

# Appendix G Hazards Technical Report

# HAZARDS AND HAZARDOUS MATERIALS IMPACT ANALYSIS

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# TABLE OF CONTENTS

<b>1. EXECUTIVE SUMMARY</b>	<b>1-1</b>
<b>2. INTRODUCTION</b>	<b>2-1</b>
2.1 Purpose .....	2-1
2.2 Existing Operations.....	2-1
2.3 Proposed Project.....	2-2
2.3.1 Natural Gas Processing Facility Modification .....	2-3
2.3.2 Drilling / Redrilling .....	2-4
2.3.3 Well Cellar Construction .....	2-4
<b>3. ENVIRONMENTAL SETTING</b>	<b>3-1</b>
3.1 Hazardous Materials .....	3-1
3.1.1 Regional Hazardous Materials .....	3-1
3.1.2 SHP CUP Sites Hazardous Materials.....	3-1
3.2 Hazardous Waste .....	3-3
3.2.1 SHP CUP Sites Hazardous Waste.....	3-3
3.3 Spill Prevention and Containment .....	3-4
<b>4. REGULATORY SETTING</b>	<b>4-1</b>
4.1 Federal .....	4-1
4.1.1 Agencies .....	4-1
4.1.2 Regulations/Programs .....	4-1
4.2 State.....	4-5
4.2.1 Agencies .....	4-5
4.2.2 Regulations/Programs .....	4-6
4.3 Local.....	4-9
4.3.1 Los Angeles County.....	4-9
4.3.2 City of Signal Hill .....	4-9
<b>5. HAZARDS AND HAZARDOUS MATERIALS ANALYSIS METHODS</b>	<b>5-1</b>
5.1 Current Operations .....	5-1
5.1.1 All CUP Sites.....	5-1
5.1.2 CUP Site #1 .....	5-2
5.1.3 CUP Site #2 .....	5-2
5.1.4 CUP Site #3 .....	5-3
5.1.5 CUP Site #4 .....	5-3
5.1.6 CUP Site #5 .....	5-4
5.1.7 CUP Site #6 .....	5-4
5.1.8 CUP Site #7 .....	5-4
5.1.9 Well-Drilling and Maintenance.....	5-5
5.2 Proposed Project.....	5-7
5.2.1 CUP Site #2 Modifications .....	5-7
5.2.2 New Well Drilling .....	5-8
5.2.3 Well Cellar Construction .....	5-8
5.3 Risk of Upset Analysis.....	5-9
5.3.1 Pipeline Leak or Rupture .....	5-9
5.3.2 Oil Spill or Leak .....	5-10

5.3.3	Fire and Explosion .....	5-10
5.3.4	Release of Hazardous Materials.....	5-10
5.3.5	Wellhead Area Leak or Rupture.....	5-11
5.3.6	Well Blowouts.....	5-11
<b>6.</b>	<b>HAZARDS AND HAZARDOUS MATERIALS IMPACT ANALYSIS</b>	<b>6-1</b>
6.1	<b>Hazards and Hazardous Materials.....</b>	<b>6-1</b>
6.1.1	CEQA Guidelines .....	6-1
6.1.2	City of Signal Hill Significance Criteria.....	6-1
6.1.3	Analysis of Hazards and Hazardous Materials Impacts .....	6-1
6.1.4	Significance Determination .....	6-6
<b>7.</b>	<b>REFERENCES</b>	<b>7-1</b>
	<b>APPENDIX A. CUP SITE HAZARDOUS MATERIALS</b>	<b>A-1</b>

## 1. EXECUTIVE SUMMARY

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Signal Hill Petroleum, Inc. (SHP) is seeking the continuance of their existing oil and gas operations at seven existing "Oil Operation Sites" and "Drill Sites", located throughout the City of Signal Hill (City) under one consolidated Conditional Use Permit (CUP) (Record No. 97-03) for twenty (20) years beyond its current term which ends in 2023 (the "Project"). In addition to the continuance of SHP's existing oil and gas operations, which would include the drilling of new wells and the redrilling of existing wells on an as needed basis consistent with existing operations, SHP is also proposing to install redundancy and efficiency modifications to the existing natural gas system located at CUP Site #2. Lastly, new well cellars may also be constructed at the CUP Sites on an as needed basis.

In this document, the potential impacts to hazards and hazardous materials of the Project under the CEQA Environmental Checklist Questions are analyzed. Specifically, potential impacts due to construction and operation of the proposed gas system modifications at CUP Site #2, as well as ongoing drilling/redrilling and well cellar construction are analyzed, and potential environmental effects are determined compared to the baseline conditions. Based on the analysis of the Project, including the risk of potential upset analysis, the Project impacts were found to be less than significant, with no additional mitigation measures required. While the proposed Project may slightly increase the quantity of hazardous materials stored in the modified gas system at CUP Site #2, specifically the storage of natural gas liquids in the various new tanks/transmissions pipes as well the storage and use of ethylene glycol in the back-up low temperature separation unit (LTS), this increase in storage would be nominal and will not trigger additional regulatory applicability nor impact compliance with existing regulatory programs and permits as compared to SHP's current operations. Other than these changes at CUP Site #2 resulting from the gas system modifications, the Project would result in no other changes to the type and total quantity of hazardous materials transported, stored or consumed onsite, or the type and quantity of hazardous waste generated compared to SHP's existing operations. As such, through the maintenance of existing spill containment structures, SHP's continued implementation of existing spill prevention and cleanup measures, and continued compliance with existing regulations and site-specific plans, the Project impacts related to hazards and hazardous materials would be less than significant.

## 2. INTRODUCTION

### 2.1 Purpose

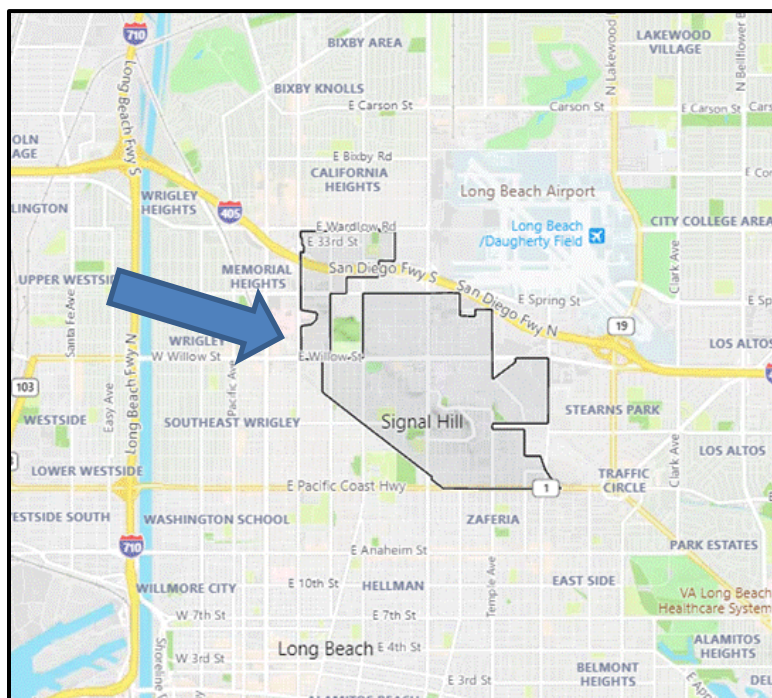
This Hazards and Hazardous Materials Impact Assessment (Hazards Impact Assessment) was prepared pursuant to the California Environmental Quality Act (CEQA) Statutes and Guidelines (CEQA 2022). This Hazards Impact Assessment also addresses the Hazards and Hazardous Materials requirements for the City of Signal Hill, the CEQA Lead Agency.

### 2.2 Existing Operations

Signal Hill Petroleum, Inc. (SHP) is a privately owned, California-based energy company that sustainably explores, develops, and produces oil and gas resources in urban areas throughout the state. SHP currently operates seven existing "Oil Operation Sites" and "Drill Sites", as defined in the City of Signal Hill – Municipal Code, located throughout the City of Signal Hill (City) under one consolidated Conditional Use Permit (CUP) (Record No. 97-03). CUP 97-03 was first approved by the City in 1998, and SHP has operated the CUP Sites for the current 23-year aggregate term in compliance with the existing CUP conditions of approval, the City's Municipal Code and the regulatory requirements of other regulatory agencies as applicable. Additionally, the seven sites that comprise CUP 97-03 (collectively referred to herein as the "CUP Sites") have undergone previous California Environmental Quality Act (CEQA) reviews, resulting in two Mitigated Negative Declarations (MNDs) certified by the City in 1997 and 2002 respectively, and a Categorical Exemption (CatEx) in 2012. Additionally, the South Coast Air Quality Management District ("South Coast AQMD") approved a Subsequent Mitigated Negative Declaration (SMND) in 2015 for proposed changes to the natural gas processing facilities at CUP Site #2.

Figure 2-1 depicts the regional location and Figure 2-2 depicts an aerial view of the Project location.

**Figure 2-1. Regional Location**



## 2.3 Proposed Project

SHP is now seeking the continuance of their existing oil and gas operations covered under CUP 97-03 for twenty (20) years beyond its current term which ends in 2023 (the "Project"). As part of the Project, SHP is also proposing to install redundancy and efficiency modifications to the existing natural gas system located at CUP Site #2. Other than the proposed redundancy and flexibility modifications to the existing gas system at CUP Site #2, the Project would include no substantial changes to SHP's existing operations, previously evaluated under the 1997, 2002 and 2012 CEQA reviews and City approvals. SHP would continue to operate the existing oil and gas facilities in the same manner and with the same equipment as they have historically, and SHP is not seeking any amendments or modifications to the CUP that would expand the activities authorized under the CUP's existing terms.

SHP would also continue to drill new wells and re-drilling/rework existing wells at the CUP Sites on an as needed basis. Additionally, although SHP would continue drilling/re-drilling operations within the existing well cellars at each CUP Site, at times a new ancillary well cellar may need to be created. However, both drilling/re-drilling and new well cellar construction has occurred historically at the CUP Sites, and the Project does not propose any significant changes or increases in these onsite activities. Furthermore, the CUP Sites would continue to operate in accordance with the City's Municipal Oil and Gas Code, existing conditions of approval and mitigation measures, and in continue compliance with existing county, state and federal requirements, including Geologic Energy Management Division (CalGEM) and South Coast AQMD regulations.

Under the proposed Project, the existing facility boundaries would not change or expand, and all operations (existing and proposed) would continue to occur within the existing permitted CUP footprint(s) and consistent with current and historical norms. Specifically, SHP would continue the following general operations at their seven (7) CUP Sites:

- ▶ Well servicing and maintenance;
- ▶ Drilling and re-drilling operations;
- ▶ Oil processing, storage and transfer;
- ▶ Natural gas and natural gas liquids processing, storage and transfer;
- ▶ Produced water separation, and injection facilities; and
- ▶ Electrical production from a natural gas turbine powered generator.

The Project would also not modify the existing production levels or methods, hours of operation, materials to be extracted, processed and sold, the number or type of onsite equipment (mobile equipment, drilling rigs, etc.), or the number of onsite employees.

Although cyclical fluctuations are a natural aspect of the oil and gas industry, the Project is a continuation of existing operations, and as such there are no proposed changes to the level of future drilling that would occur. While new wells would continue to be drilled and existing wells re-drilled on an as needed basis, these activities would not occur outside the existing CUP boundaries/facilities, and the drilling/re-drilling activity levels assumed throughout for the proposed 20-year term of the Project is forecasted to be consistent with historical operations. Specifically, wells would continue to be drilled/re-drilled during the life of the CUP to replace lost production capacity, and therefore the total quantity of oil, natural gas, and water produced by extraction operations would not change or increase above existing levels. Continued drilling/re-drilling would also not require the installation of additional ancillary equipment, as SHP's existing storage, transmission, and processing facilities located within the seven CUP Sites have sufficient capacity to continue to serve extraction operations throughout the proposed 20-year life of the CUP.

Existing operations currently occurring at the CUP Sites per CUP 97-03 are the “baseline” against which the proposed Project’s potential impacts to hazards and hazardous materials have been analyzed to determine whether the Project will result in a potentially significant environmental impact under CEQA. Although drilling and re-drilling operations have and would continue to occur at the same activity levels, because new well drilling and re-drilling/reworking would require a discretionary CalGEM permit, these existing activities are treated as “new” and therefore considered a part of the proposed Project. Additionally, installation of new well cellars as well as the construction and operation of the proposed gas system modifications at CUP Site #2 are also part of the proposed Project.

Please see the project description for additional details on the existing oil and gas operations and the proposed Project/modifications to CUP Site #2.

### **2.3.1 Natural Gas Processing Facility Modification**

As part of the Project, SHP is proposing to modify its current natural gas processing system at CUP Site #2 by adding a back-up low temperature separation unit (“LTS”) and a back-up membrane unit for the removal of inert gas. SHP will also connect to a new gas sales meter and pipeline provided by the SoCal Gas Company (“SCG”). The SCG sales outlet will be in addition to and provide back-up to the current Long Beach Energy gas sales outlet. A booster compressor will to be added to provide the line pressure required to move gas into the SCG system. Finally, SHP will add a “CEB” technology clean burning combustion unit to handle waste gas streams that currently are recycled through the facility. The proposed modifications at CUP Site #2 will give SHP operational flexibility and back-up capacity for its critical gas processing equipment.

