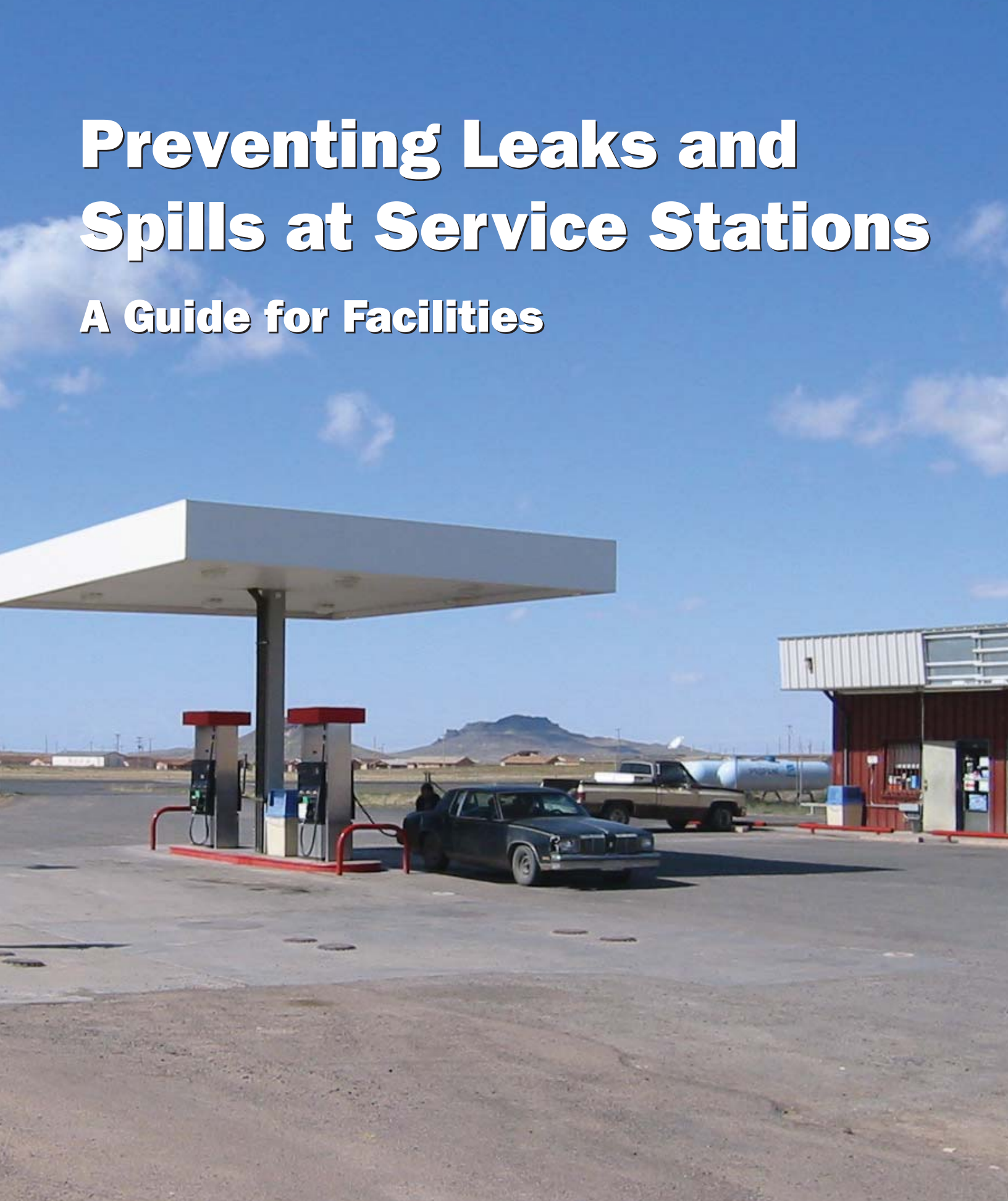
Preventing Leaks and Spills at Service Stations

A Guide for Facilities



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Pacific Southwest/Region 9
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Introduction

In recent years, leaking fuel tanks and spills at gas stations have contaminated drinking water sources for nearby communities, and have become costly for owners to clean up. This handbook provides guidance for owners and operators of gas stations on how to protect the environment, comply with federal environmental regulations, and save money by preventing the need for costly cleanups and payment of legal penalties. This guide is especially useful for facilities on tribal lands and in U.S. territories, where federal regulations are sometimes the only environmental rules in effect.

