of Organic Acids	e	825 gallons	e	e	e	e	e	No
Sodium Hypochlorite	Hypochlorous Acid	7681-52-9	1,375 gallons	100 lbs	e	e	e	e	No
Sodium Metabisulfite	Disodium Disulphite	7681-57-4	825 gallons	e	e	e	e	e	No
Hydrochloric Acid	Hydrogen Chloride	7647-01-0	275 gallons	5000 lbs	e	e	e	e	No

Source: (Hydrostor and TWD 2021)

a) RQs for a pure chemical, per the CERCLA SARA (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) Applicated calculated RQ for materials as used onsite. Because some of the hazardous materials are mixtures that contain only a percentage of an RQ, the RQ 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 lbs., the RQ for that material would be (100 lb)/(10 percent) = 1,000 lb.
c) EHS TPQ (Ref. 40 CFR Part 355, Appendix A). If quantities of extremely hazardous materials equal to or greater than the TPQ are handled or stored, they must be registered with the local Administering Agency.
d) Source of TQ is from 19 CCR 2770.5 (state) or 40 CFR 68.130 (federal).
e) No reporting requirement. Chemical has no listed threshold under this requirement.
f) Sulfuric acid fails the evaluation pursuant to Section 25532(g)(2) of the HSC but remains listed as a Regulated Substance only under the following conditions:

f1) If concentrated with greater than 100 pounds of sulfur trioxide or the acid meets the definition of oleum. (State threshold for sulfur trioxide is 100 pounds.) (Federal threshold for oleum is 10,000 pounds.)
f2) If in a container with flammable hydrocarbons (flash point < 73^{o}F).

g) Source from California Office of Environmental Health Hazard Assessment (OEHHA), The Proposition 65 List
h) These extremely hazardous substances are solids. The lesser quantity listed applies only if in powdered form and with a particle size of less than 100 microns; or if handled in solution or in molten form; or the substance has an NFPA rating for reactivity of 2, 3, or 4. Otherwise, a 10,000-pound threshold applies. The exemption in Section 2770.2(b)(1)(B) regarding portions of a process where these regulated substances are handled at partial pressures below 10 mm Hg does not apply to these substances.

Definitions:
CCR = California Code of Regulations
CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act
CFR = Code of Federal Regulations
EHS = Extremely Hazardous Substance
SARA = Superfund Amendments and Reauthorization Act
TQ = threshold quantity
RQ = reportable quantity
TPQ = threshold planning quantity

Table 5.5-3: Toxicity, Reactivity, and Flammability of Hazardous Substances Stored Onsite

Hazardous Materials	Physical Description	Health Hazard	Reactive and Incompatibles	Flammability*
ChemTreat BL 1280	Liquid, Straw, Clear	Acute Health Hazard: eye and skin irritation. Acute toxicity if inhaled or ingested	None	Not Flammable
ChemTreat BL 1559	Liquid, Clear, Colorless	Corrosive, acute toxicity, health hazard	Acids, strong oxidizing agents, aluminum	Flammable
ChemTreat CL 2900	Liquid, Clear, Colorless	Remove to fresh air and keep at rest in a position comfortable for breathing. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing	None	Not Flammable
ChemTreat CL 2150	Liquid, Green, Clear	Remove to fresh air and keep at rest in a position comfortable for breathing. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.	Strong oxidizers, strong bases	Not Flammable
Sodium Hydroxide (12%)	Liquid, Clear, Colorless	Corrosive, cause severe skin burns and eye damage. May cause respiratory irritation	Acids, organic materials, metals, aluminum, copper, zinc	Not Flammable
Sodium Hydroxide (50%)	Liquid, Clear, Colorless	Corrosive, cause severe skin burns and eye damage. May cause respiratory irritation	Acids, organic materials, metals, aluminum, copper, zinc	Not Flammable

Hazardous Materials	Physical Description	Health Hazard	Reactive and Incompatibles	Flammability*
Sulfuric Acid	Liquid, Clear, Colorless to brown	Corrosive, causes burns by all exposure routes	Reacts violently with water. Incompatible with organic materials, strong acids, strong bases, metals, alcohols, cyanides, sulfides	Not Flammable
FLOCON 260	Liquid, pale yellow	Irritating to eyes, may irritate respiratory irritation. May cause discomfort if swallowed	Strong alkalis	Not Flammable
Sodium Hypochlorite	Liquid, clear/pale greenish yellow	Causes severe burns to the mouth and throat (mist). May release toxic and irritating chlorine gas. Causes burns to the mouth and throat. Causes severe skin burns. Causes serious eye damage.	May be corrosive to metals. Reacts violently with acids. Oxidizing agents, such as oxygen, hydrogen peroxide, sulfuric and nitric acids, and permanganates. Reducing agents, such as hydrogen, sodium borohydride, sulfur dioxide, thiosulphates, hydrazine, phosphites, carbon, and oxalic, formic, and ascorbic acid. Organic material, such as wood, paper, gasoline, diesel, solvents, and some glycol-based heat transfer fluids. Metals, such as aluminum, steel, and brass.	Not Flammable
Sodium Metabisulfite	Liquid, clear/pale yellow	This product may provoke a response in those who are sensitive to sulfites. Causes serious eye damage. May cause discomfort or nausea. This product may provoke a response in those who are	Reacts with acids to form toxic and corrosive sulfur dioxide. Reacts with acids to form toxic and corrosive sulfur dioxide. Acids, such as sulfuric, nitric, hydrochloric, phosphoric,	Not Flammable

Hazardous Materials	Physical Description	Health Hazard	Reactive and Incompatibles	Flammability*
		sensitive to sulfites. May cause respiratory irritation. Contact with acids, heat, or sunlight releases sulfur dioxide, which causes serious respiratory irritation and is toxic if inhaled.	flurosilicic (HFSA), sulphonic, acetic, citric, oxalic, and formic.	
Hydrochloric Acid	Liquid, Straw, Clear	Causes severe burns to the mouth and throat (mist). May cause respiratory irritation. Causes burns to the mouth and throat. Harmful if swallowed. Causes severe skin burns. Causes serious eye damage	May be corrosive to metals. Reacts with many metals to liberate hydrogen gas that can form explosive mixtures. Reacts with water to generate heat. Reacts violently with bases. Bases, such as potassium hydroxide, sodium hydroxide, calcium hydroxide (slaked lime), ammonia, carbonates. Metals, such as aluminum, steel, and brass.	Not Flammable

Source: (Hydrostor and TWD 2021)

* Per Caltrans regulations, under 49 CFR 173 “Flammable” liquids have a flash point less than or equal to 141 degrees Fahrenheit; “Combustible” liquids have a flash point greater than 141 degrees Fahrenheit.