The proposed LTS unit will be sized to process 2,000 thousand standard cubic feet (“MCF”) of natural gas per day (MCF/day), and the membrane unit sized to process 1,500 MCF/day. Both pieces of equipment will be sized at lower process rates than the current equipment, which will ensure operational efficiency. The current LTS capacity is 4,000 MCF/day and the membrane unit is 2,500/day. Ultimately, the addition of the backup LTS and membrane units to facilitate the SCG connection will allow for improved operational efficiency and flexibility for the entire natural gas processing system at CUP Site #2; however, it would not require installation of additional equipment at other CUP Sites or facilitate an increase in the total quantity of natural gas extracted under CUP 97-03.

The booster compressor and CEB burner will be installed in Phase 1 following approval of the Project. The LTS and membrane units will be installed in Phase 2, estimated to occur sometime in 2024. The construction process and timing will be virtually identical for the two Phases. Specifically, each Phase will span approximately 12 weeks. The construction process will start with excavations for underground process piping, electrical conduits and control cable conduits as well as reinforced concrete foundations for each piece of equipment. Process piping and electrical conduits in and around the actual equipment packages will be located aboveground. The LTS and membrane units will come with certain piping and controls already installed and mounted on an independent steel skid unit. The skid units will be installed on the foundations and secured per the foundation plans.

Other than the installation and operation of the redundancy and efficiency modifications to the existing natural gas system, no changes to the existing natural gas processing facilities or structures at CUP Site #2 are proposed as part of this Project.



### **2.3.2 Drilling / Redrilling**

In accordance with the existing CUP 97-03, as well as applicable City and CalGEM requirements, SHP has and would continue to drill new wells and redrill existing wells (both production and injection wells) at the seven CUP Sites on an as needed basis. As with current operations, these activities would continue to occur entirely within the existing CUP boundaries.

As discussed above, SHP's oil and gas production has been, and will continue to be, cyclical and dependent upon market demands, economic cycles, and other factors beyond SHP's control (e.g., geological studies, production capacity of wells drilled, availability of required materials and services, etc.). As such, SHP's drilling/redrilling activities for both production and injection wells have and will continue to vary from year to year.

Although cyclical fluctuations are a natural aspect of the oil and gas industry, the Project is a continuation of existing operations, and as such the level of future drilling for the proposed 20-year term of the Project is forecasted to be consistent with historical operations. Specifically, wells would continue to be drilled/redrilled during the life of the CUP to replace lost production capacity, and therefore the total quantity of oil, natural gas, and water produced by extraction operations would not change or increase above existing levels. Continue drilling/redrilling would also not require the installation of additional ancillary equipment, as SHP's existing storage, transmission, and processing facilities located within the seven CUP sites have sufficient capacity to continue to serve extraction operations throughout the proposed 20-year life of the CUP.

### **2.3.3 Well Cellar Construction**

Generally, SHP would continue drilling/redrilling operations within the existing well cellars at each CUP Site; however, consistent with past operations, at times a new ancillary well cellar may need to be created. As with SHP's current protocols, new well cellars are created by excavating a shallow hole (approximately 6-feet wide, 6-feet long, and 5-feet deep) using a backhoe type excavator (new well cellars can be excavated within a single day). Once excavation is complete, a pre-cast concrete box or a large diameter galvanized round steel pipe is placed into the excavation hole to secure the new well cellar.

To construct a new well cellar, at most the backhoe would have to operate at the given CUP Site for no more than 4 hours to excavate the necessary depression. The pre-cast concrete box concrete box would then be transported to the appropriate CUP Site via delivery truck. As such, well cellar construction can generally be complete within a single day, using SHP's existing equipment and onsite employees.

## 3. ENVIRONMENTAL SETTING

Signal Hill Petroleum operates seven existing oil and gas facilities, referred to as CUP Sites #1 through #7, located in the City of Signal Hill. The existing CUP Sites are located within developed urban areas, adjacent to lands designated for industrial, commercial, and residential uses. The following sections describe the existing conditions at the CUP Sites as they pertain to hazardous materials and hazardous waste.

### 3.1 Hazardous Materials

A hazardous material is defined as any material that, because of quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment [HSC Section 25501(o)]. The term “hazardous materials” refers to both hazardous substances and hazardous wastes. Under federal and state laws, any material, including wastes, may be considered hazardous if it is specifically listed by statute as such or if it is toxic, ignitable, corrosive, or reactive.

#### 3.1.1 Regional Hazardous Materials

CalEPA Department of Toxic Substances Control (DTSC) maintains EnviroStor, a data management system for tracking cleanup, permitting, enforcement and investigation efforts at hazardous waste facilities and sites with known contamination or sites where there may be reasons to investigate further. EnviroStor lists 102 permitted hazardous waste facilities under the CalEPA DTSC in California, and 690 corrective action sites. Per the current EnviroStor database (DTSC, 2022a), none of the CUP Sites are listed as cleanup sites.

California State Water Resources Control Board (SWRCB) maintains GeoTracker, a database of environmental data from water quality regulatory programs, including oil and gas monitoring related activities. Per the current GeoTracker database (SWRCB, 2022a), CUP Site #2 was listed as a leaking underground storage tank (LUST) cleanup site; however, the case was closed in 1999 (SWRCB, 2022b). The SWRCB also maintains a list of solid waste disposal sites with waste constituents above hazardous waste levels outside the waste management unit (SWRCB, 2022d). None of the CUP Sites are currently found on this list. The SWRCB also maintains a list of active Cease and Desist Orders (CDO) and Cleanup and Abatement Orders (CAO) (SWRCB, 2022c), and none of the CUP Sites are currently found on this list as well.

#### 3.1.2 SHP CUP Sites Hazardous Materials

SHP currently stores hazardous materials at all CUP Sites except for CUP Site #6. Visual inspections of the hazardous materials and hazardous waste storage areas at the CUP Sites are documented weekly (SHP, 2022h). Trinity also documented current conditions at all seven CUP Sites and completed a visual inspection of the hazardous materials storage areas at each CUP Site during site visits conducted during April 2022. Hazardous materials are currently stored on storage pads with secondary containment, within larger contained (bermed and/or walled) areas such as inside aboveground tank batteries, within portable or permanent individual secondary containment cradles, or within maintenance/supply sheds or curbed areas. Table 3-1 lists the hazardous materials currently stored at the various CUP sites. Please see Appendix A for a more detailed breakdown of the quantity of hazardous materials currently stored at each CUP site.

**Table 3-1 Hazardous Material Classifications**

Material	CUP Site(s)	DOT Hazard Class <sup>a</sup>	Physical Hazard Class <sup>b</sup>	Health Hazard Class <sup>c</sup>
Ammonia	2	2.2	Corrosive	T, I
Biocide 8407	7	8	-	T, I
Oils / Grease	2	-	Flammable	-
Corr Film A/B	7	3	Flammable Liquid, Class I-C	T, I
Corrtreat 14970	2, 3, 4, 5, 7	8	Combustible Liquid, Class II	C, T, I
Corrtreat 15190	7	3	Flammable Liquid, Class I-A	T, I
Diethanolamine	2	-	-	T, I
D-Limonene	7	3	Flammable Liquid, Class I-C	AH, T, I
Ethylene glycol	2	3	Combustible Liquid, Class III-B	C, T, I
Floctreat 7960	1, 2, 5, 7	-	Combustible Liquid, Class III-B	-
Floctreat 12008	2, 7	-	Combustible Liquid, Class III-B	I
Methanol	2	3	Flammable Liquid, Class I-A	AH, T, I
Methylene Chloride	7	-	-	C, T, I
MT 9403 Scale Inhibitor	5	3	Flammable Liquid, Class I-C	T, I
Multitreat 9403NC	4, 7	-	Combustible Liquid, Class III-B	AH, T, I
Multitreat 9302	2, 5, 7	6.1	Combustible Liquid, Class III-B	T, I
Phasetreat 17756	1, 7	3	Combustible Liquid, Class II	AH, C, T, I
Phasetreat 14224	2, 3, 4	3	Flammable Liquid, Class I-C	AH, T, I
PT 13948 Emulsion Breaker	4	3	Flammable Liquid, Class 1-B	T
Scaletreat 1012	3, 4, 7	3	Combustible Liquid, Class III-B	T, I
Scaletreat 402	7	-	Combustible Liquid, Class III-A	I
Scavtreat 6804	1, 2, 4, 7	6.1	-	T, I
Scavtreat 1193	1, 5, 7	3	Combustible Liquid, Class II	AH, T, I
Scavtreat 1092	2, 5, 7	8	Corrosive	T, I
Shell Sol Industrial Solvent 40	2	3	Combustible Liquid, Class II Flammable Liquid, Class I-C	T, I
Solvtreast 3033	7	8	Combustible Liquid, Class II	T, I
Solvtreast 12086	2, 5, 7	3	Flammable Liquid, Class I-C	AH, T, I
Summit PGS-150	2	3	Combustible Liquid, Class III-B Flammable Liquid, Class I-C	T, I
Summit NGP-100	2	-	-	I
Turbo T Oil 68	2	-	-	I
Waxtreast 3635T	7	3	Flammable Liquid, Class I-A	AH, C, T, I
Propane Gas	2	2.1	Flammable Gas	SA
Propane Liquid	2	2.1	Flammable Gas	SA, I
Propane R290	2	2.1	Flammable Gas Gas Under Pressure	-
Natural Gas Liquids	2	3	Flammable Liquid, Class I-A	AH, C, T, I
Natural Gas	2, 5	2.1	Flammable Gas	SA, AH, C, T, I
Crude Oil	2, 5	3	Flammable Liquid, Class I-C	AH, C, T, I
Diesel Fuel	5	3	Combustible Liquid, Class II	AH, C, I
Used Oil	2	3	Combustible Liquid, Class III-B	T, I

Source: SHP, 2022b; SHP, 2022c; SHP, 2022d; SHP, 2022e; SHP, 2022f; SHP, 2022g.

a. DOT Hazard Classes

2.1 = Flammable gas

2.2 = Non-flammable compressed gas

3 = Flammable and combustible liquid

6.1 = Poisonous materials

8 = Corrosive materials

b. Physical Hazard Classes – Flash Point, Boiling Point

Flammable Liquid Class I-A = <73 °F, < 100°F

Flammable Liquid Class I-C = 73-100 °F, N/A

Combustible Liquid, Class II = 101-140 °F, N/A

Combustible Liquid, Class III-A = 141-199 °F, N/A

Combustible Liquid Class III-B = >200 °F, N/A

c. Health Hazard Classes

AH = Aspiration Hazard

C = Carcinogenicity

SA = Simple Asphyxiant

T = Acute, Reproductive, and/or Specific Organ Toxicity

I = Skin Corrosion Irritant, Eye Damage, Eye Irritant and/or Respiratory Skin Sensitization

The central permanent hazardous materials storage area which serves all the CUP operations is located at CUP Site #7. Generally, hazardous materials are transported from CUP Site #7 on an as needed basis to the other CUP Sites, which typically store only hazardous materials in use at the site. SHP is permitted to transport hazardous materials on motor vehicles by the California Highway Patrol (CHP, 2022).

## 3.2 Hazardous Waste

Hazardous wastes are hazardous substances that no longer have a practical use, such as materials that have been spent, discarded, discharged, spilled, contaminated, or are being stored until they can be disposed of properly (22 CCR Section 66261.3).

### 3.2.1 SHP CUP Sites Hazardous Waste

Table 3-2 below summarizes the annual waste disposal from 2009-2021 under CUP 97-03. Note that during this period, CUP Sites #2 and #5 are the only sites that generate hazardous waste under California EPA IDs CAL000329007 and CAL000329008 respectively. Both sites are small quantity generators. Hazardous waste containers are stored on storage pads with secondary containment, within larger contained (bermed and/or walled) areas such as inside aboveground tank batteries, within portable or permanent individual secondary containment cradles, or within maintenance/supply sheds or curbed areas.

**Table 3-2. Annual History of Waste Disposal**

Year	Site 2 - CAL000329007		Site 5 - CAL000329008	
	Number of Manifests	Total Hazardous Waste Disposed (tpy)	Number of Manifests	Total Hazardous Waste Disposed (tpy)
2009	5	1.72	8	18.79
2010	8	3.43	2	0.50
2011	10	3.76	5	0.53
2012	7	1.84	9	1.80
2013	3	0.95	2	0.39
2014	5	1.79	2	0.53
2015	5	1.11	2	0.21
2016	4	0.83	2	0.13
2017	8	2.55	2	0.15
2018	8	3.55	1	0.20
2019	9	2.73	0	0
2020	6	1.86	0	0
2021	4	1.35	1	0.10
Average	7	2.11	4	2.12

Source: DTSC, 2022b; DTSC, 2022c

CUP Sites #2 and #5 typically generate only non-Resource Conservation and Recovery Act (RCRA) hazardous waste with the exception of 2010 and 2009 respectively. The non-RCRA waste is primarily oily rags and oil filters from site maintenance activities. CUP Site #2 generated 150 gallons of RCRA waste flammable liquids (petroleum distillates) and 10 gallons of waste corrosive liquids in 2010 (SHP, 2010). CUP Site #5 also generated 300 pounds of waste aerosols in 2009 (SHP, 2009). Table 3-3 summarizes the 2021 hazardous waste generation based on hazardous waste manifests.