This handbook highlights five major areas of environmental management at gas stations: underground storage tanks, aboveground storage tanks, used oil, vehicle waste disposal wells, air conditioning units, and emergency spill response. Each section includes a brief introduction, suggests good management practices, provides a checklist for compliance, and lists EPA contacts for additional assistance.

If your facility does auto repair, you may also be interested in *The Pollution Prevention Toolkit: Best Environmental Practices for Auto Repair*. This is a series of fact sheets plus a video, available free of charge from EPA, showing the best ways for auto repair shops and fleet maintenance facilities to prevent pollution. To order the free package, call 1-800-490-9198. More information can be found at: **www.epa.gov/region09/p2/autofleet**

This publication is intended to provide guidance on the federal regulations and should not be used to meet all owner/operator responsibilities. It is not a substitute for U.S. Environmental Protection Agency regulations, nor is it a regulation itself. It does not impose legally binding requirements. It does provide information on compliance with important federal requirements applicable at gasoline service stations. For a comprehensive understanding, please refer to the Code of Federal Regulations, and note that local regulations may be more stringent than the federal regulations. Check with your local regulatory authority. If you are not sure who your regulatory authority is, you can find out by calling EPA's toll free hotline at 1-800-424-9346.

EPA does not endorse any companies or names that are mentioned or shown in this workbook or poster. Many of these pictures were taken on the Navajo Nation.

Underground Storage Tanks

Upper left: Installation of new USTs.

Upper right: A UST inspection in progress.

Lower right: Removal of leaking UST and contaminated soil.

An underground storage tank (UST) is a tank and any connected underground piping that has at least 10 percent of its combined volume underground. **Federal regulations require** owners/operators of USTs to have proper **corrosion protection**, **spill and overfill protection**, a **leak detection system** and **financial assurance** for liability.

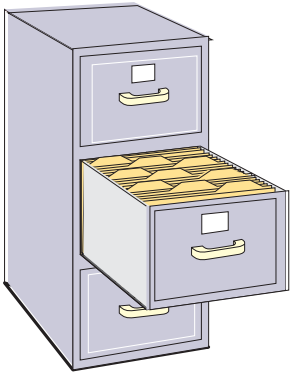
Upper left: Keep your sumps empty and clean.

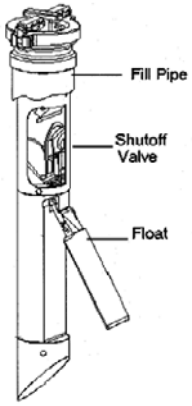
Upper center: Keep your spill buckets empty and clean.

Upper right: Test your Automatic Tank Gauge (ATG) to make sure it is calibrated and working properly.

Lower left: Organize and maintain your records and documents.

Lower right: Example of overfill protection and automatic shutoff device used during deliveries.





Good Management Practices:

- Organize and maintain necessary documents at your facility that include the following records:
  - Financial assurance
  - Valid tank and piping leak detection results
  - Repairs and upgrades to tanks and piping system
  - Installation of overfill protection (such as flapper valve, ball float, or high level alarm)
  - Installation of corrosion-protected tanks and piping, if applicable
  - Records of cathodic protection testing, if applicable
  - Records of internal inspection for steel tanks, if applicable
- Keep spill buckets free of liquids and dirt. Check to see if your spill bucket is leak-free and operational.
- Check all metal piping in contact with soil and water for corrosion protection.
- Check dispenser area and piping sumps for leaks. If any water or gasoline is present, remove it and dispose of it properly. Make any necessary repairs.
- Test your ATG system, if installed, to make sure it is properly calibrated and working.
- On-site staff should know how to operate the ATG and emergency shutoff valve.
- Facility should have a tank specifications chart available during deliveries.

