Glendale Fire Department
Environmental Management Center
780 Flower Street, Glendale 91201

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 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 require that such tanks, which are installed, must have the secondary containment system tested six months after installation (for tank systems installed after January 1, 2001), then every three years 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 Glendale Fire Department shall be responsible for compliance with this standard.

B. The Glendale Fire Department shall issue permits and verify compliance with this standard.

Guidelines as Adopted by CalCUPA Forum, Southern California Region Underground Storage Tank Technical Advisory Committee on April 3, 2002

III. POLICY

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 for approval and site safety plan for review. 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, and specific site safety plan, to the Environmental Management Center for review. The secondary containment test plan must be approved prior to testing notification. Allow 10 days for plan review. Notification of the secondary containment testing must be made a minimum of 48 hours prior to the test.

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

1. Copy of Workers Compensation Insurance certificate

2. Proof of one or more of the following:

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

   b. Primary tester is manufacturer trained and has current certification for the monitoring equipment on site, or

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

   d. Primary tester is a licensed tank installer

3. Copies of manufacturers secondary containment testing protocols.

4. 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 .25% 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 .25% of scale.

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

(g) All gauges must be certified at least annually, with a certification sticker attached to each gauge.

(3) Last certification date.

b. Pressure/vacuum pumps/vacuums

(1) Manufacturer

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

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

6. 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 procedures 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 after the second test, the tank did not pass, the secondary containment must be considered not liquid tight. Repairs shall be made by the tank manufacturer or authorized representative under permit.

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 after the second test, the piping did not pass, the secondary containment must be considered not liquid tight. The piping must be repaired using the piping manufacturers repair procedures under permit.

3. Turbine/piping and dispenser containment sumps

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

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

(2) Place test fluid in the sump, a minimum of 2 inches above the highest piping penetration.

(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.

(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 reinspect 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.

D. Site Safety and Inspection Preparation

1. Site inspection activities shall be in accordance with the submitted Site Safety Plan. Some appropriate components to include in the plan are:

a. Site manager for the testing contractor, including contact telephone number.

b. Site Safety Officer. The Site Safety Officer must remain on-site for the duration of any work related to the secondary containment testing or repair.

c. Emergency response agencies, including address and contact telephone numbers.

d. Nearest hospital, including address, contact telephone numbers and map providing directions to the hospital from the site.

e. Confined space training certifications for employees performing confined space entry work.

f. Confined space entry procedures and permit.

g. Hazards anticipated on the sites, including mechanical, physical, and chemical.

h. Emergency procedures for injury, fire, or entrapment.

2. If in the determination of the inspector, or the contractor, vehicle traffic at the site presents an unsafe area, the site shall be closed for the testing.

3. At a minimum, the area involved with the testing shall be barricaded off from vehicle and pedestrian traffic.

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.

E. Repairs

1. All repairs are classified as system modifications, including minor "fixes" and must be approved by the Environmental Management Center.

2. A qualified person(s) must perform repairs as soon as possible. Some repairs will require a permit to be obtained from this or other agencies. Consult with the inspector of record for advise on repairs or permits. The Environmental Management Center shall issue final approval of all repairs.

3. All repairs shall be conducted in accordance with the manufacturers recommendations for long-term repairs. Methods for all repairs should consider the expected lifetime of the system.

4. All material uses 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.

F. Report

1. A report documenting the secondary containment testing must be submitted within thirty (30) days upon completing the test.

2. The "Secondary Containment Testing Report Form" developed by the State Water Resources Control Board shall be used.