**Table 3-3. 2021 Hazardous Waste Generation Breakdown**

<b>Site</b>	<b>Waste Description</b>	<b>California Waste Code</b>	<b>Total Hazardous Waste Disposed (tons)</b>
2	Non-RCRA Hazardous Waste Solid (Absorbent/Debris, Oil)	352	1.35
5	Non-RCRA Hazardous Waste Solid (Absorbent/Debris, Oil)	352	0.10

Source: DTSC, 2022b; DTSC, 2022c.

### **3.3 Spill Prevention and Containment**

SHP currently implements various spill prevention and response procedures to minimize potential releases from the CUP Sites. Specifically, hazardous materials and hazardous wastes are stored on storage pads with secondary containment, within larger contained (bermed and/or walled) areas such as inside aboveground tank batteries, within portable or permanent individual secondary containment cradles, or within maintenance/supply sheds or curbed areas. As discussed above, hazardous materials and hazardous waste storage are visually inspected weekly to ensure containers are in good condition and that there is no evidence of a leak or spill. Tanks storing hazardous materials have fail-safe devices to prevent spills and have tank enclosures which are designed to a specific height to provide adequate containment volume for the largest tank volume assuming a complete failure of the tank during a worst-case precipitation event. Contained areas do not have automatic valves which would allow releases to exit the contained areas. Additionally, all CUP Sites except for CUP Site #5 are generally contained by existing block walls, other than small gaps where existing access gates are located. Well cellars are checked periodically for accumulation of oil resulting from maintenance or drilling and are removed by vacuum truck or pump. SHP performs routine visual inspections of all containment walls and berms, inside and outside of the enclosures, and the foundations to ensure that there are no cracks, holes, or significant erosion that may lead to releases of contained spills. Maintenance personnel visually inspect all equipment and remove any debris that may accumulate to block passage of process fluids or storm water (SHP, 2017b; SHP, 2021b; SHP, 2022j).

## 4. REGULATORY SETTING

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There are many federal, state, and local regulations that oil and gas facilities must comply with to minimize potential impacts associated with hazards at these facilities. The following paragraphs summarize important and relevant regulations related to hazards and hazardous materials for the oil and gas industry.

### 4.1 Federal

#### 4.1.1 Agencies

##### 4.1.1.1 *U.S. Environmental Protection Agency (US EPA)*

The US EPA, established in 1970, aims to protect human health and the natural environment. The EPA works to develop and enforce regulations that implement environmental laws enacted by Congress, is responsible for researching and setting national standards for a variety of environmental programs, and delegates to states and tribes the responsibility for issuing permits and for monitoring and enforcing compliance. Where national standards are not met, the EPA can issue sanctions and take other steps to assist the states and tribes in reaching the desired levels of environmental quality.

##### 4.1.1.2 *Occupational Safety and Health Administration (OSHA)*

With the Occupational Safety and Health Act of 1970, OSHA was developed with the mission to ensure safe and healthful working conditions for workers by creating and enforcing standards and providing training and other educational resources.

##### 4.1.1.3 *U.S. Department of Transportation (US DOT)*

The US DOT, established in 1967, aims to deliver the world's leading transportation system, serving the American people and economy through the safe, efficient, sustainable, and equitable movement of people and goods. The DOT has multiple operating administrations, including the Pipeline and Hazardous Materials Safety Administration (PHMSA). The PHMSA regulates hazardous materials transportation and pipeline safety programs.

#### 4.1.2 Regulations/Programs

##### 4.1.2.1 *National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (40 CFR §300)*

The NCP, administered by the EPA, was first developed in 1968 with the purpose to provide the organizational structure and procedures for preparing for and responding to discharges of oil and releases of hazardous substances, pollutants, and contaminants. It applies to oil discharges into or on navigable waters of the United States as well as hazardous substances releases into the environment that may present danger to public health or welfare of the United States.

#### ***4.1.2.2 Comprehensive Environmental Response, Compensation, and Liability Act/Superfund Amendments and Reauthorization Act (CERCLA)***

CERCLA, commonly known as Superfund, was enacted by Congress on December 11, 1980 to provide broad federal authority to respond directly to releases or potential releases of hazardous substances that may endanger public health or the environment. CERCLA also establishes the handling of closed or abandoned hazardous waste sites and liability of persons responsible for releases of hazardous waste at these sites.

#### ***4.1.2.3 Emergency Planning and Community Right-to-Know Act***

Under the Emergency Planning and Community Right-to-Know Act, or Title III of the Superfund Amendments and Reauthorization Act (SARA), the EPA requires local agencies to regulate the storage and handling of hazardous materials and the development of mitigation a plan. Businesses that handle any of the specified hazardous materials must submit to government agencies (i.e., fire departments or public health departments), an inventory of the hazardous materials, an emergency response plan, and an employee training program. This information is also available to the community.

#### ***4.1.2.4 Clean Water Act (CWA)/Spill, Prevention, Control, and Countermeasure (SPCC) Rule***

The CWA, was enacted with the purpose of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. As part of the CWA, the EPA oversees and enforces the Oil Pollution Prevention regulation contained in Title 40 of the CFR, Part 112 (40 CFR Part 112). Facilities with underground oil storage tanks exceeding 42,000 gallons or aboveground oil storage tanks exceeding a total capacity of 1,320 gallons are required to prepare SPCC Plans to prevent oil discharges to navigable waters of the United States and its adjoining shorelines and to ensure effective response to oil discharges.

#### ***4.1.2.5 The Safe Drinking Water Act of 1974 (SDWA) (42 U.S.C. §300f et seq.)***

The Safe Drinking Water Act (SDWA) regulates the amount of toxic substances in drinking water sources. The SDWA requires the EPA to develop minimum federal requirements for Underground Injection Control (UIC) programs and other safeguards to protect public health by preventing injection wells from contaminating underground drinking water sources.

#### ***4.1.2.6 Clean Air Act Amendments of 1990: Section 112(r) (40 CFR 68)***

The EPA requires facilities that handle listed regulated substances to develop Risk Management Plans (RMP) to prevent accidental releases of these substances. RMP materials are submitted to both local agencies (generally the fire department) and the EPA. Stationary sources with more than a threshold quantity of a regulated substance shall be evaluated to determine the potential for, and impacts of, accidental releases of that substance. If a facility stores a regulated toxic chemical above the threshold quantity (listed in 40 CFR 68.130), the owner or operator of a stationary source may be required to develop and submit an RMP. RMPs consist of three main elements: a hazard assessment that includes an off- site consequence analysis and a five-year accident history; a prevention program; and an emergency response program.

#### ***4.1.2.7 Pipeline Safety Improvement Act***

In 2002, the U.S. Congress passed the Pipeline Safety Improvement Act (PSIA) of 2002, to strengthen the nation's pipeline safety laws. Under the PSIA, gas transmission operators are required to develop and follow a written integrity management program containing all the elements described in Part 192.911 of the USDOT regulations (49 CFR) to address the risk on all transmission pipeline segments of High Consequence Areas (HCAs).



#### ***4.1.2.8 Hazardous Liquid Pipeline Safety Act***

The Hazardous Liquid Pipeline Safety Act of 1979 and amendments authorize the USDOT to regulate pipeline transportation of hazardous liquids (including crude oil, petroleum products, anhydrous ammonia, and carbon dioxide).

#### ***4.1.2.9 Resource Conservation and Recovery Act (RCRA) (40 CFR §240-299)***

RCRA develops framework for managing hazardous waste and gives the U.S. EPA regulatory control of hazardous materials management from the time of generation, until final disposal. The RCRA regulations are promulgated in 40 CFR Parts 239 to 282] and 40 CFR Parts 260 to 265 apply to hazardous waste generators and treatment, storage, and disposal facilities (TSDFs). In particular, 40 CFR Part 262 regulates generators of hazardous waste, and 40 CFR Part 265 regulates TSDFs that were already operating when the rule was established.

#### ***4.1.2.10 Hazardous Materials Transportation Act (P.L. 93-933, January 1975)***

The Hazardous Materials Transportation Act (HMTA) regulates transportation of hazardous materials. The primary regulatory authorities are the USDOT, the Federal Highway Administration, and the Federal Railroad Administration (FRA).

#### ***4.1.2.11 Associated Hazardous and Solid Waste Amendments (HSWA) (40 CFR 260)***

Under RCRA, individual states may implement their own hazardous waste programs instead of RCRA if the state program is at least as stringent as the federal RCRA requirements. California's DTSC administers and enforces the federal hazardous waste regulations, in addition to more stringent state hazardous waste regulations.

#### ***4.1.2.12 The Oil Pollution Act of 1990 (33 U.S.C. 2701 et seq.)***

The Oil Pollution Act (OPA) of 1990 prescribes a prevention, response, liability, and compensation program for oil pollution from vessels, offshore facilities, pipelines, and onshore facilities. The OPA requires contingency plans be developed and includes reporting requirements to ensure the earliest possible notice of discharges of oil and hazardous substances and their corresponding threats to state and federal agencies. DOT PHMSA is responsible for implementing the OPA for onshore oil pipelines under 49 CFR Part 194, which requires operators of any onshore oil pipeline(s) that, because of its location, could reasonably be expected to cause substantial harm, or significant and substantial harm to the environment by discharging oil into or on any United States waters or adjoining shorelines to prepare and submit a Facility Response Plan (FRP). The FRP is required to include procedures and resources to respond, to the maximum extent practicable, to a worst-case discharge.

#### ***4.1.2.13 Oil Pollution Prevention Regulation; Non-Transportation-Related Onshore and Offshore Facilities (40 CFR §112)***

These regulations establish procedures, methods, and equipment requirements to prevent the discharge of oil from onshore and offshore facilities into or upon the navigable waters of the United States. These regulations apply only to non-transportation-related facilities.



#### ***4.1.2.14 Chemical Facility Anti-Terrorism Standards (6 CFR Part 27)***

These standards were established by The Federal Department of Homeland Security in 2007. This rule developed risk-based performance standards for the security of chemical facilities. This regulation requires covered chemical facilities to prepare security vulnerability assessments, which identify facility security vulnerabilities, and to develop and implement site security plans. In addition to regulatory standards, there are a number of industry codes and standards that are used in the design, construction, operation, and maintenance of hazardous liquid pipelines.

#### ***4.1.2.15 The Hazardous Materials Transportation Act, 49 CFR 171, Subchapter C***

The USDOT, Federal Highway Administration, and the FRA regulate transportation of hazardous materials at the federal level. The Hazardous Materials Transportation Act (HMTA) requires that carriers report discharges of hazardous materials to the USDOT as soon as possible in addition to incidents, injuries, and deaths that occur.

#### ***4.1.2.16 Occupational Safety and Health Act, (29 U.S.C. 651-678)***

Under the authority of the Occupational Safety and Health Act of 1970, the Occupational Safety and Health Administration (OSHA) established health and safety standards for the workplace, such as, the accidents and occupational injuries reporting requirements. Relevant regulations include those related to hazardous materials handling, employee protection requirements, first aid, and fire protection, as well as material handling and storage.

#### ***4.1.2.17 Hazard Communication, 29 CFR 1910.1200***

The purpose of this section is to ensure that the hazards of all chemicals produced or imported are classified, and that information is distributed to employers and employees through hazard communication programs, such as, container labeling and warnings, safety data sheets and training.

#### ***4.1.2.18 Process Safety Management (PSM) of Highly Hazardous Materials, 29 CFR 1910.119***

The PSM establishes requirements for preventing or minimizing the consequences of catastrophic releases of toxic, flammable, reactive or explosive materials by compiling process safety information, conducting process hazard analyses, written operating procedures, employee training and participation programs, pre-startup safety reviews, evaluation of mechanical integrity of critical equipment, contractor requirements, written procedures for managing change, hot work permit systems, incident investigations, emergency action plans, and compliance audits. Facilities which process a chemical at or above the threshold quantities in Appendix A of 29 CFR 1910.119 or have a Category 1 flammable gas (as defined in 1910.1200(c)) or a flammable liquid with a flashpoint below 100 C on site in one location in a quantity of 10,000 pounds or more. Note that PSM requirements do not apply to oil or gas well drilling or servicing operations.

## 4.2 State

### 4.2.1 Agencies

#### 4.2.1.1 California Occupational Safety and Health Administration (Cal/OSHA)

Cal/OSHA is the primary agency responsible for worker safety in the handling and use of chemicals in the workplace. Cal/OSHA standards are generally more stringent than federal regulations. The employer is required to monitor worker exposure to listed hazardous substances and notify workers of exposure (8 CCR Sections 337-340). The regulations specify requirements for employee training, availability of safety equipment, accident-prevention programs, and hazardous substance exposure warnings.

#### 4.2.1.2 CalEPA

The CalEPA was created in 1991, which unified California's environmental authority in a single cabinet-level agency and brought the California Air Resources Board (CARB), State Water Resources Control Board (SWRCB), Regional Water Quality Control Boards (RWQCBs), California Department of Resources Recycling and Recovery (CalRecycle) – formerly the Integrated Waste Management Board (IWMB), California Department of Toxic Substances Control (DTSC), Office of Environmental Health Hazard Assessment (OEHHA), and Department of Pesticide Regulation (DPR) under one agency. Their mission is to maintain the integrity of natural environment and protect public health.

