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## Section 2 Underground Tank Program

### I. INTRODUCTION

The San Diego County Department of Environmental Health (DEH) oversees the inspection, monitoring, and plan review of all underground storage tank (UST) facilities. The Hazardous Materials Division (HMD) performs annual inspections of all regulated USTs and the plan review for new installation, repair, upgrade, and closure of USTs. In addition, HMD is responsible for the inspections of all UST closures, the review of post tank removal workplans, all sampling analyses, and makes the determination whether further site assessment is required after review of laboratory reports. San Diego County Code, Title 6, Division 8, Chapter 10, Underground Storage of Hazardous Substances, gives DEH the authority to inspect all regulated USTs in San Diego County.

### II. PERMIT REQUIREMENTS

Permits are required for installation, repair, and/or closure of all regulated USTs. UST permitting is divided into five (5) categories

- UST installation
- UST closure
- UST interior lining, repair, or bladder installation
- UST re-piping, piping repairs, or island extensions
- UST installation in vaults

Please refer to Section 1.XIV for the definition of a UST.

### III. PERMIT APPLICATION

Submit one (1) original and two copies of a complete permit application, three (3) copies of a detailed site plan, and the appropriate fees to DEH UST Plan Check Desk, 1255 Imperial Avenue, 3<sup>rd</sup> floor, San Diego, CA, 92101 or phone (619) 237-8451 if you need additional information. A copy of the UST permit application is located in Appendix A.I or can be obtained from the web site at: [http://www.sandiegocounty.gov/deh/hazmat/ust/hmd\\_ust\\_construction.html](http://www.sandiegocounty.gov/deh/hazmat/ust/hmd_ust_construction.html). Please allow seven to ten (7 to 10) working days for processing and review.

An approved permit is required before field activities can begin. If an incomplete application is submitted, a plan correction sheet and the disapproved application will be returned to the applicant for correction and resubmission. DEH will not process the permit application until all fees are submitted. Permit application fees are as outlined in Part I on Page 2 of the permit application. Any activity

related to this section that may affect stormwater discharges must include best management practices (BMPs) per Appendix N.

The contact person indicated on the application will be notified when the application is approved or disapproved. At the time of approval, arrangements will be made to have the permit picked up at the DEH office or mailed to the address on the application.

Please note that issuance of a permit to install new USTs at a site does not imply that any unauthorized release at the site has been remediated to the satisfaction of DEH or any other regulatory agency. Prior to the installation of new USTs, the responsible party (RP) must evaluate the proper site placement of the new USTs so that they will not prevent the successful completion of site assessment and remediation activities at the site.

### **A. Application Form**

The permit application is divided into six activities related to USTs. All applicable parts of the application must be completed as follows:

- **Part I** For any activities related to UST system installation, closure, repair, or modification; and for installation of vaulted USTs
- **Part II** For new UST installations
- **Part III** For UST closures
- **Part IV** For UST repairs or UST interior lining and bladder installations
- **Part V** For re-piping, piping repairs, or island extensions
- **Part VI** For USTs installed in vaults

### **B. Site Plan**

The plan must show the site's property lines, all existing structures on the site and the location of all existing and proposed UST systems, including all piping; and underground utility lines and vaults on the site. The plan must also show storm drains and BMPs that will be utilized for UST closures, post tank removal work, and sampling. See Appendix N.

### **C. Permit Extension**

A permit is valid for one year from the date of approval. Permit extensions will be granted on a case by case basis.

### **D. Other Permits**

Submit copies of all current permits or approved applications from the Air Pollution Control District (APCD), local fire departments, and local building/planning departments.

**E. Community Health and Safety**

The form titled “Workplan for Underground Storage Tank Closure” (Appendix A.II) must be completed for all UST closures. This form is intended to describe the measures that will be taken to protect the community from the activities at the site during the UST closure process.

**F. Post-Tank Removal Investigation Workplans**

Following the removal of a UST, an RP may choose to use the available contractor/excavation equipment and initiate the subsurface investigation of a suspected or confirmed unauthorized release. DEH considers the Post-Tank Removal Investigation to be an effective method of subsurface investigation only in situations where the volume of excavated soil is limited (approximately 50 to 75 cubic yards or a volume that can be properly managed and not result in nuisance conditions) and minimum stormwater requirements must be met according to Appendix N.

