



Program Letter

Bureau of Petroleum Products and Tanks
Revised July 2005

Waste Oil Collection / Storage

Used oil typically means used motor engine oil. However, hydraulic oils and industrial lubricating oils are also regulated as waste oil by the COMM 10 code. Used oil as such, does not include used cooking oils. A "used oil generator" is a business that is responsible for the initial generation or collection of used oil. A service station changing customer vehicle engine oil, a firm which has a mechanic change oil in the company's vehicles, and a small engine repair shop are examples of used oil generators. The Wisconsin Department of Natural Resources (WDNR) also has regulations relating to used oil generation and recycling. (Refer to: http://dnr.wi.gov/org/aw/wm/publications/hazard/wa_233.pdf)

Recognizing that owner/operators are becoming more conscious of the recycling and fire safety need to segregate used oil from other products, (i.e., solvents and waste gasoline) Commerce has moved used oil from a Class IIIA designation to a Class IIIB. However, history and the risk of contamination from these flammable products is still a concern. The source of the contamination may be human error or careless commingling with a flammable or toxic product. A used oil storage system may be required to comply with the more restrictive Class I – IIIA requirements if an inspector determines that products within the Class I – IIIA range are being commingled in the tank.

Underground tanks must be fabricated conforming to ASTM D 4021, UL 58, or UL 1316; and aboveground tanks conforming to UL 80, UL 142, UL 2258, API 650 or other construction standards approved by the department. Used oil storage tanks on castors are acceptable for wheeling around a service bay area if the tank as constructed with castors has a UL listing for that configuration. They would not be acceptable for public collection unless placed in a curbed area.

The code and subsequent technical requirements address used oil in three independent applications that have site-specific and application specific requirements:

- ◆ Storage for recycling
- ◆ Public collection for recycling
- ◆ Use for consumptive heating

Used oil may be collected and stored in barrels or tanks. Barrels must be DOT approved for a flammable or combustible liquid. Barrel and portable container storage is addressed in NFPA 30 Chapter 4 and is within the scope of Comm 14, rather than Comm 10.

Installation oversight of waste oil collection tanks

Waste or used oil is a Class IIIB combustible liquid with fire, human health and environmental risks. To encourage recycling and safe storage waste oil collection tank systems have reduced regulatory and design requirements than other combustibles provided they have specific configurations and are installed properly. Tanks used to store waste oil for recycling and tanks connected to a waste oil burner must have pre-installation plan approval and be installed under the oversight of a Comm 5 Certified Tank Installer. An accidental release or spill from a non-

complying tank can result in recovery, assessment and clean-up costs significantly more than the initial cost of doing it in compliance with the code.

Used oil collection tanks dedicated to supplying a heating device

Used oil tanks dedicated to supplying a heating device are to be installed as required by NFPA 31 – Standard for the Installation of Oil-burning Equipment. However, used or waste oil and the associated tank are considered “used oil” for Commerce tank registration and administrative purposes, not “heating fuel.” NFPA 31 requires that the fill and vent for heating oil tanks terminate outside the building. The risks of spillage from carrying small quantities of used oil through the building, to pour into a *fill* pipe on the outside of the building appear to be significant. Therefore it is acceptable to have the *fill* point directly at the tank. The fill point must be sealed except when transfer is taking place. Tanks supplying used oil burning for consumptive use shall have vent pipes that terminate outside at least 24” above grade and be located or designed to avoid obstruction by snow or ice. *NFPA 30 does not require tanks used for heating fuel to have an emergency vent. Heating fuel tanks of 660 gallon or less located inside or outside a building are not required to have secondary containment.*

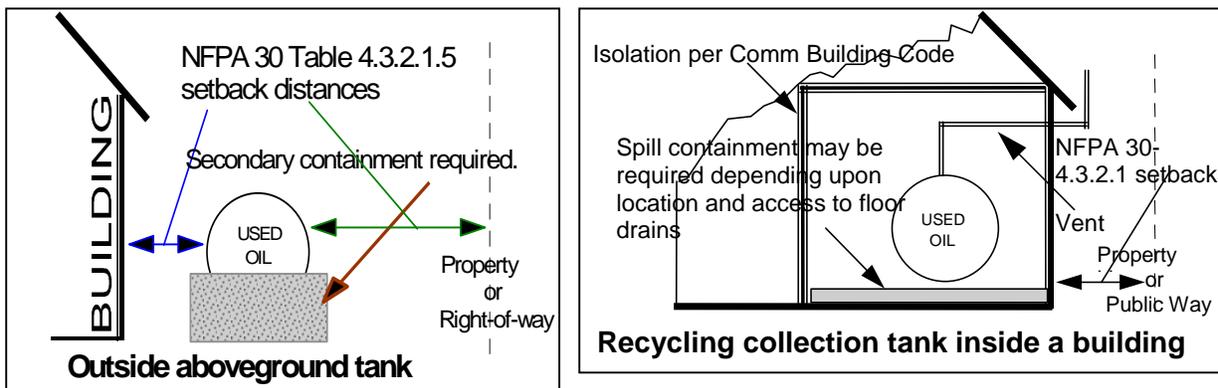
Capacity limitations for used oil tanks located inside buildings

Tanks collecting and storing used oil for recycling must follow the requirements of NFPA 30.

