Underground Storage Tanks in New York After the 1998 Upgrade Deadline

by Barnett Lawrence

I. INTRODUCTION

December 22, 1998 is a date that underground storage tank (UST) owners and operators should know well. It was the deadline for compliance with UST regulations issued by the U.S. Environmental Protection Agency (EPA) in 1988. Those regulations required all sub-standard UST systems installed before December 22, 1988 that were not already protected against corrosion, spills, and overfills to be upgraded, replaced, or properly closed.

Although UST owners and operators have had 10 years to comply, a significant number of USTs are not in compliance. The reasons for noncompliance include lack of financial resources, poor planning, and the unavailability of equipment and contractor assistance. Whatever the reasons, these owners and operators are faced with enforcement action by EPA and the states. In New York, EPA Region II has the primary enforcement role. EPA has announced that it will not extend the deadline, but will focus its enforcement efforts during the first six months after the deadline on larger facilities.

This article summarizes the 1998 upgrade requirements and EPA's enforcement policy for facilities in violation. It also discusses the options for facilities with USTs that are still out of compliance.

II. UNDERGROUND TANKS IN NEW YORK

There are about 892,000 USTs in the United States, including over 52,000 in New York State and over 9,000 in New York City. According to a survey by trade groups, only 22 percent of the tanks in New York State were in full compliance with the upgrade requirements as of November 1998, although 61 percent were in substantial compliance.


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Tanks that have not been upgraded have a greater chance of leaking and contaminating groundwater. During the last decade, over 333,000 releases from sub-standard tanks have been reported in the United States. One gallon of gasoline can contaminate large quantities of groundwater. UST leaks can also cause fires and explosions and release gasoline vapors into schools, homes, and other buildings.

New York does not have an EPA-approved UST program. This means that both state and federal UST regulations apply in New York. Inspectors from the New York State Department of Environmental Conservation (DEC) conduct inspections along with EPA Region II inspectors. If DEC inspectors discover violations of federal rules, they refer the case to EPA for enforcement action. DEC will not pursue its own enforcement actions against entities that have violated the 1998 deadline. DEC has delegated authority to five counties to conduct inspections: Suffolk, Nassau, Cortland, Rockland, and Westchester.

**III. SUMMARY OF 1998 UPGRADE REQUIREMENTS**

EPA’s UST regulations apply to tanks whose volume is 10 percent or more below ground and contain petroleum, petroleum products, or hazardous substances. Exemptions include farm or residential tanks with a capacity of 1,100 gallons or less used for storing motor fuel for noncommercial purposes, tanks used for storing heating oil for consumptive use on the premises where stored (regardless of the tank size), UST systems with a capacity of 110 gallons or less, UST systems holding hazardous wastes, and UST systems that contain de minimis concentrations of regulated substances.

The regulations include requirements for:

- design, construction, installation, and notification;
- general operating requirements;
- release detection;
- release reporting, investigation, and confirmation;
- release response and corrective action; closure and out-of-service USTs; and
- financial responsibility.

EPA included a special provision in the regulations for the upgrading of existing tanks. EPA recognized that immediate application of the regulations to owner/operators of existing tanks would not be practical. EPA therefore required tank owner/operators to take one of the following actions for USTs installed on or before December 22, 1988:

- upgrade the existing UST: add spill, overfill, and corrosion protection by December 22, 1998;
- close the existing UST by December 22, 1998; or
- replace the closed UST with a new UST.

EPA and DEC have issued a document that summarizes the various options and provides estimated costs for equipment and labor.

**A. Upgrading**

1. **Spill Protection**

Spills at USTs often occur at the fill pipe when the delivery truck’s hose is disconnected. To avoid the human error that causes most spills, owner/operators must follow standard tank filling practices. Owner/operators must make sure there is room in the UST for the delivery and the delivery driver must watch the delivery at all times.

Existing tanks should have been upgraded by December 22, 1998 to have catchment basins to contain spills. Catchment basins (also called spill containment manholes or spill buckets) are buckets sealed around the fill pipe. The basin should be large enough to contain what may spill when the delivery hose is uncoupled from the fill pipe.

