

## Under ground storage tank requirements

The following procedures are to be followed in accordance with all applicable Federal, State and Local laws.

### Installation

- A permit is required to install, remove, operate, repair, modify or test UST's used for storage and dispensing of flammable or combustible liquids. Applicants must obtain a permit for UST's from the Tucson Fire Department and the Development Services Department. The installation plans shall be submitted with a permit application.

A walk through permit process is available weekday mornings at Development Services, 201 N. Stone Avenue, (520) 791-5550.

The applicant must bring a site plan showing the location of the tank in respect to adjacent buildings and property lines. The plans shall include the design, details, and specifications. Include tank specifications with the site plan.

For Arizona Department of Environmental Quality (ADEQ), requirements call (602) 771-4313, additionally ADEQ must be notified in writing thirty days (30) prior to removal of a UST to obtain a closure number. The address is:

Arizona Department of Environmental Quality  
UST Section, Inspection & Compliance Unit  
1110 W. Washington Street  
Phoenix, AZ 85007

- Tanks shall be designed and built in accordance with recognized good engineering standards. An Underwriter Laboratory or other nationally recognized testing laboratory listing is required.
- UST installations are to be conducted according to the manufacturer's requirements, specifications and with the approved set of plans. A copy of the manufacturer's checklist must be available upon request.
  1. A current Arizona Department of Environmental Quality (ADEQ) license is required. The certified installer must be able to present proof of license at any time and be on site during all construction phases and testing. A list of certified contractors is available at the ADEQ website.
- Fences or other control measures shall be provided to protect the construction site from tampering and vehicle traffic during installation

- Blue staking is required prior to beginning the excavation. It is the contractors responsibility to ensure the underground utilities have been located and identified before removal procedures begin.
- A Tucson Fire Inspector shall witness the following:
  1. Pre-burial inspection of the tank hole.
    - The hole shall be free of debris and have the appropriate depth of approved fill as required by the tank manufacturer for the bedding.
    - If a concrete slab or dead-men are required due to the water table these shall be in place before the bedding.
    - Absolutely no person shall be allowed in the excavation unless it is properly sloped to OSHA requirements or approved shoring is in place. A soil classification may be required by the fire marshal to determine slope requirements.
  2. The tank(s) shall arrive under pressure or vacuum.
    - The inspector shall visually inspect the tank and compare the pressure or vacuum reading to the shipping invoice. These numbers need to be recorded.
  3. The installation of the tank(s)
    - The inspector shall ensure the separation and depth requirements for the tank are met as per the manufacturer's specifications.
    - The tank may be sloped up to 3 degrees for water detection.
    - Ensure the tank is properly backfilled with approved material.
    - Upon completion of backfill check the pressure/ vacuum gauges to ensure tank integrity.
- Piping systems, and their component parts, for flammable and combustible liquids shall be in accordance with the following:
  1. Piping system components shall be designed and fabricated in accordance with Chapter 5 of NFPA 30, except as modified by the 2006 IFC.
  2. Flexible joints shall be listed and approved and shall be installed on underground liquid, vapor and vent piping at all of the following locations:
    - Where piping connects to underground tanks.
    - Where piping ends at pump islands and vent risers.
    - At points where differential movement in the piping can occur.
  3. Fiberglass-reinforced plastic (FRP) piping is not required to be provided with flexible joints in locations where both of the following conditions are present:
    - Piping does not exceed 4 inches (102 mm) in diameter.
    - Piping has a straight run of not less than 4 feet on one side of the connection when such connections result in a change of direction.
  4. Piping, before being covered, enclosed or placed in use, shall be hydrostatically tested to 150 percent of the maximum anticipated pressure of the system, or pneumatically tested to 110 percent of the maximum anticipated pressure of the system, but not less than 5 pounds per square inch gauge (psig) at the highest point of the system. This test shall be maintained for a sufficient time period to complete

- visual inspection of joints and connections. For a minimum of 10 minutes, there shall be no leakage or permanent distortion.
5. A soap test shall be conducted while the piping is under pressure. All components and piping shall be sprayed with an approved soapy solution and inspected for leaks.
  6. Dispenser sumps shall have all penetrations installed and be water tested for leak detection.
- Final inspection
    1. Electrical wiring and equipment shall be installed and maintained in accordance with the ICC *Electrical Code*.
      - The electrical final shall be approved before the Fire Department final is conducted. The contractor must provide the signed inspection card or inspection receipt.
    2. All emergency stops shall be tested.
      - Emergency shutdown devices for exterior fuel dispensers shall be located within 100 feet of, but not less than 20 feet of dispensers. Activation of the emergency shutdown device shall stop the transfer of fuel to all dispensers, close all valves that supply the dispensers, shut off all power to the pumps and dispensers and shall be properly labeled.
      - The E-stop must require two separate actions to reset pumping operations.
    3. Dispensers shall be checked for the UL markings, leaks, loose fittings and proper operation.
    4. Dispenser hoses shall be checked for breakaway device and proper grounding.
    5. All dispensers must be visible from the attendants' location. (By direct sight, mirror or visual device)
    6. Approved signage in accordance with the 2006 IFC shall be posted.
    7. Fire extinguisher type **2A 20BC** rating shall be provided at a distance of not less than 10 feet but no more than 50 feet from the dispenser(s) and shall be properly mounted.

## UST out of service

- Temporarily  
Underground tanks temporarily out of service shall have the fill line, gauge opening, vapor return and pump connection secure against tampering. Vent lines shall remain open and be maintained.
- Out of service for 90 days  
When a tank is out of service for 90 days or more:
  1. Flammable or combustible liquids shall be removed from the tank.
  2. All piping, including fill line, gauge opening, vapor return and pump connection, shall be capped or plugged and secured from tampering.
  3. Vent lines shall remain open and be maintained.
- Out of service for one year  
Tank shall be removed.

## UST removal

- When removing a tank:
  1. Flammable and combustible liquids shall be removed from the tank and all piping.
  2. Piping at the tank openings shall be disconnected when no longer used.
  3. All underground piping shall be removed.
    - **Exception:** Piping is only allowed to be abandoned in place where the Fire Marshal determines that removal is not practical. Abandoned piping shall be capped and safeguarded.
  4. Tank openings shall be capped or plugged, leaving a 0.125-inch to ¼-inch-diameter opening for pressure equalization.
  5. Tanks should be purged and must be inerted prior to removal.
  6. All exterior above-grade fill and vent piping shall be permanently removed.
    - **Exception:** Piping associated with bulk plants, terminal facilities and refineries.
- Disposal

Tanks shall be disposed of in accordance with federal, state and local regulations. A copy of the closure report shall be submitted to the Tucson Fire Prevention Division.