

ANAHEIM FIRE & RESCUE
COMMUNITY RISK REDUCTION DIVISION
Hazardous Materials Section / CUPA
201 South Anaheim Blvd. Ste. 300, Anaheim, CA 92805



INSTALLATION, MODIFICATION & MONITORING
REQUIREMENTS FOR NEW AND EXISTING
UNDERGROUND STORAGE TANKS

INSTALLATION AND MODIFICATION REQUIREMENTS FOR NEW AND EXISTING UNDERGROUND STORAGE TANKS

Underground Storage Tank (UST) systems storing hazardous substances in the City of Anaheim shall conform to the Guidelines and Procedures issued by Anaheim Fire & Rescue, Hazardous Materials Section / Certified Unified Program Agency, hereinafter referred to as AF&R. Written approval shall be obtained from AF&R prior to the installation of any new UST system(s) and/or modifications to existing UST systems.

GENERAL REQUIREMENTS

1. A permit to install or modify (includes repair) a UST must be obtained from this agency prior to start of work. Failure to obtain a permit may result in the issuance of a citation. In order to obtain a permit for the installation or modification of a UST system the following information must be submitted to Anaheim Fire & Rescue, Hazardous Materials Section, located at: 201 S. Anaheim Blvd., #300, Anaheim, CA, 92805.
2. A UST installation or modification permit shall be obtained from AF&R for any construction, installation or modification project that requires breaking concrete, disconnection or reconnection of any monitoring system, or disconnection or reconnection of any piping. This includes enhanced vapor recovery and in-station diagnostics installations and upgrades. Cold starts of the monitoring system shall require a permit and a witnessed re-certification.
3. Facilities applying for a UST construction permit must have a current operating permit from this Department. If an existing facility does not have a current operating permit, **all permit fees and any delinquent charges must be brought up to date prior to the issuance of a UST installation or modification permit.**
4. Facilities applying for a UST installation or UST modification permit must be in compliance with all UST statutes, regulations, and codes, or the permit being applied and related work to be completed within the scope of work attached to the permit application for will bring the facility into compliance upon completion.

DESIGN REQUIREMENTS FOR NEW AND EXISTING UNDERGROUND STORAGE TANKS

REQUIRED DOCUMENTATION FOR OBTAINING A PERMIT

1. Anaheim Fire & Rescue – Hazardous Materials Section - Permit Application
(www.anaheim.net/hms)
2. Payment of appropriate fees
3. Two (2) complete sets of project plans (detailed site map with respective cut sheets, scope of work, and complete equipment list with model numbers)
4. Copy of State Contractor's License (C-36, C-61, D-40, General A or B)
5. Copy of Workers' Compensation Insurance
6. Copy of State Hazardous Substance Removal Certificate
7. Copy of current City of Anaheim Business License
8. Copy of documentation of qualification(s) – Manufacturer's Certification(s), International Code Council Certifications

UST Installation or Modification Plans Submitted Shall:

1. Have a minimum of two (2) sets of plans submitted for review and approval. AF&R will retain one set of plans as a file copy. **WORK ON THE INSTALLATION OF THESE TANKS MAY NOT BEGIN UNTIL THE PLANS HAVE BEEN APPROVED BY AF&R / THE CUPA AND ALL OTHER APPLICABLE REGULATORY AGENCIES.**
2. Be drawn to scale (20-100 feet to the inch) for the plot plan. This will depend on the area covered and must be a suitable scale to show details of the tank system to be installed.
3. UST Construction Plans must include the following as a minimum:
 - a. Vicinity/Plot plan and key map with UST system overview and associated buildings
 - b. Details of the proposed tank installation/modification/repair. Show tank and piping in plan cross sections with elevation views
 - c. Include a parts list identifying the manufacturer, model/part numbers and quantities
 - d. Provide cut-out sheets for all proposed components
 - e. Identify Shut-Off switch location(s)
 - f. Any surface waters within two hundred (200) feet of the tank(s)
 - g. Leak detection/monitoring systems
 - h. Overfill protection provisions
 - i. Enhanced Vapor Recovery – Phase II Vapor Processing Unit and 2-hour firewall if unit is within 10 feet of the property lines or any building

If structural or physical features of the installation are determined to require special considerations, AF&R may require plans prepared by a registered professional engineer.

Note: Plan check approval may take up to ten business days. An expedited plan check is available for an additional fee. Expedited plan checks will be reviewed and approved or denied with needed edits within two business days. Please allow for the maximum time when submitting your plans.

