# ORDER

1050.15A

# FUEL STORAGE TANKS AT FAA FACILITIES



April 30, 1997

## DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION

# **RECORD OF CHANGES**

1050.15A

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#### FOREWORD

This order establishes agency policy, procedures, responsibilities, and implementation guidelines for compliance with regulations pertaining to underground storage tanks (UST) of the Federal Aviation Administration as required by the Resource Conservation and Recovery Act of 1976 (52 U.S.C. §6901 et seq.), as amended by the Hazardous and Solid Waste Amendments of 1984 (Public Law 98-616) and other acts, and as implemented by the U.S. Environmental Protection Agency's "Underground Storage Tanks; Technical Requirements and State Program Approval; Final Rules regulation, 40 CFR Parts 280 and 281." Although no one comprehensive Federal regulation on aboveground storage tanks (AST) existed prior to publication of this order, AST's are affected by various regulations such as the Oil Pollution Prevention regulation codified at 40 CFR Part 112. This order also addresses FAA policy on AST's until a single comprehensive regulation is promulgated.

The Congress of the United States has declared it to be the national policy of the United States that, wherever feasible, the generation of hazardous waste is to be reduced or eliminated as expeditiously as possible. Waste that is nevertheless generated should be treated, stored, or disposed of so as to minimize the present and future threat to human health and the environment.

Barry L Nalentine Acting Administrator

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#### CHAPTER 1. GENERAL REQUIREMENTS

1. <u>PURPOSE</u>. This order establishes Federal Aviation Administration (FAA) policies, procedures, responsibilities, and implementation guidelines for new and existing underground storage tanks (UST) containing any substance defined in section 101(14) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980 (except for those listed as hazardous wastes under subtitle C of RCRA) and refined and waste petroleum and byproducts as regulated by "The Resource Conservation and Recovery Act (RCRA)" of 1976 (52 U.S.C. §6901 et seq.), as amended by "The Hazardous and Solid Waste Amendments of 1984" (Public Law 98-616) and other acts and as implemented by the "Underground Storage Tanks; Technical Requirements and State Program Approval; Final Rules regulation, 40 CFR Parts 280 and 281." This order also establishes FAA policies, procedures, responsibilities, and implementation guidelines for aboveground storage tanks (AST).

2. <u>DISTRIBUTION</u>. This order is distributed to the director level in Washington, to the division level within Airway Facilities Service, Offices of Airport Safety and Standards, Airport Planning and Programming, Civil Aviation Security Operations, Civil Aviation Security Policy and Planning, Environment and Energy, Aviation Medicine, and Financial Services, and to the division level in the regions with a branch level distribution in the Airway Facilities and Logistics Divisions; to the division level at the Aeronautical Center with a branch level distribution in the Office of Facility Management and the FAA Logistics Center; to the division level in the Aviation System Standards Office; to the division level at the Technical Center; and a limited distribution to all Airway Facility Sector Field Offices and Field Maintenance Parties.

3. <u>CANCELLATION</u>. Order 1050.15, Underground Storage Tanks at FAA Facilities, dated August 17, 1987, is canceled.

4. EXPLANATION OF CHANGES. This revision:

a. Updates FAA policy to reflect the requirements of the EPA Underground Storage Tank regulation which was effective December 22, 1988. This order also establishes FAA policy regarding regulated AST's.

b. Updates leak detection monitoring on new UST's. Numerous false alarms have been attributed to vapor sensors installed on new UST's, and unless required by state or local regulations, hydrocarbon vapor sensors are no longer required as part of leak detection monitoring on new UST's.

c. Updates FAA UST tightness testing policy, which is no longer required twice yearly. Specifies EPA requirements with respect to tightness testing. Special recommendations are included for emergency generator UST systems which are deferred from EPA release detection requirements.

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d. Clarifies leak detection monitoring requirements for UST's, existing and new, to determine month-to-month integrity of the tank system. Special recommendations are included for emergency generator UST systems which are deferred from EPA release detection requirements.

e. Specifies required construction methods of new UST's to be of fiberglass reinforced plastic (FRP) or steel clad with fiberglass to provide for sufficient corrosion protection. New UST's may also be constructed of double-walled steel incorporating the Steel Tank Institute's STI-P3 cathodic protection, provided approval has been granted by the ANS FST Program Manager.

f. Specifies requirements of new UST and AST leak detection systems to require automatic tank gauging, piping line leak detection, the capability of tightness testing, and remote maintenance monitoring. These tanks also require spill and overfill prevention equipment, spill containment kits, or a spill containment structure.

g. Clarifies measures of regulated AST's requiring site specific Spill Prevention Control and Countermeasures (SPCC) and/or Facility Response plans in accordance with the Oil Pollution Prevention regulation, 40 CFR Part 112.

h. Clarifies EPA exemptions from Federal UST regulations. The EPA has exempted heating oil tanks from the Federal UST regulation. In the event that applicable state and local regulations are broader in scope or are more stringent and do not exempt heating oil tanks, the FAA will comply with the applicable state and local regulations.

i. Specifies recordkeeping requirements to be maintained at the facility or sector level, including release detection performance, implementing agency correspondence, testing and sampling, cathodic protection, and in-place tank closure records.

j. Specifies minimum requirements, other pertinent information, and the document location regarding EPA requirements for UST's; EPA regional and state contacts; a notification form for UST's; a sample UST installation worksheet; a sample SPCC plan; AST state contacts; and additional information and/or references located in the appendices.

#### 5. BACKGROUND.

a. To protect the Nation's drinking water supply, reduce quantities of potentially hazardous waste generated, and mitigate other risks associated with leaking UST's, the Congress of the United States added a Subtitle I to the Solid Waste Disposal Act in its Hazardous and Solid Waste Amendments of 1984 (HSWA).

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b. HSWA governs the use of UST's by setting specific requirements. This includes, but is not limited to, requirements for:

(1) Maintaining a leak detection system, an inventory control system together with tank testing, or a comparable system or method designed to identify releases in a manner consistent with the protection of human health and the environment.

(2) Maintaining records of any monitoring or leak detection system, including an inventory control system, tank testing, or comparable system.

(3) Reporting releases and corrective action taken in response to a release from a UST.

(4) Removing tanks to prevent future releases of regulated substances into the environment.

c. Section 9003 of RCRA required EPA to promulgate regulations applicable to all owners and operators of UST systems as necessary to protect human health and the environment. On September 23, 1988, EPA issued the final rule "Underground Storage Tanks; Technical Requirements and State Program Approval; Final Rules regulation, 40 CFR Parts 280 and 281." The final EPA rulemaking was effective December 22, 1988.

#### 6. DEFINITIONS.

a. "Abandoned tank" means a UST, regardless of age, which has been out of service longer than 12 months and does not meet the temporary tank closure requirements and is not intended to be returned to service or is unfit for use.

b. "Ancillary equipment" means any devices including, but not limited to, such devices as piping, fittings, flanges, valves, and pumps used to distribute, meter, or control the flow of regulated substances to and from regulated FST's.

c. "Cathodic protection" means a technique to prevent corrosion of a metal surface by making that surface the cathode of an electrochemical cell. For example, a tank system cathodically protected through the application of galvanic anodes or impressed current.

d. "Center" means the Aeronautical or Technical Center.

e. "Double-walled tank" means a container with two complete shells which provide both primary and secondary containment. The outer shell shall provide structural support and shall be constructed primarily of non-earthen materials including, but not limited to, steel and Fiberglass Reinforced Plastic (FRP).

f. "EPA" means Environmental Protection Agency.

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g. "Existing UST's" means any UST system used to contain an accumulation of regulated substances for which installation commenced on or before December 22, 1988. Installation is considered to have commenced if: (1) The owner/operator has obtained all Federal, state, and local approvals or permits necessary to begin physical construction of the site or installation of the tank system; and if (2) (a) either a continuous onsite physical construction or installation program has begun; or (b) the owner/operator has entered into contractual obligations--which cannot be canceled or modified without substantial loss--for physical construction at the site or installation of the tank system to be completed within a reasonable time.

h. "Free product" refers to a regulated substance that is present as a nonaqueous phase liquid (e.g., liquid not dissolved in water).

i. "Fuel storage tank" (FST) encompasses all regulated underground and aboveground storage tanks, including state-regulated heating oil tanks.

j. "Groundwater" means the water beneath the surface of the ground, consisting largely of surface or atmospheric water that has seeped down, and subsurface water which may migrate into a well, spring, or body of surface water.

k. "Implementing agency" means EPA, or in the case of a state with a program approved under section 9004 of RCRA (or pursuant to a memorandum of agreement with EPA), the designated state or local agency responsible for carrying out an approved UST program.

l. "New UST's" means any UST system that will be used to contain an accumulation of regulated substances for which installation commenced after December 22, 1988.

m. "Oil or petroleum liquid" or "product" means oil of any kind or in any form including, but not limited to, petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged soil.

n. "Operator" means any person in control of, or having the responsibility for, the daily operation of the UST system.

o. "RCRA" means Resource Conservation and Recovery Act.

p. "Regulated substance" means any hazardous substance defined in section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), to include petroleum, including crude oil, or any fraction thereof that is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute). The term "regulated substance" includes but is not limited to petroleum and petroleum-based substances comprised of a complex blend of hydrocarbons derived from crude oil through processes of separation, conversion, upgrading, and finishing, such as motor fuels, jet fuels, distillate fuel oils, residual fuel oils, lubricants, petroleum solvents, and used oils.

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q. "Reportable release" means any unauthorized release which triggers a reporting obligation under Federal, state, or local law (see Chapter 7, Spill Prevention, Release Response, and Cleanup).

r. "UL listed" means included in a current list or report of approved equipment, materials, or methods published by Underwriters Laboratories, Incorporated.

s. "Unauthorized release" means any spilling, leaking, emitting, discharging, escaping, leaching, or disposing from a UST into groundwater, surface water, surface soils, or subsurface soils.

t. "Underground storage tank" (UST) means any one or combination of tanks, including connecting underground pipes, used for storage of regulated substance (e.g., petroleum fuel products and waste oil) the volume of which is 10 percent or more beneath the surface of the ground. EPA excludes the following tanks from the UST regulation: tanks used for heating purposes, septic tanks, surface impoundments, and storm water or waste water collection systems (state regulations may mandate some or all of the tanks excluded by the EPA).

u. "Upgrade" means the addition or retrofit of some systems such as cathodic protection, lining, or spill and overfill controls to improve the ability of a UST system to prevent the release of a product.

v. "Vadose zone" is a geological term meaning the soil found or located beneath the soil surface and above the water table. This is also known as the unsaturated zone.

#### 7. POLICY.

a Underground Storage Tanks (UST). FAA shall comply with this order and the UST requirements of HSWA Section 9004 as codified in 40 CFR Part 280. However, more stringent state and local regulations pertaining to UST's shall take precedence, except civil penalties imposed by state or local agencies with UST programs not approved by EPA. The applicability of such penalties to FAA facilities must be determined in consultation with the Office of the Chief Counsel or appropriate regional or center counsel.

b. Aboveground Storage Tanks (AST). FAA shall comply with this order and the Oil Pollution Prevention requirements of the Clean Water Act, also referred to as the Spill Prevention Control and Countermeasures (SPCC) regulations as codified by 40 CFR Part 112. However, more stringent state and local regulations pertaining to AST's shall take precedence, except civil penalties imposed by state or local agencies with AST programs not approved by EPA. The applicability of such penalties to FAA facilities must be determined in consultation with the Office of the Chief Counsel or appropriate regional or center counsel.

c. Heating Oil Tanks. EPA has exempted heating oil tanks from Federal UST regulation; however, some states have included these tanks within their UST regulations. FAA honors the exemption for heating oil tanks. The FAA storage tank program shall provide funds for upgrading or replacement of these tanks to comply with state and local requirements.

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d. EPA Exemptions. The following is a comprehensive list of exemptions for EPA's UST regulation:

(1) Farm or residential tank of 1,100 gallons or less capacity used for storing motor fuel for noncommercial purposes.

(2) Tanks used for storing heating oil for consumptive use on the premises where stored.

(3) Pipeline facility (including gathering lines) regulated under:

(a) The Natural Gas Pipeline Safety Act of 1968 (49 U.S.C.

App. 1671, et seq.) or

(b) The Hazardous Liquid Pipeline Safety Act of 1979 (49 U.S.C. App. 2001, et seq.) or

(c) Which is an intrastate pipeline facility regulated under state laws, comparable to the provisions of the law referred to in (a) or (b) above.

(4) Surface impoundment, pit, pond, or lagoon.

(5) Storm water or waste water collection system.

(6) Flow-through process tank.

(7) Liquid trap or associated gathering lines directly related to oil or gas.

(8) Storage tank situated in an undergound area (i.e., basement, cellar, mineworking, drift, shaft, or tunnel) if the storage tank is situated upon or above the surface of the floor.

8. <u>RESPONSIBILITIES</u>. Compliance with the policies and procedures of this order is the responsibility of the regions, centers, services, and offices with jurisdiction over FST's. This order shall in no way relieve any FAA facility of Federal, state, or local compliance requirements.

a. Airway Facilities Service shall:

(1) Establish an organizational structure and procedures to ensure that the FST program is implemented within Airway Facilities divisions in the regions. This structure shall include designation of specific individuals responsible for reports and notifications and ensure that these individuals are aware of their responsibilities.

(2) Develop implementation procedures to ensure that FST's used in NAS facilities conform to policies incorporated herein.

(3) Ensure that adequate personnel resources are available for implementing the FST program.

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(4) Ensure that the estimates of funding necessary to comply with this order are included in the annual budget submissions, including but not limited to, considerations of the following: tank removal, upgrades, tank replacements, leak detection monitoring, contaminated soil and groundwater cleanups, soil/groundwater testing, permits, registrations, and inspection costs, and ensure that these actions are executed.

(5) Work with contracts and procurement personnel to ensure that support services are provided for soliciting, selecting, negotiating, and administering contracts for services required to implement the FST program in Airway Facilities divisions.

(6) Ensure that all FST operations for which Airway Facilities is responsible comply with Federal, state, and local requirements, both substantive and procedural, that are applicable to those operations, including payment of reasonable service charges. Ensure that copies of environmental notices of violations, notices of noncompliance, and other similar notices are submitted to regional counsel.

(7) Collect and provide appropriate FST documentation and budget information to the Office of Environment and Energy (AEE) for completion of various reports. Document and notify AEE of FST cleanups, estimated costs, and extent of contamination.

(8) Ensure that FST program requirements are considered as soon as practicable in all construction, operation, and other projects and programs administered directly by Airway Facilities, including decommissioning projects.

(9) Ensure that all UST's and AST's are properly registered, permitted, and certified for correct installation of new FST's. Ensure that they are properly disposed, and that they maintain the required inventories, records, and reports.

(10) Maintain an official data base inventory of regulated FAA FST's.

(11) Ensure site-specific training is carried out in accordance with site-specific SPCC or Facility Response plans, if required, for regulated AST's.

(12) Engage in the development, negotiation, and implementation of compliance orders, consent decrees, and interagency agreements, as necessary, after consultation with the FAA Chief Counsel and/or regional counsel.

b. Facility Engineering and Operations Branch Manager (Technical Center), and Center Facility Planning and Support Division Manager (Aeronautical Center) are responsible for developing implementation procedures not otherwise detailed in this order (to comply with state and local regulations); providing for assignment of an FST coordinator, other key personnel, and resources necessary to carry out the required inventories, inspections, leak detection monitoring, registration, tank removal, environmental cleanup measures, permits, and annual updating of an FST inventory data base. Specifically, these center managers shall:

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(1) Establish an organizational structure and procedures to ensure that the FST program is implemented within the center's jurisdiction.

(2) Collect and provide appropriate FST documentation and budget information to the Office of Environment and Energy (AEE) for completion of various reports.

(3) Engage in the development, negotiation, and implementation of compliance orders, consent decrees, and interagency agreements, as necessary, after consultation with the FAA Chief Counsel and/or regional counsel.

(4) Ensure that all operations comply with applicable Federal, state, and local environmental laws, rules, and regulations including, but not limited to, conducting all sampling and monitoring and providing all reports required by regulatory bodies.

(5) Ensure that all UST's and AST's are properly registered, obtain permits and certification of correct installation for new UST's, ensure proper disposal, and maintain the required inventories, records, and reports.

(6) Ensure site-specific training is carried out in accordance with site-specific SPCC or Facility Response plans, if required, for regulated AST's.

c. Office of Environment and Energy is responsible for the overall FAA environmental policy on FST's and coordination of that policy with the regional, center, and service directors. It is responsible for the development of policies pursuant to EPA requirements, provision of advice and assistance to offices, services, regions, and centers in development of guidelines and procedures for their program areas, interpretation of the policies established in this order in consultation with the responsible officials in the EPA, and provision of assistance to responsible officials in the FAA concerning changes in EPA policies relative to FST's. AEE also reviews implementing instructions developed by FAA field units for consistency with agency policy.

d. Aviation System Standards (AVN) shall be responsible for development of procedures, implementation, and compliance with EPA, state, and local requirements at aircraft maintenance bases that manage FST's. AVN also shall provide for assignment of key personnel and resources necessary to carry out the initial inventories, inspections, leak detection monitoring, tank removal, environmental cleanup, registration, and annual updating of an FST inventory data base.

e. Regional Logistics Divisions shall be responsible for providing logistic support to ANS, centers, other regional divisions, the FAA Logistics Center, and AVN in the development of criteria for the transportation and disposal of FST's, piping, and all surplus equipment resulting from an FST replacement or FST removal. Disposal shall be in accordance with EPA or in a state-approved manner.

f. The Office of Financial Services (ABA) shall use this order as the basis for developing the annual call for estimates related to costs of compliance with regulations initiated by Federal, state, and local authorities.

g. The Facility Engineering Service (AFE) shall assist in the development of standards and evaluation of FST alternatives to provide the most efficient and ecologically sound facilities.

h. The Office of the Chief Counsel (AGC) and the regional and center counsels are responsible for consulting and review relating to compliance orders, consent decrees, legal interpretation of Federal, state, and local requirements, and payment of fees.

9. <u>BUDGET REQUEST PROCEDURES</u>. Normal Operations and Facilities and Equipment budget procedures for current and future budget needs shall be followed. It is the responsibility of the Regional Program Manager for Environment and Safety (RPMES), or equivalent coordinator, to submit a yearly budget to the Airway Facilities Division, Program and Planning Branch, on the costs of the FST program. This is required in the Annual Call for Estimates portion of Order 2500.55 of the current year. Budget request procedures will follow the guidelines established by the National FST program office.