Tanks storing used oil and connected to a used oil-burning device must follow the requirements of NFPA 31 Standard for the Installation of Oil-Burning Equipment and subsequent conditions of the oil-burner material approval. NFPA 31 (2001 edition) Chapter 7.5 addresses tanks inside buildings. Storage beyond 660 gallons is dictated by the tank room enclosure. Tanks with individual capacity larger than 660 gallon and/or aggregate greater than 1375 gallon must have a dedicated room or enclosure of at least a 3 hour rating. Under the Wisconsin Building Code the room may be reduced to a 2 hour rating if the building is sprinklered. Tanks listed under UL 2085 have a 2 hour fire resistance rating and would be equivalent to the 2 hour fire resistance room rating acceptable in a sprinklered building. The maximum capacity reflected in NFPA 31 Table 7.5.13.3 will apply, for example a UL 2085 tank maybe 10,000 gallon capacity.

Venting requirements for used oil tanks located inside buildings and not connected to a heating device.

Venting requirements are dependent upon the design standard. A UL 80 tank does not require an emergency vent, whereas a UL 142 tank does require an “E” vent. Typically most storage tanks for used oil recycling are UL 142 and must have both normal/atmospheric and emergency vent provisions. The vents may terminate inside the building for facilities that are not public collection points. Tanks of 660 gallon or less capacity may use a single vent for both atmospheric and emergency venting purposes if the vent is no less than 2 inches in diameter.



Used oil collection tanks located outside are required to have secondary containment at 125%

tank capacity. Secondary containment for tanks located inside buildings is required if a release could reach a floor drain, the exterior of the building, or an area, such as a room with a gas fired appliance, flame or spark generating service equipment or hot work, that could pose an ignition hazard. Tanks located inside a building that require secondary containment must have containment at least 100% tank capacity.

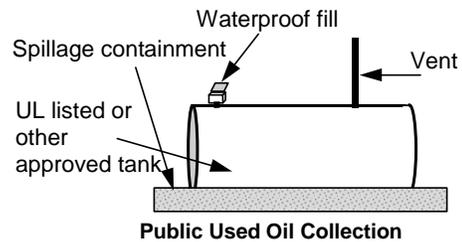
Public waste oil collection points

Storage tanks considered to be "public waste oil collection" are tanks at facilities that allow the public, often referred to as the "do-it-yourselfer" or "DIY," to pour the waste oil into the tank. A waste oil collection tank at a facility that accepts DIY waste oil, but requires an employee of the facility to pour the waste oil into the tank, is not considered to be a "public waste oil collection point" and is therefore not required to have the public collection design criteria.

Sites that allow do-it-yourselfers to dispose of used oil are also regulated under the Wisconsin Department of Natural Resources regulation NR 590.22 and have additional requirements such as

- fill opening located in waterproof enclosure with screen to prevent passage of solid objects.
- aboveground tank setback requirements of NFPA 30 Table 4.3.2.1.5.
- collection area shall be provided with secondary containment to contain spillage during handling and transfer.

Public collection tanks located inside a building must have the vents terminate outside the building.



Leak detection and corrosion protection for underground tanks

The federal EPA rules do not have exceptions or modifications to the technical upgrade requirements for waste oil USTs. Commerce, along with the Department of Natural Resources, is concerned that adequate waste oil collection points are maintained across the state; and that these collection points provide the groundwater protection safeguards intended by the implementation of the federal UST regulations.

Underground tanks storing used motor oil are federally regulated tanks, even if connected to a heating device for consumptive use and are required to have financial responsibility in addition to leak detection and corrosion protection.

A typical waste oil collection UST (not for public collection) has the following characteristics:

- ◆ Periodic transfer of used oil into the tank of 5 quarts to 5 gallon at a time.
- ◆ A short run of piping from transfer point to tank.
- ◆ Tank is located under building floor or located adjacent to building.
- ◆ Tank emptied of stored product by suction draw into tank truck.
- ◆ Systems that do not transfer product by pump or are not maintained under pressure if pump is used.
- ◆ Tank leak detection provided by manual tank gauging.
- ◆ Piping sloped at an angle that prohibits product from collecting in pipe.

The spill prevention requirement in the rule is intended to provide collection of excess product released from the transport hose after product has been delivered to the tank. The typical waste oil collection tanks are filled by periodic manual transfers. Spill prevention at the point of *suction transfer from the tank* to the truck will serve no significant purpose.

Overfill protection is designed to alert the transport driver that the transfer of product into the tank is nearing the threshold level. Common overfill protection devices designed for use on

fresh product petroleum tanks will have a very low level of functionality on waste oil tanks. Manual tank gauging and routine scheduled waste oil pickup for recycle appears to be adequate to prevent overflow.

