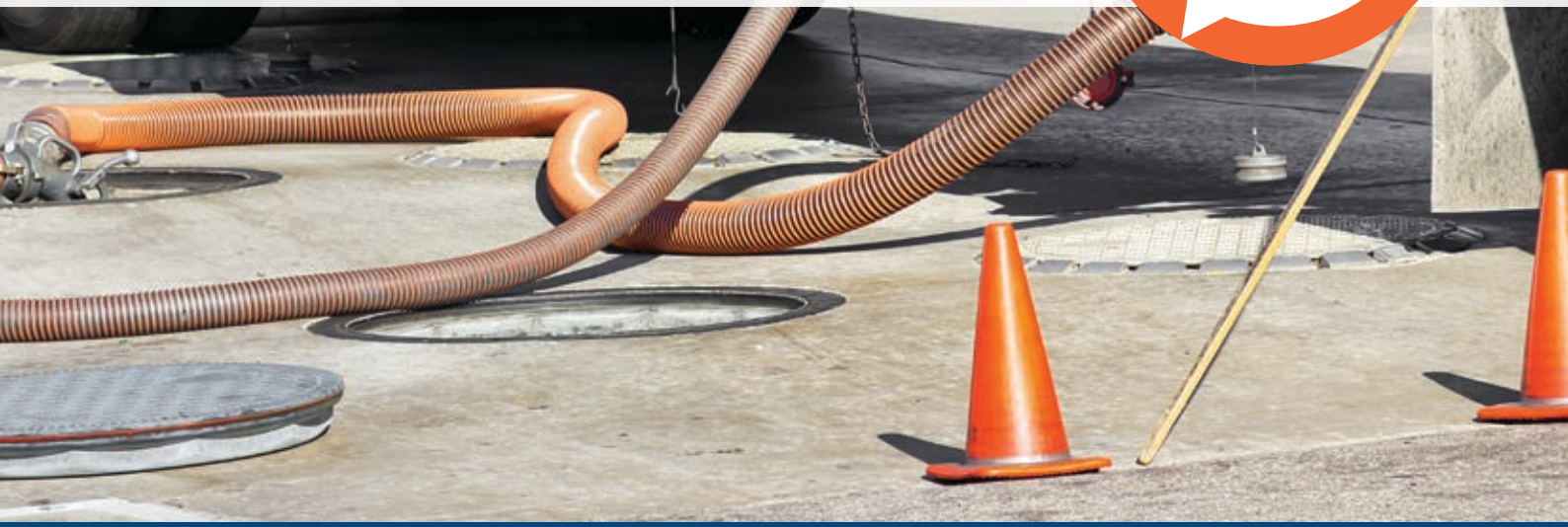
Victorian underground petroleum storage systems

A guide to preventing and managing leaks and spills

- *What are your legal obligations?*
- *How can you prevent leaks and spills?*
- *How should you prepare?*
- *How can you save money?*

Have you checked your tank today?



EPA VICTORIA
Environment Protection Authority Victoria

VICTORIA State Government

Protect your business – Protect the environment

If you own or operate underground fuel tanks, this guide may help you to save money and manage your legal responsibilities. Leaks and spills don't just hurt the environment; they can come at a cost in lost stock and expensive cleanup bills. Use this guide to protect your business, property values and local community.

Acknowledgements

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CONTACTS

Assistance for UPSS operators

If you have concerns about your UPSS, notify the relevant authorities as soon as practicable. Relevant authorities include EPA, your local council, WorkSafe, the Metropolitan Fire Brigade (MFB) and the Country Fire Authority (CFA).