Checklist For Compliance

The following checklist will help you manage your USTs. Always contact your local authority for further compliance.

- ☐ Submit a signed Notification Form 7530-1 for Underground Storage Tanks to EPA and tribal/local environmental agencies (where applicable) **30 days** prior to a new tank installation or changes in tanks or piping.
- ☐ You must have passing **leak detection results for your tanks** at least **every 30 days.** Common leak detection methods for tanks include automatic tank gauging, statistical inventory reconciliation (SIR), and inventory control with tank tightness testing. Maintain monthly records for the **previous 12 months.**
- ☐ You must also have **leak detection results for your piping.** For pressurized piping systems, this includes an annual operation test of the automatic line leak detector **and** either an annual line tightness test or leak detection tests at least every 30 days. Remember to keep these test results as records.
- ☐ Demonstrate that each tank has spill and overfill protection that is in good working order.
- ☐ All metallic components (such as tanks, piping, joints) in contact with soil must have corrosion protection. Remember to keep records of cathodic protection testing and internal lining inspections (if you use these methods for corrosion protection).

Steel tank with sacrificial anode (bottom) as corrosion protection.

- ☐ You must have **financial assurance** to cover cleanup costs of potential soil and groundwater contamination.
- ☐ During temporary or permanent closure of USTs, tanks must follow proper closure requirements. Notify EPA and tribal/local authorities at least 30 days in advance if you plan on permanently closing your tanks.

For general UST information refer to: www.epa.gov/oust or contact EPA's Call Center at 1-800-424-9346. You may also contact the EPA Region 9 UST program staff at 415-972-3367.

Aboveground Storage Tanks

Another common method for storing fuels at service stations is the use of aboveground storage tanks (ASTs). Any AST holding petroleum products or used oil may be regulated under the Clean Water Act because releases can contaminate surface waters. Single tanks with an aboveground storage capacity of more than 1,320 gallons or combined aggregate storage in containers of 55 gallons or greater totaling more than 1,320 gallons are subject to the federal Oil Spill Prevention, Control and Countermeasure (SPCC) regulations.

Upper left: Good example of secondary containment.

Upper right: Good example of security fencing.

Lower right: Routinely check tank, valves, hoses, and piping for any leaks.

Good Management Practices

- Provide corrosion protection for ASTs and any buried piping. Options include elevating tanks, resting tanks on continuous concrete slabs, installing double-walled tanks, or cathodically protecting the tanks and piping.
- To prevent rainwater from filling containment areas, you may need to cover the tank with a roof structure.
- To prevent evaporative losses and moisture condensation, you may want to paint tanks a reflective color, as shown in the above photos.
- Regularly check the dispenser hoses and piping for any leaks (a common problem).
- On-site staff should be trained to handle emergencies, such as leaks or explosions.

Checklist For Compliance

The following checklist will help you manage your aboveground storage tanks. Always contact your local authority for further compliance.

- ☐ **Develop and implement a Spill Prevention, Control and Countermeasure (SPCC) Plan** if the combined capacity of your ASTs is greater than 1,320 gallons. The SPCC Plan must be certified by a Professional Engineer.
- ☐ All ASTs should have a **secondary means of containment** capable of holding 100% of the largest tank capacity plus sufficient room to hold stormwater/rain water. Options include either having double-walled tanks; berms, dikes, or vaults; or leak-proof retention ponds or holding basins.
- ☐ If a loading "rack" is present, tank loading and unloading procedures must have some form of secondary containment sufficient to account for the largest compartment of the delivery truck. If there is no "rack" present, there must be general drainage control to prevent a release during delivery.
- ☐ Buried piping must be protectively wrapped and/or coated to prevent corrosion, and periodically tested for structural integrity.
- ☐ Routinely **monitor ASTs** to ensure they are not leaking. Areas to inspect include tank foundations, connections, coatings, tank walls, and piping systems. The new SPCC rule requires combining tank inspection with integrity testing based on industry standards.

