

5.5 Hazardous Materials Handling

This section discusses the potential effects on human health and the environment from the storage and use of hazardous materials in conjunction with the Huntington Beach Energy Project (HBEP). Section 5.5.1 describes the existing environment that may be affected, and Section 5.5.2 identifies potential impacts on the environment and on human health from site development. Section 5.5.3 addresses potential cumulative effects, Section 5.5.4 presents proposed mitigation measures, and Section 5.5.5 presents the laws, ordinances, regulations, and standards (LORS) applicable to hazardous materials. Section 5.5.6 describes the agencies involved and provides agency contacts. Section 5.5.7 describes permits required and the permit schedule. Section 5.5.8 provides the references used to develop this section. Hazardous waste management, including handling of potentially contaminated soil and groundwater, is addressed in Section 5.14, Waste Management.

5.5.1 Setting

The HBEP site is located in an industrial area of Huntington Beach at 21730 Newland Street, just north of the intersection of the Pacific Coast Highway (Highway 1) and Newland Street. The project is located on the site of the existing Huntington Beach Generating Station, an operating power plant. The HBEP site is bounded on the west by a manufactured home/recreational vehicle park, on the north by a tank farm, on the north and east by the Huntington Beach Channel and residential areas, on the southeast by the Huntington Beach Wetland Preserve / Magnolia Marsh wetlands, and to the south and southwest by the Huntington Beach State Park and the Pacific Ocean. The site is located on a gently sloping coastal plain.

HBEP is a 939-megawatt combined-cycle power plant, consisting of two power blocks. Each power block is composed of three combustion turbines with supplemental fired heat recovery steam generators (HRSG), a steam turbine generator, an air-cooled condenser, and ancillary facilities. HBEP will reuse existing onsite potable water, natural gas, stormwater, process wastewater, and sanitary pipelines and electrical transmission facilities. No offsite linear developments are proposed as part of the project.

The project will use potable water, provided by the City of Huntington Beach, for construction and operational process and sanitary uses. During operation, stormwater and process wastewater will be discharged to a retention basin and then ultimately to the Pacific Ocean via an existing outfall. Sanitary wastewater will be conveyed to the Orange County Sanitation District via the existing City of Huntington Beach sewer connection. Two 230-kilovolt (kV) transmission interconnections will connect HBEP Power Blocks 1 and 2 to the existing onsite Southern California Edison 230-kV switchyard.

HBEP construction will require the removal of the existing Huntington Beach Generating Station Units 1, 2, and 5. Demolition of Unit 5, scheduled to occur between the fourth quarter of 2014 and the end of 2015, will provide the space for the construction of HBEP Block 1. Construction of Blocks 1 and 2 are each expected to take approximately 42 and 30 months, respectively, with Block 1 construction scheduled to occur from the first quarter of 2015 through the second quarter of 2018, and Block 2 construction scheduled to occur from the first quarter of 2018 through the second quarter of 2020. Removal/demolition of existing Huntington Beach Generating Station Units 1 and 2 is scheduled to occur from the fourth quarter of 2020 through the third quarter of 2022.

Existing Huntington Beach Generating Station Units 3 and 4 were licensed through the California Energy Commission (CEC) (00-AFC-13C) and demolition of these units is authorized under that license and will proceed irrespective of the HBEP. Therefore, demolition of existing Huntington Beach Generating Station Units 3 and 4 is not part of the HBEP project definition. However, to ensure a comprehensive review of potential project impacts, the demolition of existing Huntington Beach Generating Station Units 3 and 4 is included in the cumulative impact assessment. Removal/demolition of existing Huntington Beach Generating Station Units 3 and 4 will be in advance of the construction of HBEP Block 2.

HBEP construction will require both onsite and offsite laydown and construction parking areas. Approximately 22 acres of construction laydown will be required, with approximately 6 acres at the Huntington Beach Generating Station used for a combination of laydown and construction parking, and 16 acres at the AES Alamos Generating Station (AGS) used for construction laydown (component storage only/no assembly of components at AGS).

During HBEP construction, the large components will be hauled from the construction laydown area at the AGS site to the HBEP site as they are ready for installation.

Construction worker parking for HBEP and the demolition of the existing units at the Huntington Beach Generating Station will be provided by a combination of onsite and offsite parking. A maximum of 330 parking spaces will be required during construction and demolition activities. As shown on Figure 2.3-3 in Section 2.0, Project Description, construction/demolition worker parking will be provided at the following locations:

- Approximately 1.5 acres onsite at the Huntington Beach Generating Station (approximately 130 parking stalls)
- Approximately 3 acres of existing paved/graveled parking located adjacent to HBEP across Newland Street (approximately 300 parking stalls)
- Approximately 2.5 acres of existing paved parking located at the corner of Pacific Coast Highway and Beach Boulevard (approximately 215 parking stalls)
- 225 parking stalls at the City of Huntington Beach shore parking west of the project site.
- Approximately 1.9 acres at the Plains All American Tank Farm located on Magnolia Street (approximately 170 parking stalls)

5.5.2 Affected Environment

5.5.2.1 Project Area

Land use in the vicinity of the HBEP site (discussed in detail in Section 5.6, Land Use) is a mix of industrial, commercial and residential development. The HBEP site is bounded on the west by a manufactured home/recreational vehicle park; on the north by a tank farm, the proposed Poseidon desalination plant and the Huntington Beach Channel (a facility operated by the Orange County Flood Control District), on the southeast by the Huntington Beach Wetland Preserve / Magnolia Marsh wetlands, and to the south and southwest by the Huntington Beach State Park and the Pacific Ocean.

A total of 959 sensitive receptors have been identified within a 6-mile radius of the HBEP site, including 275 daycare facilities; 591 hospitals, doctors' offices, and long-term care facilities; and 88 schools. These receptors are listed in Appendix 5.9A. The nearest residences are a recreational vehicle and manufactured home park across Newland Street from the project site approximately 400 feet to the northwest. In addition, residential areas are interspersed throughout the project vicinity to the north, east, and south.

The nearest school to the project site is Edison High School, located at 21400 Magnolia Street, Huntington Beach, CA, 92646, approximately 0.4 mile north of the project site. The nearest hospital/long-term health care facility is Children's Hospital of Orange County, which is located at 500 Superior Avenue, Newport Beach, CA, 92663, and is approximately 3.9 miles southeast of the project site.

5.5.3 Environmental Analysis

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 are discussed in this section.

5.5.3.1 Significance Criteria

The project could have a significant effect on the environment in terms of hazardous materials handling if it would do the following (California Environmental Quality Act 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 materials, substances, or waste within 0.25 mile of an existing or proposed school

5.5.3.2 HBEP Hazardous Materials Use

The HBEP will use hazardous materials during project construction, demolition, and operation activities. The project will comply with applicable laws and regulations 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 and use. The following sections describe this use, followed by tables detailing the hazardous materials used, their characteristics, the quantities to be used, and use locations.

5.5.3.2.1 Construction/Demolition Phase

Relatively small quantities of hazardous materials will be onsite during HBEP construction and demolition of existing Huntington Beach Generating Station Units 1, 2, and 5,¹ and 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 service conditions and environment. Best management practices (BMP) described in Section 5.5.4.1 will be implemented by contractor personnel. Therefore, the potential for environmental effects will be less than significant.

No regulated substances, as defined in California's Health and Safety Code, Section 25531, will be used during construction of the project. Therefore, no discussion of the storage or handling of regulated substances during construction is necessary.