10. <u>RECORDKEEPING</u>. All records shall be maintained and made available within a reasonable time for inspection by the implementing agency after proper notice.

a. UST Registration. EPA, as mandated in the Hazardous and Solid Waste Amendments of 1984, requires that all UST's which are not excluded be registered with the proper state and local authorities. When installing a UST, a state notification form shall be properly completed, including a certification of correct installation. The RPMES or equivalent coordinator shall also ensure that all existing UST's are registered. All inservice, temporarily out-of-service, and permanently out-of-service tanks shall meet this registration requirement. Registration of new UST's or a change in status of existing tanks shall be processed within 30 days of the date of action. Many states also require an annual tank registration. All registration records shall be maintained for the life of the UST system at the nearest Airway Facility Sector Field Office or facility managing FST's.

b. FST Data Base. Current inventories of all in-service, out-of-service, and abandoned (decommissioned/out-of-service longer than 12 months) FST's shall be maintained using the official FST data base approved by the NAS Transition and Implementation Service (ANS) FST program manager. The FST data base shall be updated, and data shall be submitted to the ANS FST program manager on a quarterly basis starting from October 1 of the fiscal year. All replacement, upgrade, and removal activity shall require an amendment of the FST data base and original registration records.

c. Repair Records. Records of each repair shall be maintained at the facility or the nearest Airway Facility Sector Field Office for the remaining life of the FST system. All repairs shall be conducted in accordance with a code of practice developed by a nationally recognized association or an independent testing laboratory.

d. Release Detection Performance Records. All release/leak detection monitoring results shall be maintained monthly at the facility and made readily available to EPA, state, and local (implementing agencies) environmental inspectors. Copies of these records shall be maintained at the facility or forwarded to the nearest Airway Facility Sector Field Office on a quarterly basis. The most recent tank and piping tightness test and other leak detection results shall be maintained a minimum of 1 year, or other



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reasonable time period as determined by the implementing agency. All records pertaining to release detection performance claims or testing shall be maintained at the facility or the nearest Airway Facility Sector Field Office for at least 5 years (from the date of installation) or other reasonable time period as determined by the implementing agency.

e. Closure/Disposal Records. Records of closure, removal, and disposal activity shall be maintained at the nearest Airway Facility Sector Field Office. These records shall be maintained for at least 10 years for documentation in the event of a property transfer. The following information shall be required at a minimum:

(1) Date when UST's removed from service.

(2) Date and disposal/recycling location of any surplus tank.

(3) Soil or groundwater sampling, testing and analysis.

(4) Disposition of contaminated soil.

(5) Remedial action taken for cleanup of a contaminated site.

f. Cathodic Protection Records. Records of the last three inspections shall be maintained at the facility or nearest Airway Facility Sector Field Office.

g. Closure in Place Tank Records. All records pertaining to permanent closure in place UST's shall be maintained permanently at the UST site, nearest Airway Facility Sector Field Office, and regional office.

h. Implementing Agency Correspondence Records. State and local implementing agencies shall be consulted regarding use of approved UST installers/removers, hazardous waste transporters, incineration plants, and recycling and disposal companies (e.g., obtain state/local approved lists). These and all other correspondence documents shall be maintained at the nearest Airway Facility Sector Field Office for at least 10 years.

#### 11. <u>REPORTING</u>.

a. Implementing Agency Report. All regions, centers, and facilities shall cooperate fully with inspections, monitoring, and testing conducted by the implementing agency. Reports submitted to the implementing agency shall be maintained at the nearest Airway Facility Sector Field Office for at least 10 years and shall include, but not be limited to, the following:

(1) Notification of installation for all UST systems.

(2) Reports of all releases in excess of reportable quantities (in the case of a fuel spill or overfill, only those in excess of 25 gallons and those that cannot be remediated within 24 hours), suspected releases, spills and overfills, and confirmed releases.

(3) Soil or groundwater sampling, testing, and analysis.

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(4) Corrective actions planned or taken.

(5) Notification of permanent closure or change in service.

b. It is strongly recommended that FAA personnel accompany any Federal, state, or local inspector throughout every site visit, obtain duplicate samples if taken by the inspector, and maintain copies and a list of any documents furnished by and to the inspector. It is also recommended that FAA personnel request an out-briefing from the implementing agency personnel or inspector.

12. <u>PERMITS/FEES</u>. Where applicable, all regions, centers, and aircraft maintenance bases shall meet the annual/recurring registration and permit requirements, including payment of reasonable service charges or fees. Any legal issues concerning fees should be coordinated with the Office of the Chief Counsel or appropriate regional or center counsel prior to payment. In most jurisdictions, permits will be required for installations of new UST's, AST's, and closure of existing tanks.

13. <u>FEDERAL FACILITIES</u>. Section 9007 of RCRA requires each department, agency, and instrumentality of the executive, legislative, and judicial branches of the Federal Government having jurisdiction over any UST to comply with all Federal, state, interstate, and local requirements.

14. <u>STATE AUTHORITY</u>. Section 9008 of RCRA allows any state or political subdivision to adopt or enforce any regulation, requirement, or standard of performance respective to UST's that is more stringent than a regulation, requirement, or standard of performance in effect as a result of the 1984 amendments. It shall be the responsibility of every regional and center director to ensure compliance with local and state regulations regarding UST's as well as AST's.

#### 15. REGULATORY REVIEW.

a. State and local regulations. The RPMES or equivalent coordinator shall provide regulatory assistance and disseminate guidance to implementing field personnel regarding state and local FST requirements applicable to their region, center, and aircraft maintenance base. The Office of the Chief Counsel or appropriate regional or center counsel shall be consulted regarding any legal interpretive issues.

b. Variances. State and local jurisdictions may allow variances to existing UST regulations. Circumstances may justify exemptions from overly restrictive requirements. If a variance is granted which conflicts with this order, the variance will supersede the order if the agreement is otherwise consistent with Federal law.

c. Compliance Agreements. After coordination with regional and center counsel, regions or centers may negotiate and engage in compliance agreements (i.e., cleanups, replacement timetables, leak detection requirements, etc.) with the implementing state agency. In this case, the terms and conditions of the state-approved compliance agreement will override FAA orders.

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16. <u>SECURITY AND RISK MANAGEMENT FACTORS</u>. Fuel storage tanks are important to the continued operation of FAA facilities and should therefore be listed in security risk and vulnerability analyses as assets. Because of the potential hazards to personnel and real estate that can result from negligence or damage to such storage locations, the responsible manager shall incorporate appropriate security provisions and safeguards in the Facility Security Management Plan required by Order 1600.6C, Physical Security Management Program. Security provisions shall include the requirement for fuel storage tanks to be included in inspections and surveys provided by the Servicing Security Element (SSE).

#### 17. AUTHORITY TO CHANGE THIS ORDER.

a. The Administrator reserves the authority to approve changes which establish policy, delegate authority, or assign responsibility.

b. The Director of Environment and Energy may issue changes to this order for compliance with the latest EPA policy regarding UST's and AST's. Federal, state, and local regulatory changes in UST and AST regulations that take effect after issuance of this order shall take precedence over any part of this order with which it conflicts.

c. Changes to this order proposed by an organizational element within FAA must be submitted to AEE. AEE will oversee the coordination of the change with the appropriate approval authority and ensure final processing.

18.-19. <u>RESERVED</u>.

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#### CHAPTER 2. UST REPLACEMENT DECISIONMAKING GUIDELINES

20. <u>FACILITY ASSESSMENT</u>. Managers who have responsibility for managing UST's shall investigate alternative options to determine the best course of action to provide fuel for secondary power, or other underground storage needs at a facility, or eliminate the need for fuel storage entirely. These actions will help to minimize the potential for exposure to future environmental contamination.

21. <u>REPLACEMENT PRIORITIZATION GUIDELINES</u>. Recognizing that removal and replacement decisions are highly dependent upon regional and site-specific situations, this section provides guidance for setting priorities.

a. When systematic removal and replacement of tanks is performed, the following removal/replacement considerations should remain a high priority:

(1) Known and suspected leakers (i.e., test results indicating a leak).

(2) Age (i.e., single-walled, cathodically unprotected, bare steel UST's greater than 15 years).

(3) Proximity to sensitive environments and high groundwater tables.

b. Although there are some inherent risks associated with implementing removal/replacement schedules without the benefits associated with tank testing and the knowledge of early leak detection, risks can be greatly reduced by developing removal/replacement prioritization schedules that are based primarily on these considerations.

c. If implementation schedules are not based primarily on these considerations, risks to the agency, human health, and the environment are greatly increased. Contingent environmental liabilities and overall program costs will increase symmetrically. In addition, regions and other field entities shall submit an exemption document indicating the rationale for not following prioritization guidelines. Therefore, regions and other field entities that do not base removal/replacement implementation schedules primarily on these high priority considerations are subject to greater risks and are strongly urged to institute phased annual tightness testing and periodic monitoring.

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d. In general, whenever systematic removal or replacement of tanks is required, the following criteria, which includes high priority considerations, should be considered in determining priorities:

(1) Known and Suspected Leakers. This is a high priority consideration. When inventory losses and/or tank tightness testing indicate and reasonably confirm that a tank is leaking, the tank contents shall be removed immediately and the tank and/or associated piping shall be repaired or replaced. Soil and groundwater testing and any required cleanup measures shall commence in conjunction with the repair or replacement (see chapter 7).

(2) Stringent Regulations. The Federal EPA has deferred requiring release detection for existing tanks (installed prior to December 22, 1988) that store fuel solely for use by emergency power generators; however, states and localities may enact requirements that are more stringent than the Federal UST requirements, including requiring release detection for EPA-deferred tank systems. If the state and local implementing agencies require more stringent leak detection requirements than the Federal EPA, and no provisions for variances are granted by the implementing agency, these emergency power generator UST's shall have high replacement priority.

(3) Nonemergency Power Generator UST's. Existing UST's that are not used for emergency power generators and do not meet new UST system requirements have high replacement priority.

(4) High groundwater locations and sensitive ecosystems. Tanks located in high groundwater areas among major populations or environmentally sensitive areas, which are of simple single-wall construction without cathodic protection, are prime candidates for replacement. This is a high priority consideration.

(5) Composition and cathodic protection of tank. UST material and composition shall be considered (i.e., metal or fiberglass, and single- or double-walled) and whether the tank is cathodically protected or unprotected. Cathodically unprotected steel tanks (susceptible to corrosion) should generally have high replacement priority when the UST is greater than 15 years old.

(6) Age of existing tank. Single-walled steel tank and piping over 15 years old are prime candidates for replacement. This is a high priority consideration.

(7) Future plans for the site. UST systems should not be replaced with a new UST system without considering the future plans for the site (e.g., property transfer may develop 5 years after the new UST system is installed).

(8) Out-of-service and abandoned tanks. Surveys shall be conducted to locate all out-of-service and abandoned tanks. Suggested methods for identifying abandoned tanks include facility personnel interviews, property records, engine generator records, fire department records, and geophysical sensing devices, such as terrain conductivity meters and ground-penetrating radar. Abandoned tanks shall be removed where feasible; however, closure procedures shall be followed (see chapter 6).

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(9) Facility conversion. Facilities that are scheduled for conversion to battery-standby power, and are not leaking, shall not be removed until conversion is complete and fully operational. Those systems found to be leaking shall implement cleanup response procedures immediately.

(10) Site Investigations. Site locations that are currently undergoing UST site investigations or may be required to perform site investigations and subsequent cleanup may have limited alternative UST replacement options.

(11) Mobilization. Site locations and facilities that manage multiple tanks or sites located within extreme distances or inclement weather conditions shall be considered in the replacement prioritization scheme.

22.-29. <u>RESERVED</u>.



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#### CHAPTER 3. UST'S INSTALLED BEFORE DECEMBER 22, 1988 (EXISTING UST'S)

30. <u>DEFINITION</u>. An existing UST is defined as any tank system used to contain an accumulation of regulated substances for which installation has commenced on or before December 22, 1988.

31. <u>GENERAL REQUIREMENTS</u>. Not later than December 22, 1998, all UST systems shall either be replaced to meet new tank requirements (see Chapter 4, UST's Installed After December 22, 1988), removed, or upgraded with cathodic protection, and all UST's shall have spill/overfill devices. In an effort to minimize upgrading complications associated with installing and maintaining cathodic protection systems, all tanks shall meet new system requirements of this order by December 22, 1998, or close permanently. However, in some instances an assessment may be needed to determine the most practicable and cost-effective alternative. If it has been determined that upgrading with cathodic protection is the most practicable and cost-effective alternative, then all upgrading requirements shall be met prior to December 22, 1998. Upgrading plans and decisions should consider factors such as continuous maintenance of the upgrade, availability of maintenance resources, the composition and condition of the tank and piping, age of the UST, groundwater location, environmental sensitivity, future plans for the site, and state and local requirements.

32. <u>UPGRADING EXISTING TANK SYSTEMS</u>. If approved by the ANS FST Program Manager, upgrading existing bare steel tanks with cathodic protection (refer to API Bulletin 1632, Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems, or interior lining (refer to API Bulletin 1631, Recommended Practice for the Interior Lining of Existing Steel Underground Storage Tanks), shall be installed no later than December 22, 1998. Assessment of the tank system (by inspection or testing) shall be conducted to ensure that the system is structurally sound and free of corrosion holes prior to installing the cathodic protection system. Cathodic protection systems using impressed current shall be inspected every 60 days to ensure proper operation. Other cathodic protection systems shall be inspected as recommended by the manufacturer. A qualified cathodic protection tester shall test the cathodic protection system within 6 months of installation and at least every 3 years thereafter. Records of at least the last three inspections shall be maintained at the facility or nearest Airway Facility Sector Field Office. In addition to adding cathodic protection, spill and over-fill prevention equipment shall be installed no later than December 22, 1998 (see paragraph 70).

33. <u>EPA DEFERRAL AND LEAK DETECTION DEADLINES</u>. The EPA has deferred requiring release detection for existing tanks (installed prior to December 22, 1988) that store fuel solely for use by emergency power generators; however, state and local agency regulations take precedence over EPA regulations and may require more stringent release detection requirements on all tanks, including EPA deferred tank systems.

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34. <u>TANK TIGHTNESS TESTING AND LEAK DETECTION</u>. Inventory control, manual tank gauging, tightness testing, or other leak detection methods shall be performed in accordance with Chapter 5, Leak Detection Methodology. State and local tightness testing and leak detection requirements that are more stringent shall supersede Federal requirements. Tanks that indicate leakage shall be immediately emptied and then repaired or removed.

35. LEAKING TANKS AND RELEASES. The implementing agency shall be notified within 24 hours of a suspected (e.g., sudden loss of product or unexplained presence of water in the tank) or confirmed release (e.g., tank tightness test failure). All spills and overfills shall be contained and immediately cleaned up. In addition, any spills or overfills of petroleum shall be reported to the implementing agency immediately, but no later than within 24 hours unless the spill or overfill is less than or equal to 25 gallons, and is remediated within 24 hours. If this cleanup cannot be accomplished within 24 hours, the implementing agency shall be notified immediately. Spills of petroleum of any amount which reach navigable waters and cause a sheen on the surface must be reported to the National Response Center (1-800-424-8802) immediately. Spills and overfills of hazardous substances exceeding the reportable quantity in a 24-hour period must also be reported to the National Response Center immediately. Tank and piping tightness testing shall be performed on tanks suspected of leaks. All leaking UST's shall have their contents immediately removed, and the tank shall either be repaired (e.g., tighten loose pipe fittings) prior to re-commissioning or removed. Environmental cleanup response measures shall be performed as discussed in paragraph 72.

36.-39. RESERVED.

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#### CHAPTER 4. UST's INSTALLED AFTER DECEMBER 22, 1988 (New UST's)

40. <u>DEFINITION</u>. A new UST installation is defined as any tank system that will be used to contain an accumulation of regulated substances and for which installation has commenced after December 22, 1988.

41. <u>MINIMUM TANK INSTALLATION REQUIREMENTS</u>. The installation and policy requirements are as follows:

a. All new installations shall consist of a 30-year warranted (warranted against internal and external corrosion and structural failure), U.L.-approved double-walled fiberglass reinforced plastic (FRP) tank or double-walled steel tank clad with fiberglass (both shall provide for interstitial monitoring), secondary containment of all primary piping, which shall consist of nonferrous piping (to eliminate the need for cathodic protection maintenance requirements), spill and overflow protection devices, and a leak detection system that meets the minimum leak detection system requirements in paragraph 45. All new UST installations shall comply with Federal, state, and local regulations. The prevailing implementing agency shall be notified and consulted prior to tank installation.

b. It shall be an FAA policy to install double-walled FRP or double-walled steel clad with fiberglass tanks only. However, if these tanks cannot be obtained or installation is not practicable, a double-walled steel tank incorporating the Steel Tank Institute's STI-P3 cathodic protection shall be installed provided that approval has been granted by the ANS FST Program Manager. It should be noted that the 30-year limited warranty for these tanks may not be honored for steel tanks installed in soils with resistivity of less than 2,000 Ohms. A qualified cathodic protection tester shall test the cathodic protection system within 6 months of installation and every 3 years thereafter. In addition, impressed current cathodic protection systems shall be inspected every 60 days to ensure proper operation. Records of at least the last three inspections shall be maintained at the facility or nearest Airway Facility Sector Field Office.

42. <u>MINIMUM TANK INSTALLATION PROCEDURES</u>. EPA has identified poor tank and piping installation as a leading cause of releases. The use of inappropriate backfill materials and improper pipefitting and backfilling practices contribute to most UST system corrosion or structural failures. The requirements are as follows:

a. All state and local requirements shall be met prior to installation. The implementing agency shall be notified within 30 days of installing a new UST system. A site-specific environmental assessment, consistent with the National Environmental Policy Act (NEPA) and meeting the requirements of the most current version of Order 1050.1, Policies and Procedures for Considering Environmental Impacts, is required for the installation of a tank at a new site. For existing tank sites, a site investigation consistent with the RCRA UST regulatory provisions, shall be performed in accordance with implementing agency guidelines prior to replacement of a leaking tank. A complete site investigation may not be required for the routine replacement of a non-leaking tank

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provided that leak detection records confirm no release. However, a less extensive investigation, which is contained in paragraph 62a, shall be required and submitted to the implementing agency. All UST's shall be properly registered with the state and installer's certification verified in accordance with the implementing agency requirements. Section 280.20d of the UST regulation requires that installation be in accordance with a nationally recognized association or independent testing lab. All installations shall be performed in accordance with the manufacturer's instructions and one of the following standards: American Petroleum Institute Publication 1615, Installation of Underground Petroleum Storage Systems; Petroleum Equipment Institute Publication RP100, Recommended Practices for Installation of Underground Liquid Storage Systems; or American National Standards Institute Standard B31.3, Petroleum Refinery Piping; and B31.4, Liquid Petroleum Transportation Piping System. Installers shall understand the protocol of a particular system and be able to explain which they are following. Depending on the prevailing implementing agency requirements, five methods of installation certification are listed as follows:

(1) The installer has been certified by the tank and piping manufacturer.

(2) The installer has been certified or licensed by the state or local implementing agency.

(3) The installation has been inspected and certified by a registered professional engineer with education and experience in UST system installation.

agency.

(4) The installation has been inspected and approved by the implementing

completed.

(5) All work listed in the manufacturer's installation checklists has been

b. Excavation of the site shall allow the tank to be level with respect to the finished grade. Nonlevel tank installation, particularly of FRP tanks, may cause tank failure and shall be avoided.

c. Appropriate backfill materials as prescribed by the tank manufacturer (e.g., pea gravel, sand, or crushed rock) shall be used and properly compacted without damage to the tank or coating. In general, pea gravel is a self-compactible and more desirable backfill material.

d. In areas with peat, garbage, or other inappropriate material around the tank, a filter fabric barrier shall line the excavation area to prevent the backfill from migrating into the surrounding soils, and thus jeopardizing the support for the tank.

e. All FST installations (new installation and replacement) and removed FST's shall be reported to the Real Estate & Utilities Branch. FAA Form 4800-1, Report of Excess Property, shall be completed for inclusion into the Real Property Records. This process should be coordinated through the Real Property Manager and Real Property Custodian. Additional guidance on these procedures should be obtained from Order 4660.8, Real Property Management and Disposal.