#### 4.2.1.3 Department of Toxic Substances Control (DTSC)

DTSC is part of the California Environmental Protection Agency (CalEPA). DTSC regulates hazardous waste through 22 CCR Division 4.5. This state level regulation is similar to the federal RCRA regulations. Chapter 12 of this regulation regulates generators of hazardous waste, Chapter 15 regulates the TSDFs that were already in place when the rule was developed, and Chapter 14 regulates TSDFs that have a hazardous waste facility permit.

#### 4.2.1.4 California Office of Emergency Services (CalOES)

The CalOES is responsible for establishing and managing statewide standards for business and area plans relating to the handling and release or threatened release of hazardous materials. A business plan must include basic information on hazardous materials handled, used, stored, or disposed of (including location, type, quantity, and the health risks) and needs to be available to firefighters, public safety officers, and regulatory agencies.

#### 4.2.1.5 California Geologic Energy Management Division (CalGEM)

CalGEM regulates drilling, operation, and well closure for the oil, natural gas, and geothermal industries. Under 14 CCR §1774.2, CalGEM requires certain pipeline operators prepare a Pipeline Management Plan (PMP), which lists information about pipeline grade, type, installation date, design and operating pressures, leak, repair, inspection, and testing history, and testing method and schedule for all pipelines. Permits are required for well drilling and re-drilling/reworking under CalGEM.

#### 4.2.1.6 California Highway Patrol (CHP)

The CHP issues valid Hazardous Materials Transportation License which are required by the laws and regulations of State of California Vehicle Code Section 3200.5 for transportation of hazardous materials.

## **4.2.2 Regulations/Programs**

### ***4.2.2.1 California Accidental Release Protection (CalARP)***

The CalARP Program enforces the requirements of the federal RMP requirements and certain requirements from the California Health and Safety Code (HSC). Risk Management Plans (RMPs) consist of three main elements: a hazard assessment that includes offsite consequences analyses and a five-year accident history, a prevention program, and an emergency response program.

### ***4.2.2.2 Process Safety Management (PSM) of Highly Hazardous Chemicals***

PSM of Highly Hazardous Chemicals specifies required prevention program elements to protect workers at facilities that handle toxic, flammable, reactive, or explosive materials. Prevention program elements are aimed at preventing or minimizing the consequences of catastrophic releases of the chemicals and include process hazard analyses, formal training programs for employees and contractors, investigation of equipment mechanical integrity, and a contingency plan.

### ***4.2.2.3 Hazardous Materials Release Response Plans and Inventory Program***

Health and Safety Code (HSC) Sections 25500 - 25547.8, Hazardous Materials Release Response Plans and Inventory Program requires local agencies to regulate the storage and handling of hazardous materials and requires development of a Hazardous Materials Business Plan (HMBP) to mitigate the release of hazardous materials. Businesses that handle a hazardous material or a mixture containing a hazardous material that has a quantity that is greater than or equal to 55 gallons for materials that are liquids, 500 pounds for solids, or 200 cubic feet for compressed gas must submit to Certified Unified Program Agencies (CUPAs) (e.g., fire departments) an inventory of the hazardous materials, an emergency response contingency plan, and an employee training program. The HMBP must provide a description of the types of hazardous materials/waste onsite and the location of these materials. The information in the business plan can then be used in the event of an emergency to determine the appropriate response action, the need for public notification, and the need for evacuation.

The Enforcement and Emergency Response Division (EERD) has delegated several environmental programs, including the Hazardous Materials Release Response Plans and Inventory Program, to be administered by the CUPA agency, overseen by DTSC. CUPA consolidates all of the requirements of these various programs into one set of regulations to reduce the regulatory burden and improve the consistency of information between regulatory agencies.

### ***4.2.2.4 Hazardous Waste Management System: General***

DTSC implements EPA's definitions of small quantity and large quantity generators under CCR Title 22, Division 4.5, Chapter 10, Article 2. A "small quantity generator" (SQG) is defined as a generator who generates less than 1,000 kg of hazardous waste in a calendar month.

### ***4.2.2.5 Standards for Owners and Operators of Hazardous Waste Transfer, Treatment, Storage, and Disposal Facilities***

DTSC implements Standards for Owners and Operators of Hazardous Waste Transfer, Treatment, Storage, and Disposal Facilities under CCR, Title 22, Division 4.5, Chapter 14. These regulations include accident prevention requirements (Article 3), inspection and containment requirements for tanks and containers (Articles 9 and 10), and performances standards for miscellaneous units (Article 16). Article 3 outlines requirements regarding facility design and operation, equipment, testing and maintenance, access to

communications or alarm systems, aisle space, and arrangements with local authorities. Article 9 outlines requirements regarding use and management of containers, compatibility of waste with containers, inspections, and containment. Article 10 outlines requirements regarding assessment of tank integrity, design and installation of new tank systems or components, containment and detection of releases, general operating requirements, inspection, response to leaks or spills, and closure and post-closure care. Article 16 outlines environmental performances standards; monitoring, analysis, inspection, response, reporting, and corrective actions; and post-closure care for miscellaneous units.

#### ***4.2.2.6 Uniform Fire Code--Hazardous Materials Management Plan, Hazardous Materials Inventory Statement***

The Uniform Fire Code (UFC) prescribes regulations that are consistent with best practices to address fire and explosion hazards with storage of hazardous materials, handling and use of hazardous substances, materials and devices. The State Fire Marshal has adopted the UFC, with amendments, as the California Fire Code. Local fire departments are required to have local fire codes that are no less stringent than the state fire code.

#### ***4.2.2.7 Hazardous Waste Control Act of 1972 (HSC Division 20, Chapter 6.5)***

The Hazardous Waste Control Act established the state hazardous waste management program, which is similar to, but more stringent than RCRA. The Hazardous Waste Control Law regulates the management of hazardous waste under Health and Safety Code, Division 20 Chapter 6.5. This law defines hazardous wastes and best handling practices, transportation, and disposal of hazardous waste.

#### ***4.2.2.8 Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program)***

Senate Bill 1082 of 1993 (Health and Safety Code Chapter 6.11) required the Secretary of the CalEPA to establish a "unified hazardous waste and hazardous materials management" regulatory program (Unified Program) by January 1, 1996. Currently, there are 83 Certified Unified Program Agencies (CUPA) in California.

#### ***4.2.2.9 Aboveground Petroleum Storage Act***

The Aboveground Petroleum Storage Act (APSA) requires reporting of any spill or leak in excess of one barrel as the hazardous materials release regulations (19 CCR §2620-2734). Facilities are regulated under APSA if the facility stores petroleum in an aboveground storage tank (AST), containers, or equipment of 55 gallons or more in shell capacity and the facility's total aboveground petroleum storage capacity is 1,320 gallons or more or the facilities has one or more petroleum tanks in an underground area. If subject to APSA, facilities are required to prepare and implement an SPCC Plan and complete a Tank Facility Statement annually.

#### ***4.2.2.10 Hazardous Waste and Substances Sites (Cortese) List (California Government Code §65962.5)***

This state code requires the state to compile a hazardous waste and substance list. The Cortese List is used to comply with the California Environmental Quality Act (CEQA) requirements by providing information about the location of hazardous materials release sites. The Cortese List encompasses facilities on EnviroStor, GeoTracker, solid waste disposal sites, and Cease and Desist Orders (CDO)/Cleanup and Abatement Orders (CAO) sites as previously discussed in Section 3.1.1 above.

#### ***4.2.2.11 Emergency Services Act of 2009***

Under the Emergency Services Act, the state developed a plan to organize emergency services provided by federal, state, and local agencies. Rapid response to incidents involving hazardous materials or hazardous

waste is a major component of the plan. California's Office of Emergency Services (CalOES) is responsible for the coordination of overall state agency response to major disasters in support of local government. The CalOES Hazardous Materials Section coordinates statewide hazardous materials accident prevention and emergency response programs for all types of hazardous materials incidents and threats. Releases of oil that threatens to cause harm to public health and safety, the environment, or property, require immediate notification and must be made to the CalOES Warning Center.

#### ***4.2.2.12 The Porter-Cologne Water Quality Control Act, California Water Code Sections 13300-13999 and Title 23 of the California Administrative Code***

The Porter-Cologne Water Quality Control Act is analogous to the federal CWA and regulates discharges that may affect the quality of the state's waters. This Act also includes groundwater regulations unlike the federal CWA. The SWRCB and the nine Regional Water Quality Control Boards (RWQCBs) are responsible for planning, permitting, and enforcement. The State Board formulates policies for water-quality control and implements the required permit system. The State and Regional Water Boards have enforcement authority under the Porter-Cologne Water Quality Control Act and take action when there are unauthorized spills and discharges.

#### ***4.2.2.13 Lempert-Keene-Seastrand Oil Spill Prevention and Response Act of 1990***

This chapter, Article 3.5 (Section 8574.1) of Chapter 7 of the Government Code, and Division 7.8 (Section 8750) of the Public Resources Code aims to protect the waters of the state from oil pollution and have plans in place for the effective and immediate response, removal, abatement, and cleanup of spills. This act gives enforcement authority to the California Department of Fish and Wildlife and Office of Spill Prevention and Response.

#### ***4.2.2.14 Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65; Health and Safety Codes Sections 25249.5 et seq.)***

The Act, enforced by CalEPA Office of Environmental Health Hazard Assessment, requires businesses to notify the public about significant amounts of chemicals that are released into the environment. It also requires the development of health-protective exposure standards for different media (air, water, land) to recommend to regulatory agencies.

#### ***4.2.2.15 Assembly Bill 1376 (Bustamante) Field Rule***

In 1998 under Assembly Bill 1376 (Bustamante), the Division of Oil, Gas, and Geothermal Resources (DOGGR, now CalGEM), RWQCB, and California Department of Fish and Game established the "field rule", or thresholds, for oil spill reporting.

#### ***4.2.2.16 Assembly Bill 1960 Public Resources: Oil Production Facilities and Oil Spills***

This Bill requires DOGGR (now CalGEM) to regulate the minimum facility maintenance standards for production facilities. The regulations that accompany this bill (14 CCR Sections 1722 – 1777.3) require operators to develop and implement spill contingency plans where condensate storage volume exceeds 50 barrels or at facilities that produce at least one barrel per day. These regulations provide specific requirements for the spill contingency plan that include emergency contacts, available safety equipment, checklist for spill response, maps of the facility, a list of chemicals at the facility, containment features, corrosion prevention techniques, and the sensor and alarm systems.

#### ***4.2.2.17 California Pipeline Safety Act of 1981 (Cal. Gov. Code § 51010)***

This California Pipeline Safety Act gives regulatory jurisdiction to the state Fire Marshal for the safety of all intrastate hazardous liquid pipelines and oil interstate pipelines used for the transportation of hazardous or highly volatile liquid substances. The law establishes the federal Hazardous Liquid Pipeline Safety Act (49 U.S.C. Sec. 2001 et seq.) and federal pipeline safety regulations as the governing rules for intrastate pipelines. This statute also authorizes the state Fire Marshal by agreement with the United States Secretary of Transportation, to implement the federal Hazardous Liquid Pipeline Safety Act and federal pipeline safety regulations as to those portions of interstate pipelines located within the state. It also establishes the civil penalties for violations of the act or its regulations.

#### ***4.2.2.18 California Occupational Safety and Health Act of 1973 –Labor Code Section 6300-6332***

Cal/OSHA is responsible for developing and enforcing the workplace safety regulations in Title 8 CCR, including the handling and use of chemicals in the workplace. Cal/OSHA hazardous materials regulations require safety training, availability of safety equipment, hazardous substance exposure warnings, and emergency action and fire prevention plan preparation.

### **4.3 Local**

#### **4.3.1 Los Angeles County**

##### ***4.3.1.1 Los Angeles County Fire Department***

The CUP Sites fall under the jurisdiction of Los Angeles County Fire Department as the California Unified Program Agency (CUPA), which maintains the APSA, CalARP, Hazardous Waste, Hazardous Materials, and UST programs. The requirements and applicability for these programs are discussed in Section 4.2 above. Los Angeles County Fire issues Annual Unified Program Facility Permits for facilities under the five CUPA programs.

#### **4.3.2 City of Signal Hill**

##### ***4.3.2.1 Chapter 8 Health and Safety: 8.44 Hazardous Materials Response Plans***

Under this chapter of the Municipal Code of the City of Signal Hill (City of Signal Hill, 2021), it is established that the handler of any hazardous material must immediately report any discharge or potential discharge of hazardous materials to the administering agency (City of Signal Hill) and State Office of Emergency Services.

##### ***4.3.2.2 Chapter 8 Health and Safety: 8.46 Hazardous Waste Control***

Under this chapter of the Municipal Code of the City of Signal Hill, Long Beach/Signal Hill CUPA is designated as the Certified Unified Program Agency under Ch. 6.5 Hazardous Waste Control, Division 20 of the California Health and Safety Code allowing them to enforce requirements that are equal to or more stringent than this chapter. It also establishes that in violation of these requirements, they may be subject to civil and criminal fines, and other remedies.



## 5. HAZARDS AND HAZARDOUS MATERIALS ANALYSIS METHODS

Table 5-1 below shows the CUP Sites' applicability to federal, state, and local hazardous materials and hazardous waste regulations.

