



RISK CONTROL BULLETIN

(3) Oil Tanks (Above Ground)

Introduction

The increase of oil tank failures and subsequent spills, oil line and fitting failures with resulting spills and oil theft or attempted theft are a growing concern to Ecclesiastical Insurance and their clients.

Oil tanks, while a necessity for holding fuel for heating purposes, carry with them the threat of environmental pollution. Over time - or as the result of an accident or malicious mischief that damages the tank - a leaking tank can become a serious fire and environmental hazard.

A leaking tank either inside or outside a building can contaminate soil and groundwater affecting the on site well and neighboring wells or water courses such as rivers, lakes and streams. Resulting oil remediation from a site in general or water courses can be difficult and extremely costly.

As a result of the recent and alarming increase in oil spills, oil theft and attempted theft of oil from oil tanks Ecclesiastical Insurance provides the following general suggestions as a means of reducing the risk of oil theft and oil spillage:

Recommendations

1. Tank Replacement

a) Used tanks:

Do not install a used or refurbished oil tank. Used tanks have generally been removed for a reason. Even if refurbished, a tank may have been leaking at another site or replaced as a result of age. A used or refurbished tank should not be considered as a replacement for your tank.

b) Oil transfer:

Transfer of product from an old tank to a new tank should be avoided. New steel tanks are initially more susceptible to corrosion caused by the presence of sludge, acids, micro-organisms and water including salt water. If transfer is absolutely necessary you should follow the tank manufacturers recommended practices regarding fuel oil pump over or transfer.

c) Oil tank purchase:

A label on the top or side of the tank should provide evidence of the manufacturer, date of manufacture, and indicates that it meets ULC or CSA standards of construction and/or the National Standard of Canada (CAN4-S602-M81). Non ULC or CSA or National Standard of Canada (CAN4-S602-M81) tanks should not be used. It is recommended you do not install your own tank. A professional should always do the installation in accordance with required installation standards (CAN/CSA-B139).

d) Alternative tanks

Newer tank models are now available with double walls, a plastic inner liner or bladder installed by the manufacturer, designed to keep air, fuel and water away from the steel outer shell. A tank with an inner wall or liner is recommended as most of these type tanks provide a warning when the inner liner is perforated. It is important to choose a tank that provides such a warning.

e) Tank Installation

Tanks should always be level. Tanks that settle should be leveled by a qualified installer as soon as possible after settling has been discovered. Tanks must always be handled without being dropped or dragged. Condensation or ice in new tanks as a result of shipping or cold storage should be drained before fittings are installed or the tank filled.

Exterior tanks should be located downgrade of domestic drinking water and, if possible, installed such that a spill from the tank will drain away from the foundation. Exterior tanks should also be installed with sufficient clearances to allow inspection of all sides, ends, top and bottom and application of protective coatings such as rust resistant paint to all areas of the tank.

Exterior tanks should also be protected from vehicle impact if such an exposure exists by use of concrete or steel posts or concrete abutments.

Exterior tanks if single wall or single thickness, should be protected with a bund wall or catch pit*.

** See part E of Section 2 for further details.*

f) Interior Tanks

Interior tanks are encouraged over exterior installations as they are not subjected to the same external elements including extremes in temperatures, ice, snow, rain, external corrosion, severe condensation or vandalism. Interior tanks are not as likely to experience oil line freeze-up or damage.

Interior tanks also provide more opportunity to detect leaks or early warnings of a leak. As well a concrete floor provides a stable, level base for the tank. Interior tanks should always be installed on the lowest floor of the building and protected from impact if located in a garage.

If possible, providing drainage is not compromised, existing floor drains, sumps or other openings near the tank should be sealed to prevent the escape of oil from the interior.

Multiple interior tanks should be at least 12 inches apart and 12 inches away from walls. Interior tanks in general should be installed such that all sides, ends as well as the top and bottom can be inspected visually.

2. Protection

a) Locks:

Exterior oil tanks with exposed filler pipes and the exposed filler pipes for interior tanks should have padlocks fitted to the filler pipe cover to prevent uninvited persons from attempting to siphon, pump or otherwise attempt to remove oil from the tank. The padlocks are generally available from oil supply companies who supply both the padlocks for the tanks and their drivers with appropriate keys so that oil delivery can still be efficiently carried out.

b) Valve Protectors:

Exterior tanks should not be located directly under house eaves making them susceptible to falling snow, ice or pitting from dripping water. Where the tanks are subject to damage from falling ice, snow, vandalism or persons attempting to steal oil exposed valves should be protected. The valves can be protected by use of valve protectors that are bolted on to cover the fittings/valves to prevent exterior access. Valve protectors are an inexpensive way to protect the valves and oil line at the tank. The fuel tank gauge should also be protected from breakage by ice, snow or vandalism.

