County of San Diego
DEPARTMENT OF ENVIRONMENTAL HEALTH
HAZARDOUS MATERIALS DIVISION
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STANDARD FOR SECONDARY CONTAINMENT TESTING OF UNDERGROUND STORAGE TANK SYSTEMS

I. INTRODUCTION

A. **Purpose:** The purpose of this standard is to establish a consistent regulatory guide for secondary containment testing of underground storage tank (UST) systems containing hazardous substances.

B. **Scope:** This standard applies to the testing of secondary containment for all underground tank systems containing hazardous substances. The California Health and Safety Code requires that tank systems with secondary containment installed prior to January 1, 2000, be tested by January 1, 2003. Tank systems installed after January 1, 2001 must have the secondary containment system tested at installation, six months after installation, and every 36 months thereafter.

The testing shall be conducted using a test procedure that demonstrates that the system performs at least as well as it did upon installation. For example, if the secondary containment system was tested upon installation by using a test method that applied a pressure of 5 psig, then the periodic test pressure must be conducted using a method that tests the system at an equivalent pressure. These tests shall be performed in accordance with manufacturer's guidelines or standards. If there are no manufacturer's guidelines or standards, secondary containment systems must be tested using an applicable method specified in an industry code or engineering standard. If there are no applicable manufacturer's guidelines, industry codes, or engineering standards, a test method approved by a state registered professional engineer shall be used.

This standard is intended to consolidate different industry testing protocols into one standard. Code References: Section 2637 California Code of Standards, Title 23, Division 3, Chapter 16.

C. **Authority:** California Health and Safety Code, Chapter 6.7, Section 25299.2

II. RESPONSIBILITY

A Individuals, Companies and Corporations that are installing underground tanks regulated by the San Diego County Department of Environmental Health Hazardous Materials Division (HMD) shall be responsible for compliance with this standard.

B. The HMD **UST Plan check** shall issue repair permits and verify compliance with this standard.

III. GUIDELINES

Before the secondary containment for an underground storage tank system, as defined in California Health and Safety Code, Chapter 6.7 can be tested, the party responsible for the tank must submit a testing protocol to HMD for approval. The party must demonstrate how the regulated tank and appurtenances will be tested in compliance with the Fire Code, California Health and Safety Code, Chapter 6.7, California Code of Standards (CCR) Title 23, and this standard.

IV. PROCEDURES

A. It is the responsibility of the tank owner to provide the test procedure to the HMD UST Division Supervisor for review. The secondary containment test plan must be approved prior to testing notification. Allow 10 days for plan review. The HMD must be notified of the secondary containment testing a minimum of 48 hours prior to the test to HMD. Notification shall be made by e-mail to LUEG.USTNotifications@sdcounty.ca.gov

B. The following information must be provided when submitting the secondary containment test procedure:

1. Proof of current Business License.

2. Copy of Worker's Compensation Insurance certificate.

3. Proof of one or more of the following:

   a. Primary tester is manufacturer trained and has current certification for the test equipment, and

   b. Primary tester is a licensed tank installer, or

   c. Primary tester possesses a valid California Tank Tester License, or

   d. State Contractors License (A General, C-10, C-34, C-36, C-61, or D-40).

4. Copy of California UST Service Technician Certification for all Service Technicians that will work in San Diego County.

5. Copies of equipment manufacturers' secondary containment testing protocols.

6. Information on the proposed testing equipment. The following information must be provided:

   a. Pressure/Vacuum gauges or measuring devices

      (1) Manufacturer

      (2) Accuracy range

         (a) Dial gauges must have an accuracy of 0.5% of dial span.

         (b) Dial gauges must have a minimum dial size of 4 inches.

         (c) Pressure dial gauges must be glycerin filled and have a range of 0 to a maximum of 15 psig.

         (d) Vacuum dial gauges must be glycerin filled and have a range of 0 to a maximum of 30 in Hg. Combination gauges are not acceptable.

         (e) Digital gauges must have an accuracy of 0.5% of scale.

         (f) Digital gauges must read pressure to 0.01 psig.

         (g) All gauges must be calibrated at least every six months, with a calibration sticker attached to each gauge.