#### 43. MINIMUM PIPING REQUIREMENTS.

a. All supply and return piping shall be fitted with secondary containment. The interstitial space in the piping shall be monitored for the presence of hydrocarbon liquid with a continuous electronic monitor, unless exempted by paragraph 43e.

b. The secondary containment shall be of non-metallic pipe designed specifically for this use, capable of being sealed airtight at the tank manway opening and at the associated system (e.g., either the entrance to the building or the engine generator).

c. The primary pipe shall be compatible with the type of fuel used. Improper installation of piping materials (e.g., use of galvanized piping without additional corrosion protection) results in piping failures and such practices shall not be employed.

d. An overflow protection device, specifically a spill catchment basin equipped with a weatherproof locking hinge cover, shall be used around the fill pipe. It shall have a minimum capacity of at least 10 gallons.

e. No release detection is required for suction piping that is designed and constructed to meet the following standards:

(1) The below grade piping operates at less than atmospheric pressure.

(2) The below grade piping is sloped so that the contents of the pipe will drain back into the storage tank if the suction is released.

(3) Only one check valve is included in each suction line.

(4) The check value is located directly below and as close as practical to the suction pump.

(5) A method is provided that allows compliance with standards (2) through (4) above to be readily determined.

f. New fill pipes shall include locking caps consistent with the specifications in Order 1600.6C, Physical Security Management Program.

#### 44. PRESSURE TESTING OF PIPING SYSTEM AND TANK.

a. The primary piping system shall be tested for leaks prior to backfilling. Before pipe testing, both the UST and associated system shall be isolated from the piping. Primary piping shall be capped at both the tank connection and the connection to the associated system to facilitate testing. The primary piping shall be pressure tested in the presence of the resident engineer before secondary containment is installed. Piping and connections shall be tested under 50 pounds air pressure held for one-half hour using a soap solution on all joints. Check for bubbling leaks. Use a pressure gauge marked in 1 pound increments to take readings.

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b. The storage tank shall be pressure tested in accordance with the manufacturer's instructions. If the manufacturer's instructions do not include a specific method to check UST system integrity after installation, the tank shall be tested for leaks before backfilling and again prior to placing the tank in service.

CAUTION: DO NOT EXCEED RECOMMENDED PRESSURES AS THIS MAY DAMAGE THE TANK AND/OR CAUSE EXPLOSION. The National Fire Protection Association recommends that all tanks be tested with air pressure prior to installation.

PRESSURE SHALL NOT EXCEED 5 POUNDS PER SQUARE INCH (psi). Do not approach the endcaps or manways while tanks are being tested. Use an air gauge with quarter pound increments to take readings. Tanks shall not be left unattended during testing.

#### 45. MINIMUM LEAK DETECTION SYSTEM REQUIREMENTS.

a. Unless exempt under paragraph 45h, all new double-walled tanks and piping shall utilize continuous monitoring of the interstitial space. The continuous monitoring system shall include hydrocarbon liquid sensors installed to detect leaks from any portion of the inner tank and piping system (i.e., installed at the lowest portion of the interstitial space that routinely contains product). The interstitial monitor should be capable of discriminating between product and water. The leak detection system shall also be capable of tank "tightness" testing (or another test of equivalent performance, i.e., hydrostatic monitoring), automatic tank gauging, and automatic line leak detection on the piping (see Chapter 5, UST Leak Detection Methodology).

b. The alarm output of the monitor shall provide an indication of the presence of hydrocarbon liquid (i.e., leaking fuel) and shall be capable of electronic digital interface. It shall be capable of producing an audible and visual alarm to alert local personnel of releases.

c. The sensors shall be located in a designated accessway. A means for removal and reinstallation of sensors in the interstitial space shall be provided to facilitate periodic testing of the sensors. The accessway shall be lockable and weathertight.

d. The UST system shall be expandable for the purpose of electronic remote maintenance monitoring, and a dedicated 4-inch opening into the tank and standpipe shall be provided for level instrumentation.

e. All continuously operating leak detection systems shall be installed, maintained, and operated in accordance with the manufacturer's specifications.

f. Alarms generated from continuous monitoring of the interstitial spaces that are verified (not false) shall be reported to the RPMES or equivalent coordinator immediately. Any faulty leak detection system, as indicated by a false alarm, shall be repaired immediately.

g. The continuously operating leak detection system shall be monitored to determine if a release has occurred (see chapter 5), and the leak detection system shall be inspected/tested in accordance with the manufacturer's instructions and during scheduled

visits by maintenance technicians to ensure that the system is functioning properly. Records of testing, false alarms, and inspections shall be kept with the facility technical performance record (TPR) Form 6980-5. In addition, these records shall be maintained at the nearest Airway Facility Sector Field Office.

h. Release detection is not required for suction piping where:

(1) The below-grade piping operates at less than one atmosphere pressure.

(2) The below-grade piping is sloped backwards.

(3) There is only one check valve in each suction line.

(4) The check value is located directly below and as close as practical to the suction pump.

46. <u>SPILL AND OVERFLOW DEVICES</u>. All UST systems installed shall use spill prevention equipment (e.g., spill catchment basin) that will prevent product release to the environment when the transfer hose is detached from the fill pipe. UST systems shall also use overfill prevention equipment that will either:

a. Automatically shut off flow when the system is 95 percent full; and/or

b. alert the operator by restricting the flow or triggering a high-level alarm when the system is 90 percent full.

47. LEAKING TANKS AND RELEASES. The implementing agency shall be notified within 24 hours of a suspected (e.g., sudden loss of product or unexplained presence of water in the tank) or confirmed release (e.g., tank tightness test failure). All spills and overfills shall be contained and immediately cleaned up. Spills and overfills of less than 25 gallons of petroleum which cannot be cleaned up within 24 hours shall be reported immediately to the implementing agency. In addition, any spills or overfills in excess of 25 gallons shall be reported to the implementing agency within 24 hours and shall be immediately contained and cleaned up. Spills of petroleum of any amount which reach navigable waters and cause a sheen on the surface must be reported to the National Response Center (1-800-424-8802) immediately. Spills and overfills of hazardous substances exceeding the reportable quantity in a 24-hour period must also be reported to the National Response Center immediately. Tank and piping tightness testing shall be performed on tanks suspected of leaks. All leaking UST's shall have their contents immediately removed and the tank shall either be repaired (e.g., tighten loose pipe fittings) prior to re-commissioning or removed. Environmental cleanup response measures shall be performed as discussed in paragraph 72.

48.-49. <u>RESERVED</u>.

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#### CHAPTER 5. UST LEAK DETECTION METHODOLOGY

50. <u>GENERAL RELEASE DETECTION REQUIREMENTS</u>. The EPA has deferred release detection requirements for tanks storing fuel solely for use by emergency power generators; however, state and local agency regulations supersede Federal EPA regulations as well as FAA policy and may require more stringent release detection requirements on all tanks, including EPA deferred tank systems.

a. All regulated FAA UST's shall employ leak detection. Special provisions have been made for EPA deferred tanks and are covered in paragraph 50i. Federal, state, and local implementing agencies shall be consulted prior to using a leak detection method or installing a leak detection system to determine whether the proposed system meets state and local regulatory requirements, such as being placed on an approved list, and to identify any experience with the type of equipment in that type of terrain.

b. Interstitial monitors installed on new tanks shall be installed to detect a leak from any portion of the tank and the piping if required (see paragraph 43) that routinely contains product.

c. Leak detection equipment installed on new UST's shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's instructions.

d. Leak detection equipment installed after December 22, 1990, shall be capable of a probability of detection of 0.95 and a probability of false alarm of 0.05. Any indications or occurrences of a release shall require immediate notification to the implementing agency.

e. Tank and piping "tightness" testing methods shall be capable of detecting a 0.1 gallon per hour leak rate with a probability of detection of 0.95 and a probability of false alarm of 0.05.

f. Automatic tank gauging equipment used as leak detection to test for the loss of product and to conduct inventory control shall be capable of detecting at least a 0.2 gallon per hour leak rate from any portion of the tank that routinely contains product.

g. Automatic line leak detection equipment on piping, if required (see paragraph 43) shall be capable of detecting leaks of 3 gallons per hour at 10 psi line pressure within 1 hour.

h. All records pertaining to release detection performance or testing shall be maintained in accordance with paragraph 10. The results of leak detection monitoring shall be attached to or documented in the technical performance record Form 6980-5.

i. FAA Leak Detection Policy for EPA Deferred UST's: Although FAA policy parallels the Federal EPA leak detection deferral for emergency generator UST's, it is important to note that EPA did not determine that there is any lower level of risk associated with these tanks, merely that they were more difficult to monitor. Based on the

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results of a cost-benefit risk analysis developed by AEE, tightness testing and periodic leak monitoring are recommended. These measures are recommended to reap the benefits of early leak detection, assist in developing removal and replacement prioritization schedules, minimize contingent environmental liabilities and risks to the agency, minimize risks to human health and the environment, and conserve overall program costs and future cleanup funds. Annual tightness testing is recommended for existing EPA-deferred tanks that do not meet new tank standards. Periodic leak detection monitoring (for EPA-deferred emergency generator tanks only) is also recommended as follows:

(1) Perform monthly leak detection monitoring at locations manned by appropriate personnel for gauging fuel levels.

(2) For remote sites and sites not manned with appropriate personnel for gauging fuel levels, perform leak detection monitoring in those months when the appropriate personnel or technician(s) visit the site for other maintenance.

(3) EPA-deferred tanks which are required to comply with more stringent state or local release detection shall follow the prevailing requirements; the implementing agency requirements shall supersede this FAA policy.

#### 51. UST's INSTALLED AFTER DECEMBER 22, 1988 (New UST's).

a. All new tank systems (tanks installed after December 22, 1988) shall employ a leak detection system that continuously monitors the interstitial space for releases (see Chapter 4, UST's Installed after December 22, 1988-New UST's). The system shall consist of hydrocarbon liquid sensors installed to detect a leak from any portion of the tank and piping that routinely contains product. In most cases this may involve situating the sensors in the lowest portion of the interstitial space. The leak detection system shall be capable of tank "tightness" testing (or another test of equivalent performance, i.e., hydrostatic monitoring), automatic tank gauging, and automatic line leak detection. All leak detection/release monitoring, inspections, and tests shall be documented. Release detection shall be monitored and recorded monthly. EPA-deferred tanks should be monitored in accordance with paragraph 50i. Some state and local agencies may require additional monitoring such as soil vapor or groundwater monitoring. If required, these monitoring methods shall be conducted in accordance with the implementing agency schedule. All tank tightness testing or release monitoring records shall be maintained in accordance with paragraph 10.

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b. Unless deferred from release detection (i.e., an emergency generator UST), any newly installed tank system employing inventory control or manual tank gauging shall conduct tank and piping "tightness" testing at least every 5 years and only until 10 years after installation. After this time, the tank system shall no longer use inventory control or manual tank gauging and shall be equipped with a leak detection system approved by the implementing agency. Release detection shall be monitored and recorded monthly except that EPA deferred tanks should be monitored in accordance with paragraph 50i. All tank tightness testing or release monitoring records shall be maintained in accordance with paragraph 10.

52. UST's INSTALLED BEFORE DECEMBER 22, 1988 (Existing UST's) Unless deferred from release detection (i.e., an emergency generator UST), all existing tank systems (tanks installed prior to December 22, 1988) and tanks that do not meet new tank system requirements (i.e., installed release detection system) shall conduct monthly inventory control or manual tank gauging until December 22, 1998, when the tank shall be removed or upgraded. In addition, each system shall conduct annual tank and piping "tightness" testing until December 22, 1998, when the tank shall be removed or upgraded and equipped with a leak detection system approved by the implementing agency. Existing UST systems employing inventory control or manual tank gauging that have already been upgraded with cathodic protection and spill and overfill prevention equipment (refer to paragraph 32, Upgrading Existing Tank Systems) shall conduct tank and piping tightness testing at least every 5 years until December 22, 1998, or 10 years after upgrading, whichever is later. After this time, the tank system shall no longer use inventory control or manual tank gauging and shall be equipped with a leak detection system approved by the implementing agency. Release detection shall be monitored and recorded monthly except EPA-deferred tanks which should be monitored in accordance with paragraph 50i. All tank tightness testing or release monitoring records shall be maintained in accordance with paragraph 10.

#### 53. MONTHLY INVENTORY CONTROL.

a. UST inventory control volume measurements shall be recorded and reconciled in accordance with paragraph 50i for UST's that are used for backup emergency power generators.

b. UST inventory control volume measurements shall be recorded daily and reconciled on a monthly basis for existing UST's that are not used for backup emergency power generators.

c. Inventory control is similar to balancing a checking account. UST inventory volume measurements (inputs, withdrawals/consumption, and the amount still remaining in the tank) are recorded (usually on a ledger form) using a gauge stick that is capable of measuring the level of product over the full range of the tank's height to the nearest one-eighth of an inch. The level on the gauge stick can be translated to a volume of product in the tank using a calibration chart, which is often furnished by the UST manufacturer. The gauge stick data and the fuel expenditure and delivery data are reconciled and the month's gauge stick data and the fuel expenditure and delivery data

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are reconciled and the month's overage or shortage is determined. If the overage or shortage is greater than or equal to 1.0 percent of the tank's flow-through volume plus 130 gallons of product, the UST may be leaking. If an overage or shortage continues to exceed this range for two consecutive months, tank and piping tightness testing shall be conducted immediately to confirm the suspected release. Upon confirmation of a release, the implementing agency shall be immediately notified, the tank contents emptied, and cleanup measures shall commence. The procedures described in API Publication Recommended Practices for Bulk Liquid Stock Control at Retail Outlets may be used as guidance for compliance with this leak detection method.

54. <u>MANUAL TANK GAUGING</u>. Manual tank gauging shall not be used for tanks over 2,000 gallons. This method consists of liquid level measurements using a gauge stick that is capable of measuring the level of product over the full range of the tank's height to the nearest one-eighth of an inch. Two measurements are taken at the beginning and two taken at the end of at least a 36-hour period during which nothing is added or removed from the tank. The average of the two consecutive ending measurements are subtracted from the average of the two beginning measurements to determine the change in product volume. If the variation between beginning and ending measurements exceeds the following weekly or monthly standards, a leak is suspected. If a leak is suspected, tank and piping tightness testing shall be conducted immediately to confirm the suspected release. Upon confirmation of a release, the implementing agency shall be immediately notified, the tank contents emptied, and cleanup measures shall commence.

a. UST manual tank gauging measurements shall be conducted and recorded in accordance with paragraph 50i for UST's that are used for backup emergency power generators.

b. UST manual tank gauging measurements shall be conducted and recorded weekly and compared to the weekly and monthly manual tank gauging standard below, for existing UST's that are not used for backup emergency power generators.

Manual Tank Gauging Standards:

Tank Capacity	Weekly Standard	Monthly Standard
(Gallons)	(One test)	(Avg. of 4 tests)
up to 550	10 gallons	5 gallons
551 - 1,000	13 gallons	7 gallons
1,001 - 2,000	26 gallons	13 gallons

55. <u>TANK TIGHTNESS TESTING</u>. Volumetric tank testing (also known as "precision," "tank tightness," or "tank integrity" testing) is a leak detection method that operates on the principle that any changes in the volume of fluid within a tank can be interpreted as a leak. Detection of these leaks is difficult because there are many physical parameters which produce volume changes during the test that may be mistaken for leaks.

a. The following sources have been found to contribute to nonleak-related volume changes:

(1) Thermal expansion and contraction of the product.

(2) Expansion and contraction of vapor pockets within the tank.

(3) Structural deformation of the tank.

(4) Evaporation and condensation within the tank.

(5) Waves produced by mechanical vibrations and other disturbances.

b. Caution shall be taken to consider these factors when conducting a "tightness" test procedure (i.e., these factors can be mistaken for leaks or these effects can mask an actual leak). In general, even a tightness test on a non-leaking tank will produce volume changes other than zero. All tank and piping tightness testing methods shall be capable of detecting a 0.1 gallon per hour leak rate with a probability of detection of at least 95 percent and a probability of false alarm of no more than 5 percent. Manufacturers of leak detection methods have tested their equipment using a wide variety of approaches. RPMES's shall select a method that meets the approval of the implementing agency.

56. <u>AUTOMATIC TANK GAUGING</u>. Automatic tank gauging systems continuously and automatically measure the product level of the tank system. Automatic gauging systems shall be capable of detecting at least a 0.2 gallon per hour leak rate and the test levels shall be monitored and recorded monthly. EPA-deferred tanks should be monitored in accordance with paragraph 50i and the results maintained in accordance with paragraph 10.

57. <u>RELEASE DETECTION REPORTING REQUIREMENTS</u>. The implementing agency shall be notified within 24 hours of a suspected (e.g., sudden loss of product or unexplained presence of water in the tank) or confirmed release (e.g., tank tightness test failure). All spills and overfills shall be contained and immediately cleaned up. Spills and overfills of less than 25 gallons of petroleum which cannot be cleaned up within 24 hours shall be reported immediately to the implementing agency. In addition, any spills or overfills in excess of 25 gallons shall be reported to the implementing agency within 24 hours and shall be immediately contained and cleaned up. Spills of petroleum of any amount which reach navigable waters and cause a sheen on the surface must be reported to the National Response Center (1-800-424-8802) immediately. Spills and overfills of hazardous substances exceeding the reportable quantity in a 24-hour period must also be reported to the National Response Center immediately. Tank and piping tightness testing shall be performed on tanks suspected of leaks. All leaking UST's

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shall have their contents immediately removed and the tank shall either be repaired (e.g., tighten loose pipe fittings immediately) prior to re-commissioning or removed. Environmental cleanup measures shall be performed as discussed in paragraphs 71 and 72.

58.-59. <u>RESERVED</u>.

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#### CHAPTER 6. UST CLOSURE, REMOVAL, AND DISPOSAL

60. <u>TEMPORARY TANK CLOSURE</u>. Tanks not used for 3 to 12 months, but intended for further use, shall follow requirements for temporary closure:

a. Leave vent lines open and functioning.

b. Cap and secure all other lines, pumps, manways, and ancillary equipment.

c. Unless the UST has been emptied, continue to maintain corrosion protection devices, operate leak detection equipment, and appropriately respond to any releases. Any tank which has been out-of-service for longer than 12 months shall be permanently closed unless the tank has been upgraded or meets the new tank system requirements. The implementing agency may provide an extension of the 12-month temporary closure period, however, a site investigation (see paragraph 62a) must be completed prior to applying for the extension.

61. <u>ABANDONED TANKS AND CLOSURE IN PLACE</u>. Any tank which has been out-of-service for longer than 12 months (abandoned tank) shall be permanently closed unless the tank has been upgraded or meets the new tank system requirements or an extension has been granted by the implementing agency. Tank closure shall be conducted in accordance with paragraphs 62 and 63 as well as with state and local requirements.

If extenuating circumstances do not make tank removal feasible (e.g., UST located under buildings, or parking lots), closure in place may be necessary. Assurance shall be made that the state and locality (i.e., fire marshall) in which the tank is located will allow such closure in place. A site investigation shall be performed to ensure that a release has not occurred at the site. The minimum measures to be used are provided in paragraph 62a. The procedures listed below provide the minimum method for in-place closure. Each state or local regulation shall be assessed to determine its proper method. The procedures are as follows:

a. Empty and clean the tank by removing all liquids and accumulated sludge. Remove any flammable or combustible liquid from all connecting lines.

b. Disconnect the suction, return, inlet gauge, and vent lines.

c. Fill the tank with a state-approved inert absorbent solid material, such as sand or earth fill. Cap all remaining underground piping.

d. All records pertaining to in-place closure UST's shall be maintained permanently at the UST site or the nearest Airway Facility Sector Field Office.