**Table 5-1 CUP Sites' Applicability to HM & HW Programs**

CUP Site		Program Applicability						
		CalARP <sup>a</sup>	CalOSHA PSM <sup>a</sup>	EPA RMP <sup>a</sup>	SPCC <sup>b</sup>	APSA <sup>b</sup>	CUPA HMBP <sup>c</sup>	HW Generator <sup>d</sup>
1	A-Site	No	No	No	No	No	Yes	No
2	West	Yes	Yes	Yes	Yes	Yes	Yes	Yes - SQG
3	D-Site	No	No	No	No	No	Yes	No
4	North	No	No	No	No	No	Yes	No
5	Central	No	No	No	Yes	Yes	Yes	Yes - SQG
6	East	No	No	No	Yes	No	No	No
7	Test	No	No	No	No	No	Yes	No

Sources: See Section 5.1 below.

Notes:

- a) CUP Site #2 triggers CalARP, CalOSHA PSM, and EPA RMP due to its large quantity (over 10,000 lbs) of "flammable mixture" in gas processing (covered process).
- b) CUP Sites #2 and #5 trigger SPCC and APSA due to its large capacity (over 1,320 lbs) of aboveground petroleum storage. CUP Site #6 is inactive but triggers SPCC due to its large capacity (over 1,320 lbs) of aboveground petroleum storage which does not meet the definition of permanent closure under SPCC.
- c) All CUP Sites except CUP Site #6 are required to submit CUPA HMBPs to the County of Los Angeles Fire Department due to hazardous materials storage and handling quantities.
- d) CUP Sites #2 and #5 generate hazardous waste and are small quantity generators (SQG).

The CUP Sites' applicability to hazardous materials and hazardous waste programs is described further below.

### 5.1 Current Operations

#### 5.1.1 All CUP Sites

The proposed Project primarily includes the continuation of existing operations at the seven (7) CUP Sites. The following section analyzes hazards for existing operations.

Under CUP 97-03, SHP currently has and implements a CalGEM Pipeline Management Plan, a US DOT Facility Response Plan (FRP), and a CHP hazardous materials transportation license. SHP also has preexisting arrangements with emergency service providers at all CUP Sites as applicable.

CalGEM requires that pipeline operators prepare a Pipeline Management Plan (PMP), which must be updated within 90 days whenever pipelines are acquired, installed, altered, or at the request of the CalGEM State Supervisor of Oil and Gas. SHP's existing PMP (SHP, 2021a) includes information on their maintenance program, including regular patrols and visual inspections, damage prevention, pipeline markers, corrosion monitoring and remediation, pipeline alarm sensors, and integrity inspections and testing. The DOT PHMSA FRP (SHP, 2019c) addresses, prepares, and plans for responding, to the maximum extent practicable, to a worst-case discharge, and to a substantial threat of such a discharge from onshore crude oil pipelines operated by SHP. The FRP establishes the communication, containment, and clean-up procedures in the event of a worst-case discharge.

SHP currently maintains a CHP Hazardous Materials Transportation License (CHP, 2022), which is required by the California Vehicle Commission for drivers to operate a commercial motor vehicle carrying hazardous materials. SHP ensures that all transportation of hazardous materials is conducted in accordance with DOT and CHP standards through existing training and standard procedures.

For all CUP Sites, SHP has ensured by contract the availability of Patriot Environmental Services to respond to a release or the threat of a release of hazardous materials. SHP also has additional available cleanup/disposal contractors to help if needed in the event of a release or the threat of a release of hazardous materials. SHP also has ensured by contract the services of Memorial Occupational Medical Services to provide medical care in the event of a minor accident or injury. Personnel with major injuries will proceed to one of the two nearby hospital emergency clinics, Long Beach Memorial Medical Center and Community Hospital of Long Beach (SHP, 2022b; SHP, 2022c; SHP, 2022d; SHP, 2022e; SHP, 2022f; SHP, 2022g).

### **5.1.2 CUP Site #1**

CUP Site #1 currently has a Hazardous Material Business Plan (HMBP) submitted to and approved by the Los Angeles County Fire Department (CUPA) because the quantity of hazardous materials stored onsite, mainly oil additives and hydraulic/transformer oil, exceeds the thresholds described in Section 4.2.2.3 above (SHP, 2022b). As a part of the HMBP, the facility also has an approved emergency response and contingency plan which includes emergency containment and cleanup procedures, arrangements for emergency services, an inventory emergency equipment at the site, and employee training. CUP Site #1 has a Los Angeles County Annual Unified Program Facility Permit for the Hazardous Materials Disclosure Program (Los Angeles County Fire Department, 2021a). As described in Section 3.1.2 above, hazardous materials are stored within secondary containment and are visually inspected weekly. Further, as discussed in Section 3.3 above, other than small gaps where existing access gates are located, CUP Site #1 is fully contained by existing block walls which would generally contain and direct any potential releases toward well cellars for containment.

### **5.1.3 CUP Site #2**

CUP Site #2 currently stores approximately 190,000 pounds of flammable mixture under the covered process, gas processing, which exceeds the threshold quantity of 10,000 pounds under CalARP, Cal/OSHA PSM, and EPA RMP for flammable gases and liquids. SHP is subject to CalARP and EPA RMP Program Level 3, which is based on the facility's North American Industry Classification System (NAICS) code and applicability to OSHA PSM and has additional requirements as compared to Program Levels 1 and 2. To comply with the three programs, SHP has a CalARP and EPA RMP Program 3 Compliance Workbook (SHP, 2022a), which outlines process safety information, process hazard analysis, operating procedures, training, mechanical integrity, management of change, pre-startup safety review, compliance audits, incident investigation, employee participation, hot work permit, contractors, and emergency planning and response. CUP Site #2 has a Los Angeles County Annual Unified Program Facility Permit for the CalARP Program (Los Angeles County Fire Department, 2021b).

CUP Site #2 currently has 7,950 aboveground storage capacity of petroleum and has therefore prepared an SPCC Plan and is subject to APSA. The SPCC Plan (SHP, 2021b) includes information on the facility storage capacity, discharge and drainage controls, secondary containment, inspections, and training and spill prevention procedures. The SPCC Plan was last reviewed in December of 2021 and is reviewed at least every five years in accordance with 40 CFR. CUP Site #2 submits the CUPA APSA tank facility statement annually and has a Los Angeles County's Annual Unified Program Facility Permit for the APSA program (Los Angeles County Fire Department, 2021b).



CUP Site #2 also currently has an HMBP submitted to and approved by the Los Angeles County Fire Department (CUPA) because the quantity of hazardous materials stored onsite, mainly oil additives, ethylene glycol, solvents, ammonia, lubricants, gear, hydraulic, and transformer oil, used oil, and propane gas and liquids, natural gas and natural gas liquids, and crude oil storage, exceeds the thresholds described in Section 4.2.2.3 above (SHP, 2022c). As a part of the HMBP, the facility also has an approved emergency response and contingency plan which includes emergency containment and cleanup procedures, arrangements for emergency services, an inventory of emergency equipment stored at the site, and employee training. CUP Site #2 has a Los Angeles County Annual Unified Program Facility Permit for the Hazardous Materials Disclosure Program (Los Angeles County Fire Department, 2021b). As described in Section 3.1.2 above, hazardous materials are stored within secondary containment and are visually inspected weekly. Further, as discussed in Section 3.3 above, other than small gaps where existing access gates are located, CUP Site #2 is fully contained by existing block walls which would contain and direct any potential releases toward well cellars for containment.

CUP Site #2 also currently generates hazardous waste under EPA ID CAL000329007 (DTSC, 2022b). As discussed in Section 3.2 above, CUP Site #2 typically generates absorbent/debris & oil, which is a non-RCRA hazardous waste. The average annual waste generation between 2009 to 2021 was 2.1 tons (DTSC, 2022b).

#### **5.1.4 CUP Site #3**

CUP Site #3 currently has an HMBP submitted to and approved by Los Angeles County Fire Department (CUPA) because the quantity of hazardous materials stored onsite, mainly oil additives and hydraulic oil storage, exceeds the thresholds described in Section 4.2.2.3 above (SHP, 2022d). As a part of the HMBP, the facility also has an approved emergency response and contingency plan which includes emergency containment and cleanup procedures, arrangements for emergency services, an inventory emergency equipment at the site, and employee training. Lastly, CUP Site #3 also currently has a Los Angeles County Annual Unified Program Facility Permit for the Hazardous Materials Disclosure Program (Los Angeles County Fire Department, 2021c). As described in Section 3.1.2 above, hazardous materials are stored within secondary containment and are visually inspected weekly.

As discussed in Section 3.3 above, other than small gaps where existing access gates are located, CUP Site #3 is fully contained by existing block walls which would direct any potential releases toward well cellars for containment. Additionally, other SHP oil and gas operations not part of CUP 97-03 surround CUP Site #3 on all sides, which provide further containment and physical separation from any nearby public rights-of-way/drainage areas.

#### **5.1.5 CUP Site #4**

CUP Site #4 currently has an HMBP submitted to and approved by Los Angeles County Fire Department (CUPA) because the quantity of hazardous materials stored onsite, mainly oil additives and hydraulic oil, exceeds the thresholds described in Section 4.2.2.3 above (SHP, 2022e). As a part of the HMBP, the facility also has an approved emergency response and contingency plan which includes emergency containment and cleanup procedures, arrangements for emergency services, an inventory emergency equipment at the site, and employee training. CUP Site #4 has a Los Angeles County Annual Unified Program Facility Permit for the Hazardous Materials Disclosure Program (Los Angeles County Fire Department, 2021d). As described in Section 3.1.2 above, hazardous materials are stored within secondary containment and are visually inspected weekly. Further, as discussed in Section 3.3 above, other than small gaps where existing access gates are located, CUP Site #4 is fully contained by existing block walls which would direct any potential releases toward well cellars for containment.

### **5.1.6 CUP Site #5**

CUP Site #5 has 3,550 aboveground storage capacity of petroleum and therefore maintains an SPCC Plan and is subject to APSA. The SPCC Plan (SHP, 2017c) includes information on the facility storage capacity, discharge and drainage controls, secondary containment, inspections, and training and spill prevention procedures. The SPCC Plan was last reviewed in November of 2017 and is reviewed at least every five years in accordance with 40 CFR. CUP Site #5 submits the CUPA APSA tank facility statement annually and has a Los Angeles County's Annual Unified Program Facility Permit for the APSA Program (Los Angeles County Fire Department, 2021e).

CUP Site #5 currently has an HMBP submitted to and approved by Los Angeles County Fire Department (CUPA) because the quantity of hazardous materials stored onsite, mainly certain additives, natural gas, crude oil, and diesel, exceeds the thresholds described in Section 4.2.2.3 above (SHP, 2022f). As a part of the HMBP, the facility also has an approved emergency response and contingency plan which includes emergency containment and cleanup procedures, arrangements for emergency services, an inventory emergency equipment at the site, and employee training. CUP Site #5 has a Los Angeles County Annual Unified Program Facility Permit for the Hazardous Materials Disclosure Program (Los Angeles County Fire Department, 2021e). As described in Section 3.1.2 above, hazardous materials are stored within secondary containment and are visually inspected weekly.

CUP Site #5 also generates hazardous waste under EPA ID CAL000329008 (DTSC, 2022c). As discussed in Section 3.2 above, CUP Site #2 typically generates absorbent/debris & oil, which is a non-RCRA hazardous waste. The average annual waste generation between 2009 to 2021 was 2.1 tons (DTSC, 2022c).

### **5.1.7 CUP Site #6**

CUP Site #6 is currently inactive but the existing aboveground oil storage tanks do not meet the definition of permanent closure under SPCC. Therefore, because the aboveground storage capacity of petroleum is greater than 1,320 gallons at CUP Site #6, SHP has an existing SPCC Plan (SHP, 2022j). The SPCC Plan includes information on the facility storage capacity, discharge and drainage controls, secondary containment, inspections, and training and spill prevention procedures. The SPCC Plan was last reviewed in September of 2022 and is reviewed at least every five years in accordance with 40 CFR. Further, as discussed in Section 3.3 above, other than small gaps where existing access gates are located, CUP Site #6 is fully contained by existing block walls which direct any potential releases toward the center of the site for containment.

### **5.1.8 CUP Site #7**

CUP Site #7 currently has an HMBP submitted to and approved by Los Angeles County Fire Department (CUPA) because the total quantity of hazardous materials stored onsite exceeds the thresholds described in Section 4.2.2.3 above (SHP, 2022g). As a part of the HMBP, the facility has an approved emergency response and contingency plan which includes emergency containment and cleanup procedures, arrangements for emergency services, an inventory emergency equipment at the site, and employee training. CUP Site #7 has a Los Angeles County Annual Unified Program Facility Permit for the Hazardous Materials Disclosure Program (Los Angeles County Fire Department, 2021f). As described in Section 3.1.2 above, hazardous materials are stored within secondary containment and are visually inspected weekly. Further, as discussed in Section 3.3 above, other than a small gap where existing access gate is located, CUP Site #7 is fully contained by existing block walls which direct any potential releases toward well cellars for containment. As needed, bulk hazardous materials (additives, raw chemicals) are transported to the other CUP Sites from CUP Site #7 under SHP's CHP hazardous materials transportation license (CHP, 2022).