2. **Overfill Protection**

Overfills usually cause much larger releases than spills. When a tank is overfilled, large volumes can be released at the fill pipe and through loose fittings on the top of the tank or a loose vent pipe. Overfill problems can be avoided by making sure there is enough room in the tank for the delivery before delivery is made, watching the entire delivery to prevent overfilling, and using equipment that protects against overfills.

Existing tanks should have been upgraded by December 22, 1998 to have overfill protection devices.
of overfill protection are (1) automatic shutoff devices, (2) overfill alarms, and (3) ball float valves. An automatic shutoff device (also called a fill pipe device) can slow down and then stop delivery when the product reaches a certain level in the tank. Overfill alarms use probes installed in the tank to activate an alarm when the tank is either 90 percent full or within one minute of being overfilled. The alarms must be located where the delivery driver can easily see or hear them. Ball float valves are placed at the bottom of the vent line several inches below the top of the UST. The ball floats on the product and rises with product level during delivery until it restricts vapor flowing out the vent line, before the tank is full. If all tank fittings are tight, the ball float valve can create enough back pressure to restrict product flow into the tank, which can notify the driver to close the truck’s shutoff valve.

3. Corrosion Protection

While unprotected steel USTs can corrode and release product through corrosion holes, existing steel tanks that have a corrosion-resistant coating and cathodic protection (such as sti-P3 tanks) will be found to already have met the corrosion protection requirements. Additionally, existing USTs made of noncorrodible materials (such as fiberglass), or with exteriors that were heavily coated with noncorrodible material (such as ACT-100 tanks), will also be found to have met the corrosion protection requirements.

If the tank was not a type that was already protected from corrosion, the owner/operator was required to use one of the following methods by December 22, 1998 to add corrosion protection to existing steel tanks:

- Add cathodic protection. One type, commonly used with new steel tanks having corrosion-resistant coatings, is galvanic (sacrificial) anodes. A second type of cathodic protection, that corrosion experts recommend for existing bare metal tanks, is called an impressed current system. This system supplies a continuous underground electrical current that protects the UST from corrosion. Both types of cathodic protection must be designed by corrosion experts.

- Add tank interior lining. The interior of a tank can be lined with a thick layer of noncorrodible material. Tanks using only an interior lining for corrosion protection must pass an internal reinspection after ten years and every five years thereafter.

- Combine cathodic protection and interior lining. Combining these methods provides the UST with more cathodic protection, and the owner/operator is not required to have the interior lining periodically inspected. However, the cathodic protection system must be periodically tested and inspected.

4. Piping

Existing steel piping must also have been protected from corrosion with cathodic protection. Piping entirely made of (or enclosed in) noncorrodible material, such as fiberglass, does not need cathodic protection.

B. Closing or Replacing Tanks

Owner/operators who did not upgrade their USTs were required to properly close the tanks, either temporarily or permanently. After tanks were closed, owner/operators could replace them by installing new USTs.

When permanently closing or replacing a UST, owner/operators must notify EPA at least 30 days before taking the UST out of service for closure or replacement. Owner/operators also must determine if there were any releases from the UST. They may use results of monthly vapor or groundwater monitoring to show that the site was not contaminated. Otherwise, a site assessment is required. If contamination was found, the owner/operator is required to take corrective action.

Before permanent closure, owner/operators must conduct a site assessment “where contamination is most likely to be present at the UST site.” EPA’s regulations state that “[i]n selecting sample types, sample locations, and measurement methods [to perform the site assessment], owners and operators must consider the method of closure, the nature of the stored substance, the type of backfill, the depth to ground water, and other factors appropriate for identifying the presence of a release.” EPA and DEC have issued guidance on how to conduct site assessments.

Tanks must be emptied of liquids, dangerous vapor levels, and accumulated sludge by trained personnel. Tanks that are properly emptied may then be removed. Tanks left in the ground must be filled with a harmless and chemically inactive solid.