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#### 62. PERMANENT TANK CLOSURE AND REMOVAL PROCEDURES.

a. After it has been determined that a UST shall be permanently taken out-ofservice, these tanks shall be physically removed from their underground locations, unless extenuating circumstances do not make this feasible (see paragraph 61). At least 30 days before beginning of permanent closure, the implementing agency shall be notified. A site investigation may be required by the implementing agency to ensure that a release has not occurred at the site. In selecting the sample types, locations, and methods, consideration must be given to the method of closure, nature of stored substance, type of backfill, depth to groundwater, and other factors for appropriately identifying a release. One or more of the following measures may be required to ensure that no release has occurred:

(1) Portable gas chromatography mapping.

(2) Analysis of soil core samples for hydrocarbon and/or chemical contamination.

(3) Analysis of soil and groundwater surrounding the tank for released product; and/or

(4) another site investigation method that has been approved by the implementing agency. An external release detection method (i.e., vapor monitoring, groundwater monitoring, interstitial monitoring) approved by the implementing agency may satisfy this requirement provided that the method is operating properly at the time of closure and indicates no release has occurred.

b. Removal Requirements. If a release has occurred, then corrective action shall be taken (as described in paragraph 72). The following items may be necessary prior to removal:

(1) A removal/excavation permit from the state or local governing agency.

(2) The presence of the local governing personnel to verify proper removal and conditions of tank and adjacent soil.

(3) Notification to the local fire marshal and the presence of the fire marshal or his/her designee to ensure safety.

c. Removal Procedures.

(1) The procedures described in API Bulletin 1604, Removal and Disposal of Used Underground Petroleum Storage Tanks, may be used as guidance for compliance with tank removal.

(2) Removal will include all supply, return and vent pipelines, storage tank, and contaminated soils.

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(3) Refer to the site plan, if available, and identify all utilities which could be encountered while excavating a tank. Otherwise, physically locate utilities and ensure that operational or contract personnel know their locations.

(4) Isolate the tank from its associated system (i.e., pipelines connected to engine generator, waste oil manifold, or other supply sources). Remove all contents of the tank, including fuel, water, and sludge. Ensure proper disposal of these contents in accordance with prevailing state and local disposal regulations. (Vent piping is to remain intact until inerting process is completed.)

(5) If a fire marshal is not present and has not provided inerting procedures, the following method will provide the minimum requirements for the removal of petroleum fumes.

(a) Eliminate any ignition sources, including lit cigarettes, from the immediate vicinity of the tank system. Inert the tank using the following method (or an alternative if approved by the implementing agency and local authority): Remove the tank dip/drop tube and/or sleeve and through this opening insert bottled or solid carbon dioxide (dry ice) at the rate of 20 pounds per 1,000 gallon capacity or any fraction thereof. The dry ice should be broken, cut, or crushed. Avoid skin contact with dry ice because it may produce burns. All vent piping shall be left intact and cannot be removed until the tanks are exposed and ready to be lifted out. Inerting process should last for 12 hours or not less than the time established by the implementing agency. The fill cap shall remain removed during this process, but immediately following the inerting process, the fill cap should be reinstalled to help ensure tank remains in the inerted state. Observe all normal safety precautions regarding flammable vapors.

(b) Once the tank is removed from the ground, the tank is to be secured on the transporting vehicle or holding area in an upright position to help prolong containment of carbon dioxide. If there is evidence that the tank has been leaking, a second inerting procedure (1 hour duration) should be performed before transporting. This is necessary since vapors from the surrounding soil may have entered the tank.

(c) To avoid pressurization of the tank by carbon dioxide expansion induced by ambient temperature rise, the filler cap may remain in place only if it is ensured that the vent opening will remain unobstructed.

(d) Soil samples shall be taken from the soil of each UST removal and tested for contamination. A copy of the laboratory test results shall be forwarded to the implementing agency and kept on file with the removal records.

(e) If a release has occurred, then corrective action shall be taken (as described in paragraph 72.) Tank removal and disposal shall be accomplished in accordance with Federal, state, and local regulations.

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# 63. <u>DISPOSAL PROCEDURES</u>.

a. Tanks. All surplus tanks shall be disposed of in accordance with prevailing local, state, and Federal regulations. Under no circumstances shall a used tank be stored for any lengthy period of time or reinstalled underground by FAA or any other party. Some states may consider tank residuals as hazardous. In that case, hazardous waste manifests will need to be maintained and tracked to ensure proper disposal. In those states which do not require tank disposal in an approved hazardous waste landfill, tanks may be surplus as scrap metal. In either case, the following procedures shall be followed:

(1) Once the tank is gas-free, sufficient holes shall be punctured into the tank to render it unfit for further underground storage use. (When puncturing a tank, do not use an oxygen-acetylene torch or any other method that may produce a spark.) Additional guidance may be obtained from the American Petroleum Institute (API) Bulletin 1604, Removal and Disposal of Used Underground Petroleum Storage Tanks. Refer to appendix 1.

(2) As an added precaution, all disposed or surplus tanks will be labeled in legible letters with the following information:

Tank Has Contained \_\_\_\_\_(Insert product name) Not Suitable for Food or Drinking Water.

b. Contaminated soil. All contaminated soil and soil removed as part of a release/spill cleanup shall be treated or disposed of in accordance with the prevailing implementing agency requirements. Depending upon the implementing agency's determination, cleanup measures may consist of recycling, incineration, bio-remediation, vapor extraction, landfarming, and other appropriate methods or combination of approved methods. The implementing agency shall be consulted prior to using a treatment or disposal method. Disposal of contaminated soil in an EPA-approved hazardous waste landfill shall be considered as a last resort.

c. Records. Records shall be maintained identifying the disposition of each disposed or surplus tank and all contaminated soil in accordance with paragraph 9e. A certificate of destruction or a bill of sale should be used to transfer tank ownership for removed UST's destined for disposal at an approved facility or sold to a scrap dealer. If a bill of sale is used, that document should include the purchaser's acknowledgment that he assumes all liability related to the tank. All removed FST's shall be reported to the Real Estate & Utilities Branch. FAA Form 4800-1, Report of Excess Property, shall be completed for inclusion into the Real Property Records. This process should be coordinated through the Real Property Manager and Real Property Custodian. Additional guidance on these procedures should be obtained from Order 4660.8, Real Property Management and Disposal.

# 64.-69. <u>RESERVED</u>.

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# CHAPTER 7. SPILL PREVENTION, RELEASE RESPONSE, AND CLEANUP

# 70. SPILL PREVENTION/OVERFLOW PROTECTION.

a. All UST systems installed after December 22, 1988, shall use spill prevention equipment (e.g., spill catchment basin) that will prevent product release to the environment when the transfer hose is detached from the fill pipe. Overflows shall be minimized by ensuring that the volume available in the UST system is greater than the volume of product to be transferred. The transfer operation shall be monitored at all times to prevent overflow and spillage. UST systems shall also use overfill prevention equipment that will either (1) automatically shut off flow when the system is 95 percent full or (2) alert the operator by restricting the flow or triggering a high-level alarm when the system is 90 percent full. UST systems installed before December 22, 1988, that do not meet new tank system requirements, and all other existing regulated FST's, shall employ spill prevention/overfill prevention equipment no later than December 22, 1998.

b. All additions of product to the tank shall be visually tracked by an FAA employee, or designate, to observe any spillage. An overflow situation may be considered an unauthorized or accidental release and may be a reportable incident under Federal, state, and/or local regulation. All reasonable steps and precautions to prevent this occurrence shall be taken.

c. All facilities with UST's and AST's shall require an onsite emergency spill containment kit capable of containing at least 25 gallons of spilled product. A spill containment kit is not required to be kept onsite if one is accessible during product delivery and bulk removals of product from the tank (such as during tank maintenance).

71. <u>MINOR CLEANUP PROCEDURES</u>. In the event of an accidental spill of less than 25 gallons of fuel product or less than the CERCLA reportable quantity of a hazardous substance (e.g., less than 5,000 pounds of ethylene glycol/anti-freeze), containment procedures shall commence immediately. Actions include stemming the source of the spill (if possible), containing the extent of spill dispersion, collection of fluid with absorbent material, and removal of visibly contaminated material. All contaminated material shall be disposed of in accordance with Federal, state, and local regulations. Refer to API Bulletin 1628, Underground Spill Cleanup Manual, for supplemental information. If minor cleanups cannot be accomplished within 24 hours, the implementing agency shall be notified immediately.

72. <u>MAJOR CLEANUP PROCEDURES</u>. A major cleanup procedure or a major spill is classified as one which is greater than 25 gallons (reportable quantity) of spilled fuel product, any amount of spilled petroleum which causes a sheen on a navigable waterway, or greater than the CERCLA reportable quantity of a hazardous substance (e.g., greater than 5,000 pounds of ethylene glycol/anti-freeze). All releases or suspected releases/leaks shall be reported to the implementing agency immediately but no later than within 24 hours.



If any questions exist as to whether a spill or release/leak occurred, a site investigation shall be conducted within 7 days to confirm the release, followed by a report to the implementing agency. The site investigation shall be conducted in accordance with 40 CFR 280.50-67. When a fluid loss has been determined through the presence of fuel in a monitoring well, irreconcilable differences in inventory, or the presence of fuel in surrounding soil, the following procedures shall be followed:

a. Spill/Leak Containment. Once a leak, spill, or overfill has been identified, containment procedures shall commence immediately and not later than 24 hours after a release is confirmed. Actions include stemming the source of the leak, containing the extent of the spill or leak dispersion, removing the remaining fluid from the tank, removing the visibly contaminated soil, or implementing any other viable method to prevent further contamination or release into the environment. Fire, explosion, and vapor hazards shall also be identified and mitigated.

b. Reporting requirements. Site personnel shall immediately report any leaks/spills to the FAA regional or center coordinator responsible for managing FST's. In addition, all releases or suspected releases shall be reported to the implementing agency immediately but no later than within 24 hours. Any state and local reporting requirements must also be met.

c. Site Investigation. All treatment and disposal of soils shall be conducted in compliance with state and local requirements. Investigations to determine the presence of free product shall be conducted to initiate any abatement measures. Within 20 days of release confirmation, a report shall be submitted to the implementing agency summarizing initial abatement steps taken. A site investigation including soil sampling (and groundwater sample if required by the implementing agency) shall be undertaken to characterize the vertical and lateral extent of the spill/leak. The results of the site investigation shall be submitted to the implementing agency in accordance with any schedules established by the implementing agency.

(1) The site investigation shall be performed by a qualified professional geologist, engineer, or hydrologist regularly engaged in this practice.

(2) Coordination with EPA and state authorities shall provide the necessary information to determine the scope of testing required. The information may include, but not be limited to, the following:

(a) Data on the nature and estimated quantity of the release.

(b) Data from surface and subsurface soil sampling and analyses.

(c) Data from groundwater and/or surface water sampling and

analyses; and/or

(d) data from available sources and/or the site investigation concerning surrounding populations, water quality and use, well locations, subsurface soil conditions, climate conditions, and land usage.

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(3) Whenever free product has been identified at the site, measures shall be taken to remove the contaminant to the maximum extent practicable as determined by the implementing agency. Removal shall be conducted in a manner that minimizes the spread of contamination into previously uncontaminated zones. Within 45 days after confirming a release, a free product removal report shall be submitted to the implementing agency and shall provide at least the following:

(a) Name of the person(s) responsible for implementing free product removal measures.

(b) The estimated quantity, type, and thickness of free product observed or measured in wells, boreholes, and excavations.

(c) The type of free product recovery system.

(d) Location of onsite or off-site discharge during recovery

operation.

(e) The type of treatment applied to, and the effluent quality expected from, any discharge.

(f) The steps that have been or are being taken to obtain necessary permits for any discharge.

(g) The disposition of the recovered free product.

(4) All soil and groundwater samples shall be analyzed at a state-approved laboratory. Alternatively, laboratories participating under the EPA Contract Laboratory Program (CLP) may be used. Hydrocarbon action levels shall be determined by each individual state, and it shall be ensured that these levels are met.

(5) The results of the site investigation shall provide guidance for development of a corrective action plan. This report shall include all results of testing and the proposed cleanup methods and procedures which will ensure state and local compliance. The most current version of Order 1050.1, Policies and Procedures for Considering Environmental Impacts, shall be consulted to determine whether the proposed action is categorically excluded or requires preparation of an environmental assessment or environmental impact statement in accordance with the National Environmental Policy Act (NEPA) of 1969. The Office of the Chief Counsel or regional or center counsel is available to assist with this determination.

(6) The corrective action plan shall be submitted to the appropriate state or local authority for review and consent before any cleanup can begin. However, to ensure the minimization of environmental contamination and the promotion of an effective cleanup, measures may be taken to cleanup soil and groundwater before the corrective action plan is approved provided that the following conditions are met:

begin cleanup.

(a) The implementing agency has been notified of the intention to

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(b) Compliance with any conditions required by the implementing agency has been met.

(c) Self-initiated cleanup measures have been incorporated into the corrective action plan to be submitted to the implementing agency.

73. <u>CORRECTIVE ACTION PLAN</u>. Soil and groundwater cleanup shall be performed in accordance with the EPA or state-approved corrective action plan. American Petroleum Institute Publication 1628, A Guide to the Assessment and Remediation of Underground Petroleum Releases, may be used as additional guidance. Record of spill, corrective action plan, and state release from further cleanup shall be kept on file permanently at the appropriate facility or sector and regional or center office.

74. <u>CONTAMINATED SOIL DISPOSAL</u>. All contaminated soil and soil removed as part of a release/spill cleanup shall be treated or disposed of in accordance with the prevailing implementing agency requirements and approved corrective action plan. Depending upon the implementing agency's determination, cleanup measures may consist of recycling, incineration, bio-remediation, vapor extraction, landfarming, and other appropriate methods or combination of approved methods. The implementing agency's shall be consulted prior to using a treatment or disposal method. Disposal in an EPA-approved hazardous waste landfill shall be considered as a last resort.

75.-79. <u>RESERVED</u>.

# CHAPTER 8. ABOVEGROUND STORAGE TANKS

80. <u>REGULATED AST's</u>. Currently there is no one comprehensive Federal regulation governing AST's. A variety of statutes and regulations exist that require compliance in a piecemeal fashion and focus primarily on containment rather than structural integrity, monitoring, and testing. The governing regulations for AST's shall be the Oil Pollution Prevention standards, 40 CFR Part 112, also referred to as Spill Prevention Control and Countermeasures (SPCC) regulations. These regulations shall be applicable, but shall not be limited, to FAA facilities with any of the following characteristics:

a. SPCC regulations apply to facilities which are nontransportation-related onshore and offshore facilities engaged in drilling, producing, gathering, storing, processing, refining, transferring, distributing, or consuming oil and oil products which, due to their location, could reasonably be expected to discharge oil in harmful quantities (i.e., in violation of water quality standards or causes a film, sheen, or discoloration of the water surface or emulsion deposited beneath the surface of the water) into or upon the navigable waters of the United States and adjoining shorelines and either:

(1) have single AST in excess of 660 gallons of oil (see definition of oil); or

(2) have a total AST storage capacity in excess of 1,320 gallons of oil; or

(3) have a total underground storage capacity greater than 42,000 gallons of oil.

b. Facilities that must comply with this regulation are required to prepare a sitespecific SPCC plan in accordance with 40 CFR Section 112.7. State requirements may be more stringent than the Federal requirements relayed herein. Note: The term "navigable waters" as defined in Section, 112.2k, generally includes every body of water or continuous stream. All AST's, regardless of capacity, shall be equipped with a spill catchment basin as stated in paragraph 87.

c. Facilities shall be surrounded by an FAA standard security barrier fence with lighting and utilize locks to discourage pilferage, as well as sabotage. These safeguards shall meet the specifications contained in Order 1600.6C and the FAA Facilities Physical Security Standards document. Facilities shall be locked when unattended and shall be inspected by the Servicing Security Element (SSE).

81. <u>AST NOTIFICATION</u>. If required by Federal, state, or local regulations, each affected facility shall submit written notice as appropriate. Notification records shall be kept on file at the facility or nearest Airway Facility Sector Field Office.

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82. <u>MINIMUM SPCC REQUIREMENTS FOR AST's</u>. A site specific SPCC plan shall be prepared within 6 months after a facility begins operations and shall be fully implemented as soon as possible, but not later than 1 year after operation. All SPCC plans shall be reviewed and certified by a registered professional engineer. The engineer shall examine the facility and attest that the SPCC plan has been prepared in accordance with good engineering practices. The SPCC plan shall be approved by management at a level which has the authority to commit the necessary resources. The certification of an SPCC plan shall in no way relieve the facility of fully implementing the plan. All state and local regulations pertaining to AST's shall supersede the provisions established in this order.

83. <u>SPCC PLAN PREPARATION AND GENERAL REQUIREMENTS</u>. Each sitespecific SPCC plan shall be maintained and kept on site if practicable or if the facility is attended at least 8 hours per day; otherwise the SPCC plan shall be maintained at the nearest Airway Facility Sector Field Office or equivalent facility type. The guidance established in this order should not be used as the sole source for developing site-specific SPCC plans. The ultimate standard for developing the plan is the SPCC regulation, 40 CFR Part 112. The site-specific SPCC plan shall include, but shall not be limited to, the following elements:

a. Facility owner, type, and location.

b. Certification of the plan by a registered professional engineer and approved by facility management.

c. Oil spill history.

d. Description of physical plant with diagram. The diagram should show the location of all AST and UST locations, the piping above ground, and where known, the underground piping.

e. AST and UST unit-by-unit capacity, type and quantity of oil stored, and estimates of quantity of oils that could be potentially discharged.

f. Spill prevention measures, including procedures for routine handling of oil products (e.g., fuel transfer procedures).

g. Spill controls or appropriate containment in accordance with 40 CFR Section 112.c.

h. Person(s) designated by management as responsible for oil spill prevention.

i. Spill countermeasures for spill discovery, response, and cleanup (e.g., facility and contractor capability).

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j. Discussion of the facility's conformance with the guidelines established for the preparation and implementation of SPCC plans as found in 40 CFR Section 112.7 (the main points are highlighted in this order). If an alternative secondary containment system is used (i.e., vaulted tanks or double walled tanks), a discussion shall be included in the plan as to why the facility is considered to be in conformance with Section 112.7c of the SPCC regulation (see appendix 7). However, it is important to note that AST's and the SPCC plan shall conform to more stringent state and local regulations. These implementing agencies shall be consulted prior to SPCC plan preparation, especially if an equivalent to Section 112.7c secondary containment system is considered.

k. Prediction of the direction, rate of flow, and total quantity of oil that could be discharged from the facility as a result of each major type of failure.

1. Description of facility/operations security and plans for ongoing coordination with the Security Servicing Element (SSE).

m. Emergency procedures, organized in a manner to make them readily usable in an emergency situation.

n. Description of site-specific SPCC briefings and training.

o. Incident reporting steps, including those required by FAA policy memorandum dated February 21, 1995, from the Associate Administrators for Air Traffic Services and Civil Aviation Security, Subject: Collection and Reporting of Incident Data.