### 5.1.9 Well-Drilling and Maintenance

Generally, new well drilling has and would continue to be conducted within the existing well cellars located at each of the CUP Sites. Please see the project description for information on historical well drilling and re-drilling activities. In addition to CUP 97-03 approved by the City, well drilling and well re-drilling/reworking has and would continue to require a permit and approval from CalGEM (CalGEM, 2019). For new well drilling, including any future new well drilling at the CUP Sites that may occur during the 20-year Project term, approval is contingent upon protection of all hydrocarbon zones and all surface and subsurface fresh waters through adequate casing and cementing practices, and proper drilling procedures, adequate blowout prevention equipment, and proper well spacing. The permit to drill also includes all mandatory inspections and testing that CalGEM inspectors are required to witness and approve. For re-drilling/reworking, adequate blowout prevention equipment is required for CalGEM approval. The permit to rework / re-drill also includes all mandatory inspections and testing CalGEM inspectors are required to witness and approve.

For well drilling, reworking / re-drilling, and maintenance at the CUP Sites, SHP has adopted and implements American Petroleum Institute’s (API) Recommended Practice for Occupational Safety for Oil and Gas Well Drilling and Servicing Operations (API, 2013) as its well drilling standard operating procedure. Consistent with SHP’s existing operations, additional hazardous materials would continue to be used and stored at the CUP Sites for short periods on an as needed basis, specifically while the drilling, reworking / re-drilling, and maintenance operation is occurring at a specific CUP Site. Per information provided SHP, on average well reworking/re-drilling would continue to typically be completed over a one-week period at a given CUP Site, while drilling of new wells on average typically takes approximately one month, dependent upon the target depth of the well and specific geologic conditions encounter. Please see Table 5-2 for additional details on the hazardous materials used in well drilling and Table 5-3 for hazardous materials used in well maintenance as well as average quantities stored. Note that while these are average quantities and that actual quantities may differ due to the well characteristics, these quantities accurately represent what has historically and will continue to be used onsite to support drilling, reworking / re-drilling, and maintenance as part of the Project. Additionally, SHP does not conduct hydraulic fracturing. As discussed above, the CUP Sites also have approved emergency response and contingency plans, as applicable, which would continue to cover the use and storage of hazardous materials on the CUP Sites due to future well drilling and maintenance operations that would occur throughout the proposed 20-year life of the Project.

**Table 5-2 Well Drilling Hazardous Materials**

<b>Material</b>	<b>CAS</b>	<b>Average Storage Quantity (lbs)</b>	<b>DOT Hazard Class</b>	<b>Physical Hazard Class</b>	<b>Health Hazard Class</b>
2-Butoxyethanol	111-76-2	319	3	Combustible Liquid, Class III-A	T, I
Cocamide DEA	68603-42-9	110	3	Combustible Liquid, Class III-B	C, I
DEA -Oleic Acid	68855-44-7	55			
Diethanolamine	111-42-2	55	3	Combustible Liquid, Class III-B	C, T, I
Sodium (C10-C16) Benzene Sulfonate	68081-81-2	110	-	-	I
Tall Oil (DTO)	8002-26-4	7,012	-	-	I
Petroleum distillates	64742-47-8	3,218	3	Combustible Liquid, Class II	AH

<b>Material</b>	<b>CAS</b>	<b>Average Storage Quantity (lbs)</b>	<b>DOT Hazard Class</b>	<b>Physical Hazard Class</b>	<b>Health Hazard Class</b>
Methanol	67-56-1	976	3	Flammable Liquid, Class I-B	AH, T, I
Calcium hydroxide	1305-62-0	10,025	-	-	T, I
Hydrocarbons, C11-C14 n-alkanes, isoalkanes, cyclics, <2% aromatics	None	22,646	3	Combustible Liquid, Class III-B	AH
Distillates, petroleum, hydrotreated light naphthenic	64742-53-6	3,465	3	Combustible Liquid, Class III-B	AH, T, I
Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl, salts with bentonite	68953-58-2	154	-	-	I
Calcium chloride	10043-52-4	154	-	-	I

Source: SHP, 2019b.

**Table 5-3 Well Maintenance Hazardous Materials**

<b>Material</b>	<b>CAS</b>	<b>Average Storage Quantity (lbs)</b>	<b>DOT Hazard Class</b>	<b>Physical Hazard Class</b>	<b>Health Hazard Class</b>
methanol	0000067-56-1	142	3	Flammable Liquid, Class I-B	AH, T, I
ammonium chloride	0012125-02-9	17,387	-	-	T
xylene	0001330-20-7	2,069	3	Flammable Liquid, Class I-C	AH, C, T, I
ethylbenzene	0000100-41-4	621	3	Flammable Liquid, Class I-B	AH, C, T
toluene	0000108-88-3	20	3	Flammable Liquid, Class I-B	AH, T, I
2-butoxyethanol	0000111-76-2	196	3	Combustible Liquid, Class III-A	T, I
aromatic petroleum distillates	0064742-94-5	183	3	Combustible Liquid, Class III-B	AH, T, I
citric acid	0000077-92-9	140	-	-	T, I
3-phenyl-2-propenal	0000104-55-2	43	3	Combustible Liquid, Class III-B	T, I
nonylphenol polyethylene glycol ether	0127087-87-0	125	3	Combustible Liquid, Class III-B	T, I
polyoxyethylene dinonylphenol	0009014-93-1	7	9	-	I
hydrochloric acid	0007647-01-0	33,163	8	Corrosive	T, I
hydrofluoric acid	0007664-39-3	396	8	Corrosive	T, I

Source: SHP, 2017b; SHP, 2019a; SHP, 2022i.

## 5.2 Proposed Project

### 5.2.1 CUP Site #2 Modifications

As discussed in Section 2.3 and in the project description, the proposed Project includes the construction and operation of redundancy and efficiency modifications to the existing natural gas system located at CUP Site #2. The gas system modification includes the addition of low temperature separation (LTS) equipment, gas membrane unit, and ancillary equipment (e.g., burner, foundations) within the northcentral portion of CUP Site #2. While the gas system modifications would allow natural gas to be more efficiently processed at CUP Site #2, the equipment would not increase the total facility throughput or increase the total quantity of natural gas extracted under CUP 97-03, or change or increase the level of operations (both extraction and processing) at the CUP Sites. The modifications would include the addition of a back-up low temperature separation unit (LTS) and a backup membrane unit to remove inert gas, as well as connecting a new gas sales meter and pipeline provided by SoCal Gas Company and a booster compressor to provide the necessary line pressure. The modifications also include the addition of a clean burning combustion unit to handle waste gas streams that are currently recycled through the facility.

The new natural gas processing equipment would generally be installed on top of existing paved surfaces (minimal ground disturbance for underground process piping, electrical conduits and control cable conduits as well as reinforced concrete foundations for each piece of equipment) entirely within the existing containment boundary of CUP Site #2. Installation of the gas system structures would not create new slopes, permanently exposed soil, or other topographic conditions which could increase the chance of surface runoff or erosion/siltation. Additionally, the natural gas processing system modification would not increase the amount of total paved surfaces or introduce new onsite features that would alter the existing drainage pattern at CUP Site #2.

While the total facility throughput would not change or increase as a result of the Project, the total quantity of certain materials stored at CUP Site #2 may slightly change or increase depending on the quantity of materials being processed within the new system at any given time. Specifically, the storage of natural gas liquids in the various new tanks/transmissions pipes, as well the storage and use of ethylene glycol in the LTS, may result in a slight increase in the total amount of hazardous materials transported by motor vehicle and pipeline to and from CUP Site #2; however, any potential increase in natural gas liquids storage will be sufficiently covered under the site's existing CUPA permit, SPCC Plan, CalARP/EPA RMP/CalOSHA PSM program, which would be updated as needed following Project approval. Additionally, construction and operation of the gas system modifications at CUP Site #2 will also not trigger applicability to additional regulatory programs that CUP Site #2 and/or SHP's operations as a whole are not already subject to. The increase of ethylene glycol will also be covered under the facility's existing CUPA permit and will not trigger applicability to additional regulatory programs. Lastly, the increased transportation of hazardous materials will be minimal and accomplished by the existing vehicles/methods utilized by SHP and would therefore not impact compliance with SHP's existing PMP, its CHP Hazardous Materials Transportation license, or trigger additional regulatory requirements beyond those currently in place at the facility(s). Therefore, the proposed CUP Site #2 gas system modifications will not impact compliance with local and state regulations, permits, and regulatory programs for hazardous materials discussed in Section 5.1 above for existing operations.

The CUP Site #2 modifications will also not increase the amount of hazardous waste generated at the CUP Site. The only potential hazardous waste would be generated from routine construction activities and ongoing equipment maintenance activities; however, quantities of waste would be identical to those already generated at CUP Site #2 due to onsite maintenance of the existing processing equipment, tanks, transmission lines, and other ancillary equipment/structures. Therefore, the proposed CUP Site #2 modifications will not impact

compliance with local and state regulations, permits, and regulatory programs for hazardous waste discussed in Section 5.1 above for existing operations.

### **5.2.2 New Well Drilling**

As discussed in Section 2.3 and the project description, consistent with existing operations, the proposed Project would allow for the continued construction of new well cellars at the CUP Sites and/or new well drilling at each CUP Site, both of which would continue to be conducted on an as-needed basis. While new wells would continue to be drilled (as well as existing wells redrilled) on an as needed basis, the drilling/redrilling activity levels assumed throughout for the proposed 20-year term of the would be consistent with historical operations. Although cyclical fluctuations are a natural aspect of the oil and gas industry, the Project is a continuation of existing operations, and as such the level of future well drilling for the proposed 20-year term of the Project is forecasted to be consistent with historical operations. Specifically, wells would continue to be drilled/redrilled during the life of the CUP primarily to replace lost production capacity but will not change or increase the total level of oil, water, and natural gas extracted/processed at any CUP Site. Continue drilling/redrilling would also not require the installation of additional ancillary equipment, as SHP's existing storage, transmission, and processing facilities located within the seven CUP sites have sufficient capacity to continue to serve extraction operations throughout the proposed 20-year life of the CUP.

As discussed previously, new well drilling and well re-drilling/re-working may temporarily increase hazardous materials storage at the CUP Sites as described in Section 5.1.9 and may temporarily increase hazardous materials transportation to the specific CUP Site(s) when the onsite drilling/redrilling activity is occurring. However, consistent with existing operations, any additional hazardous materials used and stored at the CUP Sites will be covered under each CUP Site's existing CUPA permit and will not trigger applicability to additional regulatory programs related to hazardous materials. Any increased transportation of hazardous materials during intermittent drilling/redrilling will not impact compliance with SHP's existing CHP Hazardous Materials Transportation license or trigger additional regulatory requirements. Therefore, new well drilling during the 20-year term of the Project will not generate increased quantities of hazardous materials or wastes, nor would new well drilling impact compliance with local and state regulations, permits, and regulatory programs for hazardous materials discussed in Section 5.1 for existing operations.

### **5.2.3 Well Cellar Construction**

Generally, SHP would continue drilling/redrilling operations within the existing well cellars at each CUP Site; however, consistent with past operations, at times a new ancillary well cellar may need to be created. Consistent with existing protocols, onsite areas where new well cellars are proposed are inspected and monitored prior to and during excavation. If potentially contaminated soil is encountered during well cellar excavation, that soil is isolated in a stockpile pending evaluation by an environmental engineer, samples and/or lab analysis to determine the proper disposal procedure of the contaminated soil. Well cellar excavation, monitoring, and soil evaluation/sampling would continue to be conducted in accordance with applicable City, state, and federal regulations.

To construct a new well cellar, at most the backhoe would have to operate at the given CUP Site for no more than 4 hours to excavate the necessary depression. The pre-cast concrete box concrete box would then be transported to the appropriate CUP Site via delivery truck. As such, well cellar construction can generally be complete within a single day, using SHP's existing equipment and onsite employees.

Construction of future well cellars would also not change or increase the amount of hazardous waste generated at the CUP Sites compared to historical levels. The only potential hazardous waste would be generated from routine construction activities and ongoing equipment maintenance activities; however, consistent with



existing operations, any additional hazardous materials used and stored at the CUP Sites will be covered under each CUP Site’s existing CUPA permit and will not trigger applicability to additional regulatory programs related to hazardous materials. Therefore, new well cellar construction during the 20-year term of the Project will not generate increased quantities of hazardous materials or wastes, nor conflict with local and state regulations, permits, and regulatory programs for hazardous materials discussed in Section 5.1 for existing operations.

### 5.3 Risk of Upset Analysis

This section presents a risk of upset analysis of the proposed Project for common oil and gas facility upset scenarios that could affect public safety. The analysis assesses what upsets could occur based on historical project operations and changes to the CUP Sites due to the proposed Project. Please see Table 5-4 for a summary of the accident history since SHP began operation at the CUP Sites.

**Table 5-4 Accident & Upset History**

Scenario	Applicable CUP Sites	History of Occurrence
Pipeline Leak or Rupture	All	No
Oil Spill / Leak	2, 5, 6	No
Fire and Explosion	2	No
Release of hazardous materials	1, 2, 3, 4, 5, 7	No
Wellhead area leak/rupture	Well-drilling	Yes <sup>a</sup>
Well blowouts	Well-drilling	No

a. CUP Site #2 had a past wellhead leak of brine water due to mechanical issues. The leak was non-hazardous and did not cause any injuries or fatalities.

Based on the accident and upset history of the CUP Sites, please see Table 5-5 which qualitatively analyzes the risk of upset for the proposed Project. This analysis is described further under the table below.