5.5.3.2.2 Operations Phase

Storage locations for the hazardous materials that will be used during project operations are described in Table 5.5-1. Table 5.5-2 presents information about these materials, including trade names, chemical names, Chemical Abstract Service (CAS) numbers, maximum quantities onsite, reportable quantities (RQ), California Accidental Release Program (CalARP) threshold planning quantities (TPQ), and status as Proposition 65 chemicals (chemicals known to be carcinogenic or cause reproductive problems in humans). Health hazards and flammability data are summarized for these materials in Table 5.5-3, which also contains information on incompatible chemicals (e.g., sodium hypochlorite and ammonia).

Hazardous substances used at HBEP will be contained within designated hazardous materials storage areas and their use will be prescribed in terms of hazardous materials handling plans, facility Health and Safety Plans, and the project-specific Hazardous Materials Business Plan (HMBP). For the non-CalARP-regulated materials, the risk of public exposure and serious hazard is low and would not be significant.

Most of the hazardous substances that will be used by the project are required for oxides of nitrogen (NO_x) emissions control (i.e., 19 percent aqueous ammonia), treatment and laboratory analyses of process and 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 19 percent aqueous ammonia; toxicity characteristics and the exposure level criteria for this regulated substance are included in Table 5.5-4 and discussed below.

Aqueous Ammonia

The HBEP facility will store the aqueous ammonia solution in a 24,000-gallon, horizontal aboveground storage tank (AST). The tank will be surrounded by an individual secondary containment structure capable of holding the full contents of the tank and accumulated precipitation. The truck unloading area will include a concrete pad,

¹ Units 3 and 4 were licensed through the CEC (00-AFC-13C) and demolition of these units is authorized under that license, therefore, demolition of existing Huntington Beach Generating Station Units 3 and 4 are not part of the project definition. However, to ensure a comprehensive review of potential project impacts, the demolition of existing Huntington Beach Generating Station Units 3 and 4 is included in the cumulative impact assessment.

sloped to drain spillage to the storage tank containment sump. The truck unloading station will include a storage tank fill line and vapor return line for pressure equalization between the storage tank and truck.

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 (located inside the HRSG), an ammonia storage system, and an ammonia injection system. The aqueous ammonia will be vaporized and injected into the turbine exhaust flow 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.

Based on the combination of the nominal and maximum operating profiles for HBEP Blocks 1 and 2, approximately 10 to 12 times per month (120 to 144 deliveries per year), a 7,000-gallon tanker truck will deliver aqueous ammonia to the HBEP site. The aqueous ammonia storage tanks will be equipped with continuous tank level monitors, automated leak detection system, temperature and pressure monitors and alarms, and emergency block valves.

Because of its hazardous properties, ammonia is classified as a regulated substance, and an accidental release of the aqueous ammonia solution 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 5.5-4. 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).

Storage and use of ammonia are 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. Secondary containment in the form of a 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 CalARP, further specifying safe handling procedures for the ammonia as well as emergency response procedures in the event of an accidental release. The RMP, which is discussed in more detail in Section 5.5.4.2.2, will be prepared for the site using updated modeling guidance prior to operation of HBEP.

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

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

5.5.3.3 Transportation of Hazardous Materials

Project operation will require regular transportation of hazardous materials to the project site (see also Section 5.12, Traffic and Transportation). Transportation of hazardous materials will comply with California Department of Transportation (Caltrans), U.S. Environmental Protection Agency (EPA), California Department of Toxic Substances Control (DTSC), California Highway Patrol (CHP), and California State Fire Marshal regulations. Aqueous ammonia, a regulated substance, will be delivered to the facility and transported in accordance with California Vehicle Code (CVC) Section 32100.5, which regulates the transportation of hazardous materials that pose an inhalation hazard. Additionally, ammonia will only be transported along approved transportation routes.

Compliance with applicable regulations will ensure that impacts from the transportation of hazardous materials will be less than significant.

HBEP will have truck traffic associated with the delivery of various cleaning chemical, gasoline and diesel fuel, lubricants, sulfuric acid and other hazardous material associated with plant operation. It is expected that there will be a maximum of 14 truck deliveries per month to the HBEP site. The truck route for aqueous ammonia and other regulated materials to the HBEP site is via Interstate 405 to Beach Boulevard (also designated as State Highway 39), south onto Pacific Coast Highway (also designated as State Highway 1) and left onto Newland Street, then right into the HBEP.

5.5.3.4 Accidental Release Hazards

If a chemical release were to occur without proper engineering controls in place, the public could potentially 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 stormwater 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 federal, state, and local regulations. With the implementation of these measures, the impacts related to the accidental release of hazardous materials, including ammonia, will be less than significant.

5.5.3.4.1 Offsite Consequences Analysis

Because there is human activity in the vicinity of the HBEP site, an Offsite Consequences Analysis (OCA) will be performed during the Application for Certification (AFC) process. The analysis will assess the risk to humans at various distances from the HBEP site if a spill or rupture of a aqueous ammonia storage tank were to occur or if a spill from the supply truck were to occur while refilling the storage tanks, and will assess the project in relation to the CEC's significance threshold of 75 ppm. The modeling protocol for the OCA for ammonia is presented in Appendix 5.5A.

5.5.3.5 Fire and Explosion Hazards

Table 5.5-3 describes the flammability for the hazardous materials that will be onsite at HBEP. Article 80 of the California Fire Code requires all hazardous material 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 is contained in a sealed tank that maintains the ammonia in a state that precludes evaporation. In the unlikely event that a release were to occur, ammonia could evaporate directly to the atmosphere. 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 explosive limit of 15 percent (or 15,000 ppm) will not be reached.

The HBEP machinery 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 Huntington Beach Fire Department and the 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.

Natural gas will be delivered to the site via an existing Southern California Gas Company (SoCalGas), high-pressure natural gas pipeline located onsite on the northwest side of the facility near Newland Street. This 16-inch-diameter line operates at a nominal 145 pounds per square inch. At the HBEP site, the natural gas will flow through a flow-metering station, a gas pressure control station, gas compression equipment, and gas scrubber/filtering equipment prior to entering the combustion turbine generators. The natural gas for the building heating systems and HRSG duct burners will flow through the flow-metering station and gas pressure control

station, but will not require compression, filtering, or heating. The natural gas fuel HBEP will use is flammable and the potential exists that natural gas could leak from the high-pressure 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 codes, regulations, and industry design/construction standards.

The federal safety and operating requirements for natural gas pipelines are contained in Title 49 Code of Federal Regulations (CFR) 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 existing SoCalGas natural gas supply pipeline to the HBEP site and the new onsite natural gas supply line from the SoCalGas meter to the HBEP electrical generation units are designed to meet Class 3 service and meet the California Public Utilities Commission (CPUC) General Order 112-D and 58-A standards, in addition to the federal requirements for gas pipeline construction and safety.

The Huntington Beach Fire Department includes eight fire stations. Station 4, located at 21441 Magnolia Street in Huntington Beach, is approximately 0.5 mile northeast of the HBEP site and would be the primary responding fire station to the project site. Approximate response time from Station 4 to the project site is 5 minutes (Smythe, 2012). Mutual aid response would come from the other fire stations in the Huntington Beach Fire Department and, if necessary, from nearby Orange County fire departments. AES has engaged the Huntington Beach Fire Department in discussions regarding the project's fire protection needs and the Huntington Beach Fire Department's ability to respond. HBEP's onsite fire suppression system is described in Section 2.0, Project Description, and Appendix 2C, Engineering Design Criteria.

If a hazardous materials incident occurred at the HBEP site, Huntington Beach Fire Station No. 4 would be the first responder station, requesting additional resources from the other seven stations in the district, and the Huntington Beach Fire Department Hazardous Materials Response Team as applicable. If needed, Huntington Beach Fire has mutual aid agreements for additional response from other Orange County fire departments. The Hazardous Materials team is stationed at the Huntington Beach Fire Department Station No. 6 located at 18591 Edwards Street Huntington Beach, California, 92647, approximately 5.5 miles from the HBEP site (Smythe, 2012).