Advice on dangerous goods/hazardous chemicals manifest

- Metropolitan Fire Brigade
  Telephone: (03) 9662 2311 Fax: (03) 9665 4244
  TTY: (03) 9662 4733
- Country Fire Authority Headquarters
  Telephone: (03) 9262 8444
  Email: sidgu@cfa.vic.gov.au

Dangerous goods, hazardous chemicals, tank removal, emergency manifest and site plans

- WorkSafe Victoria
  Telephone: 1800 136 089
  Email: info@worksafe.vic.gov.au

Report pollution to EPA

- Log in to the EPA Interaction Portal
  https: //portal.epa.vic.gov.au/irj/portal
- Call 1300 EPA VIC (1300 372 842)

Spill kit suppliers

- Search 'chemical spill kits' or 'fuel spill kits' in online browsers or phone directories

Underground petroleum storage system guideline information

- Call EPA Victoria 24 hours a day:
  1300 EPA VIC (1300 372 842)

Emergency response contact information:

Police, Fire, Ambulance: 000

EPA Victoria: 1300 372 842

WorkSafe Victoria: 13 23 60

Local council

Phone: _____

Nearest hospital

Phone: _____

GLOSSARY

ATG – Automatic tank gauge (electronic probe that records UPSS data).

DG Regulations – Dangerous Goods (Storage and Handling) Regulations (2012).

EIT – Equipment integrity test (carried out by a suitably qualified person, accompanied by a certificate and test results).

EPA – Environment Protection Authority Victoria.

EP Act – *Environment Protection Act 1970.*

EPA Publication 888 – *The design, installation and management requirements for underground petroleum storage systems (UPSS)* (EPA Publication 888). The guidelines are available at **epa.vic.gov.au/publications**

Free product/Free phase – A term to describe hydrocarbon contamination which is present as a discrete substance rather than mixed with water or soil, commonly used to refer to light non-aqueous phase liquid (LNAPL) floating on a layer of water or visible at surface.

Interstitial monitoring – A technique for detecting leaks in the annular/interstitial space of a double-walled underground tank.

Loss detection – Procedures and processes designed to identify leaks or discrepancies from tanks and/or pipes.

Loss monitoring procedure – A procedure for monitoring and recording current and future petrol leakage.

National Association of Testing Authorities (NATA) – An authority responsible for the accreditation of laboratories throughout Australia.

Sensitive site – A site that is classified as 'sensitive' by a competent or experienced person or by reference to the site classification system in Appendix 4 of EPA Publication 888 .

SEPP (Groundwaters of Victoria) (GoV) – State Environment Protection Policy, No S160, Gazette 17/12/1997 as varied on 19/3/2002, No G12, Gazette 21/3/2002.

SEPP (Prevention and Management of Contamination of Land) (PMCL) – State Environment Protection Policy (Prevention and Management of Contamination of Land), No S95, Gazette 4/6/2002.

SIRA – Statistical Inventory Reconciliation Analysis: A third-party statistical assessment of inventory data which can be used to identify any potential discrepancies.

Suitably qualified person – Someone whose qualifications and experience suggest that they can undertake work in a safe and effective manner.

UPSS – Underground petroleum storage systems.

Waste – As per the Environment Protection Act: '*Any matter whether solid, liquid, gaseous or radio-active which is discharged, emitted or deposited in the environment in such volume, constituency or manner as to cause an alteration in the environment; Any discarded, rejected, unwanted surplus or abandoned matter; Any otherwise discarded, rejected, abandoned, unwanted or surplus matter intended for recycling, reprocessing, recovery or purification by a separate operation from that which produced the matter; or Sale; and Any matter prescribed to be waste'.*

References to relevant legislation and Australian Standards are listed under 'Requirements and obligations'