Wrong: This AST has inadequate secondary containment, and no way to prevent vehicles from hitting it.

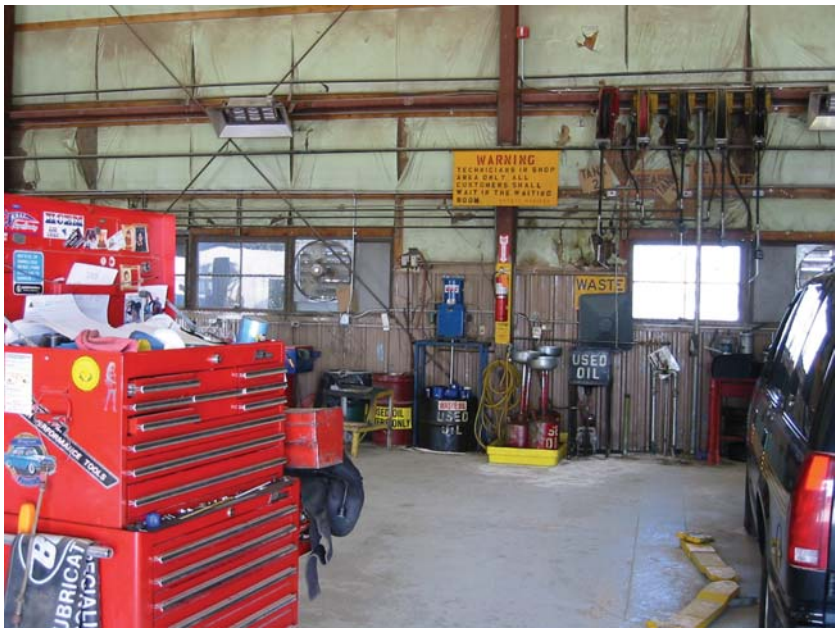
- ☐ **Control drainage from diked containment areas** with manually controlled valves. Any discharge should be inspected for petroleum and chemicals prior to disposal.
- ☐ **Provide adequate security** including fencing and lighting. Tank valves must be closed and locked when not operating. Starter controls must be closed and locked when not operating, and accessible only to authorized personnel.
- ☐ **Oil handling employees must be trained** in proper handling of oil and applicable pollution control laws, rules and regulations. Training records must be maintained for at least three years.

For general AST and SPCC information refer to: www.epa.gov/oilspill or contact EPA's Call Center at 1-800-424-9346. You may also refer to the EPA Region 9 Web site: www.epa.gov/region09/waste/sfund/oilpp

Used Oil

Containers for used oil should be clearly labeled, as shown here. Extra care should be taken to avoid spillage shown by floor stains.

If your facility changes oil on vehicles or accepts used oil from your community, you must follow the federal standards for the management of used oil. These standards require your shop to comply with basic storage requirements. Used oil should be stored only in containers and tanks that are in **good condition** (free of any visible leaks, structural damage, or deterioration). Containers, aboveground tanks, and fill pipes that transfer used oil into underground storage tanks all need to be clearly marked with the words **"USED OIL"** to prevent mixing of used oil with other materials.



Containers must be in good condition and clearly labeled.

Good Management Practices

- When changing oil, set up equipment—such as a drip table or screen table with a used oil collection bucket—to collect oil dripping off parts. Place drip pans underneath vehicles that leak fluids.
- Used oil filters should be drained, crushed, and stored in a container that is labeled "Used Oil Filters." Most oil filters can be recycled. This process exempts filters from being considered hazardous waste.
- If your facility is storing used oil destined for recycling in underground storage tanks (USTs), you must follow UST regulations. Refer to the UST section, p 2–4.