5.5.3.6 Schools

The nearest school to the HBEP site is Edison High School, located at 21400 Magnolia Street, Huntington Beach, CA, 92646, approximately 0.4 mile north of the project site. The proposed transportation route for delivery of regulated materials such as aqueous ammonia (and for all other hazardous materials used at the HBEP site) will not pass near the school. The truck route for regulated materials to the HBEP site is via Interstate 405 to Beach Boulevard (also designated as State Highway 39), south onto Pacific Coast Highway (also designated as State Highway 1) and left onto Newland Street, then right into the HBEP site.

TABLE 5.5-1
Use and Location of Hazardous Materials

Chemical	Estimated Delivery Schedule	Use	Quantity	Storage Location	State	Type of Storage
Aqueous ammonia (19% NH ₃ by weight)	One truck (7,000 gallon capacity) every week (10 to 12 deliveries per month)	Control NO _x emissions through selective catalytic reduction	24,000 gallons	Onsite storage tank	Liquid	Continuously onsite
Aqueous ammonia (19 to 29.4%)	One tote per month	Condensate/feedwater/ boiler water and steam pH control, i.e. cycle pH control	400-gallon tote	Onsite storage tank	Liquid	Continuously onsite
Anti-scalant (e.g., NALCO PermaTreat® PC-191T)	One tote per year	Inhibit mineral scale in reverse osmosis microfiltration membranes	400 gallons	Water Treatment Building	Liquid	Continuously onsite
Battery Electrolyte	Complete change-out every 10 years	UPS and Emergency shutdown battery array	1200 gallons	Battery Rooms	Liquid	Continuously onsite
Citric acid	3 pallets for commissioning, then one pallet every 5 years	Cleaning of heat-recovery steam generator Reverse osmosis microfiltration membrane cleaning	625 pounds	Pallet supported chemical storage bags in protected temporary storage location on site. Water Treatment Building	Solid powder	Initial startup and periodically onsite
Cleaning chemicals/detergents	One drum (50 gallon) every 2 years	Periodic cleaning of combustion turbine	100 gallons	Chemical storage tote or drums at a protected temporary storage location onsite.	Liquid	Continuously onsite
Cleaning chemicals / detergents for membrane-based water treatment systems* (e.g., NALCO PermaClean® PC-77, NALCO PERMACLEAN® PC-40, and NALCO PermaClean® PC-98)	One drum every 2 years	Periodic cleaning of RO, MF, and EDI systems	25 gallons	Water Treatment Building	Liquid and/or powders	Continuously onsite (used intermittently)
Sanitization chemicals for membrane-based (MF/RO/EDI) water treatment systems (e.g., NALCO PermaClean® PC-11)	One tote per year	Periodic cleaning of accumulated biofilms on the membranes of the RO, MF, and EDI systems	400 gallons	Water Treatment Building	Liquids	Continuously onsite (used intermittently)

TABLE 5.5-1
Use and Location of Hazardous Materials

Chemical	Estimated Delivery Schedule	Use	Quantity	Storage Location	State	Type of Storage
Diesel No. 2	Top off fuel tank once per month	Fuel for onsite equipment	400 gallons	Double walled tank in appropriate location	Liquid	Continuously onsite
Fire Resistive Hydraulic fluid	Six drums every 5 years	Steam turbine control valve actuators	300 gallons	Hydraulic oil reservoir beneath the steam turbine pedestal and drums storage in Lubricant Storage Shed	Liquid	Continuously onsite
Laboratory reagents	Replenish monthly	Water/wastewater laboratory analysis	10 gallons	Chemical storage cabinets (stored in original chemical storage containers/bags) in lab areas located in steam cycle sample enclosure and Water Treatment Building	Liquid and granular solid	Continuously onsite
Lubrication oil	55 gallons every 6 months (makeup for losses during filter changes)	Lubricate rotating equipment (e.g., combustion turbine and steam turbine bearings)	20,000 gallons	Lubricating oil reservoirs adjacent to the combustion turbines and steam turbine and drum storage in Lubricant Storage Shed	Liquid	Continuously onsite
Mineral insulating oil	Never	Transformers	82,000 gallons	Transformer tanks and drum storage in Lubricant Storage Shed	Liquid	Continuously onsite
Waste Oil	Every 90 days	Vehicle and small equipment oil changes	500 gallons	Waste oil storage tank	Liquid	Continuously onsite but drained every 90 days
Amine solution (e.g., NALCO 5711)	One tote per month	Condensate/feedwater/ boiler water and steam pH control (i.e., cycle pH control)	400 gallons	West of steam turbine pedestal	Liquid	Continuously onsite
Sodium bisulfite (NaHSO ₃) (e.g., NALCO PERMA-CARE® PC-7408)	One tote per year	Reduce oxidizers in RO feed to protect the RO membranes	500 gallons	Water Treatment Building	Liquid	Continuously onsite
Sulfuric acid (93%)	One tote per year	RO feedwater pH control	600 gallons	Water Treatment Building	Liquid	Continuously onsite
Sodium hydroxide (NaOH) solution (20% to 50%)	One tote per year	MF membrane cleaning	400 gallons	Water Treatment Building	Liquid	Continuously onsite

TABLE 5.5-1
Use and Location of Hazardous Materials

Chemical	Estimated Delivery Schedule	Use	Quantity	Storage Location	State	Type of Storage
Sodium hypochlorite (12.5% trade)	One tote per year	Fire/service water storage tank biological control MF system membrane cleaning Evaporative fluid cooler biocide	600 gallons	Water Treatment Building and adjacent to the evaporative fluid cooler	Liquid	Continuously onsite
Hydrochloric acid	One tote every 2 years	MF system membrane cleaning	25 gallons	MF treatment area	Liquid	Continuously onsite (used intermittently)
Sodium nitrite	One tote per year	Closed loop cooling corrosion inhibitor	500 pounds	Water Treatment Building and under steam turbine pedestal	Solid	Continuously onsite (used intermittently)
Proprietary corrosion/scale inhibitor (e.g., NALCO TRAC107)	Two drums per year	Closed loop cooling corrosion/scale inhibitor	110 gallons	Water Treatment Building and under steam turbine pedestal	Liquid	Continuously onsite (used intermittently)
Proprietary non-oxidizing biocide (e.g., NALCO 7330)	One tote every few years	Evaporative fluid cooler (i.e., wet surface air cooler) non-oxidizing biocide	400 gallons	Adjacent to the evaporative fluid cooler	Liquid	Continuously onsite
Propylene Glycol	One drum per year	Closed loop wetting agent/antifreeze	3000 gallons	Cooling loop	liquid	Continuously onsite
Trisodium phosphate (Na ₃ PO ₄) or phosphate/sodium hydroxide blend (e.g., NALCO BT-3400 or NALCO BT-4000)	One tote every 6 months	Boiler water pH and corrosion control	400 gallons	Phosphate Chemical Feed Area (located under pipe rack east of steam turbine)	Liquid	Continuously onsite
Sulfur hexafluoride	Estimate one tank every 5 years	Circuit breakers	200 pounds	Switchyards	Gas	Continuously onsite
Acetylene	As needed in very small quantities	Welding gas	540 cubic feet	Maintenance/Warehouse Building	Gas	Continuously onsite

TABLE 5.5-1
Use and Location of Hazardous Materials

Chemical	Estimated Delivery Schedule	Use	Quantity	Storage Location	State	Type of Storage
Oxygen	As needed in very small quantities	Welding gas	540 cubic feet	Maintenance/Warehouse Building	Gas	Continuously onsite
Propane	As needed in very small quantities	Torch gas	200 cubic feet	Maintenance/Warehouse Building	Gas	Continuously onsite
EPA Protocol gases	20 bottles per month	Calibration gases	2,500 cubic feet	Continuous emissions monitoring system enclosures	Gas	Continuously onsite
Cleaning chemicals	As needed in very small quantities	Cleaning	Varies (less than 25 gallons of liquids or 100 pounds of solids for each chemical)	Admin/Control Building, Maintenance/ Warehouse Building	Liquid or solid	Continuously onsite
Paint	As needed in very small quantities	Touchup of painted surfaces	Varies (less than 25 gallons of liquids or 100 pounds of solids for each type)	Maintenance/Warehouse Building	Liquid	Continuously onsite

*Water treatment system is a combination of media filter (MF), reverse osmosis (RO) and electrodeionization (EDI) equipment.