The RP or UST removal contractor must have an approved Post-Tank Removal Investigation Workplan, prior to UST removal. Please refer to Appendix A.III for details on Post-Tank Removal Investigations and the Post-Tank Removal Investigation Workplan.

**G. Health and Safety at Underground Storage Tank Sites**

The form titled “Health and Safety at Underground Storage Tanks Sites” (Appendix A.IV) describes contractor requirements, which must be complied with to maintain the site in a safe and secure manner to protect worker safety as well as other individuals including responsible parties, regulatory officials, and the public.

**H. UST Contractor Certification**

All contractors performing the installation, closure, repair, re-piping or modification of a UST system must provide evidence of the following:

- A valid State Contractor’s License
- A valid Hazardous Substance Removal Certificate
- Workman's Compensation insurance

Permits for UST work in San Diego County will not be approved unless these three documents are on file with DEH.

**I. UST Closure Options**

Owners and operators of UST systems containing hazardous substances who discontinue use of the USTs must either close or replace them. DEH permits and oversees these processes.

**1. Closure by Removal**

Most UST owners/operators elect to close their UST by removal. A DEH specialist witnesses and provides written documentation of a UST removal. The laboratory results from initial

mandatory soil samples are reviewed by DEH to determine if contamination exists and if further work is necessary.

### **2. Closure-in-Place**

UST system closure-in-place will be considered only if the removal could damage a building, its foundation, or adjacent structures. A letter detailing why the UST system should be considered for closure in place must be submitted for review and approval. The letter shall also include a site plan with proposed sampling locations.

### **3. Temporary Closure**

This alternate method of UST closure will be considered when the storage of a hazardous substance has ceased but when the owner/operator desires to reuse the UST within one year. Before DEH will consider temporary UST system closure, the UST owner/operator must demonstrate to the satisfaction of DEH that the UST system has not experienced an unauthorized release. Soil sampling and/or UST system integrity testing may be required. If temporary closure is approved, UST operating permit fees are still required.

### **4. USTs Closed in Place Prior to 1984**

USTs and piping that are to be removed, but were closed in place (sand/slurry filled) prior to 1984, are subject to current closure requirements (40 CFR, Section 280.73, Chapter 6.7 Health and Safety Codes, Sections 25280.5, 25298, and 25299.7).

A permit for UST and piping removal is required from DEH. In addition, a site investigation may be necessary to determine if contamination is present. A permit for removal will not be required if the owner or operator of the UST can demonstrate to DEH, through documentation, that the UST was properly decontaminated, that the hazardous substances were properly manifested, and that no environmental contamination is present.

## **IV. INSPECTION**

The UST owner/operator is responsible for ensuring that the inspection procedure requirements are met. Additionally, the UST owner/operator is responsible for all activities related to worker and community health and safety.

### **A. Inspection Scheduling**

Once a permit has been issued, it is the responsibility of the permittee to notify DEH at least two (2) working days in advance to schedule each required inspection. Please call the UST Inspection Scheduling Line at (619) 237-8451 to schedule an appointment.

## **B. Inspection Procedures**

### **1. New UST Construction**

#### **a. First Inspection**

This inspection is to observe the pressure test of the UST and its primary piping system and to obtain copies of the UST manufacturer's certification. DEH does not witness the testing of the secondary containment. The testing of the secondary containment is completed and certified by the contractor.

#### **b. Second Inspection**

This inspection is to examine the UST leak detection system and to obtain copies of the contractor's certification of installation, certification of the monitoring equipment, integrity test report, and monitoring and response plan.

### **2. UST Closure**

A UST closure inspection can include the closure of a UST by removal or closure in-place.

#### **a. Closure by Removal**

Prior to scheduling an inspection, the UST with associated piping must be exposed and properly decontaminated to facilitate DEH inspection. The UST owner/authorized representative on-site must:

- Provide a copy of the uniform hazardous waste manifest demonstrating the UST has been decontaminated, and
- Have on-site, a functioning, combustible gas indicator (CGI). This equipment is to be used to ensure worker safety, to demonstrate that the UST(s) has been properly decontaminated and purged, and that the sampling protocol for closure of USTs and piping has been completed. Please refer to the CGI Policy in Appendix E.I.

At the time of removal the DEH inspector will identify sampling locations and complete the sampling chain-of-custody on-site. Sampling results must be provided within 30 days.