The threat of leakage from pipe corrosion appears to be minimal on the typical UST waste oil collection system installed with a significant pipe slope to the tank. The *waste oil tank* must be provided with corrosion protection and many owners are providing existing USTs with CP protection by impressed current systems, which will also protect the piping.

The Wisconsin UST program has made an upgrade provision for non-public waste oil tanks:

- ◆ Tank receiving product in 25 gallon or less quantities by manual transfer into the tank and suction transfer from the tank, will be excluded from spill and overflow requirements.
- ◆ Tank receiving product in 25 gallon or less quantities by manual transfer, having underground piping that is sloped at least a 30° angle, will be excluded from corrosion protection on the pipe. (Refer to diagrams at end of article.)
- ◆ *Individual waste oil storage tank system management and system design may dictate a more restrictive approach to the provisions mentioned.*

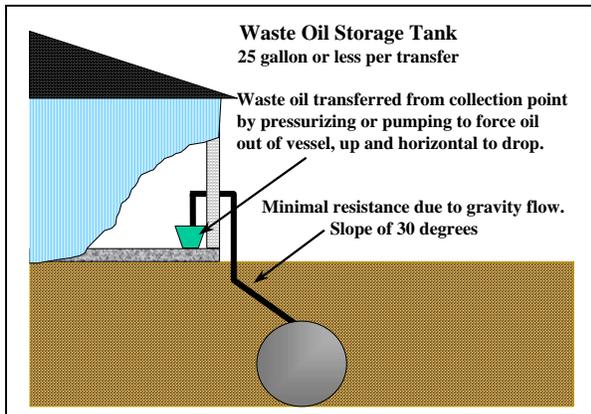
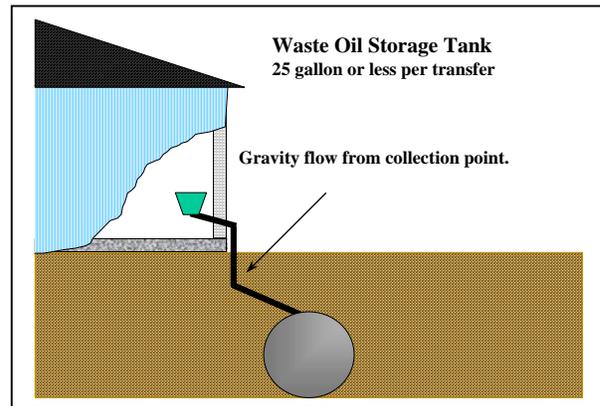
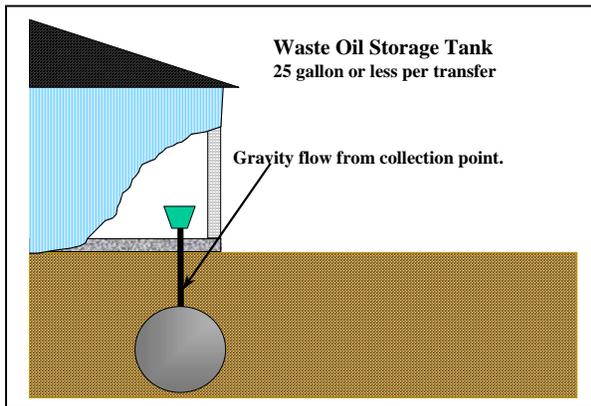
These provisions were developed after considering industry's discussion relating to the typical differences between waste oil collection systems and fuel transfer systems. The discussions included the logic of need in relation to functionality, cost, and intent of the federal rule. This provision *does not* reduce the UST owners liability or responsibility in the event of a leak and subsequent environmental contamination resulting from spillage or leakage.

The database and subsequent compliance inquiry has a default which does not recognize characteristics for waste oil tanks which are Wisconsin specific programmatic provisions. Unless some documentation or information is provided, the database will treat all waste oil tanks the same. The database will be modified to reflect the provisions, as documentation and UST inspections provide the necessary information. Documentation can be provided by the owner in the form of a letter on company stationary, that:

- ◆ describes how waste oil is introduced into the tank,
- ◆ includes the measurement from the underground transition point to the point the pipe enters the tank, and
- ◆ includes the burial depth measurement from grade to the top of the tank.

Tanks that are recorded as meeting these provisions, but determined not to meet these provisions through inspection by a Department or LPO inspector will be ordered to be immediately closed.

Typical Waste Oil UST Configurations:



How To Assess the System For Adequate Pipe Slope:

The following two graphic guidelines are approximate dimensions relating to a 30 degree slope. This equates to a burial depth of at least 1 inch for every 1.75 inches of horizontal measurement from the transition point to the point where the pipe enters the tank. It is believed a margin of difference of 10% will still provide adequate drainage from the piping and meet the intent of the technical provisions of this program letter.