Checklist For Compliance

The following checklist will help you manage your used oil. Always contact your local authority for further compliance.

- ☐ Keep used oil storage tanks and containers in good condition; label tanks and containers with the words **"USED OIL."**
- ☐ When changing oil, set up equipment, such as a drip table or screen table, to collect oil dripping off parts.
- ☐ Oil filters should be drained (for 24 hours) and crushed prior to recycling or disposal. It is good practice to label storage containers as **"USED OIL FILTERS."**
- ☐ Immediately clean up any oil spills or leaks to the environment.
- ☐ **Do not mix used oil with hazardous waste** (such as gasoline or solvents), or else it will have to be managed as hazardous waste, which is more costly and cannot be recycled. Used oil should be separated from other wastes and stored in leak-free containers labeled "USED OIL."
- ☐ Used oil generated by a shop may be burned on site in a commercial space heater. Also, used oil may be sent to a burner for energy recovery.

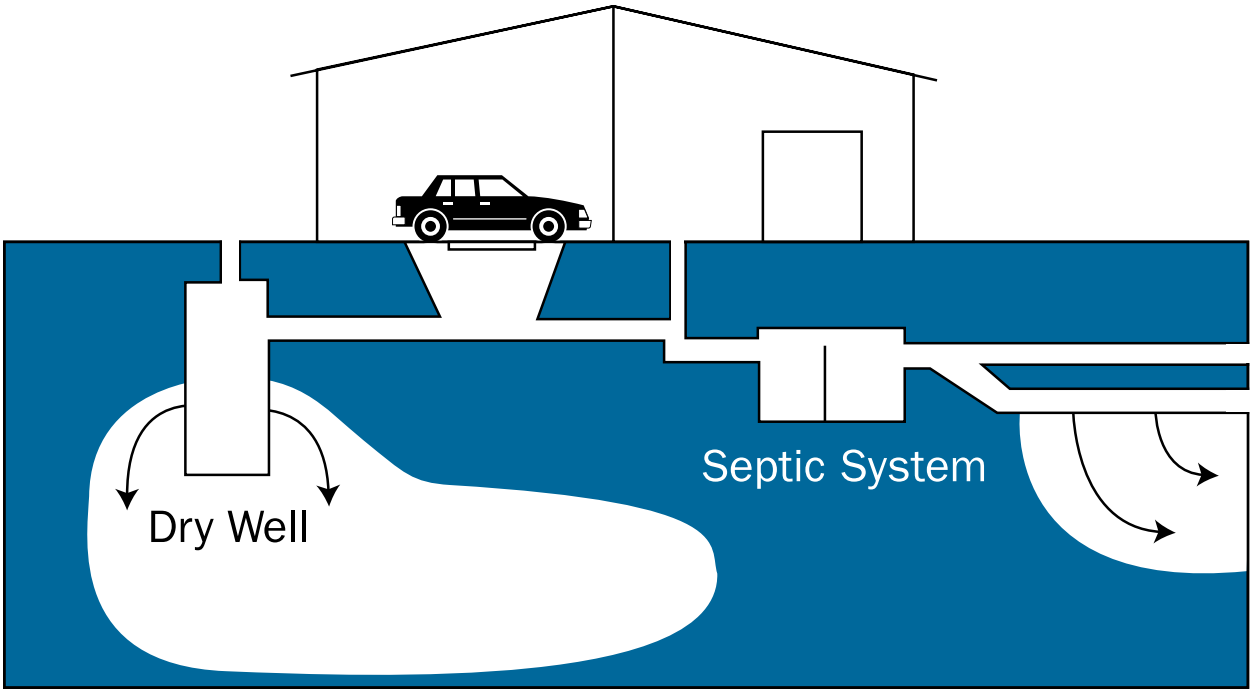
- ☐ Contact local authorities to determine requirements and obtain necessary permits.
- ☐ If shipping used oil off site to be burned, you must obtain an EPA identification number by calling the EPA Region 9 RCRA Notification Switchboard at 415-495-8895.

