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Clean environment

Preventing pollution from above-ground oil storage tanks

Pollution from oil storage

Oil pollution can not only damage property, it pollutes rivers and the environment and harms wildlife. It is the responsibility of all individuals and companies to ensure that their activities do not harm the environment. Following our guidelines can help you/your company comply with legislation to minimise any risk of pollution and the associated costs and fines.

Most pollution incidents happen because of ignorance, accidents or vandalism. No company should risk being caught out, because pollution costs and fines still apply, regardless of what causes the pollution. It is the responsibility of a company to minimise pollution risks from their operations and storage. This guide explains how to do this and what is needed to comply with the legislation.

General Points

All tanks, pipework, gauges and structures should be constructed to recognised engineering standards and in accordance with the appropriate British, European or Oil Firing Technical Association (OFTEC) Standards. Installation should comply with the British Standard Code of Practice or other statutory requirements. The tank contents should be clearly marked on the tank.

The Storage Tank:

- Should be type tested to a recognised standard and produced under a quality assurance system complying with ISO 9001 or 9002, or other recognised standard.
- Should be located where it can be inspected externally for corrosion or leaks.
- Must have sound foundations to prevent settlement.
- Should be adequately protected against corrosion, and marked with the product type and tank capacity. Water from within the tank should be drawn off regularly and steel valves used to prevent frost damage.
- Every part of the tank must be within the bund, including all valves, filters, filling point, taps and the vent pipe.
- Oil-absorbent materials should be stored nearby for use on leaks or in emergencies.

The Bund:

- Should consist of a base and surrounding walls which must be constructed or lined with a material impermeable to the oil stored.
- Pipework should **not** pass through the bund. However, if this is unavoidable, the material used for sealing around the pipe must be resistant to attack by the oil stored.
- Must be able to contain 110 per cent of the volume of the storage tank. Hydraulically inter-linked tanks should be regarded as a single tank. Where two or more tanks are installed within the same bund, 110 per cent of the largest tank, or 25 per cent of the total capacity of all tanks, must be used to calculate bund capacity.

The Bund – continued

- There must **not** be any outlet directly connecting the bund to a drain, sewer or watercourse, nor discharging onto a yard or the ground.
- If rainwater accumulates in the bund, it can be removed by baling, or by a manually operated pump. Alternatively, you can fit specialist equipment designed to extract water from bunds without taking any oil residues, and which gives an alarm when additional action is needed.
- This rainwater may be contaminated and should be disposed of with care. It must not be discharged to sewer except via an oil separator if one is available.

The Pipework:

- Should **not** be underground, as this hinders speedy detection of leaks and can lead to serious ground and water pollution. Site pipes above-ground with good support. Protect against corrosion, insulate to guard against frost and shield from potential knocks / damage from vehicles or similar.
- Where a pipeline has to be laid underground it should be placed in a protective sleeve or duct with open grating covers for inspection purposes. Underground pipework must also be protected from the risk of damage from excess surface loading.
- Separate fill pipes should be provided for each tank (unless tanks are interconnected by a balance pipe of greater flow capacity than the fill pipe).
- Fill pipes should be clearly marked with the product type and a tank number if more than one tank is involved.
- Fill pipes should be located within the confines of the bund and fitted with a suitable lockable fill cap with chain.
- Vent pipes should be positioned so they can be seen easily and directed so that any discharge from them (e.g. in the event of the tank being overfilled) is directed into the bund.
- Remote fill points are not recommended, but where these are unavoidable, the surface drainage from such areas should pass through a suitably sized oil interceptor (see our guide TEQ06).
- Pump sets sited outside the bund should be fitted with a non-return / check valve installed in the feed line. In some cases a bunded area for the pump set and associated pipework may be required.

Tank Contents Measurements:

- There must be a means of measuring the oil volume present in the tank. The use of electronic gauges and high level alarms is strongly recommended.
- The use of an automatic overfill prevention device is strongly recommended.
- Dip sticks should be properly calibrated and only used in the tank for which they are intended.
- Sight gauge tubes should be well supported and fitted with valves resistant to unauthorised interference and vandalism. The valve should automatically return to the off position when level readings are not being taken.
- Dial gauges should be in a prominent position and regularly checked for accuracy.

Valves:

- These must be resistant to unauthorised interference and vandalism, with lockable or removable hand wheels.
- Should be steel and located so that any discharge would fall within the bunded area. They should be marked to show whether they are open or closed, kept locked when not in use, and fitted with a blanking cap or plug.
- If appropriate, a notice should be displayed requiring that valves and trigger guns be kept locked when not in use.

Maintenance

Bunds, tanks and pipework should be inspected weekly for signs of damage. Any accumulated rainwater, oil or debris should be removed and any defects to the bund wall or lining should be repaired promptly using the appropriate technique to ensure the bund retains its integrity. Damage to the tank or pipework should be dealt with immediately.

Preventing Pollution

In the short term you may feel that paying for facilities such as good bunding and storage is costly. However, it is the responsibility of all individuals and companies to ensure that their activities do not harm the environment. Following our guidelines may cost more now, but this will help to save money for your business in the long run. The fines for pollution are up to £40,000, and those responsible for pollution can face a massive clean-up bill and possible prosecution. New regulations regarding oil storage are to come out shortly which may specify minimum standards for oil storage installations. Contact us, or your local SEPA office for advice. This can be found by visiting the SEPA website at www.sepa.org.uk.

Further information

If you need to speak to someone directly or need more information and advice on pollution prevention/trade effluent quality please call our Customer Helpline on **0845 601 8855** and ask to speak to a member of our Trade Effluent Quality team.

Please call our Emergency Helpline on **0845 600 8855** to report an emergency relating to any risk of water pollution to the public water supply or sewer system.

You can write to us at:

Scottish Water
PO Box 8855
Edinburgh
EH10 6YQ

Alternative formats of this guide can be made available free of charge. For information on Braille, large print, audio and variety of languages, please call 0845 606 8855.

We record all calls for quality and training purposes.

For further information on Trade Effluent, Scottish Water and our services, please call our Customer Helpline on **0845 601 8855**, or visit our website at www.scottishwater.co.uk
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