Upon review of the completed application (plans, specifications, fees, etc.), approval of acceptable plans will be issued by the placement of an approval stamp on the submitted plans. Notification of

approval will be issued by AF&R to the permit applicant. A copy of the approved plans and project job card will be available for pick-up at the AF&R front desk once the contractor qualifications have been submitted, reviewed and deemed appropriate for the proposed project. **UST installation or modification permits will be valid for one year from the period of time indicated on permit/job card.**

REQUIREMENTS FOR INSTALLATION, MODIFICATION & MONITORING FOR NEW AND EXISTING UNDERGROUND STORAGE TANKS

1. **ALL USTs** shall comply with all applicable testing, design and engineering standards as described in the California Code of Regulations Title 23 - Chapter 16 (23 CCR), and Chapter 6.7 of the California Health and Safety Code (HSC).
2. The manufacturer, construction types and appropriate third-party/UL listing information shall be provided to this AF&R for approval prior to installation. Acceptable designs for post-2004 UST construction include USTs that meet either: UL 58 & UL 1746 for steel USTs in approved engineered backfill; or UL 1316 for fiberglass reinforced plastic USTs in approved engineered backfill.
3. USTs installed after July 1, 2004 must be continuously monitored. All new underground storage tank installations shall require that all portions of the containment system must have continuous monitoring by Vacuum, Pressure or Hydrostatic (VPH) means. All new monitoring system set-up shall include positive shut down of turbines during any alarm condition (including loss of vacuum or introduction of any liquid into the system). If power is discontinued to the monitor or any of its sensors, then the associated turbine(s) must shutdown.
4. Installation of a Vacuum, Pressure or Hydrostatic (VPH) system does not preempt the required installation of line leak detectors and liquid sensors in all sumps.
5. All pressurized piping systems shall have approved line leak detectors. Line leak detectors are required for all new installations. Line leak detectors must restrict flow by at least 50% and shall detect a leak at a rate of three (3) gallons per hour at 10 psi. All leak detectors are required to be tested annually. Existing single-walled pressurized piping systems must have an electronic line leak detector that is programmed to meet monitoring requirements set forth in Article 4 of 23 CCR.
6. Manifolding of product piping is not permitted at/in the under dispenser containment (UDC)/dispenser area by this agency.
7. All tanks larger than 550 gallons shall be set or removed using an appropriate sized crane. Other equipment will be allowed only with pre-approval from this agency.
8. All manways, access points, and sumps shall be designed to prevent entry of surface waters and shall be tamper-resistant.
9. Secondary containment systems shall be capable of intercepting, containing and directing any leakage from product lines, turbines, suction lines, siphon systems, risers or return lines to a

monitoring point. Monitoring equipment **SHALL** be placed at the lowest point of the system closest to product piping. Leak detection sensors shall provide both audible and visual alarms.

10. Product, vent, and vapor recovery piping shall also be provided with shear valves where they transition above-ground to a dispenser.
11. Secondary containment shall be required on all vent and vapor recovery piping installed after July 1, 2003. Facilities with single-walled systems will be required to upgrade existing piping when significant construction, repair or modification is proposed.
12. Check valves or another approved device shall be installed to prevent any liquids or product from entering the vapor recovery or vent lines.
13. All vent lines shall be provided with a flexible connector and vent box at the point where underground piping has a change of direction to above ground piping. All vent and vapor recovery piping shall be of rigid construction and be made of materials that are corrosion resistant and approved by AF&R.
14. The construction type and manufacturer of piping shall be provided to AF&R for approval prior to installation.
15. All secondary containment shall be continuously monitored.
16. Existing single-walled piping sumps and fill sumps must be rigidly designed and affixed (bonded) to the tank. All sumps must be watertight and shall pass a hydrostatic test. The test shall include filling each sump with water at a level equal to or greater than 2-inches above the highest product penetration and shall be tested per the Secondary Containment Test Requirements of AF&R.
17. New VPH-compliant double-walled sumps and UDC's shall be tested prior to backfill according to manufacturer specifications. The contractor shall install connection ports at the bottom of the installed components and demonstrate communication of all double-walled componentry at inspection upon request.
18. Fill, vent, and vapor recovery risers shall be contained in approved sumps.
19. Direct-bury spill buckets shall be tested annually using precision hydrostatic equipment. If the direct-bury spill bucket fails, it must be removed from service. A compatible, double-walled sump shall be installed in place of the failed direct-bury spill bucket. All fill and/or vapor risers shall then be installed within the sump.
20. All dispensers shall be designed to contain any unauthorized release, leak or spilled fluids from any portion of the dispensing unit and shall discontinue flow should any leak occur or should any fluid be detected by the monitoring system.
21. All dispensers shall be protected against physical damage by mounting on a concrete island 6 inches or more in height, AND shall be protected with guard posts that comply with all requirements of Section 312 of the California Fire Code.