LEAK PREVENTION & MONITORING

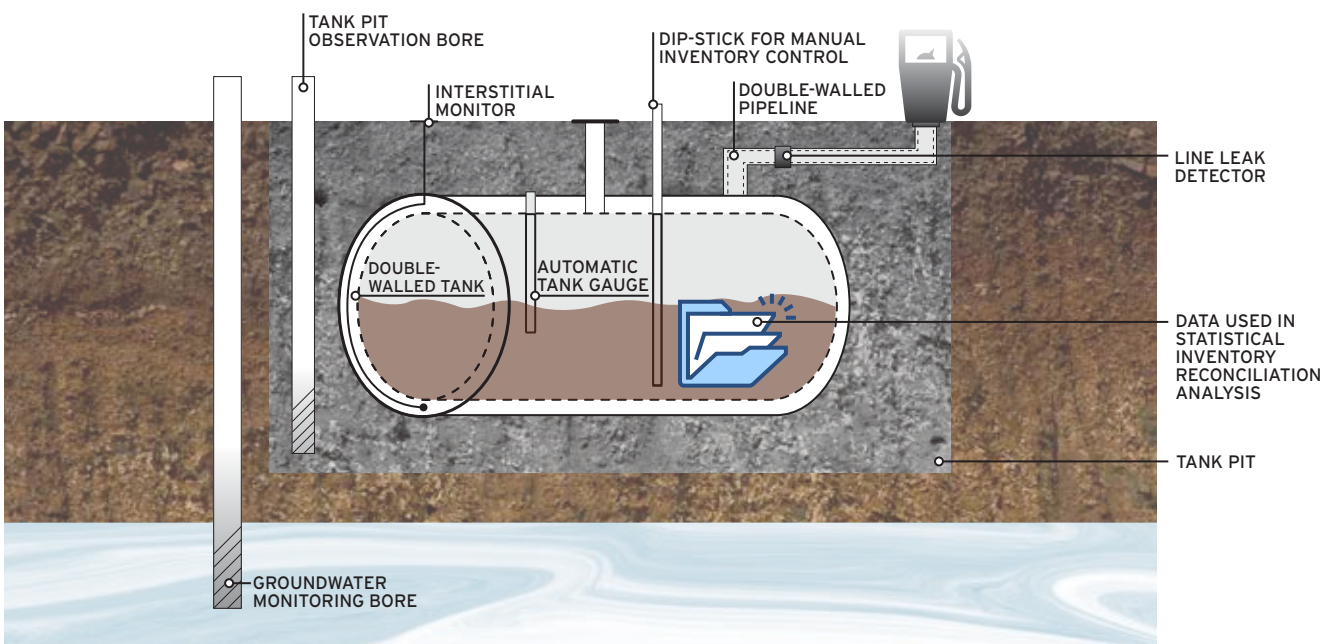
EPA Publication 888 and the Australian Standards (AS4897-2008) set out how to design, install and manage UPSS in Victoria in ways that prevent and detect leaks.

System design

New and upgraded UPSS tanks and piping should be non-corrodible and integrity-tested three times: prior to commissioning, pre-bury and post-bury. They should have the following features:

- secondary containment
- leak detection
- fill point requirements
- vapour recovery on delivery for UPSS with existing infrastructure
- dispenser pumps
- overfill protection
- earthing of UPSS
- tank pit observation bores, and
- groundwater monitoring bores at sensitive sites.

UPSS leak detection measures



Leak prevention & monitoring (continued overleaf)

Loss monitoring

UPSS monitoring systems should be rated to detect tank leaks and pipe leaks of **at least** 0.76 L/hour (18 L/day) with greater than 95% confidence. Leak detection methods may include ATG, SIRA, interstitial monitoring and line leak detection.

Most operations use SIRA to check for losses. SIRA identifies discrepancies for investigation by analysing a series of daily records logged by a trained operator.

Leak detection

Groundwater monitoring wells and tank pit observation bores can be used to help detect leaks, as a back-up for loss monitoring.

Tank pit observation bores are required for UPSS that have been installed since May 2008.

Groundwater monitoring, with monthly observations, is recommended for sensitive sites.

EITs are useful to confirm or isolate a leak, or to confirm system integrity after repair.

Loss investigation

An investigation must be conducted immediately if loss monitoring identifies a discrepancy, SIRA records a 'fail' or 'inconclusive' result, or somebody detects a leak.

Carry out loss detection investigation checks (overleaf)

Identify source of discrepancy or leak. If the source is not related to a leak, record the results of the investigation, including any actions to stop future discrepancies.

When a leak is identified, engage suitably qualified personnel to stop the leak. Conduct an equipment integrity test (EIT) before recommissioning.

In addition, whenever groundwater contamination is identified

Undertake groundwater sampling and have samples analysed by a NATA-accredited laboratory.

If there is evidence of petroleum (e.g. odours, high concentrations, free phase), investigate further.

Engage a suitably qualified person (e.g. an environmental consultant) to investigate and determine the nature and extent of the contamination, and the need for any remediation.

Continue with loss monitoring, loss detection and maintenance activities.