Table 5.5-4: Toxic Effects and Exposure Levels of Regulated Substances

Name	Toxic Effects[a]	Exposure Levels	Source
Sulfuric Acid (CAS No. 7664-93-9)	Contact can cause severe burns by all exposure routes. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Ingestion causes severe swelling, sever damage to the delicate tissue and danger or perforation. The specific target organ toxicity (STOT) single exposure is through the respiratory system. STOT for repeated exposure is not known. No information was available for sensitization, mutagenic effects, reproductive effects, developmental effects, or teratogenicity. Product is a corrosive material. No information of endocrine disruptor or other adverse effects is available. The International Agency for Research on Cancer and National Toxicity Program, American Conference of Governmental Industrial Hygienists suspect sulfuric acid is a human carcinogen.	OSHA PEL: 1 mg/m^3	OSHA[b]
		CAL/OSHA PEL: 0.1 mg/m^3	OSHA[b]
		TWA: 1 mg/m^3	OSHA[b]
		CAL/OSHA STEL: 3 mg/m^3	OSHA[b]
		TLV: 1 mg/m^3 0.2 mg/m^3	 CDC[c] OSHA[b]
		IDLH: 15 mg/m^3	CDC[c]
		LD50: 2,140 mg/kg or 14,980 mg/m^3– oral dose of rat	CDC[c]
		ERPG-1: 2 mg/m^3	OSHA[b]
		ERPG-2: 10 mg/m^3	OSHA[b]
		ERPG-3: 129 mg/m^3	OSHA[b]

ERPG = Emergency Response Planning Guideline

Sources:

a) ThermoFisher Scientific. 2018. Safety Data Sheet – Sulfuric Acid.

b) Occupational Health and Safety Administration (OSHA). 2021. OSHA Occupational Chemical Database – Sulfuric Acid. Available at: https://www.osha.gov/chemicaldata/624. Accessed September 17, 2021.

c) Centers for Disease Control and Prevention (CDC). 2014. National Institute for Occupational Safety and Health (NIOSH) – Table of IDLH Values – Sulfuric Acid. Available at: https://www.cdc.gov/niosh/idlh/7664939.html. Accessed September 17, 2021.

Definitions:
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
LD50 = Dose lethal to 50 percent of those tested
mg/kg = milligram(s) per kilogram
mg/m3 = milligram(s) per cubic meter
mL = milliliter(s)
PEL = OSHA-permissible exposure limit for 8-hour workday
ppm = part(s) per million
STEL = short-term exposure limit, 15-minute exposure
TLV = American Conference of Governmental Industrial Hygienists (ACGIH) threshold limit value for 8-hour workday
TWA = NIOSH time-weighted average for 8-hour workday

5.5.2 Environmental Analysis

PESC construction and operation will involve the use of various hazardous materials and one regulated substance. The use of hazardous materials and their potential to cause adverse environmental and human health effects are discussed in the sections below.

5.5.2.1 Significance Criteria

The hazardous materials used at the proposed PESC project would significantly affect the environment if it met the criteria outlined in the California Environmental Quality Act Guidelines Section 15002, Appendix G:

- Creating significant hazard to the public or environment through routine transport or use of hazardous materials.
- Creating significant hazard to the public or environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
- Emissions of hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school.
- If the site is included on a list of hazardous materials sites compiled pursuant to Cortese List outlined in Government Code Section 65962.5 and results in a significant hazard to the public or environment.
- Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency plan.

Discussion of each criteria in association with the proposed PESC project are in the sections below.

5.5.2.2 Transportation of Hazardous Materials

Transportation of hazardous materials will be required once PESC is operating. All transportation of hazardous materials will comply with:

- U.S. Environmental Protection Agency (EPA)
- California Department of Transportation (Caltrans)
- California Department of Toxic Substance Control (DTSC)
- California Highway Patrol (CHP)
- California State Fire Marshal Regulations

To manage and prevent potential impacts caused by transporting hazardous materials, PESC and contractors will adhere to EPA, Caltrans, DTSC, CHP, and California State Fire Marshal regulations. Transportation of explosives and detonators will be in accordance with California Code of Regulations (CCR) Title 8, §5262 through §5270 (Division 1, Chapter 4, Subchapter 7, group 18, article 115). Additionally, sulfuric acid will only be mobilized along approved transportation routes, thereby avoiding schools to the extent practicable. Compliance with applicable regulations will ensure that impacts from the transportation of hazardous materials will be less than significant. Refer to Section 5.12, Traffic and Transportation, for details on the proposed transportation routes.

5.5.2.3 Hazardous Materials Use

5.5.2.3.1 Construction Phase

As discussed in 5.5.1.2.1, construction will involve storage and use of hazardous materials; there are minor risks associated with the use of those materials.

Oil for mechanized equipment is expected to be used during construction. Small oil spills during refueling activities or lubrication of equipment may occur. Chorro Creek is located along the northern perimeter of the subject property boundary. A vehicle accident involving a service or refueling truck is the largest chemical release incident that could occur on site and is considered to be the worst-case scenario for a hypothetical spill. To prevent environmental impacts during fueling, refueling activities will occur more than 100 feet from Chorro Creek and project grading will be conducted to prevent stormwater runoff from contaminants. If practical, oil refueling activities will occur within a limited area of the site to prevent large or multiple areas of contamination, if an accidental release should occur.

Best management practices (BMPs), and mitigation procedures for spill response described in Section 5.5.4.1 will be adopted to reduce risk of potential release of hazardous materials and explosives handled during construction. All BMPs will be implemented by contractors who are also responsible for training affected personnel; therefore, the potential for environmental effects will be less than significant.

Environmental analysis on the use of explosives and detonators for cavern construction can be found in Section 5.5.2.4.1.

5.5.2.3.2 Project Operation

As discussed in 5.5.1.2.2, operation will involve use and storage of hazardous materials. Most of the hazardous materials stored on site will consist of water treatment chemicals and a 600-gallon diesel storage for back-up generators. Uncontrolled release of liquid chemicals could run off and drain into the stormwater system and potentially have harmful effects. However, the use and storage hazardous materials will pose minor risks for release if best management practices are adopted, as discussed in 5.5.4.2.

The use and storage of hazardous materials will be contained in designated areas onsite that will be outlined in the Hazardous Materials Business Plan (HMBP) mandated by the County of San Luis Obispo Environmental Health Services Division (SLOEHSD), Hazardous Materials and Waste CUPA Program (SLOEHSD, 2021b). The risk of public exposure, with appropriate BMPs, is low and would not be significant.

Regulated Substances. The PESC facility will store three substances listed in the federal and/or state regulated substance list: ChemTreat BL1280, ChemTreat BL1559, and sulfuric acid (**Table 5.5-2**). The quantities stored on site for ChemTreat BL 1280 (15 gallons) and ChemTreat BL 1559 (10 gallons) are significantly smaller than the federal and state regulated threshold quantity listed and are therefore exempt of being classified as a regulated substance. However, the quantities of sulfuric acid stored on site (825 gallons) may surpass the state regulated substance threshold quantity therefore classifying it as a regulated substance. Sulfuric acid will be used in the water treatment cycle and will be delivered to the site as needed for continuous operation.

Because of its hazardous properties, sulfuric acid is classified as a regulated substance, and an accidental release of the sulfuric acid could present a human health hazard. Sulfuric acid is a solution consisting of hydrogen sulfide and water and is characterized as being colorless or brown. High concentrations of sulfuric acid react violently with small amounts of water and is incompatible with organic materials, strong acids, strong bases,

metals, alcohols, cyanides, and sulfides as specified in **Table 5.5-3**. Potential toxic effects of sulfuric acid and acceptable exposure levels are summarized in **Table 5.5-4**.