84. <u>PERIODIC SPCC PLAN REVIEW AND AMENDMENT</u>. The site-specific SPCC plan must be reviewed at least every 3 years. The plan must be amended when changes to the facility design, construction, operation, or maintenance affect the facility's potential to discharge into navigable waters. Facility managers are ultimately responsible for evaluating SPCC plans and ensuring that they are up to date. This amendment must be implemented as soon as possible, but not later than 6 months after the change. Amendments must be certified by a registered professional engineer in accordance with Section 112.3 d. Facilities that have experienced a spill in harmful quantities or more than 1,000 gallons of oil into or upon navigable waters of the United States or adjoining shorelines in a single spill event or two spill events within a 12-month period, shall submit the site-specific SPCC plan and other documentation, as listed in Section 112.4 a, to the state water pollution control agency and the EPA Regional Administrator within 60 days. At that time the EPA Regional Administrator may require amendments to the plan if it does not meet the requirements of 40 CFR Part 112 or it is necessary to prevent and contain discharges of oil from the facility.

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85. <u>AST SECONDARY CONTAINMENT</u>. In accordance with Section 112.7c, the secondary containment system shall be impervious to oil for 72 hours and shall be constructed so that any discharge from a primary containment system, such as a tank or pipe, will not permeate, drain, infiltrate, or otherwise escape to surface waters before cleanup occurs. One or more of the following (state or local approved) secondary containment or equivalent shall be used as a minimum:

a. Dikes, berms, or retaining walls.

b. Curbing.

c. Culvert, gutters, or other drainage systems.

d. Weirs, booms, or other barriers.

e. Spill diversion ponds.

f. Absorbent materials.

g. Vaulted or double walled tank system (possible alternative secondary containment system; see paragraphs 83j and 86 and consult implementing agencies).

86. <u>ALTERNATIVE AST SECONDARY CONTAINMENT</u>. It is suggested that:

a. Smaller shop-fabricated AST systems, as indicated by EPA memorandum, dated April 29, 1992 (see appendix 7), may be used as an alternative secondary containment to the options listed in Section 112.7c (see paragraph 85). In the EPA memorandum, the Assistant Administrator of the Office of Solid Waste and Emergency Response addressed this issue and indicated:

We believe that for smaller shop-fabricated AST's some alternative AST systems that include adequate technical spill and leak prevention options such as overfill alarms, flow shutoff or restrictor devices, and constant monitoring of product transfers generally would allow owners and operators of facilities to provide protection of navigable waters substantially equivalent to that provided by secondary containment as defined in 40 CFR Section 112.7c. For example, small double walled AST's, when used with equipment and procedures described in this guidance, generally would provide substantially equivalent protection of navigable waters under Section 112.7c of the SPCC regulation when the inner tank is an Underwriter's Laboratory-listed steel tank, the outer wall is constructed in accordance with nationally accepted industry standards (e.g., those codified by the American Petroleum Institute, the Steel Tank Institute, and the American Concrete Institute), the tank has overfill prevention measures that include an overfill alarm and an automatic flow restrictor or flow shut-off, and all product transfers are constantly monitored.

b. State and local implementing agencies shall be consulted prior to SPCC plan preparation. EPA requirements shall be implemented at a minimum as well as state or local requirements. An owner/operator of a facility shall ensure that the transfer operation is monitored constantly to prevent overfilling and spilling, consistent with Section 280.30a. The overfill alarm and automatic flow restrictor or flow shut-off device shall be consistent with the performance standards for those devices described in Section 280.20c of the EPA Underground Storage Tank regulation, 40 CFR Part 280. Specifically, the overfill prevention equipment shall:

(1) Automatically shut off flow into the tank when the tank is no more than 95 percent full; or

(2) alert the transfer operator when the tank is no more than 90 percent full by restricting the flow into the tank or triggering a high-level alarm; or

(3) restrict flow 3~ minutes prior to overfilling, alert the operator with a high-level alarm 1 minute before overfilling, or automatically shut off flow into the tank so that none of the fittings located on the top of the tank are exposed to product due to overfilling.

87. AST DESIGN CHARACTERISTICS. With the approval of state and local implementing agencies, it shall be an FAA policy to install AST systems of vaulted or double-walled design type only, unless an alternative system is otherwise approved by the ANS FST Program Manager. These design types can be inspected regularly and monitored more effectively. These tanks shall provide for secondary containment of the piping, interstitial monitoring of the tank and piping system, automatic tank gauging, and automatic line leak detection (see paragraph 45). New fill pipes shall include locking caps consistent with the specifications in Order 1600.6C, Physical Security Management Program. The AST shall have an overfill alarm system, a spill catchment basin (regardless of tank size), and a spill containment kit capable of containing at least 25 gallons of spilled product. Note: A spill containment kit is not required to be kept onsite if one is accessible during product delivery and bulk removals of product from the tank (such as during tank maintenance). In addition, the AST design shall be capable of integrity testing (i.e., hydrostatic testing, visual inspection, or a system of nondestructive shell thickness testing). The AST tank system design shall be expandable for the purpose of remote maintenance monitoring. Release monitoring shall be inspected, tested, and recorded in accordance with the site-specific SPCC plan.

88. <u>AST RECORDKEEPING</u>. Inspections, all testing results, and release monitoring records shall be maintained at the facility or nearest Airway Facility Sector Field Office for at least 5 years. All FST installations (new installations and replacements) and removed FST's shall be reported to the Real Estate & Utilities Branch on the FAA Form 4800-1, Report of Excess Property and shall be completed for inclusion in the Real Property Records. This process should be coordinated through the Real Property Manager and Real Property Custodian. Additional guidance on these procedures should be obtained from Order 4660.8, Real Property Management and Disposal.

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89. <u>AST PRODUCT RELEASE REPORTING REQUIREMENTS</u>. The National Response Center shall be notified at 800-424-8802 when a discharge occurs into or upon navigable waters and the discharge either (a) violates applicable water quality standards or (b) causes a film or sheen upon or discoloration of the surface of the water or adjoining shorelines or causes a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines. All releases, spills, and overfills shall require implementation of the site-specific SPCC plan and appropriate cleanup procedures as discussed in Chapter 7, Spill Prevention, Release Response, and Cleanup.

90. <u>AST TRAINING AND SPILL PREVENTION</u>. Training exercises in accordance with the site-specific SPCC plan shall be conducted annually in the operation and maintenance of equipment to prevent discharges of oil. The facility manager shall ensure that spill prevention briefings are conducted for operating personnel annually to ensure adequate understanding of the SPCC plan for the facility. These briefings shall highlight and describe known spill events or failures, malfunctioning components, and recently developed precautionary measures. Spill prevention measures shall be conducted in accordance with the site-specific SPCC plan and appropriate procedures in paragraph 70.

91. <u>INSTALLATION OF FIRE EQUIPMENT</u>. Many local fire authorities may require AST systems to have fire protection equipment installed. Minimum requirements may consist of a few hand-held dry-powder extinguishers at convenient locations or foam spray equipment. All state and local requirements shall be met prior to operation.

92. <u>AST INTEGRITY TESTING</u>. AST's shall be integrity tested every 10 years using such techniques as hydrostatic testing, visual inspection, or a system of nondestructive shell thickness testing. Tank supports and foundations shall be included in these inspections.

93. FACILITY RESPONSE PLANS. The EPA has indicated that:

a. The Oil Pollution Prevention regulation, 40 CFR Part 112 (amended July 1, 1994), requires owners and operators to prepare Facility Response Plans for those facilities that meet "substantial harm" criteria or if determined by the EPA Regional Administrator to be a "substantial harm" facility after considering a number of factors. All FAA facilities shall fully comply with the requirements of 40 CFR Part 112.

b. Criteria for Facility Response Plans dictates that facilities are required to submit a facility response plan to the EPA Regional Administrator in accordance with 40 CFR Section 112.20 for those facilities that meet the following "substantial harm" criteria:

(1) The facility transfers oil over water to or from vessels and has a total oil storage capacity greater than or equal to 42,000 gallons; and/or

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(2) The facility's total oil storage capacity is greater than or equal to 1 million gallons, and one of the following is true:

(a) The facility does not have secondary containment for each aboveground storage area sufficiently large to contain the capacity of the largest aboveground oil storage tank within each storage area plus sufficient freeboard to allow for precipitation;

(b) The facility is located at a distance (as calculated using the appropriate formula in Appendix C of 40 CFR Part 112 or a comparable formula) such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments;

(c) The facility is located at a distance (as calculated using the appropriate formula in Appendix C of 40 CFR Part 112 or a comparable formula) such that a discharge from the facility would shut down a public drinking water intake; or

(d) The facility has had a reportable oil spill in an amount greater than or equal to 10,000 gallons within the last 5 years.

c. Regional (EPA) Administrators also have the authority to determine that a facility is otherwise considered a "substantial harm facility," and required to submit a Facility Response Plan, based on relevant site-specific characteristics and environmental factors (within parameters specified in 40 CFR Part 112). Facilities that do not currently meet the Facility Response Plan criteria who change operations such that the change triggers the established criteria are required to submit the Facility Response Plans prior to recommencing operations. Newly constructed facilities that commence operation after August 30, 1994, and that meet the criteria above (Criteria for Facility Response Plans) must submit facility response plans to the EPA Regional Administrator prior to the start of operations.

d. All facilities that are otherwise regulated under 40 CFR Part 112 that do not meet the facility response substantial harm criteria shall maintain a certification of applicability of the substantial harm criteria form (see appendix 10) and include it as part of the site-specific SPCC plan.

94.-99. <u>RESERVED</u>.

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# ORGANIZATIONS PROVIDING SPECIFICATIONS APPLICABLE TO UST REGULATORY REQUIREMENTS

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# ORGANIZATIONS PROVIDING SPECIFICATIONS APPLICABLE TO UST REGULATORY REQUIREMENTS

- ACT Association for Composite Tanks 108 North State Street, Suite 720 Chicago, IL 60602 (301) 355-1307 (for information requests)
- ANSI American National Standards Institute 1430 Broadway New York, NY 10018 (212) 354-3473
- API American Petroleum Institute 1220 L Street, N.W. Washington, D.C. 20005 (202) 682-8000
- ASPOE American Society of Petroleum Operations Engineers P.O. Box 956 Richmond, VA 23207
- ASME American Society of Mechanical Engineers 345 East 47th Street New York, NY 10017 (212) 705-7722
- ASTM American Society of Testing and Materials 1916 Race Street Philadelphia, PA 19103 (215) 299-5400
- FPTPI Fiberglass Petroleum Tank and Pipe Institute One SeaGate, Suite 1001 Toledo, OH 43604 (419) 247-5412
- NACE National Association of Corrosion Engineers P.O. Box 218340 Houston, TX 77450 (713) 492-0535

NFPA National Fire Protection Association Batterymarch Park Quincy, MA 02269 (617) 770-3000

- NLPA National Leak Prevention Association P.O. Box 29809 Cincinnati, OH 45229 (513) 281-7693 1-800-543-1838
- PEI Petroleum Equipment Institute P.O. Box 2380 Tulsa, OK 74101 (918) 743-9941
- UL Underwriters Laboratories 333 Pfingsten Road Northbrook, IL 60062 (312) 272-8800

ULC Underwriters Laboratories of Canada, Inc. 7 Crouse Road Scarborough, Ontario (416) 757-3611

STI Steel Tank Institute P.O. Box 4020 Northbrook, IL 60065 (312) 498-1980 4/30/97

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## MINIMUM EPA REQUIREMENTS FOR UST'S

Note: The options listed in this appendix should be used only as guidance for minimum EPA requirements. The policies stated in this order, minimum EPA requirements, state and local requirements shall be considered prior to any decisionmaking process.

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# WHAT DO YOU HAVE TO DO? Minimum Requirements

You must have Leak Detection, Corrosion Protection, and Spill/Overfill Prevention. For <u>WHEN</u> you have to add these to your tank system, see the chart on the right. —

LEAK DETECTION	
NEW TANKS 2 Choices	<ul> <li>Monthly Monitoring*</li> <li>Monthly Inventory Control and Tank Tightness Testing Every 5 Years (You can only use this choice for 10 years after installation.)</li> </ul>
EXISTING TANKS 3 Choices The chart at the bottom of the next page displays these choices.	<ul> <li>Monthly Monitoring*</li> <li>Monthly Inventory Control and Annual Tank Tightness Testing (This choice can only be used until December 1998.)</li> <li>Monthly Inventory Control and Tank Tightness Testing Every 5 Years (This choice can only be used for 10 years after adding corrosion protection and spill/overfill prevention or until December 1998, whichever date is later.)</li> </ul>
NEW & EXISTING PRESSURIZED PIPING Choice of one from each set	<ul> <li>Automatic Flow Restrictor</li> <li>Automatic Shutoff Device -and-</li> <li>Monthly Monitoring* (except automatic tank gauging)</li> </ul>
NEW & EXISTING SUCTION PIPING 3 Choices	<ul> <li>Monthly Monitoring* (except automatic tank gauging)</li> <li>Line Testing Every 3 Years</li> <li>No Requirements (if the system has the characteristics described on page 11)</li> </ul>
CORROSION PROTEC	TION
NEW TANKS 3 Choices	<ul> <li>Coated and Cathodically Protected Steel</li> <li>Fiberglass</li> <li>Steel Tank clad with Fiberglass</li> </ul>
EXISTING TANKS 4 Choices	<ul> <li>Same Options as for New Tanks</li> <li>Add Cathodic Protection System</li> <li>Interior Lining</li> <li>Interior Lining and Cathodic Protection</li> </ul>
NEW PIPING 2 Choices	<ul> <li>Coated and Cathodically Protected Steel</li> <li>Fiberglass</li> </ul>
EXISTING PIPING 2 Choices	Same Options as for New Piping     Cathodically Protected Steel
SPILL / OVERFILL PRE	EVENTION
ALL TANKS	Catchment Basins -and-     Automatic Shutoff Devices -or-     Overfill Alarms -or-     Ball Float Valves
* Monthly Monitoring includes	: Automatic Tank Gauging Ground-Water Monitoring Vapor Monitoring Other Approved Methods Interstitial Monitoring

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# WHEN DO YOU HAVE TO ACT? Important Deadlines

For WHAT you have to do, see the chart on the left.

New Tanks and Piping*At installationAt installationAt installationExisting Tanks** Installed:By No Later Than: December 1989 December 1990 December 1991 December 1992 December 1993At installationAt installationExisting Piping** Pressurized SuctionBecember 1990 December 1990 December 1993At installationAt installationExisting Piping** Pressurized SuctionDecember 1990 December 1990 December 1990 December 1993December 1998 December 1993December 1998 December 1998 December 1999 December 1999 December 1990 December 1993December 1998 December 1998 December 1999 December 1999 December 1999 December 1998 December 1998 December 1998 December 1998 December 1998 December 1998 December 1998 December 1998	TYPE OF TANK & PIPING	LEAK DETECTION	CORROSION PROTECTION	SPILL/OVERFILL PREVENTION
Existing Tanks** Installed:By No Later Than: December 1989 December 1990 December 1990 December 1991 December 1991 December 1992 December 1993December 1998December 19981975 - 1979 1980 - December 1988December 1992 December 1993December 1998December 1998Existing Piping** Pressurized SuctionDecember 1990 	New Tanks and Piping*	At installation	At installation	At installation
Existing Piping**December 1990December 1998Does not applyPressurizedDecember 1990December 1998Does not applySuctionSame as existing tanksDecember 1998Does not apply	Existing Tanks** Installed: Before 1965 or unknown 1965 - 1969 1970 - 1974 1975 - 1979 1980 - December 1988	By No Later Than: December 1989 December 1990 December 1991 December 1992 December 1993	December 1998	December 1998
	Existing Piping** Pressurized Suction	December 1990 Same as existing tanks	December 1998 December 1998	Does not apply Does not apply

Existing tanks and piping are those installed before December 1988

# IF YOU CHOOSE TANK TIGHTNESS TESTING AT EXISTING USTs ...

If you don't use monthly monitoring at existing USTs, you must use a combination of periodic tank tightness tests and monthly inventory control. This combined method can only be used for a few years, as the chart below displays. Do monthly inventory Was the UST "upgraded", Was it "upgraded" control and a tank tightness which means does it have YES before YES test every 5 years until December 1988? corrosion protection and 1998; then do monthly spill/overfill prevention monitoring. devices? NO NO Do monthly inventory Do monthly inventory control and a tank tightness control and a tank tightness test every year until 1998; test every 5 years for 10 then "upgrade". For "upgraded" USTs, use the years after "upgrading"; then do monthly monitoring. box on the right. 

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EPA REGIONAL AND STATE UST CONTACTS

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Regional and State UST/LUST Program Contacts Appendix 3



# **EPA Regional UST Program Managers**

William Torrey U.S. EPA, Region 1 1903 JFK Building Mailcode: HBO Boston, MA 02203-2211 617-573-9601 FTS 833-1604

John Kushwara U.S. EPA, Region 2 Hazardous Waste Program Branch 290 Broadway Mailcode: 2DECA-WCB New York, NY 10007-1866 212-637-4232 FTS 264-3384

John Humphries U.S. EPA, Region 3 841 Chestnut Street Mailcode: 3HW60 Philadlephia, PA 19107 215-566-3372 FTS 566-3372 John Mason U.S. EPA, Region 4 Atlanta Federal Center 61 Forsyth Street Atlanta, GA 30303 404-562-9441 FTS 257-3866

Andrew Tschampa U.S. EPA, Region 5 77 West Jackson Blvd. Mailcode: DRU-7J Chicago, IL 60604-3590 312-886-6159 FTS 886-6159

Willie Kelly U.S. EPA, Region 6 1445 Ross Avenue Mailcode: 6PD-U Dallas, TX 76202-2733 214-665-6760 FTS 256-6755 Lee Daniels U.S. EPA, Reigon 7 RCRA Branch 726 Minnesota Ave. Kansas City, KS 66101 913-551-7651 FTS 276-7651

Sanda Stavnes U.S. EPA, Reigon 8 999 18th Street Mailcode: P2-W-US Denver, CO 80202-2466 303-312-6117 FTS 330-1514 Pat Eklund U.S. EPA, Reigon 9 75 Hawthorne Street 10th Floor, H-2-1

San Francisco, CA 94105 415-744-2079 FTS 484-2079

Tim Hamlin U.S. EPA, Region 10 1200 Sixth Avenue Mailcode: OW137 Seattle, WA 98101 206-553-2857 FTS 399-0344

#### STATE UST/LUST PROGRAM OFFICES

### Alabama

AL Dept. of Environmental Management Groundwater Section/Water Div. 1751 Congressman W.L. Dickinson Dr. Montgomery, AL 36130 Phone: (334)271-7986

### Alaska

AK Dept. of Environmental Conservation 410 Willoughby Ave. Juneau, AK 99801-1795 Phone:(907)465-5203

#### Arkansas

AR Dept. of Pollution Control & Ecology Regulated Storage Tanks P.O. Box 8913 8101 Interstate 30,Bldg D Little Rock, AR 72219-8913 Phone:(501)682-0744

#### Arizona

AZ Dept. of Environmental Quality 3033 North Central Ave. Phoenix, AZ 85012 Phone:(602)207-4324

#### California

CA State Water Resources Control Board Div. of Clean Water Programs P.O. Box 944212 Sacramento, CA 94244 Phone: (916)227-4313 (Street address: 2014 T St., Suite 130, ZIP: 95814)

#### Colorado

C0 State Oil Inspection Office 1515 Arapahoe St. Tower 3, Suite 600 Denver, CO 80202-2117 Phone: (303)620-4300