c) Oil Lines

Typically new oil lines are coated with a plastic sheathing and are recommended in all oil line replacement. The new lines are also looped at the fittings/valve to prevent the line from moving or expanding off the fittings/valve. Exposed oil lines should be protected by a durable hard plastic/PVC or similar cover over the line between the tank and the premises to prevent damage by falling ice, snow or vandalism.

d) *Fencing*

A fence with a locked gate is an alternative way to protect the oil tank from flying objects and malicious damage. The fence should be constructed of a suitable wire mesh or heavy timber fabric that covers the entire perimeter of the tank and, if possible, the top. Care is required to ensure the fencing or containment area is large enough to allow full inspection of the top, ends, sides and bottom of the tank.

e) *Drip Trays/Catch-Pits*

Another way to reduce the risks of fire and pollution from an oil tank(s) is to construct a bund wall, sometimes referred to as a catch-pit, or place a drip tray under the tank. The bund wall or catch pit should have the capacity to hold the contents of the tank(s) plus 10%. The bund, catch-pit or drip tray should be constructed of an impermeable material such as concrete, non-porous engineering bricks on a concrete base or solid steel.

The bund, catch pit or drip tray should be kept clear of debris at all times. Any oil level indicator tubes and all fittings need to be within the catch-pit or drip tray area as well.

Drip trays, catch-pits and bund walls can now also be equipped with a floatation warning device that will sound an alarm if the oil reaches a certain level in the bund, catch-pit or drip tray.

f) *Fusible Links*

Consider the installation of a fusible link designed to automatically close the oil supply line in case of fire.

g) *Oil Safety Valve/Anti-Siphon Valve*

These valves are designed to automatically shut-off flow of oil from a tank in the event of the line between the valve and the oil burner is broken or severed. This device prevents fuel from siphoning out of the tank.

3. Inspection and Maintenance

a) *Inspection*

You should carry out a maintenance check-up each spring and continue checking the tank periodically throughout the year particularly during the peak heating season.

Check that all piping (supply lines, fill, and vent) is made of metal. Plastic piping is not acceptable.

The bottom of the tank should be inspected frequently for holes or rough areas that may be a precursor to a hole forming. Many times pinholes develop that cause a slow leak over time which could result in significant loss of oil from the tank and resulting pollution. Should you have a concern about how the tank bottom or sides look consult your service provider for a professional inspection

Checking for water in the tank can be achieved by applying a water-finding paste to a clean stick (minimum 4' long) and dipping it into the tank through the filler pipe. The paste can be purchased at service stations or stores which sell petroleum products. One sign that water is causing corrosion is the outside bottom corner of the tank (beside the oil supply line) will slowly turn black.

A few times a year check for rust on the exterior of the tank. After cleaning the rusted area with a wire brush or similar tool apply a rust-proof paint for metal.

b) Maintenance

If your tank is installed outside, always remove any snow from under the tank after a storm, and clean off the fittings and oil line (carefully) to prevent a build-up of snow or ice. Weight of snow can separate the oil line from the fittings and cause a leak.

Always make certain the vent whistle is operating properly on your tank. This device is designed to provide a warning to the person filling your tank that the fuel level is approaching the top of the tank. The warning is in the form of a whistle that increases in pitch as the oil level nears the top of the tank.

SUMMARY

Any leaks discovered from an oil tank, oil line, filter or boiler/furnace should be immediately reported to your fuel oil supplier or burner service company. Spills of over a specific number of litres, which may vary from Province to Province, have to be reported to the Department of Environment having jurisdiction in the Province. When in doubt always report a spill to your Local Authority/Department of Environment.

It is of extreme importance to act on the initial discovery of an oil leak immediately and to take all reasonable steps to stop the leak and prevent further damage. Should you detect an early warning of a leak or an unusual condition or slight leak around your tank fittings or oil lines - as outlined in the inspection sub-heading above - you should immediately call your oil supplier or burner service company to report your findings.

Working together we can help to reduce the potential of an oil spill and the significant losses that result not only from a monetary and environmental standpoint but also from the very significant cost to tank owners in terms of time and disruption to their institution, business and their lives.

For further guidance on oil tank installation or protections please contact one of the following Ecclesiastical Risk Control Specialists:

Ontario: Mr. Dana Shtun - 416-484-4921

Alberta, Saskatchewan,

Manitoba, British Columbia: Mr. Glenn Lyth - 403-268-7879

Nova Scotia, PEI, New Brunswick,

Newfoundland: Mr. Jim Morton - 902-482-5553

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