Contact EPA's Call Center toll-free at 1-800-424-9346 for additional information about used oil management

Class V Motor Vehicle Waste Disposal Wells

Floor drains in service bays might lead to a Class V (Five) Motor Vehicle Waste Disposal Well.

Your facility may be using a Class V Motor Vehicle Waste Disposal Well if there is a floor drain on site. Floor drains that are not connected to a sewer line are considered Class V Motor Vehicle Waste Disposal Wells if used to receive fluids from vehicle repair or maintenance activities (this includes drainage from car wash stations). In order to protect drinking water, **federal requirements prohibit using existing motor vehicle waste disposal wells, unless the owner and operator seeks a waiver and obtains a permit** from EPA and local authorities, if applicable. Constructing new motor vehicle waste disposal wells is prohibited nationwide, due to the risk of polluting groundwater.



Use of dry wells should be avoided, due to the risk of contaminating groundwater.

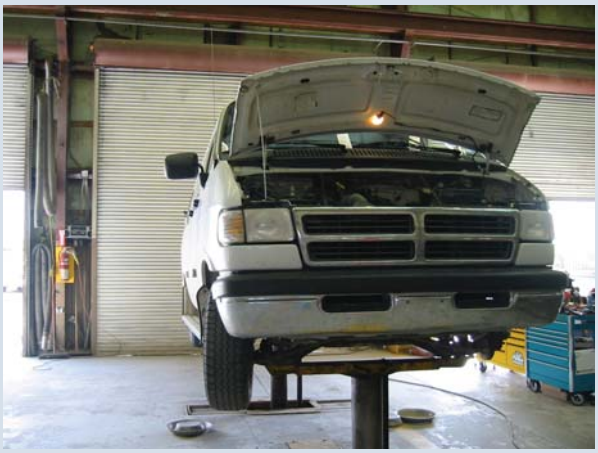
Good Management Practices

- Facility managers should know if floor drains lead to a municipal sewer line, to a surface discharge, to a leakproof sump, or to a shallow injection well. Facility managers should obtain the diagrams for all the existing underground construction at their facility to track the transport of these fluids.
- Facility managers should know all sources of fluids that flow onto or originate from their property, including rain, snow, fuel, motor vehicle fluids, and wastewater from bathrooms and sinks.
- "Dry shop" practices minimize the risk of polluting water. For more information, go to: **www.epa.gov/region09/p2/autofleet/** or **www.ccar-greenlink.org/**
- Facility managers should use best management practices, such as dry shop technologies, waste minimization, and employee education. These activities are described more fully in the EPA publication, *Small Entity Compliance Guide: How the New Motor Vehicle Waste Disposal Well Rule Affects Your Business.* This can be found at **www.epa.gov/sbrefa4u/documents/2778secg.pdf**

Checklist For Compliance

The following checklist will help you manage your motor vehicle waste disposal wells. Always contact your local authority for further compliance.

- ☐ All owners and operators of Class V motor vehicle waste disposal wells must **provide to the EPA Underground Injection (UIC) program the following inventory information:**
  - Facility name and location
  - Legal contact
  - Nature of injection activity
  - Operating status of injection well
- ☐ Class V wells must not endanger or contaminate any underground source of drinking water.
- ☐ Establishment of new motor vehicle waste disposal wells is prohibited.
- ☐ Use of existing motor vehicle waste disposal wells is banned unless a **permit** is obtained.
- ☐ Owners and operators must **notify** the UIC Program Director at the applicable regulatory agency at least 30 days before closing an existing motor vehicle waste disposal well.



For more information:

Contact the Safe Drinking Water Hotline at 1-800-426-4791. You can also get well-specific fact sheets and other information on Class V injection wells, including information on the Class V Rule from the EPA Web site: **www.epa.gov/safewater/uic/classv.html**

Air Conditioning Units

When air conditioning units are repaired, they must be serviced by an EPA-certified technician.