DEC has its own rules for the permanent closure of tanks under its petroleum bulk storage program. Tanks that have been temporarily out of service for 30 or more days must be closed by removing all product from the tank and piping system to the lowest draw-off point, locking all manways, and capping fill lines, gauge openings, or pump lines. For tanks that are permanently out of service, liquid and sludge must be removed from the tank and connecting lines, the tank must be rendered vapor free, all connecting lines must be disconnected and removed or securely capped or plugged, and the tank must either be filled with a solid inert material or removed. Owner/operators of tanks of facilities that will be permanently closed must notify DEC within 30 days prior to closure on forms provided by DEC. DEC may require forms of surety or financial assurances to ensure proper closure.

C. EPA Checklist

According to an EPA “Quick Compliance Checklist,” an owner/operator should be in compliance with the UST upgrade requirements if it can check off the items below for each existing UST system:

- Spill protection provided by a catchment basin.

- Overfill protection provided by an automatic shutoff device, overfill alarm, or ball float valve.
Corrosion protection for the tank provided by one of the following:
- Steel tank has corrosion-resistant coating AND cathodic protection.
- Tank made of noncorrodible material (such as fiberglass).
- Steel tank clad with (or enclosed in) noncorrodible material.
- Uncoated steel tank has cathodic protection system.
- Uncoated steel tank has interior lined with noncorrodible material.
- Uncoated steel tank has cathodic protection AND interior lined with noncorrodible material.
- Corrosion protection for piping provided by one of the following:
  - Uncoated steel piping has cathodic protection.
  - Steel piping has a corrosion-resistant coating AND cathodic protection.
  - Piping made of (or enclosed in) noncorrodible material.
- If you have decided not to upgrade your existing UST system with the items above, you have properly closed the UST system. If you subsequently install a new UST system, the new installation meets all the regulatory requirements for installation after December 22, 1998.

D. Impacts on Small Businesses

While stations owned by the large petroleum corporations are almost all in compliance with the upgrade requirements, many small, independent stations have struggled to comply. EPA estimates that upgrading steel tanks can cost up to $35,000 at a typical three-tank service station, while replacing the tanks with new fiberglass tanks costs an average of $85,000. Some industry officials estimate the cost of replacing three tanks at up to $150,000. According to the New York chapter of the Gas and Automotive Service Dealers Association, nearly a quarter of the gas stations in New York City could close as a result of the new requirements.

The UST rules have also helped reshape vehicle fleet operations. Many fleet managers have decided to eliminate their tanks and find alternative ways of fueling their vehicles.

IV. EPA Enforcement Policy

EPA will allow most states to take the lead in enforcing UST regulations and will concentrate its enforcement efforts in states with weak enforcement programs. EPA will have primary enforcement responsibility in New York, Idaho, Hawaii, and Indian lands. In Region II, EPA will focus its enforcement resources on New York, since New Jersey has a strong state enforcement program. DEC inspectors will assist EPA personnel in conducting inspections in New York, but will refer any violations of the federal rules to EPA for enforcement action.

In general, EPA can enforce the federal requirements in states without EPA approval to operate their own UST programs in lieu of the federal program. In approved states, EPA can enforce state regulations that were included in the state approval process, even if they are more stringent than the corresponding federal regulations. However, EPA cannot enforce state regulations that are broader than the federal rules, such as rules applicable to UST systems not covered by the federal regulations (e.g., heating oil tanks for direct consumptive use).

Of course, EPA will continue its efforts to enforce the entire range of UST regulations, not just the upgrade requirements. For example, in December 1998, the U.S. Justice Department, on behalf of EPA, filed a lawsuit against the owner of 240 USTs at 32 gasoline stations in New York City. The complaint charged the owner with failing to test tanks for leaks, failing to properly test soil after some tanks were closed, and failing to keep accurate records.

