

Underground Petroleum Storage Systems

An amendment to the Protection Of Environment Operations (POEO) Act has changed the way that Underground Petroleum Storage Systems (UPSS) need to be commissioned, maintained and decommissioned from 1 June 2008.

UPSS are tanks wholly or partially underground that contain or are intended to contain petroleum. This regulation does not apply to aboveground tanks, sumps, wastewater systems, LPG storage or septic tanks (unless petroleum routinely passes through).

UPSS have an enormous capacity to pollute, causing untold damage to groundwater and soil. It is important that they are maintained as per the regulations to avoid pollution.

Depending on whether the UPSS was commissioned before ("old" UPSS) or after ("new" UPSS) 1 June 2008 determines the timeframes for compliance with the new requirements.

CONSIDER: More detailed and technical guidelines are available in the DECC's "Guidelines for Implementing the POEO (Underground Petroleum Storage Systems) Regulation 2008" ("DECC's Guidelines") which can be downloaded from the DECC's website: www.environment.nsw.gov.au or the MTA's Green Stamp Plus website: www.greenstamp.mtansw.com.au.

Old UPSS Requirements

Old UPSS = An underground storage system that was commissioned prior to 1 June 2008.

Commissioned = Using the storage system for the first time after it is installed, repaired or modified.

▪ Groundwater Monitoring Wells

Old UPSS must have groundwater monitoring wells installed on the storage site before 1 June 2011.

Groundwater monitoring wells must be:

1. Properly designed

Groundwater monitoring wells must be designed by a duly qualified person that has provided the relevant industry standards and a list of how these standards have been followed. Approval from the Department of Water and Energy (DWE) is required before drilling.

2. Properly installed

Groundwater monitoring wells must be installed by a duly qualified person that has provided the relevant industry standards and a groundwater monitoring well report. The well must be sealed to prevent surface water, marked and secured. A duly qualified person can be sourced on the DECC's website:

www.environment.nsw.gov.au/clm/selectaclms.htm

3. Properly monitored

Groundwater monitoring wells must be tested for hydrocarbons every six months. Tests can be either by visual assessment or an interface probe (IP) monitoring test. The IP test must be carried out by a duly qualified person.

Tests also need to be carried out within thirty days of installation, a leak or contamination. These tests must be carried out by a laboratory.

The results of all tests must be recorded and kept for seven years. A sample "Groundwater Monitoring Test Record Sheet" as well as test instructions are available in the DECC's Guidelines.

▪ Environment Protection Plan

Old UPSS must have an Environment Protection Plan in place before 1 June 2009. The Plan must comply with EPA guidelines, updated when required and kept onsite.

The Environment Protection Plan must include:

1. Loss monitoring procedure

The loss monitoring procedure must track how much petroleum should be in the tank and how much is actually in the tank. It must be able to detect a loss that is occurring at a rate of 0.76 litres per hour or more and have at least 95% accuracy. Once a discrepancy is detected, the issue must be investigated and the leak must be found and fixed. Details of this must be recorded.

There are several options available for loss monitoring procedures depending on the type of UPSS that is installed. These options are outlined in the DECC's Guidelines.

2. Incident management procedure

An incident management procedure must detail spill or leak response instructions.

3. Maintenance schedule

The maintenance schedule records past maintenance work and sets out a timetable for future maintenance work. The schedule must detail the components that are maintained.

4. Plan of the storage site, including the locations of:

- a. Storage system
- b. Buildings and infrastructure
- c. Fences and gates
- d. Groundwater monitoring wells and associated identifying symbols
- e. Unsealed ground surfaces

5. List of relevant industry standards for the storage tank and groundwater monitoring well

If the person responsible does not have a list as of 1 June 2008, it will not be classified as an offence if there is documentary evidence that that person has tried to obtain a list.

6. List of all design and installation specifications for the storage tank and groundwater monitoring well

If the person responsible does not have a list as of 1 June 2008, it will not be classified as an offence if there is documentary evidence that that person has tried to obtain a list.

7. Relevant contact details

Contact details of the person responsible (including a 24 hour telephone number), the address of the storage site, land title particulars, site owner's name, access and

security details and information on the location of all related records must be included.

▪ **Maintenance of instruments**

All measuring instruments (gauges, indicators, probes, sensors and others) must be checked as per Manufacturer specifications and the maintenance schedule in the Environment Protection Plan. The data from all checks must be recorded.

