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BULLETIN NO.

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BULLETIN

Date: **September 1995**
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Subject: **Removal/Abandonment Requirements for Residential Heating Oil Tanks (no limit) and Commercial Heating Oil Tanks (under 2,001 gallons)**

Reference: N.J.A.C. 5:23-3.4, 3.20 and 3.21 - Responsibilities, Mechanical Subcode and One- and Two-family Dwelling Subcode

This bulletin addresses abandonment or removal of certain heating oil tanks including who is responsible for inspection, and how tanks are to be abandoned or removed.

Tanks Categorized as "Unregulated" by NJDEP:
* Residential Heating Oil Tanks (no limit); and
* Commercial Heating Oil Tanks (under 2001 gallons).

For underground tanks: Only the Department of Environmental Protection (NJ DEP) certified individuals and firms can perform services on unregulated heating oil tanks. N.J.A.C. 7:14B defines unregulated heating oil tanks as, "any one or combination of tanks, including appurtenant pipes, lines, fixtures, and other related equipment, used to contain an accumulation of heating oil for on-site consumption in a residential building, or those tanks with a capacity of 2,000 gallons or less used to store heating oil for on-site consumption in a nonresidential building."

For the purposes of applying the DEP rules, an underground storage tank is defined as a tank the volume of which, including the volume of the appurtenant pipes, lines, fixtures and other related equipment, is 10 percent or more below the ground. There are separate certifications required for tank installation, tank closure and sub-surface evaluation (needed to oversee remediation).

The NJ DEP strongly recommends the removal of all out-of-service underground heating oil tanks even when there is no evidence the tank has leaked. Although tank abandonment is allowed, there has been an increase in previously abandoned tanks being removed. These tank removals are driven by insurance and mortgage companies that do not want the liability that these underground heating oil tanks may pose whether they were properly abandoned or not.

WHEN

The Uniform Construction Code (UCC) is not a retrofit code, and therefore, it does not deal with tanks that have been abandoned for extended periods of time. The UCC applies when a tank is taken out of service within the scope of work of a construction project or when the tank has become unsafe. If a project results in an underground tank being out of service for a period of one year, as per Section 5704.2.13.1.3 of the International Fire Code (IFC), the tank must be removed from the ground in accordance with Section 5704.2.14 of the IFC or abandoned in place in accordance with Section 5704.2.13.1.4 of the IFC. If an aboveground tank is out of service for a period of one year, as per Section 5704.13.2.3 of the IFC, the tank shall be removed in accordance with Section 5704.2.14 of the code.

An example of a circumstance involving the removal or abandonment of an underground storage tank where construction activity is taking place is a conversion from fuel oil to natural or LP gas. In this case, code officials must ensure that the tank is properly removed or abandoned in connection with the conversion. The only exception to this would be where the owner can demonstrate a legitimate continued use of the tank.

The removal or abandonment of a tank requires an application for and the issuance of a demolition permit regardless of whether it is in connection with other related work. The permit should contain specific details on how the tank is to be removed or abandoned in place. Prior to the issuance of the Certificate of Approval for the tank removal or abandonment, the property owner or contractor must provide a sketch showing the location of the removed or abandoned tank. A properly filed permit for the installation of an aboveground replacement tank should not be withheld pending the filing of a separate demolition permit for the removal or abandonment of an underground tank which is not part of the contract for the installation of the new tank.

WHO ENFORCES

Removal and abandonment procedures for underground storage tanks are contained in the IFC, Section 5704.2.13, fuel oil storage systems, as referenced by the International Mechanical Code (Section 1301.5) and the International Residential Code (Section M2201.7). Per N.J.A.C. 5:23-3.4, plan review and inspection are the responsibility of the fire subcode official.

HOW TO ABANDON

There are provisions in the International Fire Code, Section 5704.2.13.1.4, the American Petroleum Institute (API) Bulletin 1604, and National Fire Protection Association (NFPA) 30 Annex C relating to the abandonment of underground storage tanks. These documents, in accordance with N.J.A.C. 5:23-3.6, are accepted engineering practice.

Either removal or abandonment is acceptable and the procedures listed below are typical of accepted methods. For all of the methods listed, inspectors must ensure that fill and vent pipes for aboveground (particularly tanks in basements) or underground tanks are removed when the tank is removed or abandoned. Several accidents have occurred where fuel oil deliveries have been made where a fill pipe was left in place after the tank was removed. For example, fuel oil has been pumped into a basement or the ground, resulting in expensive clean-ups.