A. Penalties for Noncompliance

Owner/operators are subject to civil penalties of up to $11,000 per day for each violation. EPA calculates penalties using its UST penalty policy. If an inspection shows that a tank has leaked or is leaking, EPA can use its authority under the Resource Conservation and Recovery Act (RCRA) to issue administrative orders to require cleanup. EPA can also go to court to seek injunctive relief. Facilities that violate EPA orders are subject to civil penalties of up to $25,000 per day.

B. August 1998 Strategy

In August 1998, EPA issued its enforcement strategy for the 1998 deadline. EPA emphasized that it would not extend the December 22, 1998 deadline, and noted that UST owners/operators have had 10 years to comply with the requirements. EPA stated that it would concentrate its enforcement actions in states with less active UST enforcement programs. In deciding when and where to conduct inspections, EPA will consider UST compliance levels and the levels of states’ compliance and enforcement presence.

The August 1998 strategy stated that owner/operators who miss the 1998 deadline must bring sub-standard UST systems into compliance by upgrading, replacing, or closing them. If EPA finds them in violation, they will be subject to monetary penalties. EPA noted that it will not allow sub-standard UST systems to operate after December 22, 1998. Sub-standard systems should be temporarily closed until they are upgraded, replaced, or permanently closed. EPA may also refer the matter to the state agency where a state has the authority to shut down a UST facility without initiating administrative or judicial proceedings.

EPA will use judicial enforcement in situations involving recalcitrant parties. EPA may also use field citations for a limited...
period of time after the deadline. If the inspection shows that a release has occurred or is occurring, EPA will require owner/operators to take immediate action to prevent further release and to respond to the release. EPA will use its authority under RCRA to issue administrative orders to require cleanup, or initiate judicial action to seek injunctive relief. RCRA also authorizes EPA to use "information request letters" to gather information from UST owner/operators.

EPA also addressed the issue of temporary closure and upgrading after the 1998 deadline. UST owner/operators can comply with the federal regulations by properly closing (either permanently or temporarily) their sub-standard USTs. When a tank is temporarily closed, the owner/operator can upgrade, replace, or permanently close it. If the period of temporary closure extends past December 22, 1998, the UST must be upgraded or replaced before it can be legally operated. Sub-standard USTs can remain in temporary closure for a maximum of 12 months unless the owner/operator completes a site assessment and obtains an extension from the UST implementing agency. States and EPA are not required to grant these extensions. According to EPA, sub-standard USTs that have not been granted an extension should not remain in temporary closure beyond December 22, 1999, even if the USTs were placed into temporary closure after December 22, 1998.

EPA noted that it may apply its other settlement and enforcement policies in UST cases, especially to small businesses. These policies include:

- Interim Policy on Compliance Incentives for Small Businesses.  
- Policy of Flexible State Enforcement Responses to Small Community Violations.  
- Supplemental Environmental Projects Policy.  
- "Ability to Pay" guidance documents.

C. December 1998 Strategy

On December 9, 1998, EPA issued a guidance document to clarify its August 10, 1998 memorandum. EPA noted that a significant number of USTs would not be in compliance by the December 22, 1998 deadline. To address the problem, EPA announced a revised enforcement strategy under which it will provide additional compliance assistance and set inspection priorities. Under its revised strategy, EPA will initially target larger facilities, but not smaller facilities or USTs owned by state and local governments.

During the first six months after the deadline, EPA will focus its inspection resources on the following facilities:

- federal facilities;
- owners and operators of multiple UST facilities;
- owners and operators of large facilities with multiple USTs; and
- facilities that are endangering sensitive ecosystems or drinking water sources by failing to upgrade, replace, or close USTs.

During the first six months after the deadline, EPA will not focus its inspection resources on the following facilities:

- small UST facilities (generally four or fewer tanks) owned and operated by one person who does not own or operate other regulated UST facilities; and
- USTs owned or operated by local governments and states, including public service entities such as school districts, fire departments, and police departments.

EPA UST enforcement policy encourages owner/operators who are not in compliance to disclose their violations in accordance with EPA’s “Incentives for Self-Policing” policy (also called the Audit Policy). Under the Audit Policy, owner/operators may be entitled to a reduction in the "gravity" component of a civil penalty of 75 to 100 percent. To qualify for the penalty reduction, owner/operators must voluntarily discover, promptly disclose, and quickly correct violations. Owner/operators of New York facilities who choose to invoke the Audit Policy should send their disclosures to EPA Region 2.