TABLE 5.5-2
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	EHS TPQ ^c	Regulated Substance TQ ^d	Prop 65
Aqueous ammonia (19% NH ₃ by weight)	Aqueous ammonia	7664-41-7	24,000 gallons ^g	100 pounds	526 pounds	500 pounds	500 pounds	No
Aqueous ammonia (19-29.4% NH ₃ by weight)	Aqueous ammonia	7664-41-7	400 gallons	100 pounds	357 pounds	500 pounds	500 pounds	No
Anti-scalant	Anti-scalant	Various	400 gallons	e	e	e	e	No
Battery Electrolyte	Sulfuric Acid	7664-93-9	1,200 gallons	1,000 pounds	1,075 pounds	1,000 pounds	1,000 pounds	Yes
Citric acid	Citric Acid	77-92-9	625 pounds	e	e	e	e	No
Cleaning chemicals/detergents	Various	None	100 gallons	e	e	e	e	No
Cleaning chemicals/detergents for membrane-based water treatment systems (e.g., NALCO PermaClean PC-77, NALCO PermaClean PC-40, NALCO PermaClean PC-98)	Various	None	25 gallons	e e	e e	e e	e e	No No
Sanitizing chemicals for membrane-based (MF/RO/EDI) water treatment systems (e.g., NALCO PermaClean PC-11)	Dibromoacetonitrile 2,2-Dibromo-3-nitrilopropionamide Polyethylene Glycol	3252-43-5 10222-01-2 25322-68-3	400 gallons	e	e	e	e	No No No
Diesel No. 2	Diesel No. 2	68476-34-6	400 gallons	e	e	e	e	No
Hydraulic oil	Phosphate ester	None	300 gallons	42 gallons ^f	42 gallons ^f	e	e	No
Laboratory reagents	Various	Various	10 gallons	e	e	e	e	No
Lubrication oil	Oil	None	20,000 gallons	42 gallons ^f	42 gallons ^f			No
Mineral insulating oil	Oil	8012-95-1	82,000 gallons	42 gallons ^f	42 gallons ^f			No
Amine solution	Amine	2008-39-1	400 gallons	e	e	e	e	No
Sodium bisulfite (NaHSO ₃)	Sodium bisulfite	7631-90-5	500 gallons	5,000 pounds	5,000 pounds	e	e	No
Sulfuric acid (93%)	Sulfuric acid	7664-93-9	600 gallons	1,000 pounds	1,075 pounds	1,000 pounds	1,000 pounds	Yes
Sodium hydroxide (NaOH) (20 to 50%)	Sodium hydroxide	1310-73-2	400 gallons	1,000 pounds	800 pounds	e	e	No
Sodium hypochlorite (12.5%)	Sodium hypochlorite	7681-52-9	600 gallons	100 pounds	800 pounds	e	e	No

TABLE 5.5-2
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	EHS TPQ ^c	Regulated Substance TQ ^d	Prop 65
Hydrochloric acid	Hydrochloric acid	7647-01-0	25 gallons	5,000 pounds	5,000 pounds	e	15,000 pounds	No
Sodium nitrite	Sodium nitrite	7632-00-0	500 pounds	100 pounds	100 pounds	e	e	No
Proprietary corrosion/scale inhibitor (e.g., NALCO TRAC107)	Inorganic Salt	Proprietary	25 gallons	e	e	e	e	No
	Sodium Hydroxide	1310-73-2		e	e	e	e	No
Proprietary non-oxidizing biocide (e.g., NALCO 7330)	5-Chloro-2-Methyl-4- Isothiazolin-3-one (1.1%)	26172-55-4	400 gallons	e	e	e	e	No
	2-Methyl-4- Isothiazolin-3-one (0.3%)	2682-20-4						No
Propylene Glycol	Propylene Glycol	57-55-6	3000 gallons	e	e	e	e	Yes
Trisodium phosphate (Na ₃ PO ₄) or phosphate/sodium hydroxide blend (e.g., NALCO BT-3400 or NALCO BT-4000)	Trisodium phosphate	7601-54-9	400 gallons	e	e	e	e	No
Sulfur hexafluoride	Sulfur hexafluoride	2551-62-4	200 pounds	e	e	e	e	No
Acetylene	Acetylene	47-86-2	540 cubic feet	e	e	e	e	No
Oxygen	Oxygen	7782-44-7	540 cubic feet	e	e	e	e	No
Propane	Propane	74-98-6	200 cubic feet	e	e	e	e	No
EPA Protocol gases	Various	Various	2,500 cubic feet	e	e	e	e	No
Cleaning chemicals	Various	Various	Varies (less than 25 gallons of liquids or 100 pounds of solids for each chemical)	e	e	e	e	No

TABLE 5.5-2

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	EHS TPQ ^c	Regulated Substance TQ ^d	Prop 65
Paint	Various	Various	Varies (less than 25 gallons of liquids or 100 pounds of solids for each type)	e	e	e	e	No

^a RQ for a pure chemical, per the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Superfund Amendments and Reauthorization Act (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 RQ for materials as used onsite. Since 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 lb., the RQ for that material would be $(100 \text{ lb}) / (10\%) = 1,000 \text{ lb}$.

^c Extremely Hazardous Substance (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 TQ is from 19 California Code of Regulations (CCR) 2770.5 (state) or 40 CFR 68.130 (federal)

^e No reporting requirement. Chemical has no listed threshold under this requirement.

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

^g The ammonia tank capacity is 24,000 gallons; however, the tank is only filled to 85 percent of its capacity, or 20,400 gallons.