Storage and use of sulfuric acid will be subject to the requirements of the California Fire Code, Article 80, as well as CalARP. Article 80 of the California Fire Code contains specific requirements for control of liquid and gaseous releases of hazardous materials. The appropriate storage container, for example, high density polyethylene (HDPE), will be used and will include a secondary containment. The sulfuric acid storage containers will be equipped with engineering controls (i.e., monitors, automated leak detection system and alarm, pressure indication and and/or emergency block valve) to prevent leaks or spills.

In addition, the facility will be required to prepare a risk management plan (RMP) in accordance with CalARP, further specifying the safe handling procedures for the sulfuric acid as well as emergency response procedures in the event of an accidental release. The contents of the RMP, which is discussed in Section 5.5.4.2.2, will be prepared for the PESC site using updated modeling guidance prior to operation PESC.

With implementation of these measures, impacts related to the storage and handling of sulfuric acid will be less than significant.

5.5.2.4 Accidental Release Hazards

Without proper engineering controls, the public could be at risk of exposure to harmful vapors in the event of an accidental release, as incompatible chemicals have the potential to mix, causing vapors that could also have harmful effects. However, PESC will implement California Fire Code (Articles 79 and 80) requirements for safe storage and handling of hazardous materials. The proposed PESC project and the affiliated staff will use engineering controls to reduce the potential for release of hazardous materials and mixing of incompatible materials.

In the unlikely event that a release occurs, no schools or other sensitive receptors, as defined in Section 5.09 Public Health, are within a 0.5-mile radius of PESC; therefore, the effects of potential emissions from an accidental release are less than significant. All transportation of hazardous substances will be with Department of Transportation (DOT)-approved personnel and trucking/transport equipment. The project operations will not involve the handling of any other acutely hazardous materials that would have the potential to generate significant offsite consequences. Consequently, no protocol for modeling of hazardous materials releases is included in the AFC and no modeling is proposed.

5.5.2.4.1 Fire and Explosion Hazards

5.5.2.4.1.1 Construction

The Applicant estimates that cavern construction will require just over 54 months to complete and will involve the use explosives. Layout holes for cavern construction will occur after the 2000-foot-deep shafts have been bored. As required by the California Code of Regulations Title 8 (344.20), lead construction personnel will have a valid California Blaster's License and will be physically present when performing, directing, and supervising blasting operations. The BMPs described in Section 5.5.4.1 and Section 5.15 Worker Health and Safety will be implemented by the contractor personnel. All use of explosives will occur underground, and comply with all applicable state and federal regulations, and will not impact surface resources.

5.5.2.4.1.2 Operations

Flammability of hazardous materials onsite during operation are described in **Table 5.5-3**. All hazardous material storage areas will be equipped with a fire extinguishing system and ventilation for enclosed substances per the requirement of Article 80 of the California Fire Code. Aside from any listed below, hazardous materials stored on site are not flammable and do not pose a significant explosion hazard.

Diesel. Diesel will be handled and stored in approved, dual-walled steel, integrated fuel tanks that are part of the emergency generation systems under the jurisdiction of the County of San Luis Obispo Environmental Health Services Division, Above Ground Petroleum Storage Tank Program (SLEHSD 2021a). By adhering to the HMBP, the potential for fire and explosion hazards would be less than significant.

Lubrication Oil. Machinery at the PESC site would require flammable lubrication oil. Storage of lubrication oil will be in accordance with Article 80 of the California Fire Code. A fire extinguishing system will be nearby the storage and lube oil pumping areas. Lubrication oil would be handled by the County of San Luis Obispo standards. With proper storage and handling, the risk of fire and explosion at PESC would be less than significant.

Natural Gas. The facility will not use natural gas or propane for station service utilities.

Chemical Treatment. ChemTreat 1599 is the only chemical listed in **Table 5.5-3** as flammable. ChemTreat 1599 is a clear colorless liquid that is characterized as being a strong oxidizing agent. Use and storage of ChemTreat 1599 would be in accordance with the San Luis Obispo Environmental Health Services Department requirements.

The first responders to a fire would be from the Morro Bay Fire Department located 2.8 miles northwest of proposed project at 715 Harbor Street, Morro Bay. Emergency response in San Luis Obispo is the shared responsibility of multiple departments within the County of San Luis Obispo as discussed in the Hazardous Materials Response Plan (County of San Luis Obispo Office of Emergency Services 2021). Hazardous material response phone numbers will be outlined in the HMBP required by the county.

5.5.2.5 Schools and Sensitive Receptors

No sensitive receptors, including schools, hospitals, day-care facilities, emergency response facilities and long-term health care facilities are within a 0.5-mile radius. Sparse distribution of single-family homes to the east and northwest are within close proximity of the proposed project site. Natural landscape is to the south and agricultural land is directly north of the subject property. Park Ridge consisting of Cerro Cabrillo to the west and Hollister Peak to the southeast are directly adjacent to the subject property that can also act as a physical barrier. A site receptors survey mapping sensitive receptors within 0.5 miles is included as **Figure 5.5-1**. A figure mapping sensitive receptors beyond 0.5 miles is included in Section 5.09 Public Health.

The nearest school to PESC is San Luis Coastal School District located at 1555 El Moro Street Los Osos, California, approximately 4.7 miles southwest of the proposed PESC site. The proposed transportation route for delivery of hazardous materials and regulated materials, such as sulfuric acid, will arrive at PESC via approved routes avoiding the school, if possible. Transportation permits will be obtained for all heavy and oversize loads, as required by jurisdictional agencies. Proposed transportation routes for hazardous material deliveries are discussed in Section 5.12 Traffic and Transportation.

Due to the selected routes for hazardous material delivery and the distance relative to sensitive receptors during operation, effects on sensitive receptors will be less than significant.

LEGEND

PROPERTY BOUNDARY

BUFFER 0.5 MILE

NOTES

SENSITIVE RECEPTORS INCLUDED: SCHOOLS, HOSPITALS, DAY-CARE FACILITIES, EMERGENCY RESPONSE FACILITIES AND LONG-TERM HEALTH FACILITIES.

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REFERENCE

COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET

CLIENT
HYDROSTOR INC.

PROJECT
PECHO ENERGY STORAGE CENTER

TITLE
PECHO SENSITIVE RECEPTORS SURVEY

CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2021-08-06
PREPARED	MR
DESIGN	-
REVIEW	ED
APPROVED	LH

PROJECT No.	CONTROL	Rev.	FIGURE
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5.5.2.6 Cortese List

An examination of the California Environmental Protection Agency Cortese List Data Resources (Cortese List) compiled pursuant to Government Code Section 65962.5 was conducted in Section 5.14 Waste Management. There are no Cortese List sites within a 2.5-mile radius of the proposed project. (CalEPA 2021a). Thus, it is highly unlikely that any impacts will result from Cortese-listed properties, nor will the PESC site present a significant hazard to the public or the environment.

5.5.2.7 Effects on Emergency Response Plan

As discussed in Section 5.5.5.4.2, the county of San Luis Obispo has created a Hazardous Materials Response Plan, established in 1985 and revised in 2013. It was generated in order to establish response organization, command authority, responsibilities, functions, and interactions required to mitigate hazardous material incidents within the County of San Luis Obispo. In establishing adequate response to hazardous material incidents, it ensures that life, property, and the environment may be saved from effects of an incident (County of San Luis Obispo Office of Emergency Services 2021). The proposed project will will adhere to all safety practices addressed in the Hazardous Materials Response Plan, therefore there will be no anticipated effects on emergency response.