#### Connecticut

CT Dept. of Environmental Protection Waste Management Bureau State Office Bldg. 79 Elm Street Hartford, CT 06106 Phone:(203)424-3374

#### Delaware

DE Dept. of Natural Resources & Enviro. Control UST Branch 715 Grantham Lane New Castle, DE 19720-4801 Phone:(302)323-4588

#### **District of Columbia**

DC Environmental Regulatory Administration Pesticides, Hazardous Waste & UST Division 2100 Martin Luther King Ave., SE, Suite 203 Washington, DC 20020 Phone: (202)645-6080

#### Florida

FL Dept. of Environmental Regulation Tank Section, Twin Towers Office Bldg. Room 403 2600 Blair Stone Road Tallahassee, FL 32399-2400 Phone:(904)488-3935

#### Georgia

Georgia Dept. of Natural Resources UST Management Program 4244 International Parkway. Suite 100 Atlanta, GA 30354 Phone:(404)362-2687

### Hawaii

HI Dept. of Health Solid and Hazardous Waste Br. 919 Ala Moana Blvd., Suite 212 Honolulu, HI 96814 Phone:(808)586-4226

### Idaho

ID Div. of Environmental Quality 1410 North Hilton Boise, ID 83706 Phone:(208)373-0502

#### Illinois

UST Contact: IL Office of State Fire Marshal Div. of Petroleum & Chemical Safety 1035 Stephenson Dr. Springfield, IL 62703 Phone:(217)785-5878 LUST Contact: IL EPA, Bureau of Land Div. of Remediation Mgmt., LUST Section P.O. Box 19276 Springfield, IL 62794-9276 Phone:(217)782-6760

#### Indiana

IN Dept. of Environmental Mgmt. Office of Environmental Response 100 N. Senate Ave.-IGCN-#1255 Indianapolis, IN 46206 UST Phone:(317)308-3060 LUST Phone:(317)308-3090

#### lowa

IA Dept. of Natural Resources UST Section Wallace State Office Bldg. 900 East Grand Des Moines, IA 50319 Phone:(515)281-8135

#### Kansas

KS Dept. of Health & Environment Bureau of Environmental Remediation Storage Tank Section Forbes Field, Bldg. 740 Topeka, KS 66620 Phone:(913)296-1678

### Kentucky KY Division of Waste Management

UST Branch 14 Reilly Road Frankfort, KY 40601 Phone:(502)564-6716

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#### Louisiana

LA Dept. of Environmental Quality UST Division P.O. Box 82178 Baton Rouge, LA 70884 Phone:(504)765-0243 (Street Address:7290 Bluebonnet, ZIP: 70810)

#### Maine

ME Dept. of Environmental Protection Bur. of Remediation & Waste Management Ray Bldg., Station #17 Augusta, ME 04333 Phone:(207)287-2651

#### Maryland

MD Dept. of Environment Waste Management Admin. Oil Control Program 2500 Broening Highway Baltimore, MD 21224 Phone:(410)631-3442

#### Massachusetts

UST Contact: MA Dept. of Public Safety Underground Storage Tank Program One Ashburton Place, Room 1310 Boston, MA 02108 Phone:(617)727-3200 LUST Contact: MA Dept. of Environmental Protection One Winter Street Boston, MA 02108 Phone:(617)292-5851

#### Michigan

MI Dept. of Environmental Quality UST Division P.O. Box 30157 Lansing, MI 48909-7657 Phone:(517)373-8168

#### Minnesota

MN Pollution Control Agency UST/LUST Program 520 Lafayette Road North St. Paul, MN 55155-3898 UST Phone:(612)297-8608 LUST Phone:(612)297-8574

#### Mississippi

MS Dept. of Environmental Quality Bureau of Pollution Control, UST Section P.O. Box 10385 Jackson, MS 39289-0385 Phone:(601)961-5171

#### Missouri

MO Dept. of Natural Resources Hazardous Waste Program, Tanks Section P.O. Box 176 Jefferson City, MO 65102 Phone:(573)751-6822

### Montana

MT Dept. of Environmental Quality UST, address: Waste Management Div. LUST, address: Environmental Remediation Div. P.O. Box 200901 Helena, MT 59620-0901 Phone:(406)444-5970 (Street address: 2209 Phoenix Ave.)

## Nebraska

UST Contact: NE State Fire Marshal, Flammable Liquid Storage 246 South 14th Street Lincoln, NE 68508 Phone:(402)471-9465 LUST Contact: NE Dept. of Environmental Quality LUST/ER Section Box 98922 Lincoln, NE 68509-8922 Phone:(402)471-4230

#### Nevada

NV Dept. of Conservation & Natural Resources Div. of Environmental Protection Capitol Complex 333 W. Nye Lane Carson City, NV 89710 Phone:(702)687-5872

### **New Hampshire**

NH Dept. of Environmental Services Groundwater Protection Bureau P.O. Box 95 Concord, NH 03302 Phone:(603)271-3644 (Street Address: 6 Hazen Drive)

#### **New Jersey**

NJ Dept. of Environmental Protection and Energy Responsible Party Site Remediation 401 East State St. (CN-028) Trenton, NJ 08625-0028 Phone:(609)292-8761

#### **New Mexico**

NM Environment Dept., UST Bureau P.O. Box 26110 Harold Runnels Bldg., Rm N2150 Santa Fe, NM 87504-0968 Phone:(505)827-2932 (Street address: 1190 St. Francis Dr., ZIP: 87502)

#### **New York**

NY Dept. of Environmental Conservation Bulk Storage Section 50 Wolf Road, Rm 340 Albany, NY 12233-3750 Phone:(518)457-4351

#### North Carolina

NC Pollution Control Branch Div. of Environmental Management Dept. of Environmental Health & Natural Resources 441 N. Harrington St. Raleigh, NC 27603 Phone:(919)733-8486

#### North Dakota

North Dakota Dept. of Health Div. of Waste Management UST Program 1200 Missouri Ave. P.O. Box 5520 Bismarck, ND 58506-5520 Phone: (701)328-5166

Ohio OH Dept. of Commerce 8895 East Main St. Reynoldsburg, OH 43068 Phone:(614)752-7938

Oklahoma

OK Corp. Commission, Fuel Storage Div. Jim Thorpe Bldg. 2101 North Lincoln Blvd. Oklahoma City, OK 73105 UST Phone:(405)521-3107 LUST Phone:(405)522-4639

#### Oregon

OR Dept. of Environmental Quality UST Program 811 SW Sixth Ave., 9th Floor Portland, OR 97204 Phone:(503)229-5733

#### Pennsylvania

UST Contact: PA Dept. of Environmental Protection Bureau of Water Quality Mgmt. Storage Tank Program Rachel Carson State Off. Bldg. P.O. Box 8762 Harrisburg, PA 17105-8762 UST: 1-800-42TANKS Phone:(717)772-5599 (Street Address: 400 Market St., 10th Floor) LUST Contact: PA Dept. of Environmental Protection Bur. of Land Recycling & Waste Management Land Recycling & Cleanup Prog. Storage Tank Cleanup Sec. Rachel Carson State Off. Bldg. P.O. Box 8471 Harrisburg, PA 17105-8471 Phone:(717)783-7509 (Street Address: 400 Market St.,14th Floor)

#### Rhode Island

RI Dept. of Environmental Management UST/LUST Section 291 Promenade St. Providence, RI 02908 Phone:(401)277-2234

#### South Carolina

SC Dept. of Health & Environmental Control Groundwater Protection Div. 2600 Bull St. Columbia, SC 29201 UST Phone:(803)734-5335 LUST Phone:(803)734-5331

# South Dakota

SD Dept. of Environmental & Natural Resources UST Program 523 East Capitol Pierre, SD 57501 Phone:(605)773-3296

### Tennessee

TN Dept. of Environment & Conservation Division of USTs, 4th Floor, L & C Tower 401 Church St. Nashville, TN 37243-1541 Phone: (615)532-0945

#### Texas

TX Natural Resources, Conservation Commission Petroleum Storage Tank Div., MC: 133 P.O. Box 13087 Austin, TX 78711-3087 Phone:(512)239-2106 (Street address:12100 Park 35 Circle, ZIP:78753)

# Utah

UT Dept. of Environmental Quality Bur. of Solid & Hazardous Waste Div. of Environmental Response & Remediation UST Branch, P.O. Box 144840 Salt Lake City, UT 84114 Phone:(801)536-4100 (Street address: 168 North 1950 West, ZIP 84116)

#### Vermont

VT Dept. of Environmental Conservation Hazardous Materials Mgmt.Div. 103 South Main St. Waterbury, VT 05676 UST Phone:(802)241-3882 LUST Phone:(802)241-3876

## Virginia

VA Dept. of Environmental Quality Underground Storage Tanks P.O. Box 10009 Richmond, VA 23240 Phone:(804)698-4313

# Washington

WA Dept. of Ecology, Toxics Cleanup Program P.O. Box 47600 Olympia, WA 98504-7600 Phone:(360)407-7170

# West Virginia

WV Div. of Environmental Protection Office of Waste Management UST/LUST Section 1356 Hansford St. Charleston, WV 25301 Phone:(304)558-6371

#### Wisconsin

UST Contact: WI Dept. of Commerce Environmental & Regulatory Services Division P.O. Box 7969 Madison, WI 53707-7969 Phone:(608)266-7874 (Street Address: 201 East Washington Ave.) LUST Contact: WI Department of Natural Resources P.O. Box 7921 Madison, WI 53707-7921 Phone:(608)267-7560

## Wyoming

WY Dept. Of Environmental Quality Water Quality Division, Herschler Bldg. 4th Floor West 122 West 25th St. Cheyenne, WY 82002 Phone:(307)777-7096

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#### American Samoa

American Samoa Environmental Protection Agency Office of the Governor American Samoa Government ATTN: UST/LUST Program Pago Pago, AS 96799 Phone:011-684-633-2304

# Northern Marina Islands

Div. of Environmental Quality Commonwealth of Northern Marina Islands P.O. Box 1304 3rd Floor, Mörgens Bldg. San Jose Saipan, MP 96950 Phone:011-670-234-1011

#### Guam

Guam Environmental Protection Agency IT&E Harmon Plaza, Complex Unit D-107 130 Rojas St. Harmon, GU 96911 Phone: 011-671-646-8863

# **Puerto Rico**

Environmental Quality Board P.O. Box 11488 Commonwealth of Puerto Rico Santurce, PR 00910 Phone:(787)767-8109

### Virgin Islands

Div. of Environmental Protection Dept. of Planning and Natural Resources 396-1 Foster Plaza, Annas Retreat Charlotte Amalie St. Thomas, VI 00802 Phone:(809)774-3320

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# NOTIFICATION FORM FOR UST's

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**P	Pena	-22	-

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Form	Approved. OMB No. 2050-0068. Approval expires 1/31/95
Notification for Underground Storage Tanks	STATE USE ONLY
Sam Agency Here and Address	ID NUMBER
	DATE RECEIVED
A. NEW FACILITY B. AMENDED C.	A. Date Entered Into Computer CLOSURE B. Data Entry Clerk Initials
No. of tanks at facilityNo. of continuation sneets	Clarify Besposes Comments
Please type or print in ink all items except "signature" in section must be completed for each location containing underground storag more than five (5) tanks are owned at this location, photocopy the for sheets, and staple continuation sheets to the form.	/. This form e tanks. If Nowing
GENERAL INI	FORMATION
<text><text><text><list-item><list-item><list-item><list-item></list-item></list-item></list-item></list-item></text></text></text>	3. septic tanks; 4. pipeline lacifies (including gathering lines) regulated under the Natural Gas Pipeline Salety Act of 1908, or the Hazardous Liquid Pipeline Salety Act of 1979, or which is an intrastate pipeline lacifity regulated under State laws; 5. surface impoundments, pits, ponds, or legoons; 6. storm water or waste water collection systems; 7. flow-through process tanks; 8. liquid traps or associated gathering lines directly related to oll or gas production and gathering operations; 8. storage tanks situated in an underground area (such as a basement, cellar, mineworking, dtift, shaft, or tannel) if the storage tank is situate upon or above the surface of the floor. What Substances Are Covered? The notification requirements apply to under ground storage tanks that contain regulated substances. This includes any substance defined as hazardous in section 101 (14) of the Comprehensive Environmental Response, Companyation and Liability Act of 1980 (CEERCLA), with the exception of those substances regulated as mazardous weste under Subtile to R GRA. It also includes my cude of or any fraction thereof which is figuid at standard conditions of temperature and pressure (60 degrees Fahrenheit, and 14.7 pounds per equare inch absolute). Where To Notify? 1. Owners of underground storage tanks in use or that have been taken out of operation after January 1, 1974, but still in the ground, must notify May 8, 1986, 2. Owners who bring underground storage tanks into use after May 8, 1986, must notify within 30 days of bringing the tanks into use. 1. If the State requires notification of any amendments to facility send information to State agency immediately. Penatlee: Any owner who knowinghy fails to notify or submits faise information shall be subject to a civil penety not to exceed \$16,000 for each tank for which notification is not given or for which faise information is eubmitted.
I. OWNERSHIP OF TANK(S)	II. LOCATION OF TANK(S)
Owner Name (Corporation, Individual, Public Agency, or Other Entry) Street Address	ff required by State, give the geographic location of tanks by degrees, minutes, and seconds.     Examples Lat. 42, 36, 12 N Long. 45, 24, 17W     Longitude     (if same as Section I, mark box here )
	Facility Name or Company Sile Identifian, as applicable
Cay State 20 Code - County	Street Address (P.O. Box not acceptable)
Phone Number (Include: Area Code)	City Saw Zp code
Page 1	County Municipality

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III. TYPE OF OWNER		N LANDS
Federal Government Commercial	Tanks are located on land within an India Reservation or on other trust lands.	n Tribe or Nation:
] State Government  Private ] Local Government	Tanks are owned by native American nation, tribe, or individual.	
	V. TYPE OF FACILITY	
elect the Appropriate Facility Description		
Gas Station	Railroad	Trucking/Transport
Petroleum Distributor	Federal - Non-Military	Utilities
Air Taxi (Airline)	Federal - Military	_ Residential
Aircraft Owner	Industrial	Farm
Auto Dealership	Contractor	_ Other (Explain)
· · · · ·		
VI. CON	TACT PERSON IN CHARGE OF TANKS	· · · · · · · · · · · · · · · · · · ·
ame Job Title	Address	Phone Number (Include Area Code)
VI	I. FINANCIAL RESPONSIBILITY	· · · · · · · · · · · · · · · · · · ·
I have met the fin accordance with	ancial responsibility requirements in 40 CFR Subpart H	
heck All that Apply		
Self Insurance	Guarantee	State Funds
Commercial Insurance	Surety Bond	Trust Fund
Risk Retention Group	Letter of Credit	Other Method Allowed Specify
VIIL CERTIFICAT	ION (Read and sign after completing all sect	tions)
cerury under penary of law that I have personally ex ocuments, and that based on my inquiry of those in	xamined and am tamiliar with the information dividuals immediately responsible for obtaini	n suommed in this and all attached ing the information, I believe that the
ubmitted information is true, accurate, and complete	• • • • • • • • • • • • • • • • • • •	-
	· · · · · · · · · · · · · · · · · · ·	······································
Name and official title of owner or owner's authorized representative (Print)	Signature	Date Signed
Paperwork R	eduction Act Notice	
PA estimates public reporting burden for this form t athering and maintaining the data needed and com hief, Information Policy Branch PM-223, U.S. Envir Attention Desk Officer for EPA." This form amends	to average 30 minutes per response includin pleting and reviewing the form. Send commi onmental Protection Agency, 401 M Street, the previous notification form as printed in 40 upplies last.	g time for reviewing instructions, ents regarding this burden estimate to Washington D.C. 20460, marked D CFR Part 280, Appendix L. Previous
ditions of this notification form may be used while s		
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IX. DESCRIPTION OF UNDERGROUND STORAGE TANKS (Complete for each tank at this location.)									
Tank Identification Number	Tank No	Tank No	Tank No	Tank No	Tank No.				
1. Status of Tank		[]		[]	[]				
(mark only one) Currently in Ose									
(Remember to the section X.)									
Permanently Out of Use									
(Permanher to ill out soution X.)	[]	[]	[]		[]				
Amendment of information	l			J	<b>L</b>				
2. Date of Installation (mo./year)					-				
3. Estimated Total Capacity (gallons)									
4. Material of Construction									
(Mark all that apply)					·				
Asphalt Coated or Bare Steel									
Cathodically Protected Steel				<u> </u>					
Epoxy Coated Steel									
Composite (Steel with Fiberglass)									
Fiberglass Reinforced Plastic				<b>├</b> ────					
Lined Interior									
Double Walled		f							
Polyethylene Tank Jacket									
Concrete	<u> </u>	<u> </u>		<u> </u>					
Excavation Liner									
Unknown	L			]					
Other, Please specify									
		<u>_</u>							
Has tank been repaired?					· · · ·				
5. Piping (Material)		]	[]						
(Mark all that apply) Bare Steel									
Galvanized Steel									
Fiberglass Reinforced Plastic									
Copper	<u> </u>								
Cathodically Protected			<u> </u>						
Double Walled									
Secondary Containment		· ·							
Unknown		· ]							
Other, Please specify									
			· · ·						
6. Piping (Type) (Mark all that apply)		· ·							
Suction: no valve at tank									
Suction: valve at tank									
. Pressure									
Gravity Feed									
rias piping Deen repaired?	1 1	11 1	11 1	11					

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Tank Identification Number	Tank No	Tank No	Tank No	Tank No.	Tank No
7. Substance Currently or Last Stored					
Gasoline					
, Diesei					
: Gasohol					
Kerosene	[]				
Heating Oil					
Used Oil					
Other, Please specify	[]		LJ		
Hazardous Substance		[			
CERCLA name and/or,	[]	L]	<b></b> ]	LJ	L
CAS number					
					<b>├</b> ────┤
Mixture of Substances					
Please specify		· · · ·			
		·	<u> </u>		
	TANKS OF TO				l
	TANKS OUT OF			· · · ·	
	m	·····	• • •		
A. Estimated date last used	·				
(mo./day/year)					
B. Estimate date tank closed	·				i_
(mo./day/year)		<i>,</i>			
C. Tank was removed iron ground		L]			
D. Tank was closed in ground					
E. Tank filled with inert material	[]				
Describe					
				•	
F. Change in service		[]	[]		
. Ż	·	L	·	·	
2. Site Assessment Completed		[]	[]	[]	
				· · · · · · · · · · · ·	
Fridanan af a lack data stat					
Evidence of a leak detected					
,				1	

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Page 4

Fank Identification Number	Tank No.		Tank N	lo	Tank N	0	Tank No	o	Tank No.	·
<ul> <li>I. Installation</li> <li>A. Installer certified by tank and piping manufacturers</li> <li>B. Installer certified or licensed by the implementing agency</li> <li>C. Installation inspected by a registered engineer</li> <li>D. Installation inspected and approved by implementing agency</li> <li>E. Manufacturer's instaliation checklists have been completed</li> <li>F. Another method allowed by State agency. Please specify.</li> </ul>										
<ul> <li>2. Release Detection (Mark all that apply)</li> <li>A. Manual tank gauging</li> <li>B. Tank tightness testing</li> <li>C. Inventory controls</li> <li>D. Automatic tank gauging</li> <li>E. Vapor monitoring</li> <li>F. Groundwater monitoring</li> <li>G. Interstitial monitoring double walled tank/piping</li> <li>H. Interstitial monitoring/secondary containment</li> <li>I. Automatic line leak detectors</li> <li>J. Line tightness testing</li> <li>K. Other method allowed by Implementing Agency. Please specify.</li> </ul>										
3. Spill and Overfill Protection A. Overfill device installed B. Spill device installed OATH: I certify the information concerning installer:	stallation the	at is pro	ovided in	section >	() is true t	o the bes	t of my b	elief and l	knowledge	э. te