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

Hazardous Materials	Physical Description	Health Hazard	Reactive and Incompatibles	Flammability*
Aqueous ammonia	Colorless liquid 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
Anti-scalant	Amber liquid	May cause slight irritation to the skin and moderate irritation to the eyes	None	Nonflammable
Battery Electrolyte (Sulfuric Acid)	Oily, colorless to slightly yellow, clear to turbid liquid; odorless.	Causes severe skin burns; causes severe eye burns; causes burns of the mouth, throat, and stomach	Nitro compounds, carbides, dienes, alcohols (when heated): causes explosions. Oxidizing agents, such as chlorates and permanganates: causes fires and possible explosions. Allyl compounds and aldehydes: undergoes polymerization, possibly violent. Alkalis, amines, water, hydrated salts, carboxylic acid anhydrides, nitriles, olefinic organics, glycols, aqueous acids: causes strong exothermic reactions.	Not flammable
Citric acid	Odorless, white granules	Causes irritation to the skin, gastrointestinal tract, and respiratory tract	Metal nitrates (potentially explosive reaction), alkali carbonates and bicarbonates, potassium tartrate; will corrode copper, zinc, aluminum and their alloys	Slightly flammable
Cleaning chemicals/detergents	Liquid	Refer to individual chemical labels	Refer to individual chemical labels	Refer to individual chemical labels
Cleaning chemicals/detergents for membrane-based water treatment systems (e.g., NALCO PermaClean PC-77, NALCO PermaClean PC-40, NALCO PermaClean PC-98)	Liquid	Causes irritation to the skin and eyes with prolonged contact.	None	Non flammable
Sanitizing chemicals for membrane-based (MF/RO/EDI) water treatment systems (e.g., NALCO PermaClean PC-11)	Clear, colorless amber	CORROSIVE: Causes irreversible eye damage. May be fatal if inhaled or swallowed. Causes skin irritation. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.	None	Slightly flammable

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

Hazardous Materials	Physical Description	Health Hazard	Reactive and Incompatibles	Flammability*
Diesel No. 2	Oily, light liquid	May be carcinogenic	Sodium hypochlorite	Flammable
Hydraulic oil	Oily, dark liquid	Hazardous if ingested	Sodium hypochlorite; oxidizers	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; oxidizers	Flammable
Mineral insulating oil	Oily, clear liquid	Minor health hazard	Sodium hypochlorite; oxidizers	Can be combustible, depending on manufacturer
Amine	Clear, pale yellow liquid with phenolic-amine odor	Harmful if swallowed; causes irreversible eye damage	Hazardous polymerization will not occur	Not flammable
Sodium bisulfite	Yellow liquid	Corrosive: Irritation to eyes, skin, and lungs; may be harmful if digested	Strong acids and strong oxidizing agents	Nonflammable
Sulfuric acid	Oily, colorless to slightly yellow, clear to turbid liquid; odorless.	Causes severe skin burns; causes severe eye burns; causes burns of the mouth, throat, and stomach	Nitro compounds, carbides, dienes, alcohols (when heated): causes explosions. Oxidizing agents, such as chlorates and permanganates: causes fires and possible explosions. Allyl compounds and aldehydes: undergoes polymerization, possibly violent. Alkalis, amines, water, hydrated salts, carboxylic acid anhydrides, nitriles, olefinic organics, glycols, aqueous acids: causes strong exothermic reactions.	Not flammable
Sodium hydroxide	Solid, white, and odorless	Causes eye and skin burns; hygroscopic; may cause severe respiratory tract irritation with possible burns; may cause severe digestive tract irritation with possible burns	Incompatible with acids, water, flammable liquids, organic halogens, metals, aluminum, zinc, tin, leather, wool, and nitromethane	Not flammable
Sodium hypochlorite	Colorless liquid with strong odor	Harmful by ingestion and inhalation, and through skin contact	Incompatible with strong acids, amines, ammonia, ammonium salts, reducing agents, metals, aziridine, methanol, formic acid, phenylacetonitrile	Not flammable

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

Hazardous Materials	Physical Description	Health Hazard	Reactive and Incompatibles	Flammability*
Hydrochloric acid	Colorless to light-yellow liquid	Very hazardous in case of skin contact, of eye contact and of ingestion; slight hazard in case of inhalation; skin contact may produce burns. Inhalation may produce severe irritation of respiratory tract; severe over-exposure can result in death	Highly reactive with metals. Reactive with oxidizing agents, organic materials, alkalis, and water	Nonflammable
Sodium nitrite	White to slightly yellowish. Solid (powdered solid), odorless	Very hazardous in case of eye contact (irritant), of ingestion, of inhalation; hazardous in case of skin contact (irritant); slightly hazardous in case of skin contact (permeator); prolonged exposure may result in skin burns and ulcerations; overexposure by inhalation may cause respiratory irritation; severe overexposure can result in death; inflammation of the eye is characterized by redness, watering, and itching	Highly reactive with combustible materials, organic materials; reactive with reducing agents, metals, acids; slightly reactive to reactive with moisture	Not flammable
Proprietary corrosion/scale inhibitor (e.g., NALCO TRAC107)	Clear liquid, ammonia smell	Irritating to eyes and skin.	Contact with strong acids (e.g. sulfuric, phosphoric, nitric, hydrochloric, chromic, sulfonic) may generate heat, splattering or boiling and toxic vapors.	Not flammable
Proprietary non-oxidizing biocide (e.g., NALCO 7330)	Light yellow or green liquid	Corrosive. causes irreversible eye damage or skin burns. harmful if inhaled, swallowed or absorbed through skin. Do not get in eyes, on skin or on clothing. Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals.	Contact with strong oxidizers (e.g. chlorine, peroxides, chromates, nitric acid, perchlorate, concentrated oxygen, permanganate) may generate heat, fires, explosions and/or toxic vapors.	Not flammable
Propylene Glycol	Clear oily liquid	Hazardous in case in ingestion. Slightly hazardous in case of skin contact (irritant, permeator), of eye contact (irritant), of inhalation.	Hygroscopic; keep container tightly closed. Incompatible with chloroformates, strong acids (nitric acid, hydrofluoric acid), caustics, aliphatic amines, isocyanates, strong oxidizers, acid anhydrides, silver nitrate, reducing agents.	Flammable

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

Hazardous Materials	Physical Description	Health Hazard	Reactive and Incompatibles	Flammability*
Trisodium phosphate / sodium hydroxide blend (e.g., NALCO BT-3400 or NALCO BT-4000)	White crystal	Severe irritant; causes pain and redness; prolonged or repeated contact may cause mild burn	Strong acids	Not flammable
Sulfur hexafluoride	Colorless Gas	Simple asphyxiant—This product does not contain oxygen and may cause asphyxia if released in a confined area. Maintain oxygen levels above 19.5%. Nonflammable. Decomposes to toxic fluoride compounds at temperatures above 400 degrees Fahrenheit (°F) (204 degrees Celsius (°C)).	Reported to explode in contact with disilane. Oxygen and certain metals cause slow decomposition to toxic fluorides	Non flammable
Acetylene	Colorless gas	Asphyxiant gas	Oxygen and other oxidizers including all halogens and halogen compounds; forms explosive acetylide compounds with copper, mercury, silver, brasses containing >66 percent copper and brazing materials containing silver or copper	Flammable
Oxygen	Colorless, odorless, tasteless gas	Therapeutic overdoses can cause convulsions; liquid oxygen is an irritant to skin	Hydrocarbons, organic materials	Oxidizing agent; actively supports combustion
Propane	Propane gas (odorant added to provide odor)	Asphyxiant gas; causes frostbite to area of contact.	Strong oxidizing agents and high heat	Flammable
EPA Protocol gases	Gas	Refer to individual chemical labels	Refer to individual chemical labels	Refer to individual chemical labels
Paint	Various colored liquid	Refer to individual container labels	Refer to individual container labels	Refer to individual container labels

*Per California 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.

Source: Data were obtained from Material Safety Data Sheets (MSDS) and Lewis, 1991.