**Table 5-5 Risk of Potential Upset Analysis**

Scenario	Applicable CUP Sites	Potential to Occur
Pipeline Leak or Rupture	All	Low
Oil Spill or Leak	2, 5	Low
Fire and Explosion	2	Low
Release of Hazardous Materials	1, 2, 3, 4, 5, 7	Low
Wellhead Area Leak or Rupture	All (during well-drilling)	Low
Well Blowouts	All (during well-drilling)	Low

#### 5.3.1 Pipeline Leak or Rupture

As discussed in Section 5.1.1 above, SHP has an existing Pipeline Management Plan under CalGEM which ensures that pipelines are maintained and operated to prevent leaks or ruptures. SHP’s Facility Response Plan ensures that SHP is prepared to respond in the event of a discharge or substantial threat of discharge from their pipelines. As discussed in Section 2.3 above, the modifications to CUP Site #2 include constructing additional pipelines for SoCal Gas. The pipelines will be owned and operated by SoCal Gas and are therefore not analyzed as a part of this scenario. Because the proposed Project will not change the PMP, FRP, or increase the number of pipelines at CUP sites, the potential of pipeline leak or rupture to occur would remain low.

### **5.3.2 Oil Spill or Leak**

As discussed in Section 5.1 above, CUP Sites #2, #5, and #6 have existing SPCC Plans which ensure that oil sources are properly maintained and operated to prevent spills or leaks. All oil sources have secondary containment and are inspected in accordance with the requirements under SPCC. In the event of an oil spill, SHP's contingency plan prepares the facility to respond to oil spills or leaks on the CUP Sites. The modifications to CUP Site #2 under the proposed Project will not increase the amount of total oil stored at the site. Because the proposed Project will not change the SPCC Plans, contingency plans, or increase the amount of oil stored at any CUP site, the potential for an oil spill or leak is low. Additionally, SHP will continue to review and update their existing SPCC Plans every five years in accordance, and will continue to update the existing SPCCs as needed throughout the 20-year Project term.

### **5.3.3 Fire and Explosion**

The risk of fire and explosion at CUP Site #2, was analyzed in the CalARP and EPA RMP Program 3 Compliance Workbook described in Section 5.3.2 above. The hazard analysis in the workbook analyzed various fire and explosion scenarios as the worst case, which is based on very conservative assumptions, and alternative release scenarios. As described in the workbook, all equipment at the site was built and modified in accordance with National Fire Protection Association (NFPA) standards. The workbook also identifies safety systems such as relief valves, emergency shutdown, and indicators which minimize safety risks such as fire and explosion. The facility has operating procedures, preventative maintenance, and training to ensure proper functioning and operation of all equipment and safety systems. In the event of a fire or explosion, SHP's emergency action plan approved by Los Angeles County Fire Department will be used to minimize impacts to public safety and employees. As discussed in Section 5.1.3 above, the modifications to CUP Site #2 will adhere to applicable NFPA standards. Additionally, while the gas system may slightly increase the amount of total natural gas liquids at CUP Site while the equipment is in use, any additional hazardous materials storage would be nominal and would be covered by the existing CalARP/EPA RMP/CalOSHA PSM program. Because the CUP Sites, including CUP Site #2, will continue to operate in accordance with existing procedures, standards, and safety measures, the risk for fire and explosion would remain low for the proposed Project.

### **5.3.4 Release of Hazardous Materials**

As described in Section 3.1.2 above, hazardous materials have and would continue to be stored within secondary containment and are visually inspected weekly. Further, as discussed in Section 3.3, all CUP Sites except for CUP Site #5 are generally contained by existing perimeter block walls which would direct any potential releases toward existing well cellars for containment, minimizing potential releases to the environment. As discussed in Section 5.1 above, all sites that store hazardous materials are required to submit HMBPs to Los Angeles County Fire Department. As a part of the HMBP, the facility is required to have an approved emergency response and contingency plan. SHP currently has HMBP for all those CUP Sites that stored hazardous materials. SHP would continue to maintain and update the existing HMBPs as needed throughout the life of the Project.

For all CUP sites, SHP has and would continue to ensure by contract the availability of Patriot Environmental Services to respond to a release or the threat of a release of hazardous materials and additional available cleanup/disposal contractors. As discussed in Section 5.1.3 above, the modifications to CUP Site #2 may increase the amount of natural gas liquids and increase the ethylene glycol stored in situ (i.e., while in operation) within the new equipment (i.e., LTS and backup membrane units); however, this additional hazardous materials storage would be nominal, and will be sufficiently covered by the facility's existing HMBP and contingency plan. Because the CUP Sites, including CUP Site #2, will continue to follow their inspection



procedures, training, and contingency plan throughout the life of the Project, the risk of a release of hazardous materials would remain low for the proposed Project.

### **5.3.5 Wellhead Area Leak or Rupture**

As discussed above, SHP has and would continue to follow American Petroleum Institute's Recommended Practice for Occupational Safety for Oil and Gas Well Drilling and Servicing Operations (reaffirmed in January 2013) during ongoing maintenance and/or servicing of wellheads. Wellheads would continue to be visually inspected daily by existing SHP personnel. In the event of a leak or rupture, SHP's contingency plan and the control measures described therein would continue to be implemented to minimize releases of hazardous materials as needed. Additionally, in the unlikely event that a leak or rupture event were to occur at any of the CUP Sites, the existing well cellar(s) would continue to act as secondary containment to contain releases. Because the proposed Project will not change the procedures and maintenance practices for wellheads, the potential of pipeline leak or rupture to occur would remain low for the proposed Project.

### **5.3.6 Well Blowouts**

Well blowouts are uncontrolled releases of crude oil from an oil well after pressure control systems have failed. As discussed in Section 5.1.9 above, CalGEM issues well drilling/re-drilling permits which require adequate blowout prevention equipment be utilized for approval. CalGEM staff also witness the required inspections and testing of the well. As stated above, SHP has and would continue to follow the American Petroleum Institute's Recommended Practice for Occupational Safety for Oil and Gas Well Drilling and Servicing Operations (reaffirmed in January 2013) for any well drilling/re-drilling that would occur throughout the life of the Project. Because well drilling/re-drilling will continue to be conducted in accordance with CalGEM requirements and SHP's existing internal procedures, the potential for well blowouts to occur would remain low for the proposed Project.

## 6. HAZARDS AND HAZARDOUS MATERIALS IMPACT ANALYSIS

### 6.1 Hazards and Hazardous Materials

#### 6.1.1 CEQA Guidelines

According to the CEQA Environmental Checklist Questions (i.e., CEQA Appendix G), a Project could have a potentially significant effect related to hazards and hazardous materials if the project would:

- a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
- b) 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?
- c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?
- d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, would it create a significant hazard to the public or the environment?
- e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?
- f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?
- g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

#### 6.1.2 City of Signal Hill Significance Criteria

Requirements identified in the City of Signal Hill policies and plans, specifically the General Plan as well as the Municipal Code, are addressed by the significance criteria above. The City of Signal Hill has no published significance criteria specific for hazards beyond the CEQA Guidelines environmental checklist questions related to hazards and hazardous materials.

#### 6.1.3 Analysis of Hazards and Hazardous Materials Impacts

##### 6.1.3.1 HAZ-1: Transport, Use and Disposal of Hazardous Materials and Hazardous Waste

CEQA Guidelines Hazards and Hazardous Materials Environmental Checklist Question a) – Will the Project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

As discussed in Section 5.1, the existing operations currently occurring at all CUP Sites includes the routine transport, storage, and use of hazardous materials. Vehicle transportation of hazardous materials is conducted in accordance with local and state regulations described under SHP's CHP Hazardous Materials Transportation License. Pipeline transportation of hazardous materials is conducted in accordance with SHP's PMP under CalGEM. While the proposed Project, as described in Section 5.2 above, would continue to transport hazardous

materials via motor vehicle or pipeline due to facilitate ongoing well drilling or well servicing, the type of material and the total quantity of hazardous materials transported will not change or increase beyond historical levels, nor would the continuation of existing oil and gas operations effect compliance with existing regulatory requirements and established plans for the transportation of hazardous materials as compared to SHP's existing operations.

As discussed above, while the modifications to CUP Site #2 may increase the amount of natural gas liquids and increase the ethylene glycol stored in situ within the new equipment (i.e., LTS and backup membrane units) while in operation, this additional hazardous materials storage would be nominal, and will be sufficiently covered by the facility's existing HMBP and contingency plan. As such, installation and operation of the proposed gas system modifications at CUP Site #2 would not impact compliance with SHP's regulatory requirements or established plans for the transportation of hazardous materials.

As discussed in Section 5.1 above, SHP stores and uses hazardous materials at all CUP Sites except for CUP Site #6, and hazardous materials have and would continue to be stored in secondary containment and visually inspected weekly in compliance with the regulatory requirements. Applicable CUP Sites would continue to maintain HMBPs approved by the Los Angeles County Fire Department (CUPA) and under Los Angeles County's Annual Unified Program Facility Permit. Consistent with existing operations, well drilling under the Project may require temporary storage of hazardous materials; however, any future well drilling would be consistent with historical activities, nor would it require the temporary storage of hazardous materials at a CUP Site that would trigger additional regulatory applicability. Once well drilling at a given CUP Site were complete, any hazardous materials temporarily stored to facilitate the onsite activities would be removed and properly stored within CUP Site #7. Additionally, as discussed in Section 5.2 above, while the proposed Project may slightly increase the quantity of hazardous materials stored in the modified gas system at CUP Site #2, this increase in storage would be nominal, would only potentially occur when the equipment is fully operational, and will not trigger additional regulatory applicability nor impact compliance with existing regulatory programs and permits as compared to SHP's existing operations.

As discussed in Sections 3.2 and 5.1 above, hazardous waste, mainly oily rags and oil filters from maintenance activities, would continue to be generated at CUP Sites #2 and #5 and handled and disposed of in accordance with state and local regulations. As described in Section 5.2 above, because existing operations would generally continue with no changes to existing/historical operations (other than the installation/operation of the proposed gas system modification at CUP Site #2), the proposed Project will not change or increase hazardous waste generation at the CUP Sites or cause new hazardous waste generation at an additional CUP Site. The proposed Project will continue to maintain compliance with state and local regulations for hazardous waste disposal and will therefore have no new impact on hazardous material disposal as compared to SHP's existing operation.

As described in the paragraphs above, the proposed Project will not affect SHP's regulatory applicability to local, state, and federal hazardous materials regulations for transport, use, and disposal, compliance with the applicable programs and permits for hazardous materials, or hazardous waste generation at the CUP Sites as compared to the baseline. Other than nominal quantity of hazardous materials that might pass through the gas system modifications at CUP Site #2 while in operation, the total of quantity of hazardous materials utilized or stored and/or hazardous waste generated or stored would not change or increase as a result of the Project. As stated above, while the modifications to CUP Site #2 may slightly increase the amount of natural gas liquids and ethylene glycol stored in situ within the new equipment (i.e., LTS and backup membrane units) while in operation, this additional hazardous materials storage would be nominal, and will be sufficiently covered by the facility's existing HMBP and contingency plan(s). Therefore, there would be no new potential hazards associated with the routine transport, use, and disposal of hazardous materials as a result of the

proposed Project, and potential impacts would be less than significant at all CUP Sites. No mitigation measures are required.

### 6.1.3.2 HAZ-2: Potential Release of Hazardous Materials and Hazardous Wastes

CEQA Guidelines Hazards and Hazardous Materials Environmental Checklist Question b) – Will the Project 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?

As discussed in Section 5.1 above, SHP stores hazardous materials at all CUP Sites except for CUP Site #6 and stores hazardous wastes at CUP Sites #2 and #5. Hazardous materials and hazardous wastes are stored in secondary containment and visually inspected weekly in compliance with the regulatory requirements.

In the event of a spill, SHP has a spill response procedure which outlines how SHP will contain the spill and minimize releases to the environment. SHP has absorbent physical barriers and absorbent material stored at all CUP Sites to contain and prevent spills from migrating and isolate the spill area if a spill occurs. Spills contained within tank enclosures or other containment is removed by vacuum truck or portable pump. SHP will also stop processes or operations or shut off water, gas, and/or electricity as needed to minimize the spill volume if/when a spill was to occur at a given CUP Site. If a spill has the potential to discharge off the property, SHP will notify the appropriate local agencies and use a spill contractor to respond to a release or threat of a release.

Furthermore, as discussed in Section 3.3 above, all CUP Sites except for CUP Site #5 are contained by existing perimeter block walls which would continue to prevent offsite discharges in the event of a spill and direct any potential releases toward the existing well cellars for containment, which continue to minimize potential releases to the environment. Applicable CUP Sites have and would continue to maintain HMBPs through the Los Angeles County Fire Department (CUPA) and permitted under Los Angeles County's Annual Unified Program Facility Permit. Additionally, as a part of the existing HMBP(s), the applicable CUP Sites would continue to maintain approved emergency response and contingency plans for responding to and containing releases of hazardous materials. SHP would continue to maintain these existing plans and update them as needed to address regulatory requirements, including changes due to the proposed gas system modifications at CUP Site #2. For CUP Sites #2, #5, and #6, the existing SPCC Plan includes spill prevention procedures, controls, maintenance, and emergency response to prevent releases of oil sources. For CUP Site #2, SHP's existing CalARP and EPA RMP Program 3 Compliance Workbook includes procedures, controls, maintenance, and emergency response to prevent releases of flammable hazardous materials. Specifically, SHP maintains the required DOT FRP for responding to releases from onshore crude oil pipelines operated by SHP. SHP also follows American Petroleum Institute's Recommended Practice for Occupational Safety for Oil and Gas Well Drilling and Servicing Operations for well drilling, maintenance, and service of wellheads and maintains the required contingency plan to respond to releases. Well drilling permits require adequate well blowout protection to prevent releases of crude oil from wellheads. The CUP Sites, including CUP Site #2, will continue to operate in accordance with existing procedures, standards, and safety measures outlined in the SPCC Plans and other requirements, as applicable, throughout the life of the Project.

