

INCIDENTAL STORAGE OF USED OIL IN ALBERTA

Vehicle and heavy equipment service shops and processing plants often have used lubricating oil as a by-product of their business. Environmental impairment and the risk of fire have heightened the awareness of used oil storage in recent years. The Alberta Fire Code sets the standards for installation, operation and removal of storage tanks and related piping. The Fire Code mandates that used oil be stored in conformance with the requirements for combustible liquids. Storage tanks for used oil can be located underground, aboveground or inside buildings.

UNDERGROUND STORAGE

If the tank is buried it must be constructed of steel or fibreglass reinforced plastic and meet a ULC standard. Underground lines must be constructed of cathodically protected steel or of a non-corrosive ULC-listed material. Steel tanks must be protected against corrosion by an impressed current or a sacrificial anode cathodic protection system. The valve where product is removed from must be equipped with a liquid-tight containment box and a suction tube that extends to near the bottom of the tank. The product removal company is required to hook up their suction system to a camlock fitting on the tank pipe. This requirement prevents a “stinger” from being dropped to the bottom of the tank which may result in tank bottom damage or product spillage around the pump-out valve. Underground systems must have some way of detecting a leak from underground storage tanks and piping. The customary method of achieving monthly monitoring is by use of observation or monitoring wells strategically located around the tanks. If used oil is piped underground to the tank, the well(s) can be located in the pipe trench. Depending on the porosity of the native soil, a very short pipe run may be monitored by way of a single well located close to the tank between the tank and the wall of the building. Whenever monitoring wells are used for detecting leaks the fugitive product or its vapours must be able to travel to the collection point at the bottom of the well.

ABOVEGROUND STORAGE OF USED OIL

The environmental risk of storing petroleum products below ground has resulted in a trend to the use of aboveground systems. The Fire Code requires that all aboveground tanks have secondary containment. There are two styles of secondary containment. The conventional form of secondary containment utilizes a single-walled tank placed inside of a barrier of sufficient height to contain the spill. An impermeable liner is often used on the floor of the dike. New installations typically employ a contained tank assembly where the secondary containment is



attached to the primary storage tank. Small used oil tanks can be located very close to a building (0.5 metres if less than 5,000 litres capacity and zero if tank capacity is less than 2,500 litres). If oil is 'pushed' from inside a shop to an outside aboveground tank, an overfill prevention device or warning system should be installed to prevent the tank from being overfilled. As with underground tanks, all aboveground used oil tanks must have a suction tube for removing product.

INSIDE STORAGE

Used oil tanks may be installed indoors as long as there is adequate drainage control which would prevent spills from reaching a sewer system and not create a fire hazard. As with all tank applications, the tank must be constructed to an appropriate ULC standard. The tank must be vented to the outside and be equipped with proper emergency venting.

APPROVALS ARE NECESSARY PRIOR TO THE INSTALLATION

Every storage tank installation requires pre-approval from the Authority Having Jurisdiction. Please refer to the PTMAA website to determine the Authority Having Jurisdiction for your area or call the PTMAA office for this information. The AFC mandates that **all aboveground tank installations must be designed by a professional engineer**. As an Authority Having Jurisdiction, the PTMAA requires three sets of drawings, stamped and signed by an engineer licensed to work in the Province of Alberta be submitted to the PTMAA office.

For more information about the storage of used oil, contact the Petroleum Tank Management Association of Alberta. The PTMAA is a not-for-profit society with delegated responsibilities for administering storage tank regulations in the province of Alberta. All underground storage tanks must be registered with the PTMAA and aboveground tanks with capacity of 2,500 litres or greater must also be registered. Refer to the PTMAA's website for additional information.

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