

**The Environmental Risk Management Authority
PO Box 131
WELLINGTON**

**Code of Practice for
Disused Below Ground Stationary Tanks
on Farms**

**Approved Code of Practice
Under the Hazardous Substances and New
Organisms (HSNO) Act 1996**

**Code Reference: HSNOCOP 19-1
Date of Approval: May 2007**

Preface

This Code of Practice (No. HSNO COP 19-1) is approved pursuant to Sections 78 and 79 of the Hazardous Substances and New Organisms Act. The Environmental Risk Management Authority has delegated the power to approve Codes of Practice to the Chief Executive of the Authority, and this code is approved in accordance with that delegation. It is confirmed that the requirements of Sections 78 and 79 have been met.

Approval of the code is limited to those matters in the document that relate to legislative requirements under the HSNO Act and its regulations.

This code has been developed by ERMA New Zealand and sets out a means of compliance with the requirements of clause 40(2)(b)(ii) of Schedule 8 to the Hazardous Substances (Dangerous Goods and Scheduled Toxic Substances) Transfer Notice 2004 (as amended).

The publication date in the Gazette for the Notice of Approval of this Code of Practice is 7th June 2007.

Pursuant to Section 80 (1) (a) of the Act, a copy of the code may be inspected at the Wellington office of ERMA New Zealand.

Pursuant to Section 80 (1) (b) of the Act, a copy of the code is available to download free of charge from the ERMA New Zealand web site (www.ermanz.govt.nz).

Approved this 28th day of May 2007

A handwritten signature in black ink, appearing to read 'Rob Forlong', is written over a faint, light grey watermark that says 'ERMA New Zealand'.

Rob Forlong
Chief Executive
ERMA New Zealand

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1 Introduction

The purpose of this Code of Practice - Disused Below Ground Stationary Tanks on Farms - is to provide a means of compliance with the requirements of clause 40(2)(b)(ii) of Schedule 8 to the Hazardous Substances (Dangerous Goods and Scheduled Toxic Substances) Transfer Notice 2004 (as amended).

The preferred action is to remove the disused tank. Reference should be made to the Ministry for the Environment publication “Checklist for the Removal of Petroleum Underground Storage Tanks”.

However, leaving small tanks in place on farms is accepted due to the remoteness of the locations, minimal activities in the immediate vicinity and the costs of removal.

2 Scope of This Code

This Code of Practice provides a process for leaving a disused below ground stationary tank on a farm in-situ provided that the actions specified in section 6 are taken.

A farm is defined as an area of land not less than 4 hectares in size, and does not include golf courses. The land must be used principally for the purposes of agriculture.

This Code of Practice is limited to below ground stationary tanks with a maximum capacity of 3000 litres.

Compliance with this Code does not obviate the requirement to comply with other sections of the HSNO legislation (or related regulations) or other legislation such as the Health and Safety in Employment Act 1992 and the Resource Management Act 1991.

It must be noted that even if a tank remains in the ground it may be necessary to remove any contaminated soil that surrounds the tank. This must be checked with the regional council.

Should occupancy of the site containing the tank change, so that it is no longer a farm, the tank may need to be removed. Application should be made to ERMA New Zealand in this situation.

3 The HSNO Act and the Place of Codes of Practice

The HSNO regulations are largely performance based, that is, they specify a desired outcome without necessarily prescribing how to achieve it. They do not require that a single specific means be used to comply with any regulation and this allows for variations in method used for compliance.

The HSNO Act provides for Codes of Practice approved by the Authority to identify acceptable solutions to comply with the specified regulatory requirements. An Approved Code of Practice provides users with a method of meeting the control requirements with a degree of prescription.

In addition, specific provisions of the HSNO regulations and Gazetted Transfer Notices permit Codes of Practice to be approved by the Authority as alternatives to other specified requirements provided they can be shown to provide an equivalent level of safe management.

4 Caution

4.1 Safe Work Practices

Any disused fuel tank or pipework may contain residual fuel and/or flammable vapours.

Tanks that still contain, or have previously contained flammable substances provide hazards that are required to be recognized and planned for. Failure to do so can result in a significant incident.

Because of the variety of circumstances, it is impossible to give detailed guidance on safe methods of work for all situations that may arise.

It is essential, therefore, that the potential hazards are fully appreciated and that appropriate planning and preparation of work is undertaken. It is particularly important that a careful assessment of the tank is carried out by a person competent to judge its condition and determine the precautions needed.