Maintenance & system checks (overleaf)

MAINTENANCE & SYSTEM CHECKS

It's important to regularly check and maintain your UPSS to prevent and detect leaks and spills. EPA may ask for evidence to prove that regular maintenance and systems checks were carried out at your premises. A tool to record daily and weekly actions can be found at the end of this guide.

ENSURE YOU IMMEDIATELY INVESTIGATE LEAKS

While appropriate precautions may vary from site to site, depending on company and manufacturer specifications, they are likely to include the following:

Daily actions

- Dip tanks and record measurements.
- Dip E10 (bio-blend) tanks for water and dip all tanks after heavy rain.
- Remove water if above tolerance threshold.
- Check fill/dip points for damage.
- Check drains and remove blockages.
- Remove forecourt traffic hazards.
- Check spill kit contents, remove litter.
- Check collection pits and sump levels.
- Check hoses and nozzles for damage.

Annual actions (recommended to be undertaken by a suitably qualified and experienced person)

- Service all leak detection equipment i.e. mechanical line leak detectors, electronic line leak detectors, sensor etc.
- Service all cathodic protection systems.

Weekly actions

- Check dipstick for wear.
- Dip tanks for water and remove water if present (non E10 and bio-blends). If the water level is increasing, investigate.
- Check vent points and remove blockages (if safe to do so).
- Check tank pit observation wells.
- Check sump under pumps.

Actions for new and modified tanks/systems

- Ensure that a suitably qualified person tests the system (including pipework) for leaks both before and after burial in accordance with AS4897-2008 and EPA Publication 888.
- Check equipment requirements.

Monthly actions

- Check SIRA report and immediately investigate all discrepancies, including 'fail' and 'inconclusive' results.
- Conduct observations of groundwater monitoring and tank pit observation wells.

Pre-delivery actions

- Check fill point spill containment area for product/water.
- Remove liquid prior to delivery and store for appropriate waste disposal.

Record all maintenance activities. EPA Publication 888 provides further information on meeting your obligations.

OPERATIONAL UPSS REQUIREMENTS CHECKLIST

EPA Publication 888 (Appendix 5 – Record keeping requirements) recommends that all operational UPSS sites document their management procedures and have them onsite.

EPA may request evidence to prove that these documented procedures are readily available at your premises.

Use this checklist to confirm that you have all the documents you'll need, and know where you can find them.

Section of guidelines	Record keeping	Do you have this paperwork (Y/N)?	Where is it filed?
(2) UPSS management system	Objectives and targets of your UPSS management system.		
	Documented risk assessment in accordance with R404-405 DG Regulations, which includes risk to environment.		
	Documented procedures on design and installation of UPSS (refer to (3) below) and secondary leak detection measures (e.g. groundwater monitoring wells) if installed.		
	Documented leak prevention procedures, including maintenance and testing activities.		
	Documented leak detection procedures, including maintenance and testing of leak detection system.		
	Documented contingency plans, including written procedures for spill response and loss investigation in accordance with section 5 of EPA Publication 888.		
	24-hour contact details for the owner and operator of both the site and the UPSS, including specific contractual/franchise arrangements.		
	Documents listing the responsibilities and contact details for all parties/ individuals involved in activities associated with the above procedures (including UPSS operation, maintenance and monitoring).		
	Records of staff training in UPSS management system.		
	Documented periodic performance monitoring and review of UPSS management system, and records of subsequent adjustments to management system.		
	Site plan with details (e.g. size and location) of: • all UPSS infrastructure (including tanks, pipes, wells, pits, bores and fill points) • all buildings and infrastructure • all groundwater monitoring wells • any unsealed ground surfaces, fences and gates, drainage and services • adjacent land uses.		