22. All UDC systems shall be designed to have flex lines, and any metal fittings shall be inside the containment system (i.e., deep boxes) and shall be constructed of non-corrosive materials.
23. Sensors located in all secondary containments (including vent boxes) shall be programmed to alarm and cause positive shut down upon detection of any liquid (fuel or water).
24. Sumps shall be rigid and structurally attached to the tank surface. Sumps for non-VPH UST systems shall be water and vapor tight; all penetrations shall have approved fittings, and shall be continuously monitored with non-discriminating sensors.
25. Flex connectors shall be installed on all underground liquid, vapor, and vent piping where the piping leaves the dispensing island or location and just before the piping connects to underground tank fittings. Flex connectors shall also be installed on piping that is rigidly supported or connected between fixed points and which is subject to thermal expansion or differential movements.
26. All USTs shall be fitted with a device that will prevent overflow under any circumstances, including the delivery operator's inattention. Ball float check valves alone are not sufficient. The device shall either:
 - a. Alert the transfer operator when the tank is 90 percent full by triggering an audible and visual alarm and restricting the flow into the tank when the tank is filled to no more than 95 percent full.
 - b. Restrict delivery of flow to the tank at least 30 minutes prior to tank overflow, provided the restriction occurs when the tank is filled to no more than 95 percent of capacity, and provide audible alarm sounds at least five minutes prior to overflow; **or**
 - c. Provide positive shut-off of flow to the tank when the tank is filled to no more than 95 percent full.
27. Any tank that is using ball float check valves and an overflow alarm to meet overflow requirements, must also install an external audible and visual alarm. The alarm must be loud enough to be clearly heard from anywhere on the property or within 200 feet. The alarm must remain continuous until an acknowledgement button has been activated.
28. All fill points shall have a 5-gallon overflow bucket to contain any spill or drips during filling operations. The overflow bucket shall be designed to direct any free product into the UST and shall be California Air Resources Board approved.
29. A remote "EMERGENCY FUEL SHUTOFF" device shall be installed within 100 feet of the furthest dispensing unit but no closer than 20 feet from the closest dispensing unit. This device shall be capable of disconnecting power to pumping and dispensing units. Additionally, an "EMERGENCY FUEL SHUTOFF" device shall be installed inside the cashier's booth and must be easily accessible at all times. Signage with "EMERGENCY FUEL SHUTOFF" sign shall be installed in a position that is clearly visible from the dispensers.

30. Existing tanks, piping and/or dispensers that are to be abandoned, removed or displaced shall be safeguarded and/or disposed of per the procedures approved by AF&R. Additionally, appropriate sampling shall be performed in the presence of approved personnel from this agency.
31. UST monitoring system software upgrade that will require the monitoring system to restart in conjunction with the addition of any new component to the monitoring system will require that a monitoring system certification be conducted at the final construction permit inspection. (i.e. Veeder Root Software upgrade, ECPU board replacement, cold-start, etc).

CONSTRUCTION INSPECTIONS FOR NEW UST INSTALLATION

The AF&R requires four onsite construction inspections. *Additional inspections will be billed at the hourly rate.* Inspections shall be scheduled at least 48 hours prior to the anticipated inspection date and time. Verbal or electronic verification (e-mail) shall be received by the requesting contractor or Owner/Operator prior to an inspection occurring. An approved permit must be on file with AF&R before an inspection will be scheduled.

1. The first inspection shall be to witness the manufacturer-required pre-installation testing and proper tank set. This inspection will also determine that the excavation is clean and has appropriate backfill.
2. The second inspection is the pressure test of the complete primary product piping, vent and vapor recovery system while the top of the tank(s) and all associated piping are exposed.
3. The third inspection is the pressure test of secondary containment and a communication verification of secondary piping, sumps and UDC.

Note: Prior to receiving the first fuel delivery and scheduling the forth inspection, all new installations require Enhanced Leak Detection (ELD) testing. Notification of ELD testing is required. The first fuel delivery will only be approved upon this agency's receiving successful ELD results. Results of the ELD testing can be electronically submitted via e-mail to the area specialist or through HMS@anaheim.net.

4. The fourth inspection is the final construction inspection and UST monitoring system certification. This inspection will include a monitoring certification of all leak detection equipment, testing of spill buckets and line leak detectors. It will also include a product shear valve functionality test for each product at the dispensers. All required documentation for UST operation and CUPA disclosure shall be submitted and accepted within the California Environmental Reporting System (CERS). Needed hard copies of documentation shall be maintained complete, accurate, and onsite. All testing and construction requirements shall be met with passing results to obtain approval to operate the new UST system(s).

All UST documentation shall be submitted and accepted within CERS prior to the final inspection. Please contact the area Specialist or request CERS assistance or if you have any questions regarding the installation, modification, and monitoring requirements by contacting a member of the Hazardous Materials Section Monday – Friday from 7 a.m. to 5:00 p.m. at (714) 765-4040.