5.5.2.8 Summary of Significant Criteria

The proposed PESC project will use and store hazardous materials during construction and operation. Adhering to BMPs, HMBP, and County of San Luis Obispo local ordinances and codes would significantly reduce risk of public health and environmental effects of handling and storing hazardous materials. In the unlikely event that a release would occur, a 0.5-mile radius would be at risk of exposure to hazardous materials. No sensitive receptors, including schools, hospitals, day-care facilities, emergency response facilities and long-term health care facilities are within a 0.5-mile radius. Due to the distance relative to sensitive receptors during operation (Section 5.5.2.5), proposed mitigation measures for use and storage of hazardous materials (Sections 5.5.2.3 and 5.5.4) use of engineering controls for storage of sulfuric acid as a regulated substance (Section 5.5.2.3 and 5.5.4) and approved hazardous material delivery routes (Section 5.14 Traffic and Transportation), effects on the environment will be less than significant.

5.5.3 Cumulative Effects

As defined by Public Resources Code Section 21083; Title 14 CCR, Sections 15064 [h], 15605 [c], 15130 and 15355, a cumulative effect refers to a proposed project's incremental effect paired with closely related past, present, and reasonably foreseeable future projects whose impacts compound or increase the incremental effect of the proposed project.

Historically, there is no evidence of industrial hazardous material use within the general vicinity of the proposed PESC site. Regions surrounding PESC are dominated by what appear to be agricultural farms, sparsely distributed single-family residences, and undeveloped natural landscapes. It is likely residential quantities of gasoline products, pesticides and fertilizers are used in the general vicinity. Historical spills of gasoline or diesel products were researched using the California Water Board GeoTracker tool. There are no records of historic petroleum hydrocarbon releases or environmental (soil and/or groundwater) remediation cases on nearby parcels within a one-mile radius of the proposed PESC facility. Future projects proposed are subject to, and likely to follow, federal, state, and local laws and ordinances for safe use and storage of hazardous materials; thus, cumulative effects are unlikely.

5.5.4 Mitigation Measures

The following sections present mitigation measures for handling and storing hazardous materials during construction and operation to mitigate potential public health and environmental effects.

5.5.4.1 Construction Phase

5.5.4.1.1 Hazardous Material Use

Hazard material use, identified in Section 5.5.1.2.1, would present relatively low public health risk, but could contaminate subsurface soils, ground water if a release or incident occurred. The use of BMPs would reduce the likelihood of potential incidents involving hazardous materials. A discussion on BMPs to reduce construction-related contaminants and hazardous materials released into stormwater can be found in Chapter 5.15, Water Resources. Additionally, for BMPs to mitigate risks from transportation of hazardous materials and hazardous waste, refer to Chapters 5.12 Traffic and Transportation and 5.15 Waste Management, respectively. A review of fire and explosion hazards and mitigation measures are discussed in Section 5.5.2.4.1.1

General industry health, safety and environmental BMPs will be implemented by construction personnel. The following BMPs are designed to reduce incidents involving hazardous materials:

- Equipment and vehicles requiring refueling and maintenance will generally occur in designated areas that are designed to control potential spills. Designated areas will be bermed or covered by an impervious surface (asphalt or concrete) to control potential spills. Employees will be present during refueling activities. When mobile refueling is required, the refueling vehicle will be equipped with fire extinguishers and spill containment equipment, such as absorbents. The facility and surface drainage systems are designed to manage stormwater runoff within the property bounds.
- Only authorized personnel will conduct vehicle and equipment service maintenance
- Only approved pumps, hoses and nozzles will be used to refuel equipment and vehicles
- During servicing, catch-pans will be placed under equipment to catch potential spills or leaks
- After servicing, disconnected hoses will be placed in containers to collect any residual fuel from the hoses
- During refueling, vehicle engines will be shut off
- Smoking, open flames or welding will not be permitted in refueling and service areas, or hazardous waste storage areas
- Refueling will be performed away from surface water or storm water drains
- Following refueling activities, service trucks will immediately leave PESC construction zone
- All service trucks used to refuel equipment and vehicles on site will be provided with fire extinguishers and spill containment equipment, such as absorbents
- 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 that a spill or leak were to occur and contaminate soil, County of San Luis Obispo Environmental Health Services Division, CUPA Program would be notified. All remedial activities, soil storage and disposal will comply with federal, state, and local ordinances; generated waste will be disposed within 90

days of generation. With competent and trained personnel, small spills can be contained and cleaned up immediately. Large spills will require reporting to local emergency contacts. A designated onsite health and safety person will be responsible for implementing health and safety guidelines. For petroleum products, if the spill is over 42 gallons, all federal, state, and local reporting requirements will be followed. Onsite personnel will call local fire and emergency services in the event of a fire or injury.

5.5.4.1.2 Explosive Use

The BMPs identified in this Section as well as in Section 5.15, Worker Health and Safety will be implemented by the contractor personnel. As required by the California Code of Regulations Title 8 (344.20), lead construction personnel will have valid California Blaster's License and will be physically present when performing, directing, and supervising blasting operations. A third-party contractor will be responsible for acquiring necessary permits and establishing safety plans or best management practices used during construction.

PESC construction personnel will store explosives in the proper magazine type as outlined in Cal/OSHA Title 8; California Division of Industrial Safety, subchapter 7, General Industry Safety Orders, Group 18; Explosives and Pyrotechnic, Article 114, Storage of Explosives. Specifically, caps and detonators will be stored in separate magazines away from other explosives to prevent accidents. All use of explosives will occur underground, comply with all applicable state regulations (cited above) and federal regulations (27 CFR Part 555 and Mine Safety and Health Administration CFR Title 30 Chapter I), and will not impact surface resources.

Best management practices will be implemented during the cavern construction phase to reduce risk of accidental fire and explosion and include the following:

- No smoking or open flames permitted within 50 feet of explosive handling
- No source of ignition, except during firing, is permitted in the areas containing loaded holes
- Only non-sparking tools are used for opening containers and explosives
- Explosives will be kept clear of electrical circuits by 25 ft
- Unused explosives will be returned promptly to the magazine
- A tally sheet at each magazine stored on site will record all movement of explosives
- All loaded holes and explosives at the blast site will be attended

5.5.4.2 Operation Phase

The following sections discuss mitigation measures for substance handling during PESC operations. Hazard material use is identified in Section 5.5.1.2.2.

5.5.4.2.1 Hazardous Materials

Hazardous materials storage will all occur on Site and will be in accordance with applicable codes and regulations specified in Section 5.5.6. The California Fire Code outlines the provisions to reduce the risk of fire or potential release of hazardous materials that could affect public health or the environment and include the following:

- For any indoor hazardous material storage areas, an automatic fire-suppression (such as sprinklers and/or foam application system) and exhaust system will be incorporated.
- Incompatible materials will be isolated from one another by noncombustible partitions

- Spill control measures and spill cleaning kits will be staged, readily accessible (with appropriate signage), in chemical storage, handling, and dispensing areas.

- Chemicals that require secondary containment storage systems will be present. In the event of a catastrophic spill, the secondary containment will have the sufficient capacity to adhere to the California Fire and California Health and Safety Code.