Closure-in-Place (see Section 2.III.I.2)

If DEH approves the alternative closure plan:

- (1) A registered geologist or civil engineer will witness and document the soil sampling activities. Sampling results must be provided within 30 days. Soil sample results must be submitted to DEH for review before scheduling the filling of the UST.
- (2) The DEH inspector will verify that the UST has been properly emptied and observe the filling of the UST with an approved inert substance. The owner/authorized representative on-site must provide a copy of the uniform hazardous waste manifest

demonstrating that the UST has been decontaminated and a bill of lading for the material used to fill the UST.

### 3. UST Repair or Interior Coating

#### a. First Inspection - Repair Evaluation

DEH performs an inspection of the UST to verify the completion of the abrasive blasting to expose the UST's interior surfaces. At this inspection the UST owner/representative must provide documentation of the structural integrity of the USTs\*, copies of the manifests indicating proper disposal of the wastes generated from the UST cleaning, and soil sample results.

**\*Please Note:** The UST system must be closed in accordance with CCR Title 23, Article 7, if the structural integrity does not meet the criteria set in CCR Title 23, Section 2663(B).

#### b. Second Inspection - Repair/Lining Verification

This inspection is performed upon completion of the repair and/or lining of the UST. At this time the UST owner/representative provides copies of the integrity test data, certification of monitoring, cathodic protection certification, laboratory results, and hazardous waste manifests for the sandblast waste, holiday test, and thickness and hardness tests.

### 4. Re-pipe, Piping Repair, or Island Extension

All piping trenches must be exposed to facilitate inspection and sampling before an inspection is scheduled.

#### a. First Inspection

This inspection is to obtain soil samples from the trench excavations. The DEH inspector will select sampling locations. For piping to be closed in place, all pipes must be drained and capped according to an approved alternate closure plan.

#### b. Second Inspection

During this inspection the new or repaired piping is pressure tested in the presence of the DEH inspector. Additionally, the inspector will verify the presence of leak detection devices, secondary containment, and overfill prevention.

#### c. Third Inspection

This is a monitoring system verification inspection. If product piping is new, a line integrity test will be required prior to scheduling this inspection.

### 5. Vaulted UST

This inspection is to verify that the UST system was completed in accordance with the approved plans.

## **V. OTHER REQUIREMENTS**

### **A. UST Decontamination and Purging**

For USTs that are to be closed, the UST system must be decontaminated (cleaned) and the resulting waste properly disposed of by a licensed hazardous waste hauler. This decontamination must be done prior to the scheduled inspection. A California Uniform Hazardous Waste Manifest is issued to the UST owner after the decontamination. A copy of the manifest must be provided to the DEH inspector at the time of the scheduled UST system closure inspection. The USTs must be purged of flammable vapors just prior to the scheduled inspection. Purging means that the flammable vapors have been displaced by an inert gas such as Carbon Dioxide (dry ice). Fifteen (15) pounds of dry ice is required for every 1,000 gallons of UST capacity.

### **B. Combustible Gas Indicator (CGI)**

Contractors responsible for UST closure, repair, or re-piping work must have a Combustible Gas Indicator (CGI) at the work site at all times. Please refer to Appendix E.I. for DEH Combustible Gas Indicator Guidelines.

### **C. Sampling at UST Removals**

When a UST is closed, repaired, or modified, the California Health and Safety Code (Division 20, Chapter 6.7, Section 25298) requires the UST owner/operator to "demonstrate to the local agency that there has been no significant soil contamination resulting from a discharge in the area surrounding the UST or facility." DEH has established guidelines for routine soil sampling and analyses for UST closure, repairs and modifications. Please refer to Appendix E.II for the UST Soil Sampling Guideline and to Section 5.IX for laboratory testing requirements. In addition, if groundwater is present, the DEH inspector may require that groundwater samples are collected and analyzed.

### **D. Community Health and Safety Planning for UST Closures**

The closure of a UST system can be dangerous because of the potential for fire or explosion. Section 2.IV.B.2 and Section 2.V. discuss several of the required tasks involved in closing a UST system. These tasks were designed to minimize those risks inherent to UST system closure.

The information in this section should be reviewed before planning for community health and safety relevant to closing a UST system. Contractors are required to complete the "Underground Storage Tank Closure Workplan" form as part of the plan check process. A copy of this form is supplied in Appendix A.II. A portion of the "UST Closure Workplan" form includes requirements for Community Health and Safety Planning.