All persons involved should have received thorough training in the procedures to be used, the risks involved and the precautions to be taken. The supervision of the work should be entrusted to a person with sufficient skills and experience to be able to conduct the job in a safe manner.

The major risk is the ignition of residual flammable liquid/vapour. The ignition of flammable vapour within a confined space can produce pressures well above the safe working pressure of most types of tank used for liquid storage. Even tanks designed to be pressure vessels are not normally designed to withstand internal explosion. An explosion within a tank is therefore liable to cause violent failure of the vessel. Parts of the tank may be propelled as missiles, and a flame front, hot gases and burning liquid may be expelled.

4.2 Leaded Fuels

Where a fuel that contained lead components (such as Tetraethyl Lead) as an additive has been stored in the tank, no part of the tank or any pipework removed from the tank is to be reused. Unless there is a clear understanding that a petrol tank has not contained such fuel, it is to be assumed that fuel containing lead components was stored in the tank.

4.3 Empty Tanks

Even though a tank has been empty for a lengthy period, this is not a reason to consider it as non-hazardous. Deposits of lead additives and the presence of vapours still exist. All appropriate precautions should still be taken.

5 Regional and Territorial Authority Requirements

Prior to commencing action to retain a disused below ground tank in accordance with this code, contact must be made with the local and regional authorities to ascertain their requirements for disused below ground tanks. It is possible they may require testing for soil contamination and/or removal of the tank.

Upon completion of the actions set out in this Code, the location of the disused tank is to be recorded with details provided to the territorial and regional authorities.

6 Actions to be Taken for Leaving a Disused Tank in Place

6.1 Removal of Contained Substance

All liquid remaining in the tank must be removed before any other work is commenced. The following items should be noted:

- All pipelines extending from the tank must be drained.
- The liquid draw off pipe in a below ground tank does not extend sufficiently to the bottom of the tank to remove all of the substance contained in the tank. Hence a particular effort is required to remove residual liquid from the tank.
- The removal of the residual liquid in the tank is likely to necessitate using a hand operated or electrically safe pump through the fill pipe.
- The tank in question may be a multi compartment tank in which case this action is required to be taken for each separate compartment.
- Any waste material removed from the tank, particularly sludge and liquid that may contain lead, is to be disposed of in a safe manner in accordance with local bylaws.

6.2 Remove all above ground pipework

This should not be commenced until all traces of fuel are removed as per clause 6.1 above. Attention is drawn to the fact that the pipelines may contain residual liquid or vapour so this activity should only be undertaken by experienced persons.

There may be several pipelines extending from the tank. These can include vent lines, fill lines and withdrawal lines. Each of these pipelines is to be removed if they are above ground and capped (i.e. sealed in a permanent manner such as a screw cap). On some tanks the dip point may also protrude above ground and require removal. No piping shall remain above ground.

Particular care must be taken when handling pipes that have contained leaded fuel.

6.3 Fill the tank with inert material e.g. concrete slurry

The tank and all remaining below ground piping is to be filled (through the vent pipe or any fill point) with concrete slurry or similar inert material that sets.

Where concrete slurry is used, it may be necessary to use a vibrating poker to ensure good compaction.

Filling the tank with concreting slurry should continue until the tank is completely filled.

In circumstances where the use of concrete slurry provides undue practical difficulties inert material such as sand may be used.

At all times it is necessary to be aware of the fact that the tank has previously contained a fuel and flammable vapour may be present, so caution is advised.

7 Check List

This check list is to be completed by the person in charge following completion of the stationary tank being taken out of service.

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|----|--|--------|
| 1. | Has the territorial authority been advised? | Yes/No |
| 2. | Has the regional authority been advised? | Yes/No |
| 3. | Has the residual fuel in the tank been removed? | Yes/No |
| 4. | Have the pipes been removed? | Yes/No |
| 5. | Are all openings blanked off? | Yes/No |
| 6. | Has the tank been filled with an inert material? | Yes/No |

8 References

- Code of Practice for the Transport and Disposal of Petroleum Storage Tanks and Related Waste. Available from the Department of Labour website:

<http://www.osh.govt.nz/order/catalogue/pdf/petrol-tank-trans.pdf>

- Ministry for the Environment publication “Checklist for the Removal of Petroleum Underground Storage Tanks”. Available from the Ministry website:

<http://www.mfe.govt.nz/publications/hazardous/checklist-rem-apr01.pdf>.