Additionally, to comply with federal and state regulations a Hazardous Materials Business Plan (HMBP) will be prepared and submitted to SLOEHSD. The HMBP will include a hazardous materials inventory, including those that are handled or stored in excess of threshold quantities. The HMBP will also include the following:

- Business activities
- Business owner/operator information
- Facility site map
- Emergency Response Plan (ERP) to implement in the event of a spill
- Employee training documents
- Safety Data Sheets
- Best management practices and appropriate safety procedures

The HMBP will be filed with the SLOEHSD CUPA Program, the designated CUPA for the Site and will be updated as required (SLOEHSD 2021b).

The first responders to a fire would be from the Morro Bay Fire Department located 2.8 miles northwest of proposed project at 715 Harbor Street, Morro Bay. Emergency response in County of San Luis Obispo is shared responsibility of multiple departments as discussed in the Hazardous Materials Response Plan (County of San Luis Obispo Office of Emergency Services 2021). As required by the county, Hazardous material response phone numbers will be outlined in the HMBP.

5.5.4.2.1.1 Sulfuric Acid

Sulfuric acid is a regulated substance under Title 19 California Code of Regulations, Chapter 4.5 California Accidental Release Prevention (CalARP) Program.

In accordance with CalARP regulations, a risk management plan (RMP) will be prepared for the sulfuric acid containment system. The RMP will be filed with the County of San Luis Obispo Environmental Health Services Division, the designated CUPA for the PESC site. To protect human health and environment, the RMP will include a hazard assessment to evaluate the potential effects and include programs for preventing and responding to an accidental release. According to the US EPA, the RMP will at minimum include (EPA 2021):

- *Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases;*
- *Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and*

- *Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.*

A Process Safety Management (PSM) plan will not be required under the Occupational Safety and Health Act because the regulations apply only to Oleum with the CAS number 8014-95-7, which does not apply to chemicals associated with PESC operation (19 CFR Part 1910, subpart 119).

5.5.4.2.2 Petroleum Products

Federal and California regulations requires a Spill Prevention Control and Countermeasure (SPCC) Plan 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. The PESC will store sufficient diesel to supply local backup power for fire pumps required to meet fire department and insurance requirements. Should this exceed 1,320 gallons total on site, measures consistent with the County of San Luis Obispo Environmental Health Services Division, Above Ground Petroleum Storage Tank Program guidance will be followed in preparation of the SPCC, which will be included in the HMBP. Additionally, prior to operations, PESC will obtain a permit to install the dual-walled integrated tanks used to store diesel on site and will not be accessible to the public as discussed in Section 5.5.4.2.4. Storage of diesel will also comply with SLOEHSD Aboveground Petroleum Storage Tank Program (SLOEHSD 2021a).

5.5.4.2.3 Transportation/Delivery of Hazardous Materials and Regulated Substances

Periodically, hazardous materials mostly involving water treatment chemicals will be delivered to the facility. As discussed in Section 5.12 Traffic and Transportation, transportation of hazardous materials will comply with Caltrans, EPA, California Department of Toxic Substances Control, CHP, and California State Fire Marshal regulations. The PESC facility will also follow County of San Luis Obispo General Plan Chapter 6 Safety policies and implementation measures in order to comply with the county's S-6 goal of reducing the potential for harm to individuals and damage to the environment from hazardous materials (County of San Luis Obispo Planning and Building 2021). PESC will adhere to approved CalTrans routes for hazardous material transportation.

5.5.4.2.4 Security Plan

PESC will be preparing a secure plan, as required by 49 CFR 172.800, Subpart I, in addition to the standard business security measures. Site fencing with a security gate will surround the perimeter. PESC will establish a protocol and evacuation procedures to be followed by employees for contacting law enforcement in the event of an incident. A fire alarm monitoring system will be installed. Consistent with federal and state laws regarding security and privacy, personnel background checks will be conducted for PESC employees and routine onsite contractors. PESC will establish a site access protocol for vendors, including those of which who are transporting hazardous materials. The plan will also ensure that all perimeter security measures are adequate and will include security alarms for critical structures, perimeter breach detectors, onsite monitoring detectors, and video or still camera monitoring systems. No hazardous materials will be accessible to the public at any time during construction or operation.

5.5.4.3 Monitoring

PESC personnel would regularly inspect all hazardous material storage areas for compliance with applicable federal, state, and local regulations and would ensure that deficiencies would be promptly resolved. PESC could also be subjected to inspections conducted by SLOEHSD.

5.5.4.4 Facility Closure

Facility closure includes temporary or permanent closure that could be caused by various reasons. Temporary closure is considered periods of closure longer than the time required for normal maintenance, including overhaul or replacement of small system equipment. Causes for temporary closure can include, disruption of off-peak power lines, flooding of site, damage to the site from natural disasters, such as earthquakes, floods, or storms, labor disruptions, and other traditional force majeure events. Permanent closure will consist of complete cessation of operations with no intentions of restarting operations. Permanent closure could be caused by damage of the plant beyond repair, economic conditions, or other unforeseen reasons. Refer to Section 5.14 Hazardous Materials for additional discussion and details regarding facility closure.

5.5.5 Laws, Ordinances, Regulations, and Standards

Storage and use of hazardous materials at PESC are governed by laws, ordinances, regulations, and standards (LORS) established and enforced at the federal, state, and local levels. Applicable laws are addressed and described below and summarized in **Table 5.5-5**.

Table 5.5-5: Laws, Ordinances, Regulations, and Standards (LORS) for Hazardous Materials

LORS	Requirements/Applicability	Administering Agency	Application for Certification Section Explaining Conformance
Federal			
Section 302 EPCRA (Public Law 99-499, 42 USC 11022) Hazardous Chemical Reporting: Community Right-To-Know (40 USC 11002)	Requires one-time notification if environmental hazardous substances are stored in excess of threshold planning quantities	County of San Luis Obispo Environmental Health Services Division	A HMBP will be prepared for submittal to the County of San Luis Obispo Environmental Health Services Division, Hazardous Materials Program (5.5.4.2.1)
Section 304, EPCRA (Public Law 99 – 499, 42 USC 11002) Emergency Planning Notification	Requires notification when there is a release of hazardous material in excess of its RQ	County of San Luis Obispo Environmental Health Services Division	The HMBP prepared will include notification and reporting procedures (Section 5.5.4.2.1)
Section 311, EPCRA (Public Law 99-499, 41 USC 11-21) Hazardous Chemical Reporting: Community Right-To-Know (40 CFR 370)	Requires that SDSs for all hazardous materials or a list of all hazardous materials be submitted to the State Emergency Response Commission, Local Emergency Planning Committee (LEPC), and County of San Luis Obispo Environmental Health Services Division	County of San Luis Obispo Environmental Health Services Division	The HMBP prepared will include a list of hazardous materials for submission (Section 5.5.4.2.1)
Section 313 EPCRA (Public Law 99 – 499, 42 USC 11023) Toxic Chemical Release Reporting: Community-To-Know (40 CFR 372)	Requires annual reporting of releases of hazardous materials	County of San Luis Obispo Environmental Health Services Division	The HMBP prepared will describe reporting procedures (Section 5.5.4.2.1)
Section 112, CAA Amendments (Public Law 101 – 549, 42 USC 7412) Chemical Accident Prevention Provisions (40 CFR 68)	Requires facilities that store a regulated hazardous material at quantity greater than the TQ to develop an RMP	County of San Luis Obispo Environmental Health Services Division	An RMP will be generated for Sulfuric Acid. (5.5.1.2.2)
Section 311, CWA (Public Law 92 – 500, 33 USC 1251 et seq.)	Requires the preparation of a SPCC plan if 660 gallons oil/petroleum products are	RWQCB	PESC will prepare a SPCC plan. (5.5.4.2.2)