Community health and safety planning for closure of an UST system should consider the following.

### 1. Physical Hazards

#### a. Utility Location and Identification

Evaluate the potential hazards relative to the location of utilities at the site. Underground utilities (electrical, gas, water, sewer, phone) should be located and marked out prior to removing a UST system. Overhead utilities should also be identified and assessed as possible hazards. Backhoes, excavators, and cranes can impact electrical lines and water pipes.

#### b. Site Security

Exclude public access using warning signs, fencing, barricades, safety tape, or a combination thereof. In case of equipment failures, the isolated area should be large enough to accommodate the lengths of cables, chains, straps, or other equipment used to remove the UST. Always inspect equipment for signs of wear and weakness prior to removing or securing the UST system. Worn cables and chains have caused injury and death.

#### c. Site Safety and Maintenance

##### (1) Community Health and Safety

The UST owner/operator is responsible for maintaining the site in a safe and secure manner. The excavation may be backfilled for safety reasons until site assessment and remediation activities commence. Open excavations and stockpiled contaminated soil should be secured from the public. Some facilities have used fencing and security guards to secure an area. Berms should be provided during site activities to prevent runoff from stockpiles and flooding of trenches.

Notify the local fire department and DEH immediately whenever a fire hazard or explosion hazard is present. This would include circumstances in which 20% or greater of the Lower Explosion Limit (LEL) is detected in an excavation, surface area or enclosed space.

##### (2) Product Removal

Remove the hazardous substance from the system's components. When removing product from a UST, give careful consideration to proper tank ballast in areas of high groundwater.

##### (3) Management of Soil and Water

All excavated soil and purged well water must be managed to avoid presenting a hazard to the community or the environment.

- (a) Drums: Soil or groundwater placed in drums should be labeled with their actual contents (see Section 5.II.E.).



All drums should be labeled as follows:

- Description of Contents (e. g., soil, water)
  - Boring Identification
  - Date of Boring
  - Consulting Company Name
  - 24-Hour Contact Phone Number
- (b) Stockpiles: Measures should be taken to ensure that no run-off occurs from the stockpile (e.g., berms around the stockpile). In the event that vapors are determined to be a problem, an effective vapor barrier must be used to control them. The necessity for such vapor control is site-specific and must be determined as part of the overall community health and safety considerations. If such control measures are used on the site, the RP should ensure that the vapor barrier remains secured in place, is not compromised due to physical damage, and otherwise continues to be effective in controlling vapor.
- (c) Minimum stormwater requirements must be met according to Appendix N.

## **7. Flammable Hazards**

When a UST system that held a flammable substance is being removed, every precaution should be taken to prevent flammable and explosive conditions that may endanger the public. Flammable or explosive conditions could develop during any phase of the UST system removal activities, including venting, rinsing, and purging/inerting.

### **a. UST Removal Equipment**

Non-sparking tools should be used during removal activities because explosive conditions can exist outside of the UST. You must obtain the approval of the local fire department if the UST needs to be cut open to remove the waste, and/or be cleaned.

### **b. Monitoring Equipment**

Select the proper equipment to monitor flammable and explosive conditions. Refer to Section 2.V.B for a discussion of monitoring equipment that must be used during removal of a UST system. Precautions should be taken to eliminate ignition sources. Ignition sources include sparking equipment, static electricity, open flame, and smoking.

## **8. Precautions**

DEH has witnessed many UST system closure activities and can provide the following observations.

- a. When removing a UST system that previously held a flammable product, always be aware that the UST excavation may trap flammable gases and/or liquids. If the UST system leaked flammable liquids during its use, the backfill or native soil below or next to the UST system may be contaminated (even saturated) with the flammable liquid. After the UST system is removed, flammable liquids or gases may accumulate in the excavation and result in explosive and/or flammable conditions. Several excavations in

San Diego County have caught on fire in this situation. Pump the flammable liquids from the excavation with a vacuum truck if potentially explosive or flammable conditions exist in an excavation that contains either ponded flammable liquid or contaminated soil that is releasing flammable gases.

- b. When a UST system that held a flammable liquid is removed from inside a building or structure, flammable gases may be trapped in the structure and create flammable or explosive conditions. The facility should be well ventilated during the UST removal activities. If potentially explosive or flammable conditions exist in a building or structure despite the precautions taken, evacuate the structure and notify the local fire department.