TABLE 5.5-4
Toxic Effects and Exposure Levels of Regulated Substance

Name	Toxic Effects	Exposure Levels-Pure NH ₃
Aqueous Ammonia (19 percent solution)	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, hemoptysis, and pneumonitis. Damage to eyes may be permanent, including ulceration of conjunctiva and cornea and corneal and lenticular opacities.	<p>Occupational Exposures:</p> <ul style="list-style-type: none"> • PEL = 35 mg/m³ OSHA • TLV = 18 mg/m³ ACGIH • TWA = 25 mg/m³ NIOSH • STEL = 35 mg/m³ <p>Hazardous Concentrations:</p> <ul style="list-style-type: none"> • IDLH = 500 ppm • LD₅₀ = 350 mg/kg – oral, rat ingestion of 3 to 4 mL may be fatal <p>Sensitive Receptors:</p> <ul style="list-style-type: none"> • ERPG-1 = 25 ppm • ERPG-2 = 200 ppm • ERPG-3 = 1,000 ppm

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 = milligrams per kilogram

mg/m³ = milligrams per cubic meter

OSHA = Occupational Safety and Health Administration

PEL = OSHA-permissible exposure limit for 8-hour workday

STEL = Short-term exposure limit, 15-minute exposure

TLV = ACGIH threshold limit value for 8-hour workday

TWA = NIOSH time-weighted average for 8-hour workday

5.5.4 Cumulative Effects

A cumulative effect refers to a proposed project's incremental effect together with other closely related past, present, and reasonably foreseeable future projects whose impacts may compound or increase the incremental effect of the proposed project (Public Resources Code § 21083; CCR Title 14, §§ 15064(h), 15065(c), 15130, and 15355).

Existing laws and regulations address the handling of hazardous materials and the transportation and use of aqueous ammonia, an acutely hazardous material, and will ensure that hazardous materials at the HBEP are safely managed.

5.5.4.1 Cumulative Spills of Ammonia

The hypothetical accidental releases of aqueous ammonia that will be evaluated for the HBEP are described in the OCA modeling protocol in Appendix 5.5A. The Poseidon Desalinization Plant (Poseidon), adjacent to the HBEP site to the northeast, received local entitlement approvals in 2010 and is currently undergoing state permitting. When approved and constructed/operational, Poseidon will have hazardous materials onsite including cleaning and water treatment chemicals in reportable quantities. Poseidon will also use and store aqueous ammonia on its project site in concrete containment basins. Poseidon has developed a Risk Management Plan (City of Huntington Beach, 2010). No other sites containing major amounts of hazardous materials were identified by the Huntington Beach Fire Department (Smythe, 2012).

Only a natural disaster such as a major earthquake or other catastrophe of low probability could cause simultaneous accidental releases at any combination of these facilities. Simultaneous releases of aqueous ammonia from the Poseidon desalinization plant and HBEP could potentially cause cumulative impacts if the migrating clouds merged. However, OCAs for similar facilities show that ammonia vapor plumes at hazardous levels rarely extend more than a few feet from their sources, if properly controlled and protected by containment basins and evaporation retardants. Therefore, the likelihood of ammonia vapor plumes combining in concentrations at or above 75 ppm is highly improbable. This issue will be addressed further when the OCA is prepared for HBEP. Existing laws and regulations will thus ensure that HBEP's incremental effect is not cumulatively significant.

5.5.4.2 Cumulative Use of Hazardous Materials during Demolition of Units 3 and 4

As discussed in Section 5.5.2.2.1, small quantities of hazardous materials will be used during demolition of existing Huntington Beach Generating Station Units 1, 2, and 5. Demolition of existing Units 3 and 4 will use equivalent amounts of hazardous materials, including gasoline, diesel fuel, motor oil, hydraulic fluid, solvents, cleaners, welding flux, various lubricants, acetylene, and oxygen. No regulated substances, as defined in California's Health and Safety Code, Section 25531, will be used during demolition of existing Units 3 and 4. BMPs described in Section 5.5.4.1 will be implemented by contractor personnel for demolition activities at existing Units 3 and 4. Therefore, the potential for cumulative environmental effects for both construction of the HBEP, demolition of existing Units 1, 2, and 5, and demolition of existing Units 3 and 4 will be less than significant.

5.5.5 Mitigation Measures

The following sections present measures to mitigate potential public health and environmental effects of handling hazardous materials and regulated substances during HBEP construction, demolition, and operation.

5.5.5.1 Construction/Demolition Phase

Hazardous materials used during HBEP construction/demolition present a relatively low public health risk, but could contaminate surface water or groundwater if a release occurred. Use of BMPs will reduce the potential for the release of construction/demolition-related fuels and other hazardous materials to stormwater and receiving waters as discussed in Section 5.15, Water Resources. BMPs prevent sediment and stormwater contamination from spills or leaks, control the amount of runoff from the site, and require proper disposal or recycling of hazardous materials.

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

- 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 hoses.
- 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 in accordance with local, state and federal regulations 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 HBEP site during the construction/demolition 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 large spill occurs 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 quantities equal to or greater than the specific RQ (42 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 (Huntington Beach Fire Department Fire Station No. 4).

5.5.5.2 Operation Phase

During HBEP operations, various hazardous materials and one regulated substance will be stored onsite as shown in Table 5.5-1. Table 5.5-2 presents information about these materials, including trade names, chemical names, CAS numbers, maximum quantities onsite, RQs, CalARP TPQs, and status as Proposition 65 chemicals (chemicals known to be carcinogenic or cause reproductive problems in humans). Health hazards and flammability data are summarized for these materials in Table 5.5-3, which also contains information on incompatible chemicals (e.g., sodium hypochlorite and ammonia). Table 5.5-4 describes the toxicity of the regulated substance and hazardous materials. The following sections list mitigation measures for minimizing the public health risks associated with hazardous material and regulated substance handling during HBEP operations.

5.5.5.2.1 Hazardous Materials

Hazardous materials will be handled and stored in accordance with applicable codes and regulations specified in Section 5.5.6. The California Fire Code lists the following specific requirements that reduce the risk of fire or the potential for a release of hazardous materials that could affect public health or the environment:

- Provide an automatic sprinkler system for indoor hazardous material storage areas.
- Provide an exhaust system for indoor hazardous material storage areas.
- Separate incompatible materials by isolating them from each other with a noncombustible partition.
- Control spills 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 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 emergency response procedures for hazardous materials incidents. The following specific topics will be addressed in the HMBP:

- 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 Huntington Beach Fire Department, the designated Certified Unified Program Agency (CUPA) for the project site (for HMBPs), and will be updated annually in accordance with applicable regulations.

In accordance with emergency response procedures specified in the HMBP, designated HBEP 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. In the event of a chemical emergency, HBEP personnel will defer to the Huntington Beach Fire Department Hazardous Materials Program. Huntington Beach Fire Department Fire Station No. 4 would be the first onsite. Teams from the Hazardous Materials Response Team, located at Station No. 6 at 18591 Edwards Street Huntington Beach, California, 92647, approximately 5.5 miles from the HBEP site (approximately 15- to 20-minute response time to the project site, longer during summer tourist season), will be dispatched to the site after initial assessment by the first responders, if warranted (Smythe, 2012).

5.5.5.2.2 Aqueous Ammonia

Ammonia is a regulated substance under the federal Clean Air Act (CAA) 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, an RMP will be prepared for the ammonia tanks. The RMP will include 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 RMP will include the following specific components:

- 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 Huntington Beach Fire Department, the agency in charge of Hazardous Materials Business Plan review under a cooperative agreement with the Orange County Health Care Agency- Environmental Health Division (OC HCA-EHD) which is the designated CUPA for the HBEP site. 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 will not be required under OSHA, because the regulations apply only to aqueous ammonia solutions above 44 percent (8 CCR 5189).

5.5.5.2.3 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 1,320 gallons total (including ASTs, oil-filled equipment, and drums), an SPCC plan must be prepared. Because the facility will store more than 1,320 gallons of petroleum products, an SPCC plan will be prepared.

5.5.5.2.4 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 5.12, Traffic and Transportation, transportation of hazardous materials will comply with all Caltrans, EPA, DTSC, CHP, and California State Fire Marshal regulations. Under the CVC, the CHP has the authority to adopt regulations for transporting hazardous materials in California. Aqueous ammonia, a regulated substance, will be delivered to HBEP, and transported in accordance with CVC 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. It is expected that there will be a maximum of 14 truck deliveries per month of hazardous materials and one regulated substance to the operating facility. These trucks will travel to the HBEP site via Interstate 405 to Beach Blvd. (also designated as State Highway 39), south onto Pacific Coast Highway (also designated as State Highway 1) and left onto Newland Street, then right into the HBEP site.