      (3) Last calibration date.

   b. Pressure/vacuum pumps/vacuums

      (1) Manufacturer

(2) Power Source (if electric, proof of Class I, Division I, Group C/D hazard)

7. Method of disposal for all cleaning, rinse and testing water.

8. Manufacturer's information on all repair material expected to be used at the site. The material must be compatible with the underground storage tank system components, and compatible with the hazardous substance stored in the tank system.

C. If a manufacturer's test protocol is not available for any component of a secondary containment system, the following testing procedure**s** should be used:

1. Tank

a. The tank interstitial space shall be tested through placing a vacuum. The vacuum shall be set at 10 inches of mercury, and hold for a minimum of 60 minutes. The vacuum must not decrease in the hour to achieve a pass.

(1) For tanks 20,000 gallons or more, a 120-minute test shall be performed.

(2) If the tank does not maintain the vacuum, the contractor can re-test the interstitial space. If the tank fails the second test, the secondary containment must be considered not liquid tight. Repairs shall be made by the tank manufacturer or authorized representative under permit with DEH UST Plan check.

2. Piping System

a. Secondary containment piping shall be tested in the following manner:

(1) An inert gas shall be used (examples are commercial grade nitrogen, argon or helium).

(2) The secondary containment shall be made airtight with either the rubber test boot or fiberglass test fitting installed at time of installation (if the test boot is missing or damaged, an approved replacement test boot or fiberglass test fitting can be installed).

(3) The piping shall be pressured to 5 psig, allowed to balance for 10 minutes, then tested for 60 minutes.

(4) To pass the test, the piping must be at 5 psig after the 60 minute test interval. The gauge dial or readout must not decrease from the initial setting. If the piping does not pass, the contractor can verify all clamps are tight, and re-test the piping. If the piping fails the second test, the secondary containment must be considered not liquid tight. The piping must be repaired using the piping manufacturers repair procedures under permit with DEH UST Plan check.

3. Turbine/piping, fill, and dispenser containment sumps

a. The turbine/piping, fill, and dispenser containment sumps shall be tested in the following manner:

(1) The sump must be free of dirt, petroleum products and debris**.** <u>Rinse water must be properly handled and disposed in accordance with State and local requirements.</u>

(2) Place test fluid in the sump, a minimum of 2 inches above the highest piping penetration. (Place test fluid in the **fill sumps** with a minimum of 2 inches above the sump collar.)

(a) Piping includes all pipes that could contain the underground storage tank product, including primary/secondary product piping, vent piping, vapor recovery piping and siphon piping.

(b) It is strongly recommended to fill the sump to a minimum of 2 inches above **all** penetrations, including all electrical penetrations above the piping penetrations.

(3) After the test fluid has settled for 30 minutes, measure the test fluid level using test equipment with an accuracy of ± 0.002 inches

(4) The test must demonstrate no observable loss at the end of 2 (two) 15 minute test intervals. If the sump does not pass the test, the contractor may re-inspect the sump penetrations, tighten clamps and repair possible minor leaks (see Repairs), and retest. If after the second series of tests, the sump did not pass, the secondary containment must be considered not liquid tight. The sump must be repaired using the sump manufacturers repair procedures under permit with HMD UST Plan check.

4. If necessary, the monitoring system can be de-activated to allow for testing. Technicians authorized to work on the monitoring equipment shall only perform the deactivation. Whenever possible, the monitoring system should remain in service, with sensors placed above liquid levels.

D. Repairs

1. All repairs, including minor "fixes", must be approved by the HMD UST Plan check staff. Some repairs will require a permit. Please be advised that permits from other agencies, (i.e., Fire Department, APCD, etc.) may be required. Plan check phone number: (858) 505-6854

2. All repairs shall be conducted in accordance with the manufacturer's recommendations for long-term repairs. Methods for all repairs should consider the expected lifetime of the system.

3. A qualified person(s) must perform repairs as soon as possible. Consult with the inspector of record for advice on repairs or permits. The HMD UST Plan check staff shall issue final approval of all repairs.

4. All material used shall be compatible with the product being stored.

5. All repairs identified as requiring a permit shall have a permit issued before initiation of repair work.

E. Report

1. A report documenting the secondary containment testing must be submitted **(mailed or e-mailed)** to HMD within thirty (30) days upon completing the test. Please do not fax test reports.

2. The County of San Diego HMD "Secondary Containment Testing Report Form" (HM-9169), a modified version of the form developed by the State Water Resources Control Board, shall be used.

County of San Diego, Department of Environmental Health
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