LORS	Requirements/Applicability	Administering Agency	Application for Certification Section Explaining Conformance
Oil Pollution Prevention (40 CFR 112)	stored in a single container or collectively the site stores 1,320 gallons or more.		
Commerce of Explosives (27 CFR Part 555)	This regulation explains requirements for manufacturing, importing, buying, selling, transporting, and storing explosive materials.	Federal Bureau of Alcohol, Tobacco, Fires and Explosives (ATF)	Explosive purchase, transport, use and storage will be followed per regulation. (5.5.4.1.2)
Mineral Resources (30 CFR Mineral Resources, Chapter I)	The standards and regulations established by the MSHA	MSHA	Explosive purchase, transport, use and storage will be followed per regulations (5.5.4.1.2)
State			
Health and Safety Code, Section 25500 et seq. (HMBP)	Requires preparation of a Hazardous Materials Business Plan if hazardous materials are handled or stored in excess of threshold quantities	Cal/OSHA, but submitted to County of San Luis Obispo Environmental Health Services Division	A HMBP will be prepared for submittal to the County of San Luis Obispo Environmental Health Services Division, Hazardous Materials Program (5.5.4.2.1)
Health and Safety Code, Section 25531 through 25543.4 (CalARP)	Requires registration with local CUPA or lead agency and preparation of RMP if regulated substances are handled or stored in excess of TPQs	County of San Luis Obispo Environmental Health Services Division	An RMP will be generated for Sulfuric Acid. (5.5.1.2.2)
Occupational Safety and Health Act (19 CFR 1910.119)	For chemicals listed above thresholds listed in Appendix A, requires a process safety management (PSM) plan for preventing or minimizing the consequences of catastrophic releases of toxic, reactive, flammable, or explosive chemicals. These releases may result in toxic, fire or explosion hazards.	County of San Luis Obispo Environmental Health Services Division	PSM plan will not be required because the regulations apply only to Oleum with the CAS number 8014-95-7, which does not match the chemical and/or CAS number that PESC will be using (5.5.4.2.1)
Health and Safety Code, Section 25270 through 25270.13 (Aboveground Petroleum Storage Act)	Requires the preparation of a SPCC plan if 660 gallons oil/petroleum products are stored in a single container	RWQCB	PESC will prepare a SPCC Plan. (5.5.4.2.2)

LORS	Requirements/Applicability	Administering Agency	Application for Certification Section Explaining Conformance
	or collectively the site stores 1,320 gallons or more.		
Cal/OSHA Title 8, Section 344.20	Requires lead construction personnel to have a valid California Blaster's License and will be physically present when performing, directing, and supervising blasting operations.	Cal/OSHA	PESC will have a third part contractor with California Blaster License, leading the cavern construction. (5.5.2.4.1.1 and 5.5.4.1.2)
Cal/OSHA Title 8, California Division of Industrial Safety, subchapter 7, General Industry Safety Orders, Group 18; Explosives and Pyrotechnic, Article 114, Storage of Explosives	Outlines requirements for explosive storage used for construction operations	Cal/OSHA	PESC will abide by all storage requirements and install BMPs to prevent fire and explosion risks (5.5.2.4.1.1 and 5.5.4.1.2)
Local			
County of San Luis Obispo, Policy S-26. Reduce the potential for exposure to humans and the environment by hazardous materials	Requires review of commercial projects which use, store and transport hazardous materials to ensure necessary measure are taken to protect public health and safety in the form of a "Business Plan" as required by California Health and Safety Code (section 25550)	County of San Luis Obispo Environmental Health Services Division	5.5.4.2.1, 5.5.5.2.2, 5.5.5.3.4
	Requires industries to work with CalTrans to require all transport of hazardous materials to follow CalTrans approved routes	County of San Luis Obispo Environmental Health Services Division	5.5.4.2.3
	Inform residents along approved haul routes of the potential for hazard release	San Luis Obispo County, Office of Emergency Services	5.5.4.2.3
County of San Luis Obispo, Hazardous Materials Response Plan	Outlines hazard assessment, emergency management, hazardous materials response personnel, public warning information, and	San Luis Obispo County of Office of Emergency Services	5.5.2.4.1.2, 5.5.4.2.1, 5.5.5.3.2, 5.5.5.3.3

LORS	Requirements/Applicability	Administering Agency	Application for Certification Section Explaining Conformance
	evacuation/sheltering measures.		
County of San Luis Obispo, Multi-Jurisdictional Hazard Mitigation Plan	Focused on natural disasters but refers to Hazardous Materials Response Plan for jurisdiction of emergency responses to hazardous materials. Determines that the Environmental Health Division (Department) is the County's Certified Program Agency (CUPA) for state regulatory standards and programs related to hazardous materials.	San Luis Obispo County of Office of Emergency Services	5.5.5.3.4
County of San Luis Obispo Environmental Health Department, CUPA Program	The following 7 programs are under the county's CUPA program: (1) Aboveground Petroleum Storage Tank Program (2) California Accidental Release Prevention Program (3) Hazardous Materials Business Plan Program (4) Hazardous Waste Generator Program (5) Household Hazardous Waste Program (5) Tiered Permitting Hazardous Materials/Waste Program Unit (7) Underground Storage Program	County of San Luis Obispo Environmental Health Services Division	5.5.5.3.4
County of San Luis Obispo Environmental Health Department, Aboveground Petroleum Storage Tank Program or Above Ground Tank Program	Require secondary containment for each AST pursuant to the CFR 40 §112.7 and HSC §25270.4.5(b)(3). Secondary containment shall contain the entire contents of the largest tank plus precipitation (10%)	County of San Luis Obispo Environmental Health Services Division	5.5.5.3.4

5.5.5.1 Federal LORS

5.5.5.1.1 29 CFR 1910 et seq. and 1926 et seq.

These sections contain requirements for equipment used to store and handle hazardous materials for the purpose of protecting worker health and safety. 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 that 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 agencies for the above authority are Federal and State Occupational Health and Safety Administration (OSHA) and Cal/OSHA, respectively.

5.5.5.1.2 49 CFR Parts 172, 173, and 179

These regulations provide standards for labels, placards, and markings on hazardous materials shipments by truck (Part 172), for packaging hazardous materials (Parts 173), and for transporting hazardous materials in tank cars (Part 179). The administering agencies for the above authority are CHP and the U.S. DOT.

5.5.5.1.3 CERCLA

The Superfund Amendments and Reauthorization Act (SARA) amends the Comprehensive Environmental Response, Compensation, and Liability Act (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 (EPCRA), which 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 as follows:

- Section 302—Requires one-time notification when EHSs are present in excess of their TPQs. EHSs and their TPQs are found in Appendices A and B to 40 CFR Part 355.

- Section 304—Requires immediate notification to the Local Emergency Planning Committees (LEPC) and the State Emergency Response Commission when a hazardous material is released in quantities over its RQ. If a CERCLA-listed hazardous substance RQ is released, notification must also be given to the National Response Center in Washington, DC. (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 SDSs for all hazardous materials or a list of all hazardous materials be submitted to the State Emergency Response Commission, 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.