5.5.5.2.5 Security Plan

In addition to standard industrial business security measures, HBEP will prepare 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 the public
- A fire alarm monitoring system
- Measures to conduct site personnel background checks, including employee and routine onsite 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 onsite motion detectors
- Video or still camera monitoring system

5.5.5.2.6 Facility Closure

When HBEP is closed, both nonhazardous and hazardous wastes must be handled properly. Premature or unexpected closure would be for a period greater than the time required for normal maintenance, including overhaul or replacement of the combustion turbines. Causes for premature or unexpected closure could be a disruption in the supply of natural gas, flooding of the site, or damage to the plant from earthquake, fire, storm, or other natural causes are discussed below.

For a premature or unexpected closure of one or both of HBEP Blocks 1 and 2, where there is no release of hazardous materials, facility security will be deployed on a 24-hour basis, and the CEC will be notified. Depending on the length of shutdown necessary, a contingency plan for the temporary cessation of operations will be implemented. The plan will be developed to ensure conformance with all applicable LORS and the protection of public health and safety and the environment. The plan, depending on the expected duration of the shutdown, could include draining all chemicals from storage tanks and other equipment, and the safe shutdown of all equipment. All hazardous materials and wastes will be disposed of according to applicable LORS.

If the temporary closure is in response to facility damage, or where there is a release or threatened release of hazardous waste or materials into the environment, procedures will be followed as set forth in a risk management plan. Procedures include methods to control releases, notification of applicable authorities and the public, emergency response, and training for generating facility personnel in responding to and controlling releases of hazardous materials and hazardous waste. Once the immediate problem of hazardous waste and materials release is contained and cleaned up, temporary closure will proceed as described for a closure where there is no release of hazardous materials or waste.

5.5.5.3 Monitoring

In accordance with applicable federal, state, and local regulations, site personnel would regularly inspect all hazardous materials handling facilities for compliance with applicable regulations and would ensure that any deficiencies were promptly repaired. In addition, HBEP would be subject to regular inspections by the Huntington Beach Fire Department, which would ensure compliance with appropriate regulatory requirements for hazardous materials and regulated substances handling.

5.5.6 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 5.5-5 and described below.

5.5.6.1 Federal LORS

Hazardous materials are governed under CERCLA, the CAA, and the CWA.

5.5.6.1.1 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. OSHA and Cal/OSHA are the administering agencies for the above authority.

TABLE 5.5-5
Laws, Ordinances, Regulations, and Standards for Hazardous Materials Handling

LORS	Requirements/Applicability	Administering Agency	AFC Section Explaining Conformance
Federal			
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.	Huntington Beach Fire Department (as a Participating Agency under the auspices of the OC HCA-EHD as the Designated CUPA)	A HMBP will be prepared for submittal to the Huntington Beach Fire Department (Section 5.5.6.1.3).
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.	Huntington Beach Fire Department (as a Participating Agency under the auspices of the OC HCA-EHD as the Designated CUPA)	An HMBP will be prepared to describe notification and reporting procedures (Section 5.5.6.1.3).
Section 311, EPCRA (Pub. L. 99-499, 42 USC 11021) Hazardous Chemical Reporting: Community Right-To-Know (40 CFR 370)	Requires that MSDSs for all hazardous materials or a list of all hazardous materials be submitted to the SERC, LEPC, and Huntington Beach Fire Department	Huntington Beach Fire Department (as a Participating Agency under the auspices of the OC HCA-EHD as the Designated CUPA)	The HMBP to be prepared will include a list of hazardous materials for submission to agencies (Section 5.5.6.1.3).
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.	Huntington Beach Fire Department (as a Participating Agency under the auspices of the OC HCA-EHD as the Designated CUPA)	The HMBP to be prepared will describe reporting procedures (Section 5.5.6.1.3).
Section 112, CAA 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 an RMP.	Huntington Beach Fire Department (as a Participating Agency under the auspices of the OC HCA-EHD as the Designated CUPA)	A RMP will be prepared as part of the HMBP and submitted to Huntington Beach Fire Department (Section 5.5.6.1.4).
Section 311, CWA (Pub. L. 92-500, 33 USC 1251 et seq.) Oil Pollution Prevention (40 CFR 112)	Requires preparation of an SPCC plan 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.	OC HCA-EHD	An SPCC will be prepared (Section 5.5.6.1.5).

TABLE 5.5-5
Laws, Ordinances, Regulations, and Standards for Hazardous Materials Handling

LORS	Requirements/Applicability	Administering Agency	AFC Section Explaining Conformance
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.	U.S. Department of Transportation	The natural gas pipeline will be constructed in accordance with 49 CFR requirements (Section 5.5.6.1.6)
State			
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.	Cal/OSHA	A HMBP will be prepared for submittal to the Huntington Beach Fire Department (Section 5.5.6.2.1).
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.	Huntington Beach Fire Department (as a Participating Agency under the auspices of the OC HCA-EHD as the Designated CUPA)	A RMP will be prepared and submitted to the Huntington Beach Fire Department (Section 5.5.6.2.1).
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 AST 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.	OC HCA-EHD	An SPCC plan will be prepared (Section 5.5.6.2.3).
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.	OEHHA	The site will be appropriately labeled for chemicals on the Proposition 65 list (Section 5.5.6.2.).
CVC Section 32100.5	Establishes the procedures for the state to determine transportation corridors for materials that may pose an inhalation hazard.	Caltrans, CHP	Transportation of aqueous ammonia will follow designated routes (Section 5.5.6.2.7).
CPUC General Order Nos. 112-E and 58-A	Specify standards for gas service and construction of gas gathering, transmission, and distribution piping systems.	CPUC	Construction of the natural gas pipeline will comply with the standards specified in these General Orders (Section 5.5.6.2.6).

TABLE 5.5-5
Laws, Ordinances, Regulations, and Standards for Hazardous Materials Handling

LORS	Requirements/Applicability	Administering Agency	AFC Section Explaining Conformance
Local			
City of Huntington Beach Municipal Code Section 17.58	Develop and implement safety management plans as required by CA H&SC Sections 25500-25520.	Huntington Beach Fire Department	Section 5.5.6.3
Uniform Fire Code Articles 79 and 80	Require secondary containment, monitoring and treatment for accidental releases of toxic gases.	Huntington Beach Fire Department	Section 5.5.6.3

Cal/OSHA = California Division of Occupational Safety and Health
 CWA = Clean Water Act
 EPCRA = Emergency Planning and Community Right-to-Know Act of 1986
 LEPC = local emergency planning committee
 OEHHA = Office of Environmental Health Hazard Assessment
 Pub. L. = Public Law
 SERC = State Emergency Response Commission
 USC = United States Code

5.5.6.1.2 49 CFR Parts 172, 173, and 179

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

5.5.6.1.3 CERCLA

The 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), 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 include:

- Section 302—Requires one-time notification when EHSs are present in excess of their TPQs. Lists of 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 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 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.

The administering agencies for the above authority are the EPA Region IX, the National Response Center, the Huntington Beach Fire Department, and the OC HCA-EHD. The OC HCA-EHD is the CUPA with the Huntington Beach Fire Department acting as a Participating Agency charged with review of HMBPs (Orange County, 2012).

5.5.6.1.4 Clean Air Act

Regulations (40 CFR 68) under the 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 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.