The following are examples of some of the acceptable methods of tank removal/ abandonment:

Example A – Aboveground Tank Removal – Cleaned On-Site

1. Remove oil from tank.
2. Cut hole in tank of adequate size to permit cleaning.
3. Squeegee tank.
4. Remove all sludge.
5. Wipe inside of tank clean.
6. Remove tank (and fill pipes and vent pipes, if separate) and dispose at proper facility (Most scrap metal yards will accept cleaned storage tanks).
7. Inspect site where tank was removed for any oil spillage. Any oil spillage should be cleaned and disposed of properly.

Example B – Aboveground Tank Removal – Cut and Cleaned Off-Site

1. Remove oil from tank.
2. Remove tank from building.
3. Inspect site where tank was removed for any oil spillage. Any oil spillage should be cleaned and disposed of properly.

Example C – Underground Tank Removal

1. Remove oil from tank and piping.
2. Excavate to the top of the tank. It is recommended that asphalt, concrete and piping be removed and separated from the excavated backfill and soil to minimize the amount of material that may need special handling.
3. Cut hole in tank of adequate size to permit cleaning.
4. Squeegee tank.
5. Remove all sludge.
6. Wipe inside of tank clean.
7. Excavate around the tank to uncover it for removal.
8. Remove tank (and fill and vent pipes if separate).
9. Check tank for visible leaks and determine if there is contaminated soil.
10. Backfill hole.
11. Dispose of tank at proper facility (Most scrap metal yards will accept cleaned storage tanks).

Example D – Underground Tank – Fill with Pumped-in Foam (polyurethane based, not formaldehyde based foam) or Cement Slurry

1. Remove oil from tank.
2. Pour in oil absorbent material such as "Quick-Dry" through oil fill hole *or* rinse and agitate sludge using a small amount of water produced at high pressure.
3. Vacuum absorbent materials, residual liquids and all sludge. Repeat if necessary.
4. Pump in foam or cement slurry through oil fill hole and fill tank completely.
5. Remove fill pipe and vent pipe.

Please note the above method may not be appropriate in areas with high groundwater. Tanks could become buoyant.

Example E – Underground Tank – Fill with Plastic Gravel or Pea Gravel

1. Remove oil from tank.
2. Excavate to the top of tank.
3. Cut hole in tank of adequate size to permit cleaning.
4. Squeegee tank.
5. Remove all sludge.
6. Wipe inside of tank.
7. Fill tank with plastic gravel or pea gravel.
8. Replace tank cover and seal openings.
9. Remove fill pipe and vent pipe and seal openings.
10. Backfill hole.

Please note that the above method may not be appropriate in areas with high ground water. Tanks could become buoyant.

Example F – Underground Tank – Fill with Sand or Other Inert Material

1. Remove oil from tank.
2. Excavate to the top of tank.
3. Cut hole in tank of adequate size to permit cleaning.
4. Squeegee tank.
5. Remove all sludge.
6. Wipe inside of tank.
7. Fill tank with sand or other inert material.
    a. Any kind of sand, or inert material, is suitable if it is free of rocks. The material may be introduced dry as long as it flows in freely. When the material cone nears the top of the tank, the material can be washed into the tank with a nominal amount of water and puddled to cause it to flow to the ends. The use of larger amounts of water should be avoided since the tank might be filled with water before it is filled with inert material.

b. Filling of the tank can be achieved by using a combination of inert sand and earth as follows: Fill the tank with sand to approximately 80 percent of calculated capacity. The remaining 20 percent should be a mixture of soil and water to make a free-flowing mud and pour the mixture into the tank opening; puddle the mixture until the tank is full and overflows the fill opening.

8. Replace tank cover or dispose of at a scrap metal facility.
9. Remove fill pipe and vent pipe and seal openings.
10. Backfill hole.

The contractor should manage all oily tank wastes in full accordance with the State solid waste and/or recycling regulations for the generation, handling, storage, transfer, transportation, disposal, and recycling of wastes at all times. New Jersey's regulations for solid waste management are at N.J.A.C. 7:26, Solid Waste, and the regulations for recycling are at N.J.A.C. 7:26A, Recycling Rules. The tank sludge, rags, etc., should be disposed of at a permitted solid waste facility authorized by the State to accept such oily sludge and wastes. Oil, oily water, etc., should be either recycled, preferably at a permitted recycling facility, such as a Class D Recycling Center for Used Oil in New Jersey, or is disposed of at, and with the full knowledge of, a permitted and licensed facility, such as a municipal wastewater treatment plant or other suitable facility.

When contamination is found, it should be reported to the DEP hotline 1-877-927-6337 (1-877-WARNDEP). Once the tank has been removed and properly disposed of, and the excavation is filled with certified clean material, a certificate of approval can be issued by the local construction office and the permit can be closed out. Any remediation activity, including the removal of contaminated soil, will then proceed through the Department of Environmental Protection's Unregulated Heating Oil Tank (UHOT) Program. Information on the UHOT program can be found online at http://nj.gov/dep/srp/unregulatedtanks/.