For the proposed Project, the risk of upset, including potential release scenarios, is evaluated in Table 5-4 and explained further in Section 5.3 above. For all release scenarios analyzed for the continuation of existing operations, the proposed gas system modifications at CUP Site #2, and any future well drilling that would occur during the 20-year life of the Project, the potential for releases to occur as a result of the proposed Project would remain low based on historical accident and upset scenarios, SHP's existing emergency response

plans as described above, and SHP's continued compliance with the applicable local, state, and federal regulations to prevent and prepare for releases of hazardous materials.

For these reasons as described in the paragraph above, the proposed Project will not create new hazards to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. SHP has and will continue to comply with applicable local, state, and federal hazardous materials regulations for releases. Through continue compliance with the applicable programs, procedures, and permits currently in place at the CUP Sites, the Project would result in no new impacts as compared to the existing baseline operations. Therefore, there would be no new potential hazards associated with upset and accident conditions involving the release of hazardous materials into the environment as a result of the proposed Project, and potential impacts would be less than significant at all CUP Sites. No mitigation measures are required.

### ***6.1.3.3 HAZ-3: Emissions or Handling of Hazardous Materials and Hazardous Wastes Near Schools***

CEQA Guidelines Hazards and Hazardous Materials Environmental Checklist Question c) – Would the Project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Except for CUP Site #5, none of the existing CUP Sites are located within one-quarter mile of an existing or proposed school. CUP Site #5 is located approximately 0.15 miles from Richard D. Browning High School. As discussed in Section 2.3 above, the proposed Project would not change or expand the existing CUP facility boundaries. As discussed in Section 5.2 above, while the proposed Project may result in temporary increases of hazardous materials stored at a given CUP Site during ongoing well drilling and servicing at the CUP Sites, well drilling and servicing that would be conducted throughout the life of the Project, including at CUP Site #5, would be consistent with historical operations and will not trigger additional regulatory applicability to hazardous materials regulations. For example, SHP has drill numerous new wells and serviced existing wells at CUP Site #5 in the past (i.e., between 2009 and 2021), and any future activities during the 20-year Project term would be conducted in the same manner, using the same equipment, and at the same activity levels as has occurred historically. Therefore, the proposed Project will not increase hazardous waste generation at CUP Site #5 and will maintain compliance with applicable hazardous waste regulations. Because the proposed Project will not change or expand the location or boundaries of the CUP Sites, or effect compliance with hazardous materials and hazardous waste regulations at CUP Site #5, there would be no new impacts as a result of the proposed Project and potential impacts would be less than significant. No mitigation measures are required.

### ***6.1.3.4 HAZ-4: Hazardous Materials Site***

CEQA Guidelines Hazards and Hazardous Materials Environmental Checklist Question d) – Would the Project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

As discussed in Section 3.1.1 above, the existing CUP Sites are not located on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5, which includes DTSC's EnviroStor, SWRCB's list of LUSTs on GeoTracker, SWRCB's list of solid waste disposal sites with waste constituents above hazardous waste levels outside the waste management unit, or SWRCB's list of active CDOs and CAOs. As discussed in Section 2.3 above, the proposed Project would not change or expand the existing facility boundaries. Because

the proposed Project will not affect the location of the CUP Sites or expand the existing CUP boundaries, there would be no new impacts as a result of the proposed Project and potential impacts would be less than significant. No mitigation measures are required.

#### **6.1.3.5 HAZ-5: Airport Safety and Noise Hazards**

CEQA Guidelines Hazards and Hazardous Materials Environmental Checklist Question e) – For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

The existing CUP Sites are located within two miles of a public airport or public use airport, specifically the Long Beach Airport is located approximately 1.0 miles northeast of CUP Site #5. Although the proposed Project would be within two miles of this public airport, the proposed Project is the continuation of existing oil drilling and related operations at the existing CUP Sites, as well as the proposed gas system modification at CUP Site #2. There would be no new sources of hazards to existing airport operations as a result of the proposed Project, nor would the proposed Project be affected by airport operations-related noise. Additionally, other than the proposed gas system modifications, with the estimated maximum height of the new tanks at approximately 35-feet above the existing ground surface at CUP Site #2, no other aboveground structures that would result in new safety hazards are proposed as a result of the Project. For these reasons, the proposed Project would have a less than significant impact from safety hazard or excessive noise for people residing or working in the Project area. No mitigation measures are required.

#### **6.1.3.6 HAZ-6: Emergency Evacuation Plan Interference of Impairment**

CEQA Guidelines Hazards and Hazardous Materials Environmental Checklist Question f) – Would the Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The CUP Sites fall under the City of Signal Hill Hazard Mitigation Plan (City of Signal Hill, 2018) and Los Angeles County Operational Area Emergency Response Plan (Los Angeles County, 2012). The City of Signal Hill Hazard Mitigation Plan (HMP) discusses the stakeholders for the plan, and mitigation strategies for natural hazards that pose a significant threat to the City. The HMP also generally analyzes the hazards for earthquake, landslide, windstorm, and drought within the City, and includes mitigation action items for each hazard. The Los Angeles County Operational Area Emergency Response Plan (OA ERP) describes emergency management, operational priorities, coordination with local, state, and federal response agencies, hazard analysis and mitigation, and training and exercises.

As discussed above, the proposed Project is primarily the continuation of existing oil and gas operations at the seven existing CUP Sites, with the exception of the proposed gas system modifications proposed within CUP Site #2. SHP would also continue to drill new/redrilling existing wells within the CUP Site boundaries on an as needed basis. Although occasional drilling and redrilling will include the use of drill rigs and related transport trucks being dispatched to each individual CUP Site as needed, this movement of equipment would remain temporary and intermittent, and conducted in the same manner and using the same equipment as currently utilized as part of SHP's existing on-going operations. The proposed Project does not involve new offsite physical changes that could interfere with the City of Signal Hill HMP or Los Angeles County OA ERP described above. Additionally, SHP has internal emergency response procedures and would continue to adhere to the applicable protocols outlined within the existing plans in the event there is an emergency. For these



reasons, the proposed Project would have a less than significant impact regarding the potential to impair implementation of and/or physically interfere with an adopted emergency response plan or emergency evacuation plan. No mitigation measures are required.

#### **6.1.3.7 HAZ-7: Potential Fire Hazards**

CEQA Guidelines Hazards and Hazardous Materials Environmental Checklist Question g) – Would the Project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

The CUP Sites are not located in “Very High Fire Hazard Severity” areas. According to the current Fire Hazard Severity Zone Maps published by the California Department of Forestry and Fire Protection, the Project site is located within an undesignated Fire Hazard Severity Zone (within a Local Responsibility Area [LRA]). None of the adjacent areas are designated as “Very High”, “High” Fire Hazard Severity Zone. Additionally, the CUP Sites are located within a developed urban area and would not be especially prone to wildfires due to the lack of natural vegetation and open spaces.

As discussed above, the proposed Project is primarily the continuation of existing operations at the seven existing CUP Sites, plus the proposed gas system modifications within CUP Site #2. Occasional drilling and re-drilling will also continue to occur at individual CUP Sites as needed; however, the continuation of these existing on-going operations would not result in new on- or offsite physical changes that could expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires. The Project would not require the use or storage of additional quantities of flammable materials onsite, and management of flammable materials stored onsite would continue to be conducted in accordance with applicable regulations. Additionally, SHP has an adopted emergency response plan (SHP, 2017a) in the event there is a wildland fire. For these reasons, the proposed Project would have a less than significant impact to the potential to expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires. No mitigation measures are required.

#### **6.1.4 Significance Determination**

As discussed above in HAZ-1 through HAZ-7, there are no new or more significant impacts as a result of the proposed Project compared to existing baseline conditions, and therefore potential impacts remain less than significant. No additional mitigation measures are required.

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## **APPENDIX A. CUP SITE HAZARDOUS MATERIALS**

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**Table A-1 CUP Site #1 Hazardous Materials Storage**

Material	Quantity Stored	
	Average	Maximum
Floctreat 7960	100 Gal	200 Gal
Phasetreat 17756	100 Gal	200 Gal
Scavtreat 6804	65 Gal	130 Gal
Scavtreat 1193	65 Gal	130 Gal

Source: SHP, 2022b

**Table A-2 CUP Site #2 Hazardous Materials Storage**

Material	Quantity Stored	
	Average	Maximum
Ammonia	225 Gal	450 Gal
Oils / Grease	2,200 Gal	30,45 Gal
Corrtreat 14970	100 Gal	300 Gal
Diethanolamine	55 Gal	55 Gal
Ethylene glycol	550 Gal	715 Gal
Floctreat 7960	125 Gal	250 Gal
Floctreat 12008	65 Gal	130 Gal
Methanol	330 Gal	380 Gal
Multitreat 9302	250 Gal	500 Gal
Phasetreat 14224	100 Gal	200 Gal
Scavtreat 6804	50 Gal	100 Gal
Scavtreat 1092	165 Gal	330 Gal
Shell Sol Industrial Solvent 40	165 Gal	275 Gal
Solvtreat 12086	200 Gal	400 Gal
Summit PGS-150	220 Gal	220 Gal
Summit NGP-100	385 Gal	440 Gal
Turbo T Oil 68	110 Gal	300 Gal
Propane Gas	170 cf	170 cf
Propane Liquid	2,300 Gal	4,000 Gal
Propane R290	4,550 lbs	4,550 lbs
Natural Gas Liquids	4,000 Gal	37,000 Gal
Natural Gas	15,200 cf	24,000 cf
Crude Oil	47,500 Gal	95,000 Gal
Used Oil	20 Gal	200 Gal

Source: SHP, 2022c

**Table A-3 CUP Site #3 Hazardous Materials Storage**

<b>Material</b>	<b>Quantity Stored</b>	
	<b>Average</b>	<b>Maximum</b>
Corrtreat 14970	200 Gal	400 Gal
Phasetreat 14224	100 Gal	200 Gal
Scaletreat 1012	100 Gal	200 Gal

Source: SHP, 2022d

**Table A-4 CUP Site #4 Hazardous Materials Storage**

<b>Material</b>	<b>Quantity Stored</b>	
	<b>Average</b>	<b>Maximum</b>
Corrtreat 14970	120 Gal	240 Gal
Multitreat 9403NC	60 Gal	120 Gal
Phasetreat 14224	200 Gal	400 Gal
PT 13948 Emulsion Breaker	60 Gal	120 Gal
Scaletreat 1012	65 Gal	130 Gal
Scavtreat 6804	60 Gal	120 Gal

Source: SHP, 2022e

**Table A-5 CUP Site #5 Hazardous Materials Storage**

<b>Material</b>	<b>Quantity Stored</b>	
	<b>Average</b>	<b>Maximum</b>
Corrtreat 14970	100 Gal	200 Gal
Floctreat 7960	100 Gal	200 Gal
MT 9403 Scale Inhibitor	100 Gal	200 Gal
Multitreat 9302	250 Gal	500 Gal
Scavtreat 1193	65 Gal	130 Gal
Scavtreat 1092	100 Gal	200 Gal
Solvtreat 12086	65 Gal	130 Gal
Natural Gas	3,500 cf	7,000 cf
Crude Oil	25,000 Gal	50,000 Gal
Diesel Fuel	900 Gal	2,000 Gal

Source: SHP, 2022f

**Table A-6 CUP Site #7 Hazardous Materials Storage**

<b>Material</b>	<b>Quantity Stored</b>	
	<b>Average</b>	<b>Maximum</b>
Biocide 8407	137.5 Gal	275 Gal
Corr Film A/B	1,650 Gal	3,300 Gal
Corrtreat 14970	990 Gal	1,980 Gal
Corrtreat 15190	753 Gal	1,505 Gal
D-Limonene	110 Gal	220 Gal
Floctreat 7960	330 Gal	660 Gal
Floctreat 12008	65 Gal	130 Gal
Methylene Chloride	220 Gal	440 Gal
MT 9403 Scale Inhibitor	330 Gal	660 Gal
Multitreat 9403NC	330 Gal	660 Gal
Multitreat 9302	275 Gal	550 Gal
Phasetreat 17756	100 Gal	200 Gal
Scaletreat 1012	350 Gal	700 Gal
Scaletreat 402	138 Gal	275 Gal
Scavtreat 6804	330 Gal	660 Gal
Scavtreat 1193	28 Gal	55 Gal
Scavtreat 1092	165 Gal	330 Gal
Solvtreat 3033	165 Gal	330 Gal
Solvtreat 12086	177 Gal	345 Gal
Waxtreat 3635T	165 Gal	330 Gal

Source: SHP, 2022g