If your facility services motor vehicle air conditioning units, you may be subject to Clean Air Act regulations. Many motor vehicle air conditioners (MVACs) contain refrigerants with chlorofluorocarbons (CFCs) and similar chemicals, which damage the Earth's protective stratospheric ozone layer if released to the air. **Regulations require that refrigerants be removed from motor vehicles using U.S. EPA-registered equipment. Technicians must be certified** to service air conditioning units. You must sell the refrigerant you collect to a reclamation facility so that it can be purified for reuse.

Upper: Follow accepted procedures for changing fittings and labeling refrigerants in AC units that have been retrofitted.

Lower: Facilities must use EPA-approved recycling equipment.

Good Management Practices

- Leaky air conditioners should be repaired rather than just "topped off" with additional refrigerant. Such repairs prolong system life, reduce emissions, and conserve existing supplies of CFCs, which can no longer be legally manufactured or imported.

Checklist For Compliance

The following checklist will help you manage motor vehicle air conditioning units. Always contact your local authority for further compliance.

- ☐ **It is illegal to vent and release CFCs, HCFCs, HFCs, and any R-12 replacement to the atmosphere.** These chemicals must be recovered during servicing.
- ☐ If performing maintenance on motor vehicle air conditioning equipment, you must **have documentation proving that you and your facility are certified** by an EPA-approved testing organization.
- ☐ Recovery equipment must be registered with EPA.
- ☐ **Recover and/or recycle refrigerants** during the servicing and disposal of motor vehicle air conditioners and refrigeration equipment.
- ☐ After removal and collection, refrigerant must be sold to a reclamation facility so that it can be purified, unless your facility has the capacity to recycle the refrigerant back into the original vehicle or into another serviced vehicle.
- ☐ If refrigerants are recovered and sent to a reclamation facility, the name and address of that facility must be kept on file.
- ☐ In addition, when servicing units that use alternative non-ozone-depleting substances, you are still required to use certified equipment and be a certified technician.

Additional information is available through the toll-free Stratospheric Ozone Information Hotline: 1-800-296-1996. You may also go to www.epa.gov/ozone

