Abandoning Commercial Underground Tanks

Russ Brauksieck

Home inspectors in states where oil-fired heating equipment is used may often find indications that an old tank has been "abandoned" at the property—either because of a switch to an alternative fuel or because an old leaking tank was supplanted by a new one. Safety and environmental concerns mean that an improperly abandoned tank may become a significant future cost to the homeowner. This article is reprinted from the first half of a DEC article printed in the NYSBOC Building Log newsletter in 1992. While most of the present tank regulations exclude residential heating tanks, inspectors should watch for changes: increasing public concern is leading to increased regulation of residential tanks.[1]

How to properly close an underground petroleum storage tank in-place requires the use of good engineering practices, including consideration of the future condition of the tank. Due to the corrosive properties of the soil environment, any steel tank left in the ground will eventually corrode and collapse.

Underground Tank Regulations

Many localities across the country are allowing underground petroleum tanks to be filled with water if the tank is to be closed in-place. This is not a good engineering practice because the water will accelerate the ultimate corrosion of the tank. Subsequently, the water, now contaminated by the residues in the tank, will escape to the soil and eventually contaminate the ground water.

In addition, the tank, now empty, is likely to cave-in along with the ground around it. The need to require that good engineering practices be used in underground storage tanks has prompted the development of much legislation across the country. [2]

Avoiding Cave-Ins

In order to avoid cave-ins, all of these regulations require that tanks either be removed or filled in-place with a solid, inert material, using good engineering practices. Such fill material is also required to prevent the tank from surfacing after closure, should the ground water table rise, and to completely seal the tank and associated piping from future use as a tank system. Acceptable solid, inert materials for closing a tank include sand, concrete slurry, and even some foams. When the tank eventually corrodes and collapses, this solid material inside the tank will keep the ground from caving in.

Removing old fuel

The UFPBC also requires that underground petroleum tanks to be closed in-place shall be made safe by removing flammable or combustible liquids from the tank and connecting lines; disconnecting the suction inlet, gauge and vent lines; and capping the remaining piping. All storage tanks removed from their location must also have flammable or combustible liquids removed, have the same lines disconnected; have sections of connecting lines not to be used further removed; and have inlets, outlets, and any leaks capped or plugged. The basic procedures for meeting these requirements are defined in the State and federal regulatory programs.

In addition to requiring the same basic procedures as the State regulations, the federal UST regulations require that a site assessment be performed by the owner/operator when a

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1 Long Island, NY requires that residential heating oil tanks be registered with the State Department of Environmental Conservation.

2 Regulations for proper closure of underground petroleum storage tanks in New York State *[and almost certainly in other oil-using states as well]* have been promulgated by the NYS Uniform Fire Prevention and Building Code (UFPBC), the Federal EPA, and the NYS Department of Environmental Conservation (DEC) 1164.5 of the UFPBC, in section 40 CFR part 280.7 of the federal Underground Storage Tank (UST) regulations, and in subdivision 6 NYCRR Part 613.9 (b) of the DEC's Petroleum Bulk Storage (PBS) regulations. Other states using significant amounts of oil for residential heating may have similar regulations.

tank is closed. (Heating oil tanks, and farm and residential tanks storing less than 1,100 gallons of motor fuel are exempt from these regulations.)

For a detailed description of the steps required for proper tank abandonment or for more information on site assessments and permanent tank closure, contact your state department of environmental conservation. In New York inspectors can contact the author or the Bulk-Storage help-line 800-242-3451.

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