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# SAMPLE UST INSTALLATION WORKSHEET

UST Installation

#### Tank Installation Worksheet Tank, if new, pressure-tested for one hour for less than five -Tank owner psig, using soap solution (other requirements for double-Address walled tanks) Regulating agency(ies) Other federal, state or local requirements met **Excavation** pit Pit meets dimensional requirements (spacing between tanks, from buildings and utilities, bedding thickness, burial depth) Contractor name(s) Pit free of sharp objects and other foreign debris Pit secured (fenced, roped off) Backfill Tank installation start date Backfill quality specifications met (size, texture, composition) Tank installation completion date Bedding 12 inches minimum (see manufacturers' specifications) Preinstallation site investigation Tank anchoring Soil corrosivity Not necessary Maximum water table height Slab and grade and backfill/hold-down pad/deadmen/mid-Flooding possibility anchoring Hillside installation Steel tank electrically isolated from anchoring equipment/ Unstable soil material Existing tanks and piping Tank placement Contamination Tank set in place with lugs, using recommended angles Obstructions Ballasting, if necessary, but never above level of backfill Traffic re-routing Ο Backfill property compacted, tamped, all voids around tank Other filled without damage to tank or tank coating initial tank installation concerns 0 Coating repair as necessary Authorities notified Anodes installed or activated Regulatory requirements acknowledged Tank and tank equipment inspection Leak detection Measure internal deformation (see manufacturers' specifications) Cathodic protection Measure tank end deflection (if manway, measure as close as Secondary containment possible to center of tank or use gauge stick technique before Spill (size of basin) and overfill backfilling) Plan approvals If manway, inspect tank from inside Product, tank, piping, secondary containment, leak Check for backfill voids (use blunt wooden pole to tap around detection strategy compatibility assured outside of tank, listening for hollow sounds) Warranty stipulations acknowledged Fili tank Project manager selected Cathodic protection equipment tested Responsibilities carefully delineated Electrical isolation of steel tank verified (before backfilling over tank top, after piping connected) Contractors and workers Soil potential readings Selected and contracts approved Familiar with safety procedures Leak detection equipment installed and tested Final steps Tank at site Final tank precision testing Tank handling equipment of proper size and capacity Test piping system after installation but before backfilling Tank inspected after delivery to site (holes, cracks, large scrapes, indentations) Inspection validated by qualified installation contractor to ensure warranty considerations met Other materials (piping, backfill) inspected Tank blocked if not put immediately into excavation pit Occument installation G File notification forms with the implementing agency Anode prepared (steel tanks) Copy of facility plan (drawings, photographs) stored on-site Spark testing of coating Replace asphalt cover Tank coating repaired (if necessary) Tank testing before installation Testers aware of safety precautions

NB: This worksheet is excerpted from Underground Tank Technology Update, December 1988, published by the University of Wisconsin-Madison, Dept. of Engineering Professional Development, which is responsible for its preparation.

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# SAMPLE SPCC PLAN

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Page 1 (and 2)

# the following is an example of a certification page for an SPCC Plan.

# CERTIFICATION INFORMATION

- A. <u>Name of Facility</u> Tex's Bulk Storage Terminal
- B. <u>Type of Facility</u> Commercial (Storage and distribution)
- C. Date of Initial Operation January 31, 1970
- D. Location of Facility 100 Everspily Road, Oily City, USA
- E. <u>Name and Address of Owner</u> SJ Oil Company P.O. Box 06002 Crude City V6X 77000

F. Designated Person Responsible for Oil Spill Prevention -

M

- NAME
- G. <u>Oil Spill History</u> This factility has experienced no significant oil spill even outing the twelve months prior to December 11, 1973.
- H. Management approval full opproval is extended by management at a level with uthority to commit the necessary resources.

SIGNATURE NAME

Mr. John Paul Jones

200/

vie

Doe

President - SJ Oil Company

I. Certification | I hereby certify that I have examined the facility, and being familiar with the provisions of 40 CFR Pare 117, attest that this SPCC Plan has been prepared in accordance with good engineering practices.

NAME:

SIGNATURE

**REGISTRATION NO.:** 

STATE:

(Seal) DATE:

# pg. 1 of 1

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# EXAMPLE

SPILL PREVENTION, CONTROL, AND COUNTERMEASURE PLAN

TEX'S BULK STORAGE TERMINAL 100 Everspill Road Post Office Box 311(K) Oily City, USA 12345 Telephone (123) 222-2722 SJ Oil Company P.O. Box 00000 Crude City, USA 17050 Course Steve Deb Doe, Manager

CERTIFICATION: I hereby certify that I have examined the facility, and being familiar with the provision of yo CFR Part 112, attest that this SPCC Plan has been prepared in accordance with good engineering practices.

Engineer: Christopher Colorbus

Signature:

License Number: 98765

State:

(sea

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Date: 6/11/74
4/30/97

# 1. NAME OF OWNERSHIP

Name: SJ Oil Company - Tex's Bulk Storage Terminal 100 Everspill Road Post Office Box 311(K) Oily City, USA 12345 Telephone: (123) 222-2222

Secretary-Bookk

Transport Driver (3) Deliverymen

Dispatcher

Manager: Steve Bob Doe 505 Oil Road Oily City, USA 12345 Telephone: (123) 222-3333

Owner: SJ Oil Company P.O. Box 00002 Crude City, USA 77000

Other Personnel:

Service Area: North-West

2. DESCRIPTION OF FACILITY

Tex's Bulk Storage Terminal of the SJ Oil Company handles, stores and distributes petroleop products in the form of motor gasoline, kerosene, No. 2 fuel oil. The accompanying drawing shows the property boundaries adjacent highway draining dirches, onsite buildings, and oil-handling facilities.

Fixed Storage:

(2) 100,000 gallon vertical tanks (premium gasoline
(2) 100,000 gallon vertical tanks (regular gasoline
(2) 20,000 gallon vertical tanks (No. 2 fuel oil)
(1) 20,000 gallon vertical tank (kerosene)

Total:

460,000 gallons

Vehicles:

Transport Truck
 Tankwagon Delivery Trucks

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7



# 3. POTENTIAL SPILL VOLUMES AND RATES

Potential Situation	Volume Released	Rate of Spilling
Complete failure of a full tank	100,000 gallons	Instantaneous
Partial failure of a full tank	1-99,000 gallons	Gradual to instantaneous
Tank overfill	l to several gallons	Up to 1 gallon per minute
Failure of a pipe	Up to 20,000 gallons	a gallons per segond
Leaking pipe or valve packing	Several ounces to several gallons	Vp to 1 gallon per minute
Truck loading area	1 to several gallons	Up to 1 gallon per minute
SPILL PREVENTION AND CON	TROL	
λ. STORAGE TANKS		

- 1) Each tank is UL-142 construction (aboveground use).
- 2) Each tank is equipped the a direct reading gauge. Venting capacity is suitable for the fill and withdrawal rates.
- 3) A dike surrounds such tank installation. Each dike wall has been constructed and designed to Local, State, and Federal engineering Regulations. The contained volume (height vs. area) is computed based on the single largest tank within (100,000 gellons) and allowance is made for all additional vertical tank displacement volumes below the dike height (estimated sail / liquid level), and for precipitation. A 2-inch water drain is located at the lowest point within the dike enclosure, and it connects to a normally closed gatevalve outside the dike. The gate valve is manually operated. Rainwater contained within this dike is examined prior to release to ensure that harmful quantities of oil are not discharged.
- 4) After a fill pipe is used, a bucket is placed under it to catch any product that might drip from the pipe.
- 5) There are no buried or partially buried tanks at this facili

- 6) Tanks are subject to periodic integrity testing and inspection. Tank supports, foundations, and piping are included in these inspections, and proper records are kept. The exterior of the tanks are examined frequently.
- 7) Materials stored on the site for spill countermeasures include bagged absorbent, sorbant pads and booms. There is a sand-filled catchment basin for minor, routine spillage at loading pump intakes and at loading rack. This catchment will contain greater than the largest compartment of the largest tank truck loaded or unloaded at this facility. Sand will be replaced as needed, and any oil-contaminated sand is disposed of properly.
- 8) Failsafe Engineering
  - a) Tanks are equipped with high-level alarga,
  - b) Tanks are equipped with visual Qauges.
- B. FACILITY TRANSFER OPERATIONS
  - 1) Buried pipes are properly protected against corrosion. If a section of buried pipe is exposed, it is examined for deterioration.
  - 2) Pipelines not in service or on aready for an extended period are capped or blank-flagged, and earled as to their origin.
  - 3) All pipe supports are properly designed to minimize abrasion and corrosion, and to allow for expansion and contraction.
  - 4) Aboveground pipelfnes and valves are examined periodically to assess, their condition.
  - 5) Warning signs are posted as needed to prevent vehicles from damaging pipelines
  - 6) Curbings are installed at the vehicle loading racks.

## 5. SPILL COUNTERMEASURES

The front highway drainage ditch on the property's northern boundary crosses the highway through a culvert headed eastward and eventually leads to Carol Creek located approximately one half mile distant. Emergency containment action will constitute the erection of an earthen dam and placement of absorbent materials at the entrance to the culvert. Sorbent bo will be strategically placed on Carol Creek upstream from dead duck pond to contain oil which will be recovered and disposed of properly. Manpower materials and equipment are committed to ensure this contingency plan is implemented in a manner that no oil reaches dead duck pond (an environmental sensitive ecosystem).

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6. PAST SPILL EXPERIENCE

None

- 7. SECURITY
  - a) The bulk plant is surrounded by steel security fencing, and the gate is locked when the plant is unattended.
  - b) All valves which will permit direct outward flow of a tank's contents and dike drain valves are locked in the closed positi and the electrical controls for the pumps are locked in the of position when not in use.
  - c) The loading and unloading connections of pipelines are capped when not in service.
  - d) Two area lights are located in such a position so as to illuminate the office and storage area.

## 8. PERSONNEL

All personnel have been instructed by lacking management and rehearse the following spill prevention and courses asure plans:

- a) No tanks or compartments are to be filled without prior checki reserves.
- b) No pump operations will continue unless attended constantly.
- c) Warning signs are displayed to check for line disconnections before vehicle departures.
- d) Training has been reid-on oil-spill prevention, containment, a retrieval methods, and a "dry-run" drill for an on-site vehicu spill has peen conducted.
- e) Instruction and mone numbers have been publicized and posted the office recercing the report of a spill to the National Response Center and the State.
- f) Instructions and company regulations which relate to oil spill prevention and countermeasure procedures have been conspicuous posted.

4/30/97

(123) 222-3333

(800) 424-8802

(123) 555-2221

123) 222-3038

(123) 222-8372

(123) 222-9217

222-2207

# EMERGENCY TELEPHONE NUMBERS

# A. NOTIFICATION PROCEDURES

- 1) Steve Bob Doe, Facility Manager
- 2) National Response Center
- 3) The State
- B. CLEANUP CONTRACTORS
  - 1) E-Z Clean Environmental
  - 2) O. K. Engineers, Inc.
- C. SUPPLIES AND EQUIPMENT
  - 1) Oily City Equipment Co.
  - 2) Northwestern Sorbent Co.

# 10. REVIEW DATES

6/08/77	(signature)
6/01/80	(signature)
6/10/83	(signature)
6/09/86	(signature)

# EXAMPLE OF DESIGN: HORIZONTAL TANKS ONLY



Calculations for this example:

a)	Minimum containment volume is single largest tank within dike: 15,000 gal X <u>.1337 cu.ft</u> . = 2,006 cu. ft. gal
<b>b</b> )	Available area: 30 ft. X 45 ft. = 1,350 sq. ft.
C)	Average Dike height "h" "h" X 1,350 sq. ft. = 2,006 cu. ft. "h" = 2,006 cu. ft 1,350 sq. ft. "h" = 1.486 ft. (17.8 inches + freeboard)
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2. EXAMPLE OF DESIGN: HORIZONTAL AND VERTICAL TANKS



Calculations for this example:

a) The minimum containment volume is that of the single largest 20 003 gallons.

20,000 gallons X .1337 cu. ft./gallon = 2,674 cu. ft.

- b) Available dike area, this example: 30' X 75' = 2,250 sq. ft
- c) Observe that some volume of the vertical tanks go below the wall height. This volume of the second 20,000 gallon tank any additional verticals) assumed not ruptured must be considered.

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# EPA AST SECONDARY CONTAINMENT LETTER

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# UNITED STATES ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, D.C. 20460

# APR 29 192

OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE

#### MEMORANDUM

**SUBJECT:** Use of Alternative Secondary Containment Measures at Facilities Regulated under the Oil Pollution Prevention Regulation (40 CFR Part 112)

FROM:

Don R. Clay - Assistant Administrator

TO:

- Director, Environmental Services Division Regions I, VI, VII Director, Emergency and Remedial Response Division Region II Director, Hazardous Waste Management Division Regions III, IX
- Director, Waste Management Division Regions IV, V, VIII
- Director, Hazardous Waste Division Region X

## PURPOSE

This memorandum addresses the U.S. Environmental Protection Agency's (EPA) interpretation of the term "secondary containment" as it is used in section 112.7(c) of the Oil Pollution Prevention regulation (40 CFR Part 112), also known as the Spill Prevention, Control and Countermeasures (SPCC) regulation. It also addresses technologies that may be used to provide secondary containment for smaller, shop-fabricated aboveground storage tanks (ASTs) consistent with 40 CFR Part 112.7(c).

# BACKGROUND

Since 1973, the SPCC regulation has included the following provision addressing secondary containment and the allowance for equivalent preventive systems. Section 112.7(c) states:

Appropriate containment and/or diversionary structures or equipment to prevent discharged oil from reaching a navigable water course should be provided. One of the following preventive systems or its equivalent should be

Page 3

used as a minimum: (1) Onshore facilities: (i) Dikes, berms or retaining walls sufficiently impervious to contain spilled oil; (ii) Curbing; (iii) Culverting, gutters or other drainage systems; (iv) Weirs, booms or other barriers; (v) Spill diversion ponds; (vi) Retention ponds; (vii) Sorbent materials.

The SPCC regulation implements Section 311(j)(1)(C) of the Clean Water Act (CWA) for non-transportation-related facilities. In 1988, the Agency published regulations at 40 CFR Part 280 for underground storage tanks (USTs) implementing the requirements of Subtitle I of the Resource Conservation and Recovery Act. An apparent result of the implementation of the UST regulation is a trend of facilities replacing USTs with ASTs.

In response to this trend, tank manufacturers have developed various new designs for shop-fabricated AST systems. Alternative AST systems for which we have information generally do not exceed 12,000 gallons capacity. Some of these new designs include a steel or reinforced concrete secondary shell fully encasing a storage tank; others include an attached, shop-fabricated containment dike. Many other system designs may also be available. Typically, these alternative AST system designs provide containment for the entire capacity of the inner tank for spills resulting from leaks or ruptures of the inner tank.

In 1988, EPA noted in its Oil SPCC Program Task Force Report that the Agency has limited inspection resources to implement the SPCC program. Less than 1,000 of the estimated half million SPCC-regulated facilities are inspected by EPA annually. Moreover, section 311 of the CWA does not permit EPA to delegate this program to the States. The Task Force, therefore, recommended that EPA attempt to target these very limited resources to inspecting the highest-risk facilities. In general, we believe that facilities using smaller-volume AST systems generally pose less risk than larger field-erected tanks and tank farms of large uncontrolled spills reaching navigable waters, especially if these facilities are not located near sensitive ecosystems or water supply intakes.

The traditional method of providing secondary containment for ASTs has been to construct dikes, berms, retaining walls and/or diversion ponds to collect oil once it spills. Based on the experience of EPA Regional personnel implementing the SPCC regulation since 1973, those traditional means of secondary containment are very effective and reliable methods of protecting the surface waters from oil spills from ASTs. However, the SPCC regulation is a performance-based regulation that permits facility owners or operators to substitute alternative forms of spill containment if they provide protection against discharges to navigable waters substantially equivalent to that provided by the systems listed in section 112.7(c).

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Consistent with section 112.1(e) of the SPCC regulation, this memorandum does not supersede the authority of "existing laws, regulations, rules, standards, policies and procedures pertaining to safety standards, fire prevention and pollution rules," including fire codes or other standards for good engineering practice that may apply to alternative AST systems.

On October 22, 1991, EPA proposed revisions to the SPCC regulation. The proposed revisions do not affect the provisions of section 112.7(c) that describe alternative systems that are substantially equivalent to those specifically listed in paragraphs (c)(1)(i) through (c)(1)(vii).

#### OBJECTIVE

This memorandum should allow EPA Regional personnel to provide consistent interpretation of the secondary containment provisions of section 112.7(c) of the SPCC regulation to facilities with generally smaller shop-fabricated ASTs. Alternative AST systems, including equipment and procedures to prevent reasonably expected discharges, should satisfy the secondary containment provisions of the SPCC regulation under most site-specific conditions.

#### DISCUSSION

As smaller shop-fabricated ASTs are increasingly appearing in the market, we have observed a number of innovative technologies to reduce the risks of both leaks and spills. Moreover, these smaller shop-fabricated tanks do not pose the same risk of large uncontrolled oil spills to navigable waters as the larger field-erected tanks. Therefore, we believe that there should be many situations in which protection of navigable waters substantially equivalent to that provided by the secondary containment systems listed in section 112.7(c) could be provided by alternative AST systems that have capacities generally less than 12,000 gallons and are installed and operated with protective measures other than secondary containment dikes. For example, some State programs provide an exemption from State spill prevention requirements for ASTs with similar capacities. However, in certain situations, these alternative AST systems might appropriately not be presumed to comply with the provisions of section 112.7(c). An example of this type of situation is facilities containing four or more ASTs or ASTs with combined capacity greater than 40,000 gallons, where a number of larger tanks are connected by manifolds or other piping arrangements

that would permit a volume of oil greater than the capacity of one tank to be spilled as a result of a single system failure.<sup>1</sup>

The owner or operator of any facility subject to the SPCC regulation, including facilities using alternative AST systems, must adhere to all applicable provisions of the SPCC regulation. The owner or operator of each regulated facility must develop a site-specific SPCC Plan that must be certified by a Registered Professional Engineer as required by section 112.3 of the regulation. Pursuant to the requirement of section 112.7 that the SPCC Plan shall "include a discussion of the facility's conformance with the appropriate guidelines listed," a complete SPCC Plan for any facility using alternative AST systems should include a discussion of why the facility is considered to be in conformance with section 112.7(c).