The administering agencies for the above authority are the EPA Region 9 National Response Center and the SLOEHSD, which is the CUPA for PESC's location.

5.5.5.1.4 Clean Air Act

Regulations (40 CFR 68) under the Clean Air Act (CAA) are designed to prevent accidental releases of hazardous materials. The regulations require facilities storing a TQ or greater of listed regulated substances to develop a Risk Management Plan (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. As stated in Section 5.5.1.2.2, the proposed PESC project does not anticipate any storage of regulated substances, therefore these regulations do not apply to the project.

5.5.5.1.5 Clean Water Act

The SPCC rule under the Clean Water Act (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 rule is applicable if a facility has a single oil Aboveground Storage Tank (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. The SPCC rule is administered by the local CUPA, which is the County of San Luis Obispo Environmental Health Services Division. PESC will store diesel in integrated dual walled tanks for the backup generators. Should this exceed 1320 gallons total on site, measures consistent with the County of San Luis Obispo Environmental Health Services, Aboveground Petroleum Storage Tank Program guidance will be followed in preparation of the SPCC, which will be included in the Hazardous Material Business Plan (HMBP).

Other related federal laws that address hazardous materials but do not specifically address their handling include the Resource Conservation and Recovery Act (discussed in Section 5.14, Waste Management) and the Occupational Safety and Health Act (discussed in Section 5.16, Worker Health and Safety).

5.5.5.1.6 Commerce of Explosives and Mine Safety and Health Administration

27 CFR Part 555 outlines regulations for manufacturing, importing, buying, selling, transporting, and storing explosive materials. This regulation explains requirements for manufacturing, importing, buying, selling, transporting, and storing explosive materials. Mine Safety and Health Administration (MSHA) regulations are outlined in Title 30, Mineral Resources, Chapter I. It outlines all approved mining products, filing requirements, education, training, accidents, injuries, illnesses, employment and production rights, metal and nonmetal safety and health and uniform mine health regulations. Construction of underground cavern will abide by all health and safety requirements outlined herein.

5.5.5.2 State LORS

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

5.5.5.2.1 Title 8, CCR, Section 339; Section 3200 et seq., Section 5139 et seq., and Section 5160 et seq.

Title 8 CCR Section 339 lists hazardous chemicals relating to the Hazardous Substance Information and Training Act; Title 8 CCR Section 3200 et seq. and 5139 et seq. address control of hazardous substances; and Title 8 CCR Section 5160 et seq. addresses hot, flammable, poisonous, corrosive, and irritant substances.

5.5.5.2.2 Health and Safety Code Section 25500

California Health and Safety Code, Section 25500, et seq., and the related regulations in 19 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 TQs 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.

5.5.5.2.3 Health and Safety Code Section 25531 (CalARP)

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 EHS by EPA 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 a RMP, formerly known as a Risk Management and Prevention Program (19 CFR 1910.119). CalARP is found in Title 19 CCR, Chapter 4.5.

5.5.5.2.4 Aboveground Petroleum Storage Act

The California Health and Safety Code Sections 25270 to 25270.13 ensure compliance with the 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 an SPCC plan.

5.5.5.2.5 Proposition 65

This California law requires the state to identify chemicals that cause cancer and reproductive toxicity, contains requirements for informing the public of the presence of these chemicals, and prohibits discharge of the chemicals into sources of drinking water. Lists of the chemicals of concern are published and updated periodically by California’s Office of Environmental Health Hazard Assessment (OEHHA).

5.5.5.2.6 Cal/OSHA Title 8

The California Code of Regulations, Title 8, Division 1 Sections 5251 through 5258 establish general industrial safety orders for transportation, handling, storage of explosive materials and blasting units. Additionally, Sections 344.20 through 344.22 establish requirements for blasters license necessary for blasting work.

5.5.5.3 Local LORS

5.5.5.3.1 County of San Luis Obispo General Plan

County of San Luis of Obispo has some local ordinances that apply to the proposed Pecho project. In order to adhere to County of San Luis Obispo General Plan S-6 Safety Goal, the county has outlined policy S-26 and implementation measures S-68, S-69, and S-70 (County of San Luis Obispo Planning and Building 2021).

> **Policy S-26.** Reduce the potential for exposure to humans and the environment by hazardous substances.
>
> **Implementation Measure Program S-68.** Review commercial projects which use, store or transport hazardous materials to ensure necessary measures are taken to protect public health and safety.
>
> **Implementation Measure Standard S-69.** Work with Caltrans to require all transport of hazardous materials to follow Caltrans approved routes.
>
> **Implementation Measure Program S-70.** Inform residents along approved haul routes of the potential for hazard release.

5.5.5.3.2 County of San Luis Obispo Hazardous Materials Response Plan

The purpose of the Hazardous Materials Response Plan, established in 1985 and revised in 2013, is to establish response organization, command authority, responsibilities, functions, and interactions required to mitigate hazardous material incidents within the County of San Luis Obispo. In establishing adequate response to

hazardous material incidents, it ensures that life, property, and the environment may be saved from effects of an incident. Depending on the severity of the incident, and what the incident involves, notifications are required to the appropriate agency outlined in detail in this document. The hazardous materials response team involves multiple jurisdictions to form a single hazardous emergency response team for the county. The hazardous response team is overseen by the fire chief of city of San Luis Obispo, fire chief of the county of San Luis Obispo, representative from the County of San Luis Obispo Environmental Health Department, fire chief from northern, southern, and north coastal geographical areas and a member of the Office of Emergency Services. The team consists of on-call hazardous materials technicians and specialists from participating fire departments, California Men's Colony, and environmental health specialists or technicians from the County of San Luis Obispo Public Health and has the capability of responding to biological, nuclear, radiological, incendiary, chemical spills, and explosives (County of San Luis Obispo Office of Emergency Services. 2021).

5.5.5.3.3 County of San Luis Obispo Multi-Jurisdictional Hazard Mitigation Plan

The purpose of the Multi-Jurisdictional Hazard Mitigation Plan has a focus on effective ways to minimize natural hazard vulnerability. The Multi-Jurisdictional Hazard Mitigation Plan refers to Hazardous Materials Response Plan for jurisdiction of emergency responses to hazardous materials. Determines that the Environmental Health Division (Department) is the County's Certified Program Agency (CUPA) for state regulatory standards and programs related to hazardous materials (County of San Luis Obispo Office of Emergency Services 2021).

5.5.5.3.4 County of San Luis Obispo Environmental Health Department

The designated CUPA for the proposed Pecho project is the County of San Luis Obispo Environmental Health Department. The Pecho project is subjected to the requirements made by the Aboveground Petroleum Storage Tank Program and the Hazardous Materials Business Plan Program.

Hazardous Materials Business Plan Program. To satisfy the California Health and Safety Code, Section 25500, et seq., and the related regulations in 19 CCR 2620, et seq., a Hazardous Materials Business Plan will be developed and submitted to the County of San Luis Obispo Environmental Health Department (County of San Luis Obispo Environmental Health Department 2021b)

Aboveground Petroleum Storage Tank Program. Requires secondary containment for each AST pursuant to the CFR 40 §112.7 and HSC §25270.4.5(b)(3). Secondary containment shall contain the entire contents of the largest tank plus precipitation (10%) (County of San Luis Obispo Environmental Health Department 2021a).