5.5.6.1.5 Clean Water Act

The SPCC rule 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 rule is applicable if a facility has total petroleum storage (including ASTs, oil-filled equipment, and drums) greater than 1,320 gallons. The SPCC rule is administered by the local CUPA, which is the OC HCA-EHD (Lane, 2012).

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

5.5.6.1.6 Natural Gas Pipeline Construction and Safety

Title 40 of the CFR, 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.

5.5.6.2 State LORS

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).

5.5.6.2.1 Title 8, California Code of Regulations, Section 339; Section 3200 et seq., Section 5139 et seq. and Section 5160 et seq.

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

5.5.6.2.2 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.

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

California Health and Safety Code, Section 25531, et seq., and the CalARP regulate the registration and handling of regulated substances. Regulated substances are any chemicals designated as an extremely hazardous substance by the 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 an RMP, formerly known as a Risk Management and Prevention Program. 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 (less than 10 millimeters of mercury) do not count toward the threshold.

5.5.6.2.4 Aboveground Petroleum Storage Act

The California Health and Safety Code Sections 25270 to 25270.13 ensure compliance with the federal CWA. The law applies to facilities that have a combined AST 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.

5.5.6.2.5 Safe Drinking Water and Toxics Enforcement Act (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. Some of the chemicals to be used at the facility are on the cancer-causing and reproductive-toxicity lists of the Act and will be appropriately labeled for chemicals on the Proposition 65 list.

5.5.6.2.6 Natural Gas Pipeline Construction and Safety

The CPUC enforces General Order No. 58-A, which specifies standards for natural gas service in the State of California, and General Order No. 112-E, which specifies rules governing the design, construction, testing, operation, and maintenance of natural gas gathering, transmission, and distribution piping systems. The proposed project will connect to an existing SoCalGas high-pressure natural gas pipeline located onsite on the northwest side of the facility near Newland Road.

5.5.6.2.7 California Vehicle Code Section 32100.5

CVC Section 32100.5 regulates the transportation of hazardous materials that pose an inhalation hazard. Aqueous ammonia, a regulated substance, will be delivered to the facility and transported in accordance with this section by following the designated access routes, as described previously in Section 5.5.5.2.4.

5.5.6.3 Local LORS

The Huntington Beach Fire Department and OC HCA-EHD share responsibility for CUPA programs. The Huntington Beach Fire Department is responsible for administering HMBPs, Hazardous Materials Management Plans, and RMPs filed by businesses located in the county. In addition, the Huntington Beach Fire Department and OC HCA-EHD share responsibility for ensuring that businesses and industry store and use hazardous materials safely and in conformance with various regulatory codes (Lane, 2012). The OC HCA-EHD is responsible for all other CUPA programs including SPCC Plans and underground storage tank compliance (City of Huntington Beach, 2012). The Huntington Beach Fire Department 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 (Smythe, 2012).

Huntington Beach Municipal Code Section 17.58 requires new or modified businesses to complete a Hazardous Materials Business Emergency Plan and Chemical Inventory Forms as required by State Health and Safety Code Sections 25500-25520.

The OC HCA-EHD as well as the Huntington Beach Fire Department shall be contacted in the event of a release of hazardous wastes or materials to the environment. The Huntington Beach Fire Department also assumes enforcement responsibility for the implementation of Municipal Code 17.58. The Applicant will work with local authorities to properly register and handle all hazardous materials onsite.

5.5.6.4 Codes

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

- CVC, 13 CCR 1160, et seq.—Provides the CHP with authority to adopt regulations for the transportation of hazardous materials in California. The CHP can issue permits and specify the route for hazardous material delivery.
- 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. 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.
- The American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section VIII.
- City of Huntington Beach Municipal Code.

5.5.1 Agencies and Agency Contacts

Several agencies regulate hazardous materials, and they will be involved in regulating the hazardous materials stored and used at HBEP. At the federal level, EPA will be involved; at the state level, the California Environmental Protection Agency will be involved. However, local agencies primarily enforce hazardous materials laws. For HBEP, the primary local agencies with jurisdiction will be the OC HCA-EHD and the Huntington Beach Fire Department. The persons to contact are shown in Table 5.5-6.

TABLE 5.5-6
Agency Contacts for Hazardous Materials Handling

Issue	Agency	Persons Contacted
CUPA for Hazardous Materials Inventory and Emergency Business Plan and Risk Management Plan	Huntington Beach Fire Department	Dave Smythe, Hazardous Materials Specialist/Program Manager Huntington Beach Fire Department 2000 Main Street Huntington Beach, CA 92648 (714) 536-5469 dsmythe@surfcity-hb.org
Fire Department Permits	Huntington Beach Fire Department	Dave Smythe, Hazardous Materials Specialist/Program Manager Huntington Beach Fire Department 2000 Main Street Huntington Beach, CA 92648 (714) 536-5469 dsmythe@surfcity-hb.org
Hazardous Materials Response	Huntington Beach Fire Department	Dave Smythe, Hazardous Materials Specialist/Program Manager Huntington Beach Fire Department 2000 Main Street Huntington Beach, CA 92648 (714) 536-5469 dsmythe@surfcity-hb.org

TABLE 5.5-6

Agency Contacts for Hazardous Materials Handling

Issue	Agency	Persons Contacted
All other CUPA Programs (SPCC, UST)	OC HCA-EHD	<p>Pearl Boelter, Program Manager Environmental Health Division 1241 East Dyer Road, Suite 120 Santa Ana, CA 92705 (714) 433-6010 pboelter@ochca.com</p> <p>Susan Berg, Inspector Environmental Health Division 1241 East Dyer Road, Suite 120 Santa Ana, CA 92705 (714) 433-6231 sberg@ochca.com</p>

5.5.2 Permits and Permit Schedule

The Huntington Beach Fire Department requires that project developers obtain the permits listed in Table 5.5-7 before storing hazardous materials onsite.

TABLE 5.5-7

Permits and Permit Schedule for Hazardous Materials Handling*

Permit	Agency Contact	Schedule
Hazardous Materials Business Plan	<p>Dave Smythe, Hazardous Materials Specialist/Program Manager Huntington Beach Fire Department 2000 Main Street Huntington Beach, CA 92648 (714) 536-5469 dsmythe@surfcity-hb.org</p>	Approximately 60 days before any regulated substance comes onsite
Risk Management Plan	<p>Dave Smythe, Hazardous Materials Specialist/Program Manager Huntington Beach Fire Department 2000 Main Street Huntington Beach, CA 92648 (714) 536-5469 dsmythe@surfcity-hb.org</p>	Approximately 60 days before any regulated substance comes onsite (acceptable to integrate with HMBP)

*Discussion of permits is included in Section 5.5.5.2, Mitigation Measures, Operation Phase

5.5.3 References

City of Huntington Beach. 2010. *Poseidon Draft Subsequent Environmental Impact Report*. Accessed March 2012 at http://huntingtonbeachca.gov/government/departments/Planning/major/Poseidon_Draft_SEIR.cfm

City of Huntington Beach. 2012. City of Huntington Beach Fire Department website, accessed February 2012 at <http://huntingtonbeachca.gov/government/departments/fire/>.

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

Orange County. 2012. Orange County Health Care Agency Environmental Health Division website, accessed February 2012 at <http://www.ochealthinfo.com/eh>.

Smyth H. F., Jr. 1956. Improved Communication: Hygienic Standards for Daily Inhalation. *Am. Ind. Hyg. Assoc. Q.* 17 (2):129-185.

Smythe, David, Hazardous Materials Specialist / Huntington Beach Fire Department. 2012. Email communication with Jessica Brandt/CH2M HILL. March 19.