Small businesses may be entitled to some penalty relief under another EPA policy. That policy allows qualifying parties a waiver of most penalties for prompt disclosure and correction. EPA noted that small businesses that identify violations and agree to upgrade, replace, or close USTs “can expect to pay a minimal civil penalty in the first few months of 1999.”

EPA will also continue its efforts to help small businesses identify financing sources for UST work. The federal government has several programs that may provide assistance to UST owners, including programs run by the Small Business Administration, Rural Development Administration, Economic Development Administration, and Administration for Native Americans.

D. Administrative Consent Orders

In certain cases, EPA may enter into administrative consent orders with owner/operators of non-complying USTs to allow continued use of the USTs. These orders would include an enforceable compliance schedule requiring full compliance with UST regulations in a short time frame and would require payment of a civil penalty. EPA would reduce the penalty under provisions of the UST penalty policy for parties that notify EPA of non-compliance. Owner/operators who disclose violations could also be entitled to an additional penalty reduction under EPA’s Audit Policy.

Before EPA will consider entering into this type of consent order, owner/operators must submit the following information:

- The specific cause, justification, unique circumstance, or compelling public interest that requires the owner/operator to continue use of sub-standard USTs past the December 22, 1998 deadline.
- A copy of the facility’s DEC Petroleum Bulk Storage
PMAA says they could face liability for supplying fuel to owners could claim that they are in compliance and argue that are under contract to supply fuel to their customers, but the marketer cannot legally terminate service. PMAA disagreed with EPA's policy to soften its hard-line enforcement policy. The Petroleum Marketers Association of America (SIGMA) expressed outrage at the change in EPA's enforcement policy. SIGMA charged that EPA's policy allows some UST owner/operators to escape penalties while Subjecting those that met the deadline to the full weight of enforcement, even for minor installation errors.

Seven petroleum and tank industry groups have formed a coalition to promote compliance with the upgrade requirements. The group, called Coalition for UST Compliance, will work with EPA and the states to encourage strict enforcement of the upgrade requirements. The group will also conduct outreach and education initiatives, including an aggressive educational campaign for gasoline distributors.

V. NEW YORK UST REGULATIONS

A. Petroleum Storage Tanks

EPA's UST rules are generally stricter than New York State's regulation. However, owner/operators should be aware of the state rules applicable to underground storage tanks.

New York's petroleum bulk storage rules apply to underground and aboveground storage tanks. By definition, a petroleum bulk storage facility stores over 1,100 gallons of petroleum products. New York State has about 43,000 petroleum bulk storage facilities.

A key provision of the state regulations requires petroleum bulk storage facilities to register with DEC. Facility owners, even owners of out-of-service facilities, must register with DEC every five years until the facility is properly and permanently closed. The registration fee ranges from $50 to $250, depending on the size of the facility.

In March 1998, DEC initiated an enforcement program aimed at owners of petroleum bulk storage facilities. The program was designed to eliminate a decade-old backlog of violations. DEC contacted about 6,000 owners of petroleum bulk storage facilities that it suspected were out of compliance with state rules and gave them 60 days to show that their facilities were registered and their storage facilities were tightness tested.

From March to December 1998, 3,277 of these facilities were brought into compliance by having their tanks registered or tightness tested, or both. Other facilities removed or closed their tanks. DEC sent notices of violation (NOVs) to the facilities that remained out of compliance. The NOVs stated that DEC would not seek a penalty if the facility owner fixed the violations within 60 days. Facilities still out of compliance after 60 days will be sent a proposed consent order that includes penalties of $1,000 per tank for either failure to register or failure to tightness test. The tank owner would also be required to pay any registration fees past due from 1990 to 1998. If a facility fails to sign and return the consent order with 30 days, DEC will schedule an administrative hearing at which it will seek maximum penalties, payment of regulatory fees, and an aggressive compliance schedule.
B. Other State Programs

In addition to its petroleum bulk storage regulations, several other DEC programs apply to underground storage tanks. The New York State Oil Spill Prevention, Control and Compensation Act of 1977 applies to major petroleum bulk storage facilities, including storage or transfer terminals, pipelines, deep water ports, and drilling platforms, unless their total combined storage capacity is less than 400,000 gallons. These facilities must obtain a permit from DEC and prepare and file a Spill Prevention Control and Countermeasure Plan.