5.5.5.4 Codes

The design, engineering, construction, and operation of hazardous materials storage and dispensing systems will be in accordance with applicable codes and standards, including, but not limited to the following:

- CVC, 13 CCR 1160, et seq. – Provides CHP with authority to adopt regulations for the transportation of hazardous materials in California. CHP can issue permits and specify which route for hazardous material delivery
- The California Fire Code, Articles 79 and 80 – These are the hazardous materials sections of the Fire Code. Local fire agencies or departments enforce this code and can require than a HMBP and a Hazardous Materials Inventory Statement be prepared. The California Fire Code is based on the federal fire guidelines, which include the Uniform Fire Code.
- State Building Standard Code, Health and Safety Code Sections 18901 to 18949 – Incorporates the Uniform Building Code, Uniform Fire Code and Uniform Plumbing Code

- County of San Luis Obispo Title 16, Fire Prevention Code
  - 16.10.030 - Locations where above-ground tanks are prohibited" by which the storage of flammable or combustible liquids is restricted are established by the provisions of San Luis Obispo County Code, including, but not limited to, Titles 22 and 23.
  - 16.10.040 - Maximum capacity within established limits" of the California Fire Code, by which storage of liquefied petroleum gas is restricted are established by the provisions of San Luis Obispo County Code, including, but not limited to, Titles 22 and 23.
  - 16.10.050 - The limits referred to in Chapter 56 of the California Fire Code regarding the storage of explosive materials are established by the provisions of San Luis Obispo County Code, including, but not limited to, Titles 22 and 23.
- County of San Luis Obispo Title 22, Land Use Code
  - 22.10.050 - The storage of explosives is allowed only for the purpose of sales by a licensed vendor, or where the explosives will be used on the same site as the storage facility, as provided in this Section.
  - 22.10.070 - The storage of flammable or combustible liquids (those with flash points below 140 ^{o}F) is subject to the following standards
- County of San Luis Obispo, Title 23, Operational Standards
  - 23.06.100 – Water Quality. Standards for Preventing Polluted Runoff Impacts from Non-point Sources.
  - 23.06.101 – Chemical Control. Land use permit applications that require discretionary review for projects that have potential to release toxic or hazardous materials (e.g., gas stations, businesses that handle hazardous wastes) shall include measures, and where applicable, Best Management Practices that: a) minimize the amounts of potential contaminants that may be stored or handled, b) assure proper containment and c) prevent release of contaminants into the environment. These measures and practices shall be referred to the County Division of Environmental Health for review and for recommendations that shall be implemented through the land use permit.
  - 23.06.120 – Toxic and Hazardous Materials. The storage and use of poisonous, corrosive, explosive and other materials hazardous to life or property are subject to the following standards, where applicable. The standards of these sections are in addition to all applicable state and federal standards, including but not limited to any regulations administered by the County Health Department, Fire Department, Sheriff's Office, Agricultural Commissioner, and Air Pollution Control District. In the event any standards of this chapter conflict with regulations administered by other federal, state, or county agencies, the most restrictive standards apply.
  - 23.06.124 - The storage of explosives is allowed only for the purpose of sales by a licensed vendor, or where the explosives will be used on the same site as the storage facility, as provided in this section.

5.5.6 Agencies and Agency Contacts

Several agencies regulate hazardous materials, and they will be involved in regulating the hazardous materials stored on and used at PESC. Federal and some state level agencies discussed in this section will all be involved in regulation of hazardous materials use and storage. However, the regulations are administered and enforced primarily through designated by local agencies. According to the California Environmental Reporting System

(CERS), the designated CUPA for the region is the County of San Luis Obispo Environmental Health Services Division (CalEPA 2021b). Contact information is provided in **Table 5.5.6.**

Table 5.5-6: Agency Contacts for Hazardous Materials Handling

Issue	Agency	Contact
CUPA for Hazardous Materials Business Plan (HMPB)	County of San Luis Obispo Environmental Health Department, CUPA Program	Peter Hague Hazardous Materials Programs (CUPA) (805)-781-5554
Hazardous Materials Response for Spills or Fires	San Luis Obispo County, Office of Emergency Services	Scotty Jalbert Emergency Services Manager (805)-781-5011

5.5.7 Permits and Permit Schedule

The SLOEHSD require that the project developers obtain permits listed in **Table 5.5.7** before storing hazardous materials on site.

Table 5.5-7: Permits and Permit Schedule for Hazardous Material Handling

Permit	Agency Contact	Schedule
AST	County of San Luis Obispo Environmental Health Services Division CUPA Program 1055 Monterey Street San Luis Obispo, CA 805-781-5000	Submittal prior to construction and operation. Permits are available on the Kern County Fire Department website.
HMBP	County of San Luis Obispo Environmental Health Services Division CUPA Program 1055 Monterey Street San Luis Obispo, CA 805-781-5000	Submittal prior to operation. Permits are available on the County of San Luis Obispo Environmental Health Services Division main website.
RMP	County of San Luis Obispo Environmental Health Services Division CUPA Program 1055 Monterey Street San Luis Obispo, CA 805-781-5000	Submittal prior to operation. Permits are available on the County of San Luis Obispo Environmental Health Services Division main website.

5.5.8 References

California Environmental Protection Agency (CalEPA) 2021a. Cortese List Data Resources. Available at: https://calepa.ca.gov/sitecleanup/corteselist/. Accessed July 18, 2021.

California Environmental Protection Agency (CalEPA). 2021b. Unified Program Regulator Directory. Available at https://cersapps.calepa.ca.gov/public/directory/. Accessed July 19, 2021.

County of San Luis Obispo. 2021. Planning and Building Land Use View Mapping Application. Available at: https://www.slocounty.ca.gov/Departments/Planning-Building.aspx. Accessed July 19, 2021.

County of San Luis Obispo Environmental Health Services Division (SLOEHSD). 2021a. Aboveground Petroleum Storage Tank Program. Available at: https://www.slocounty.ca.gov/Departments/Health-Agency/Public-Health/Environmental-Health/Forms-Documents/Reference-Materials/Hazardous-Materials-Program-Reference-Documents/Aboveground-Petroleum-Storage-Tank-Program.aspx. Accessed July 21, 2021.

County of San Luis Obispo Environmental Health Services Division (SLOEHSD). 2021b. CUPA Program Hazardous Materials and Waste. Available at: https://www.slocounty.ca.gov/Departments/Health-Agency/Public-Health/Environmental-Health/CUPA-Program-(Hazardous-Materials-and-Waste).aspx. Accessed July 20, 2021.

County of San Luis Obispo Office of Emergency Services. 2021. General Emergency Plans. Available at: https://www.slocounty.ca.gov/Departments/Administrative-Office/Emergency-Management/Forms-Documents/General-Emergency-Plans.aspx. Accessed July 20, 2021.

County of San Luis Obispo Planning and Building. 2021.General Plan and Ordinance. Available at: https://www.slocounty.ca.gov/Departments/Planning-Building/Forms-Documents/General-Plan-Forms-and-Documents/General-Plan-and-Ordinance-Amendment-Application-P.aspx. Accessed July 20, 2021.

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United State Environmental Protection Agency (EPA). 2021. Risk Management Plan Rule Overview. Available at: https://www.epa.gov/rmp/risk-management-plan-rmp-rule-overview. Accessed October 10, 2021.