In evaluating these shop-fabricated AST systems, EPA's Office of Solid Waste and Emergency Response (OSWER) has looked at requirements the Agency has established for tanks in situations where traditional secondary containment systems cannot be provided (e.g., USTs covered by 40 CFR Part 280). Additionally, OSWER has evaluated relevant State and local government requirements. OSWER also has considered factors related to alternative AST systems, including tank size, typical pumping rates used to fill and empty them, and the lower risk of large, uncontrolled oil spills from facilities using such AST systems, based on tank size, design, and pumping rates. We believe that for these smaller shop-fabricated ASTs some alternative AST systems that include adequate technical spill and leak prevention options such as overfill alarms, flow shutoff or restrictor devices, and constant monitoring of product transfers generally would allow owners and operators of facilities to provide protection of navigable waters substantially equivalent to that provided by secondary containment as defined in 40 CFR Part 112.7(c). For example, small double walled ASTs, when used with equipment and procedures described in this guidance, generally would provide substantially equivalent protection of navigable waters under section 112.7(c) of the SPCC regulation when the inner tank is an Underwriters' Laboratory-listed steel tank, the outer wall is constructed in accordance with nationally accepted industry standards (e.g., those codified by the American Petroleum Institute, the Steel Tank Institute, and American Concrete Institute), the tank has overfill prevention measures that include an overfill alarm and an automatic flow restrictor

<sup>1</sup> This is based on similar capacities in proposed National Fire Protection Association standards and consideration of the risks to public health or welfare or the environment of spills of potentially larger size.

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or flow shut-off,<sup>2</sup> and all product transfers are constantly monitored.<sup>3</sup>

## CONCLUSION

When the only significant source of potential oil spills to navigable waters of the United States from a facility is from alternative ASTs as described in this memorandum, an SPCC Plan that is certified by a Registered Professional Engineer and that requires equipment and operating practices in accordance with good engineering practice and the principle of substantial equivalence as described above should be presumed to achieve the protection of navigable waters substantially equivalent to that provided by the preventive systems specified in 40 CFR Part 112.7(c).

:C:	Bowdoin Train	•
	Henry Longest	
	Bruce Diamond	
•	Deborah Dietrich	
	Walter Kovalick	
	James Makris	
	Charles Openchowski	
	David Ziegele /	
•	Wendy Butler	
	Removal Managers, Regions	I-X

<sup>2</sup> Consistent with the performance standards for these devices as described in section 280.20(c) of EPA regulations for USTs at 40 CFR Part 280 and in an August 5, 1991, amendment, an automatic flow shut-off will shut off flow so that none of the fittings located on top of the tank are exposed to product as a result of overfilling, an automatic flow restrictor will restrict flow 30 minutes prior to overfill or when the tank is no more than 90 percent full, and a high level alarm will alert the operator one minute before overfilling or when the tank is no more than 90 percent full.

<sup>3</sup> Consistent with the performance standard for overfill control as described in section 280.30(a) of EPA regulations for USTs at 40 CFR Part 280, an owner/operator of the facility will ensure that the transfer operation is monitored constantly to prevent overfilling and spilling.

4/30/97

# Oil Spill Prevention & Response

# **EPA Contacts**

Region	Contact	Telephone	Fax
Ι	Denusses Valdes	(617) 573-5715	(617) 573-9616
	Cosmo Caterino	(617) 573-5733	(617) 573-9616
II	Doug Kodama	(908) 906-6905	(908) 321-4425
	Matt Garamone	(908) 906-6838	(908) 321-8138
ттт	Linda Ziegler	(215) 597-1395	(215) 597-8138
111	Regina Strakey	(215) 597-1395	(215) 597-8138
IV	Mike Norman	(404) 347-3555 x6123	(404) 347-3464
	Beverly Kush	(312) 353-8200	(312) 353-9176
•	Ann Whelan	(312) 886-7258	(312) 353-9176
VI	Don Smith	(214) 665-6489	(214) 665-7447
VI	Karen McCormick	(214) 665-8365	(214) 665-7447
VII	Carol Kather	(913) 551-5037	(913) 551-5218
V II	Wood Ramsey	(913) 551-5012	(913) 551-5218
VIII	Jim Knoy	(303) 312-6238	(303) 294-7168
	Martha Wolf	(303) 312-6839	(303) 294-6843
IX	Steve Calanog	(415) 744-2327	(415) 744-1916
	<u>Travis Cain</u>	(415) 744-2341	(415) 744-1916
x	Bub Losielle	(206) 553-6901	(206) 553-0175
Λ	Carl Kitz	(206) 553-1671	(206) 553-0175
Alaska	Matt Carr	(907) 271-3616	(907) 271-3424
1 Masna	Don Marson	(907) 271-3433	(907) 271-3424

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Fage 1 (and 2)

# AST STATE CONTACTS

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Appendix 8

#### AST STATE CONTACTS

# Alabama

Industrial Section Department of Environmental Management 1751 Congressman W.L. Dickinson Drive Montgomery, AL 36130 (205) 271-7841

State Fire Marshal 135 S. Union Street, Room 140 Montgomery, AL 36130 (205) 269-3575

#### Alaska

AK Dept. of Environmental Conservation P. O. Box O Juneau, AK 99811-1800 (907) 465-2110

State Fire Marshal 5700 E. Tudor Road Anchorage, AK 99507-1225 (907) 269-5604

#### Arizona

State Fire Marshal 1540 W. Van Buren Street Phoenix, AZ 85007 (602) 255-4964

Arkansas State Fire Marshal P. O. Box 5901 Little Rock, AR 72215 (501) 224-3103

# California

AST Program State Water Resources Control Board 2014 T Street Sacramento, CA 95814 Mailing Address: P. O. Box 944212 Sacramento, CA 94244 (916) 739-4318

State Fire Marshal 7171 Bowling Drive, Suite 600 Sacramento, CA 95823 (916) 427-4161

#### Colorado

Division Safety Department 700 Kipling Street, Suite 1200 Denver, CO 80215 (303) 239-4463

Chief Inspector, State Inspector of Oils Dept. of Labor and Employment Building 1 1001 E. 62nd Avenue Denver, CO 80216 (303) 289-5643 Connecticut Oil and Chemical Spills Division Dept. of Environmental Protection 165 Capitol Avenue Hartford, CT 06106 (203) 566-4633 Emergency contact: (203) 566-3338 566-3333

Bureau of State Fire Marshal 294 Colony Street Meriden, CT 06450 (203) 238-6623

Delaware State Fire Marshal RD2, Box 166-A Dover, DE 19901 (302) 739-4393

Division of Water Resources Dept. of Natural Resources & Env. Control P. O. Box 1401 89 Kings Highway Dover, DE 19903 (302) 739-5731

Hazardous Waste Management Branch Division of Air and Waste Management Dept. of Natural Resources & Env. Control P. O. Box 1401 89 Kings Highway Dover, DE 19903 (302) 739-3689

District of Columbia Fire Department 614 H Street, N.W. Washington, DC 20001 (202) 673-3250

Dept. of Consumer & Regulatory Affairs Environmental Control Div., Suite 203 2100 Martin Luther King Ave., SE Washington, DC 20020 (202) 4041-1167

Florida Administrator Storage Tank Regulation Section (904) 488-3935

Administrator Petroleum Cleanup Section (904) 487-3299

Administrator Petroleum Reimbursement Section (904) 487-3299



FL Dept. of Environmental Regulation Stationary Tank Regulation Subsection Twin Towers Office Building 2600 Blair Stone Road Tallahassee, FL 32399-2400

State Fire Marshal's Office Fire Prevention Bureau 200 E. Gaines Street Tallahassee, FL 32399-0300 (904) 922-3171

#### Georgia

State Fire Marshal 716 W. Tower, Floyd Building 2 Martin Luther King Jr. Drive Atlanta, GA 30334 (404) 656-2064

#### Hawaii

Administrative Officer Office of State Fire Council 1455 S. Beretania, 3rd Floor Honolulu, HI 96814 (808) 942-9167

#### Idaho

State Fire Marshal 500 S. 10th Street Boise, ID 83720 (208) 334-3808

## Illinois

Office of the State Fire Marshal Division of Petroleum & Chemical Safety 1035 Stevenson Drive Springfield, IL 62703-4259 (217) 785-1020

AST Regulation Office of the State Fire Marshal 1035 Stevenson Drive Springfield, IL 62703-4259 (217) 785-4143

IL Environmental Protection Agency Division of Land Pollution Control 2200 Churchill Road P. O. Box 19276 Springfield, IL 62794-9276 (217) 785-4728

Indiana State Fire Marshal 402 W. Washington St., C-241 Indianapolis, IN 46240 (317) 232-2111 .

Office of Environmental Response Dept. of Environmental Management 2321 Executive Drive Indianapolis, IN 46241 (317) 243-5110

#### lowa

State Fire Marshal's Office Wallace State Office Building Des Moines, IA 50319-0047 (515) 281-8622

IA Dept. of Natural Resources c/o Henry Wallace Building 900 E. Grand Des Moines, IA 50319 (515) 281-8693

#### Kansas

Storage Tank Section Bureau of Environmental Remediation KS Dept. of Health and Environment Forbes Field, Building 740 Topeka, KS 66620 (913) 296-1678

AST Regulation State Fire Marshal's Office 700 S.W. Jackson Street, Suite 600 Topeka, KS 66603-3714 (913) 296-3401

Kentucky State Fire Marshal's Office 1047 U.S. 127 S. Frankfort, KY 40601 (502) 564-3626

Louisiana State Fire Marshal's Office 5150 Florida Blvd. Baton Rouge, LA 70806 (504) 925-4911

#### Maine

Office of State Fire Marshall State House Station 52 317 State Street Augusta, ME 04333-0052 (207) 289-3473

Maryland

Head, Oil Control Section Hazardous & Solid Waste Management Admin. Department of Environment 2500 Broening Highway Baltimore, MD 21224 (410) 631-3324

State Fire Marshal's Office 106 Old Court Road, Suite 300 Pikesville, MD 21208 (301) 764-4324

#### Massachusetts

Division of Inspection Department of Public Safety One Ashburton Place, Room 1301 Boston, MA 02108 (617) 727-3200

State Fire Marshal Department of Public Safety 1010 Commonwealth Ave. Boston, MA 02215 (617) 566-4500

Michigan Commander, Hazardous Materials Section MI State Police Fire Marshall Division P. O. Box 30157 Lansing, MI 48909

Commander, Enforcement Unit Hazardous Materials Section MI State Police Fire Marshal Division P. O. Box 30157 Lansing, MI 48909

#### Minnesota

(517) 322-1935

MN Pollution Control Agency Hazardous Waste Division 510 Lafayette Road St. Paul, MN 55155 (612) 297-8618

State Fire Marshal Division 285 Bigelow Building 450 N. Syndicate Street St. Paul, MN 55104 (612) 643-3080

#### Mississippi

State Fire Marshal's Office P. O. Box 22542 Jackson, MS 39225-2542 (601) 359-1061

Office of Pollution Control Department of Environmental Quality P. O. Box 10385 Jackson, MS 39289-0385 (601) 961-5171

Missouri State Fire Marshal's Office P. O. Box 844 Jefferson City, MO 65102 (314) 751-2930 1050.15A Appendix 8

Montana Fire Prevention and Investigation Bureau Suite 371, Scott Hart Building 303 N. Robers Street Helena, MT 59620-1417 (406) 444-2050

Solid and Hazardous Waste Bureau Dept. of Health and Environmental Science Cogswell Building Helena, MT 59620 (406) 449-8717

Nebraska State Fire Marshal's Office 246 S. 14th Street Lincoln, NE 68508 (402) 471-2027

#### Nevada

State Fire Marshal Division Commerce Department Capitol Complex Carson City, NV 89710 (702) 687-4290

New Hampshire Office of the State Fire Marshal 10 Hazen Drive Concord, NH 03301 (603) 271-3294

New Jersey Bureau of Discharge Prevention Division of Environmental Quality Dept. of Environmental Protection & Energy 401 E. State Street, 2nd Foor Trenton, NJ 08625 (609) 633-0610

Assistant Director State Bureau of Fire Safety 101 S. Broad Street Trenton, NJ 08625-0809 (609) 633-6064

New Mexico State Fire Marshal's Office P. O. Drawer 1269 Santa Fe, NM 87504-1269 (505) 827-3721

New York Chief, Bulk Storage Section Dept. of Environmental Conservation 50 Wolf Road Albany, NY 12233-3520 (518) 457-4351 Bulk Storage Helpline: (800) 242-4351 (toll-free)



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1050.15A Appendix 8 State Fire Administrator Fire Prevention and Control Office 162 Washington Avenue Albany, NY 12231-0001 (518) 474-6746

## North Carolina

State Fire Marshal's Office Insurance Department P. O. Box 26387 Raleigh, NC 27611 (919) 733-5435 (919) 733-2142 (919) 733-7349

## North Dakota

State Fire Marshal's Office 1835 Bismarck Expressway Bismarck, ND 58504 (701) 221-5390

ND State Department of Health Division of Waste Management Box 5520 1200 Missouri Avenue Bismarck, ND 58502 (701) 221-5166

#### Ohio

State Fire Marshal's Office 8895 E. Main Street Reynoldsburg, OH 43068 (614) 752-8200

#### Oklahoma

State Fire Marshal's Office 4030 N. Lincoln Blvd., Suite 100 Oklahoma City, OK 73105 (405) 424-4371

#### Oregon

Uniform Fire Code Specialist State Fire Marshal's Office 3000 Markset St. Plaza, Suite 534 Salem, OR 97310 (503) 378-4917

Administrator, Environmental Cleanup Div. (503) 229-5254 (business hours) (503) 323-3997 (after hours)

Environmental Cleanup Division Dept. of Environmental Quality 811 S.W. Sixth Avenue Portland, OR 97204 (503) 229-5373 Pennsylvania Chief, Non-point Source & Storage Tank Section Dept. of Environmental Resources Bureau of Water Quality Management 3600 Vartan Way P. O. Box 8762 Harrisburg, PA 17105-8762 (717) 657-4080

Fire Marshal Division PA State Police 1800 Elmerton Ave. Harrisburg, PA 17110 (717) 783-5529

PA Emergency Management For release reporting: (717) 783-8150 (24-hour)

# Rhode Island

Oil Pollution Underground Tank Section Dept. of Environmental Management 291 Promenade Street Providence, RI 02908 (401) 277-2234

State Fire Marshal's Office 1270 Mineral Spring Ave. North Providence, RI 02904 (401) 277-2334

# South Carolina

Division of State Fire Marshal 1201 Main Street, Suite 810 Columbia, SC 29201 (803) 737-0660 (803) 737-0660

# South Dakota

Tank Program Office of Water Quality Dept. of Water & Natural Resources Joe Foss Building 523 E. Capitol Pierre, SD 57501 (605) 773-3296

State Fire Marshal's Office 118 W. Capitol Pierre, SD 575701 (605) 773-3562

#### Tennessee

State Fire Marshal's Office 500 James Robertson Parkway Nashville, TN 37243-0577 (615) 741-2981

#### Texas

Chief, Registration Petroleum Storage Tank Division Texas Waste Commission P. O. Box 13087 Austin, TX 78711-3087 (512) 371-6200

State Fire Marshal 7901 Cameron Road, Building 2 Austin, TX 78753 (512) 322-2550

Utah State Fire Marshal's Office 4501 S. 2700 West Salt Lake City, UT 84119 (801) 965-4353

#### Vermont

Commissioner, Dept. of Public Safety 103 S. Main Street State Complex Waterbury, VT 05671 (802) 244-8781

Fire Prevention Division Dept. of Labor and Industry 120 State Street Montpelier, VT 05620-3401 (802) 828-2106

Dept. of Environmental Conservation Natural Resources Agency 103 S. Main Street, West Building Waterbury, VT 05671-0404 (802) 244-8702

Virginia State Fire Marshal's Office State Office Building 205 N. 4th Street Richmond, VA 23219 (804) 786-4751

#### Washington

State Fire Marshal 1112 Quince Street, ET-12 Olympia, WA 98504 (206) 753-1296

West Virginia

State Fire Marshal's Office 2100 Washington St., E. Charleston, WV 25404 (304) 348-2191

Wisconsin Director, Bureau of Petroleum Inspection and Fire Protection Chief of Fire Prevention Chief of Petroleum Inspection Petroleum Environmental Cleanup Fund Act Coordinator Dept. of Industry, Labor & Human Relations P. O. Box 7969 Madison, WI 53707 (608) 267-1379

State Fire Prevention Office Dept. of Industry, Labor & Human Relations Safety and Building Division P. O. Box 7969 Madison, WI 53701 (608) 267-9795

Wyoming State Fire Marshal's Office Barrett Building, 4th Floor Cheyenne, WY 82002 (307) 777-7288



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# ADDITIONAL INFORMATION/REFERENCES

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# ADDITIONAL INFORMATION/REFERENCES

# **Installation**

API Publication 1615, "Installation of Underground Petroleum Storage Systems," Recommended Practice.

PEI RP-100-87, "Recommended Practices for Installation of Underground Liquid Storage Systems."

Tank Testing/Leak Detection

NFPA 329, "Recommended Practice for Handling Underground Leakage of Flammable and Combustible Liquids."

# Tank Filling Practices

API Publication 1621, "Recommended Practice for Bulk Liquid Stock Control at Retail Outlets".

NFPA 385, "Standards for Tank Vehicles for Flammable and Combustible Liquids."

# Corrosion Protection

API Publication 1631 "Recommended Practice for the Interior Lining of Existing Steel Underground Storage Tanks"

API Publication 1632, "Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems," Recommended Practice.

NACE RP-0169-83, "Recommended Practice: Control of Corrosion on Underground or Submerged Metallic Piping Systems."

NACE RP-0285-85, "Recommended Practice: Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems."

# Removal/Closure

API Bulletin 1604, "Removal and Disposal of Used Underground Petroleum Storage Tanks," Recommended Practice.

# Cleanup

API Bulletin 1628, "Underground Spill Cleanup Manual," Recommended Practice.

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# CERTIFICATION OF APPLICABILITY OF THE SUBSTANTIAL HARM CRITERIA FORM

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# CERTIFICATION OF THE APPLICABILITY OF THE SUBSTANTIAL HARM CRITERIA

Facility Name:

Facility Addresses:

1. Does the facility transfer oil over water to or from vessels and does the facility have a total oil storage capacity greater than or equal to 42,000 gallons?

Yes\_\_\_\_ No\_\_\_\_

2. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and does the facility lack secondary containment that is sufficiently large to contain the capacity of the largest aboveground oil storage tank plus sufficient freeboard to allow for precipitation within any aboveground oil storage tank area?

Yes\_\_\_\_ No\_\_\_\_

3. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance (as calculated using the appropriate formula in 40 CFR Part 112 Attachment C-III to this appendix or a comparable formula<sup>1</sup>) such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments? For further description of fish and wildlife and sensitive environments, see appendices I, II, and III to DOC/NOAA's "Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments" (see 40 CFR Part 112 Appendix E to this part, section 10, for availability) and the applicable Area Contingency Plan.

Yes\_\_\_\_\_No\_\_\_\_\_

4. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance (as calculated using the appropriate formula in 40 CFR Part 112 Attachment C-III to this appendix or a comparable formula<sup>1</sup>) such that a discharge from the facility would shut down a public drinking water intake<sup>2</sup>?

Yes\_\_\_\_ No\_\_\_\_

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5. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and has the facility experienced a reportable oil spill in an amount greater than or equal to 10,000 gallons within the last 5 years?

Yes\_\_\_\_ No\_\_\_\_

Certification

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true, accurate, and complete

Name (please type or print)

Title

<sup>1</sup>If a comparable formula is used documentation of the reliability and analytical soundness of the comparable formula must be attached to this form.

<sup>2</sup>For the purposes of 40 CFR Part 112, public drinking water intakes are analogous to public water systems as described at 40 CFR 143.2(c).

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