Another set of DEC rules applies to USTs and aboveground tanks that contain hazardous substances. This program applies to hazardous substance USTs of any size and aboveground tanks with at least 185 gallons capacity. Exemptions include process tanks; non-stationary tanks, barrels, and drums used to store under 1,000 kilograms (2200 pounds) if the contents are kept for less than 90 consecutive days; septic tanks, storm water, or wastewater collection systems; capacitors or transformers; and certain other types of tanks subject to separate regulatory requirements. The regulations include release reporting rules, registration requirements, and standards for handling and storage of hazardous substances.

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1 Over 1.2 million substandard USTs in service in 1988 have been taken out of operation. Memorandum to EPA Regional Administrators, EPA’s Inspection and Compliance Assistance Priorities for Underground Storage Tank Systems Not Meeting the 1998 Deadline (Dec. 9, 1998).


3 The contact person for the DEC program is Paul Sausville, Chief, Bulk Storage Section. Telephone: (518) 457-7363.


5 The exemptions are specified in 40 C.F.R. 280.10 and 280.12 (definition of underground storage tank).

6 40 C.F.R. § 280.21. Both new and existing tanks have been required to comply with the leak detection requirements of EPA’s regulations since 1993.


9 USTs that never receive more than 25 gallons at a time, such as small used oil tanks, do not have to meet the overfill protection requirements. 40 C.F.R. §§ 280.21(d), 280.20(c). See also EPA, Don’t Wait Until 1998: Spill, Overfill, and Corrosion Protection for Underground Storage Tanks (Apr. 1994); EPA, Musts for USTs: A Summary of the Regulations for Underground Storage Tank Systems.


11 40 C.F.R. § 280.21(c).

12 40 C.F.R. §§ 280.21(a), 280.70 to 280.74.

13 40 C.F.R. § 280.72(a).

14 40 C.F.R. § 280.72(a).


16 6 N.Y.C.R.R. § 613.9. See also DEC, Closure of Below Ground Petroleum Storage Tanks in Compliance with N.Y. City, State, and Federal Requirements.


21 The UST contact person at EPA Region 2 is John Kushwara, Chief of the Groundwater Compliance Section. Telephone: (212) 637-6232.


23 42 U.S.C. § 6991et al.

24 RCRA §§ 7003, 9003(h), or 9006.


32 Although the “gravity” component of the civil penalty would be reduced, EPA would generally still seek to recover the “economic benefit” component of the penalty.

33 The EPA Audit Policy contact for Region 2 is John Wilk at (212) 637-3918 or (212) 637-4035.


35 For more information, see EPA, Financing UST Work: Federal and State Assistance Programs.


42 Information on the state regulations is also available from the DEC Bulk Storage Helpline at (518) 457-4351. For a summary of the state regulations that govern underground and aboveground facilities, see Stephen L. Kass & Michael B. Gerrard, Storage Tanks: Multiple Regulations Govern Underground, Aboveground Facilities, Envtl. L. in New York (July 1990).

43 6 N.Y.C.R.R. pts. 612 (registration), 613 (handling and storage), and 614 (standards for new and substantially modified facilities).

44 6 N.Y.C.R.R. § 613.1(b). Large petroleum bulk storage facilities, such as refineries and storage or transfer terminals, are subject to additional regulation. See 6 N.Y.C.R.R. pt. 610.

45 6 N.Y.C.R.R. § 612.2.


48 6 N.Y.C.R.R. pts. 595 to 599.