▪ **Record keeping**

The following documents related to the underground storage tanks must be kept:

1. Modification log

The details for any significant modifications must be recorded including a description, dates of commencement and completion and the results of the equipment integrity test. The "as-built" drawings of the system must be kept up-to-date.

2. Incident log

A log must be kept onsite that details any action that could affect the integrity of the system or any abnormality that has had an impact or has the potential to have a future impact.

Documents that are required, such as validation reports, measuring instrument data, details of any action due to loss procedures and notifications to authorities of pollution, must be kept for 7 years from the date of creation.

Old UPSS Compliance Checklist

- Groundwater Monitoring Wells
- Environment Protection Plan
- Instrument Maintenance
- Record keeping

CONSIDER: More detailed and technical guidelines are available in the DECC's Guidelines.

CONSIDER: Undertaking a significant modification on an old UPSS (where more than half the tanks are replaced or where development consent is required) means that the UPSS needs to comply with new UPSS requirements.

New UPSS Requirements

New UPSS = An underground storage system that was commissioned after 1 June 2008.

Commissioned = Using the storage system for the first time after it is installed, repaired or modified.

▪ Commissioning

New or modified UPSS cannot be commissioned unless:

1. Properly designed

Underground storage systems must be designed by a duly qualified person that has provided the relevant industry standards and a copy of the design specifications.

2. Properly installed

Underground storage systems must be installed or modified by a duly qualified person that has provided the relevant industry standards, a copy of the installation specifications and the current "as-built" drawings.

3. Properly equipped

Mandatory pollution protection equipment (meaning non-corrodible secondary containment tanks and associated pipe work and overfill protection devices) must be included as well as a groundwater monitoring well having been installed on the storage site.

4. Tested for equipment integrity

A duly qualified person must provide written directions or carry out an equipment integrity test. The equipment must pass the test with the results written down as certification.

5. Validated (Modifications only)

If the tank has been removed or a part has been replaced, a validation report is required by the local authority in accordance with EPA guidelines.

Repaired storage tanks cannot be commissioned unless it has been:

1. Tested for equipment integrity

A duly qualified person must provide written directions or carry out an equipment integrity

test. The equipment must pass the test with the results written down as certification.

▪ Groundwater Monitoring Wells

New UPSS must have groundwater monitoring wells installed on the storage site when commissioned.

Groundwater monitoring wells must be:

1. Properly designed

Groundwater monitoring wells must be designed by a duly qualified person that has provided the relevant industry standards and a list of how these standards have been followed. Approval from the Department of Water and Energy (DWE) is required before drilling.

2. Properly installed

Groundwater monitoring wells must be installed by a duly qualified person that has provided the relevant industry standards and a groundwater monitoring well report. The well must be sealed to prevent surface water, marked and secured. A duly qualified person can be sourced on the DECC's website:

www.environment.nsw.gov.au/clm/selectaclms.htm

3. Properly monitored

Groundwater monitoring wells must be tested for hydrocarbons every six months. Tests can be either by visual assessment or an interface probe (IP) monitoring test. The IP test must be carried out by a duly qualified person.

Tests also need to be carried out within thirty days of installation, a leak or contamination. These tests must be carried out by a laboratory.

The results of all tests must be recorded and kept for seven years. A sample "Groundwater Monitoring Test Record Sheet" as well as test instructions are available in the DECC's Guidelines.

▪ Environment Protection Plan

New UPSS must have an Environment Protection Plan in place when commissioned. The Plan must comply with EPA guidelines, updated when required and kept onsite.

The Environment Protection Plan must include:

1. Loss monitoring procedure

The loss monitoring procedure must track how much petroleum should be in the tank and how much is actually in the tank. It must be able to detect a loss that is occurring at a rate of 0.76 litres per hour or more and have at least 95% accuracy. Once a discrepancy is detected, the issue must be investigated and the leak must be found and fixed. Details of this must be recorded.

There are several options available for loss monitoring procedures depending on the type of UPSS that is installed. These options are outlined in the DECC's Guidelines.

2. Incident management procedure

An incident management procedure must detail spill or leak response instructions.

3. Maintenance schedule

The maintenance schedule records past maintenance work and sets out a timetable for future maintenance work. The schedule must detail the components that are maintained.