Emergency Spill Response

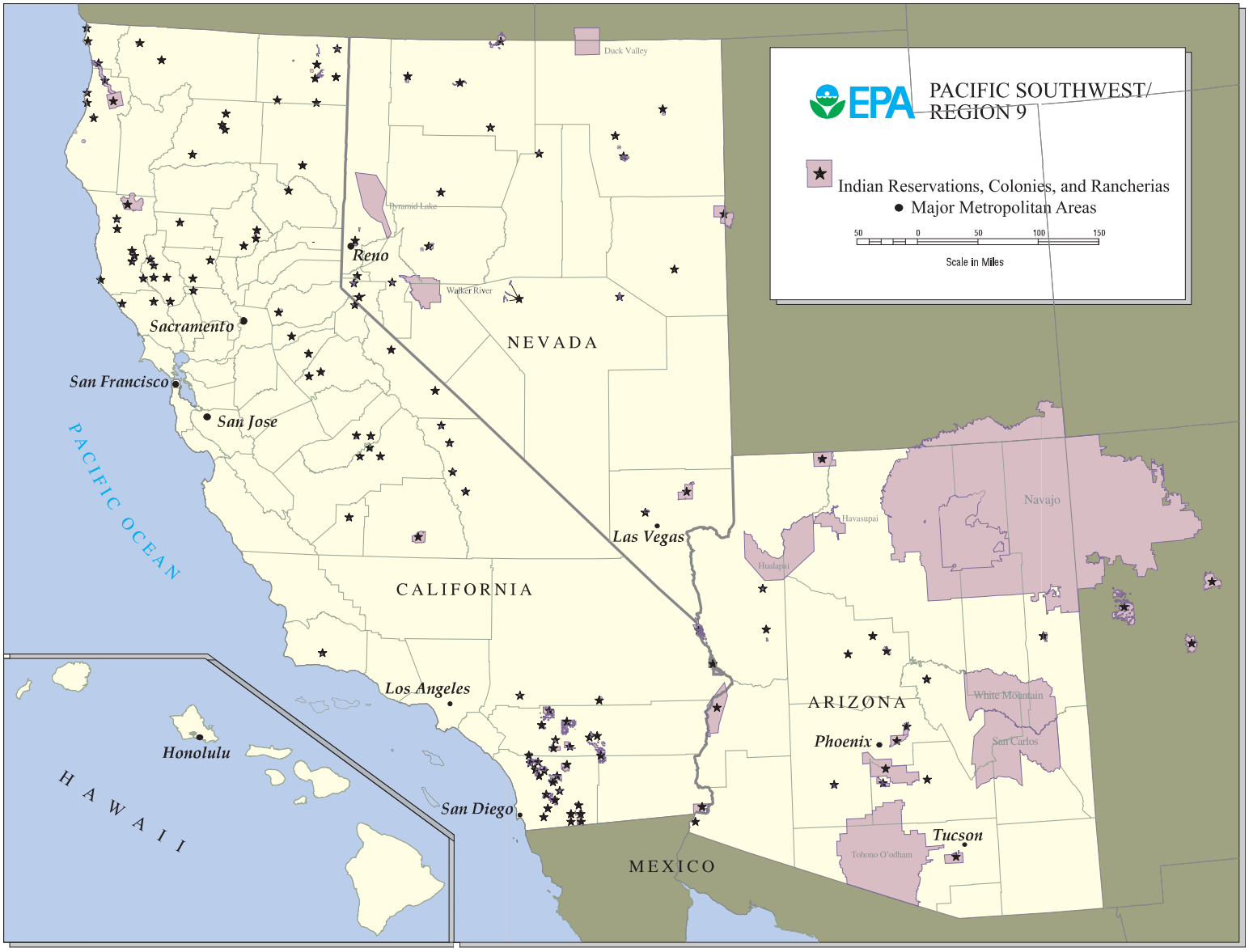
For any explosions or major petroleum spills, immediately contact the National Response Center at 800-424-8802.

If any release from an underground storage tank (UST) or aboveground storage tank (AST) is suspected, the owner or operator must report the release within 24 hours. Short-term actions should also be taken immediately to stop the release and ensure that there is no threat to public safety, human health, or the environment.

Short-Term Actions

- Take immediate action to safely stop and contain the release.
- Report the release to the National Response Center, EPA and your local regulatory authority within 24 hours.
- Make sure the release poses no immediate hazard to human health and safety by removing explosive vapors and fire hazards. Your fire department should be able to help or advise you with this task. You must also make sure you handle and dispose of contaminated soil properly so that it poses no hazard (for example, from vapors or direct contact).
- Remove petroleum from the UST or AST system to prevent further release into the environment.
- Find out how far the petroleum has moved and begin to recover the leaked petroleum (such as product floating on the water table). Report your progress and any information you have collected to EPA and your local regulatory authority no later than 20 days after confirming a release.
- Investigate if the release has impacted the soil and subsurface environment. This investigation must determine the extent of contamination both in soils and groundwater. You must report to EPA and your local regulatory authority what you have learned from an investigation of your site according to the schedule established by the regulatory authority. At the same time, you must also submit a Corrective Action Plan explaining how you plan to clean up the site.

National Response Center: 800-424-8802



EPA's Pacific Southwest Region includes the states of Arizona, California, Hawaii and Nevada; 147 tribal nations and communities; and Pacific islands that are U.S. territories or to which the U.S. has ongoing commitments. Map shows boundaries of states, counties, and tribal lands.

U.S. Environmental Protection Agency
Pacific Southwest/Region 9 Contacts

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For Pacific Southwest issues: www.epa.gov/region09