4. Plan of the storage site, including the locations of:

- a. Storage system
- b. Buildings and infrastructure
- c. Fences and gates
- d. Groundwater monitoring wells and associated identifying symbols
- e. Unsealed ground surfaces

5. List of relevant industry standards for the storage tank and groundwater monitoring well

6. List of all design and installation specifications for the storage tank and groundwater monitoring well

7. Relevant contact details

Contact details of the person responsible (including a 24 hour telephone number), the address of the storage site, land title particulars, site owner's name, access and security details and information on the location of all related records must be included.

▪ Maintenance of instruments

All measuring instruments (gauges, indicators, probes, sensors and others) must be checked as per Manufacturer specifications and the maintenance schedule in the Environment

Protection Plan. The data from all checks must be recorded.

▪ Record keeping

The following documents related to the underground storage tanks must be kept:

1. Modification log

The details for any significant modifications must be recorded including a description, dates of commencement and completion and the results of the equipment integrity test. The "as-built" drawings of the system must be kept up-to-date.

2. Incident log

A log must be kept onsite that details any action that could affect the integrity of the system or any abnormality that has had an impact or has the potential to have a future impact.

Documents that are required, such as validation reports, measuring instrument data, details of any action due to loss procedures and notifications to authorities of pollution, must be kept for 7 years from the date of creation.

New UPSS Compliance Checklist

- Commission
- Groundwater Monitoring Wells
- Environment Protection Plan
- Instrument Maintenance
- Record keeping

CONSIDER: More detailed and technical guidelines are available in the DECC's Guidelines.

Reporting Pollution

Pollution as a result of the UPSS must be reported to the regulating Authority. If a leak from a UPSS has caused pollution, the Contaminated Sites – UPSS section of the Department of Environment and Climate Change (DECC) must be notified:

Email upsreg@environment.nsw.gov.au
Mail Contaminated Sites – UPSS
DECC NSW
PO Box A290
Sydney South NSW 1232

A “UPSS Regulation Notification” form is available in the DECC’s Guidelines.

Decommissioning a UPSS

Decommission = To permanently cease using, or cause the system to be permanently unusable.

Before a UPSS is decommissioned, the person responsible must investigate the site for contamination and ensure that a Validation Report is completed. The Validation Report must be carried out by a duly qualified person in accordance with EPA guidelines.

The Validation Report must be supplied to the local council within sixty days of the decommissioning of the UPSS (if no soil or groundwater remediation is required) or within sixty days of soil or groundwater remediation.

A “Validation Report Notification” form is available in the DECC’s Guidelines.

If a system is decommissioned, documents that are required, such as certificates, validation reports, groundwater monitoring well reports, all versions of the environment protection plan, records of significant modifications, incident log and notifications to authorities of pollution, must be kept for 7 years from the date of the decommissioning.

CONSIDER: There are WorkCover regulations regarding hazardous substances that need to be abided by when decommissioning a UPSS. Check with WorkCover before decommissioning a UPSS.

Exemptions

Some sites can apply for exemption from complying with some of the UPSS regulations. There are several classes of exemptions allowing sites to be exempt from certain clauses. If a UPSS only contains waste oil, a Class 1 exemption can be claimed. If a UPSS site is in an “environmentally sensitive area” and/or meets an array of other criteria regarding geological site assessments and statistical inventory reconciliation analysis systems, other Class 2,3 or 4 exemptions can be claimed.

The full list of exemption criteria is available in the DECC’s Guidelines. An “Exemption Application Form” is also available in the DECC’s Guidelines.

Key contacts

MTA NSW

02 9213 4222

www.greenstamp.mtansw.com.au

Department of Environment & Climate Change (NSW)

131 555

www.environment.nsw.gov.au

Department of Water & Energy (NSW)

02 8281 7777

www.naturalresources.nsw.gov.au

Local Council Contacts

www.dlg.nsw.gov.au

Territory & Municipal Services (ACT)

13 22 81

www.tams.act.gov.au

WorkCover (ACT)

02 6205 0200

www.workcover.act.gov.au

WorkCover (NSW)

13 10 50

www.workcover.nsw.gov.au

Important Disclaimer

These Information Guides have been developed to assist MTA NSW and MTA ACT members to better manage their environmental impacts. However it remains the responsibility of the individual business to determine the extent to which various laws and best practice guidelines apply to them and to take appropriate steps to achieve compliance. Though every possible effort has been made, MTA NSW accepts no responsibility for the accuracy of the information.