Operational UPSS requirements checklist (continued overleaf)

OPERATIONAL UPSS REQUIREMENTS CHECKLIST *CONTINUED*

Section of guidelines	Record keeping	Do you have this paperwork (Y/N)?	Where is it filed?
(3) Leak prevention	Details of spill containment measures and stormwater control measures, including drainage plans, spill kits and bunding.		
	Documented site sensitivity classification and the information used to determine it.		
	Certification of UPSS design in accordance with section 3.1 (including the checklist of UPSS designer competencies contained in Appendix 3 of EPA Publication 888).		
	As-built drawings of UPSS in accordance with section 3.3 of EPA Publication 888 and secondary leak detection measures (e.g. groundwater monitoring wells) if they have been installed.		
	Certification of UPSS and secondary leak detection measures (e.g. groundwater monitoring wells) installed by contractor, and checklist completed by owner/ operator (refer to section 3.3 of EPA Publication 888).		
	All equipment integrity test records and certifications in accordance with section 3.3 of EPA Publication 888.		
	Records of all maintenance and inspections in accordance with section 3.4 of EPA Publication 888 and the maintenance schedule.		
	Records of all repairs, re-uses and upgrades of UPSS in accordance with section 3.5 of EPA Publication 888.		
(4) Leak detection	Inventory control records.		
	All records relating to the leak detection system, including certification of the method as proof of how it meets the standards set out in section 4 of EPA Publication 888 (note the specific requirements contained in Table 3 of the publication).		
	All records associated with the design, construction and installation of groundwater monitoring bores at sensitive sites in accordance with section 4 of EPA Publication 888.		
	Records of all leak detection system checks, inspections and tests (including the results of groundwater monitoring bore observations and sampling at sensitive sites).		
(5) Leak or spill response	Information relating to leaks or spills and your response to them in accordance with section 5 of EPA Publication 888.		
(6) UPSS removal/ decommissioning	Information relating to the removal or decommissioning of any previous UPSS (to be retained for five years after the life of the system) in accordance with section 6 of EPA Publication 888.		
Other	Documents that outline how to access the system, including details of any locks, gates, fences and the like, together with the means of opening them.		
	List of industry standards relevant to the system and secondary leak detection system if installed.		

Operational UPSS requirements checklist (from overleaf)

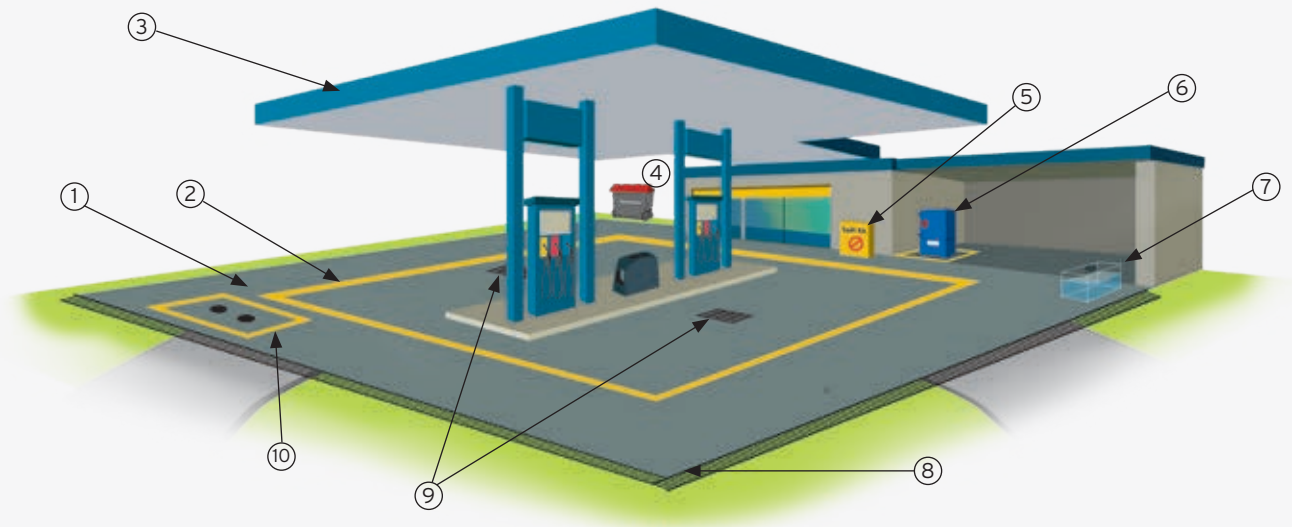
SITE DESIGN

Good design and management of fuel-handling areas will reduce the incidence and impact of spills, saving you from cleanup costs and minimising harm to the environment. Features should include:

1. sealed surfaces to stop spills seeping into the ground
2. perimeter drains, bunding or grading which extends around the drip line of the canopy to contain spills. (It is possible to isolate the forecourt area by retrofitting concrete or sealed rubber bunding. Search internet, phone directories etc. for 'bunding' to find suppliers and installers.)
3. canopies which extend to the maximum reach of nozzles and have an angled overhang to stop rainwater from entering dispensing areas
4. storage and waste bins to keep the area free from combustible or trip hazards
5. accessible spill kit(s) for quick cleanup of small spills (see 'Spill kits' under 'Cleanup' in this guide)
6. bunded storage of hazardous chemicals away from fuel dispensers and traffic impact zones
7. a sump to retain liquids from the collection pits for treatment and/or removal
8. stormwater drains that are protected from spills by forecourt bunding or grading
9. collection pit(s) to capture spills from under the canopy-controlled area
10. bunding that encloses the UPSS fill points to contain fuel discharges from tankers.

Minor spills can be contained and removed using a spill kit. Follow 'Minor spill' under 'Spill actions' in this guide.

Major spills cannot be contained by a spill kit and may be in danger of moving offsite. Follow 'Major spill' under 'Spill actions' in this guide. Spill kits can still be employed to help contain spills before emergency services arrive.



The fuel-handling area diagram has been reproduced with permission of the NSW Environment Protection Authority.

SITE PLANS

Workplaces with hazardous chemicals, such as fuel, must have site plans on hand to be used in the event of an emergency. Schedule 3 of the DG Regulations lists what must be included on a site plan. Make a copy of this checklist and use it to confirm that you have the recommended items.

Item number	Item	Present in the site plan (Y/N)?
A	The location of:	
(i)	containers and other storages of dangerous goods in bulk*	
(ii)	storage areas for packaged dangerous goods and dangerous goods in intermediate bulk containers	
(iii)	areas where dangerous goods are manufactured.	
B	Descriptions of:	
(i)	the items referred to under A (i), (ii) and (iii)	
(ii)	areas where dangerous goods in transit may be located.	
C	The identification number or code for items referred to under B.	
D	A legend for the identification numbers and codes referred to under C.	
E	The location of:	
(i)	the main entrance and the other points of entry to the premises	
(ii)	essential site services, including fire services and isolation points for fuel and power	
(iii)	the manifest	
(iv)	all drains on the site.	
F	A description of who or what resides in adjoining sites or premises.	

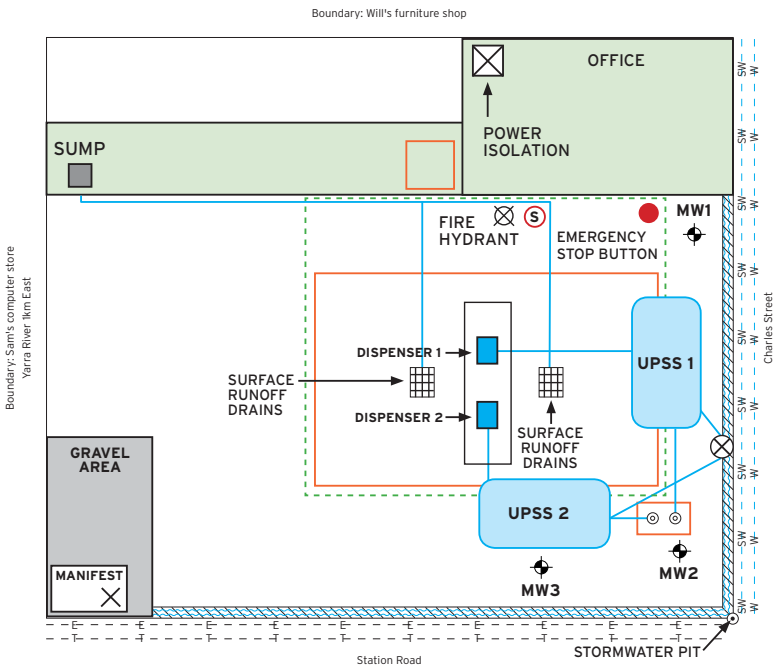
* Include empty tanks also

Site plan example

Name of premises: ABC Fuels
Address: 1 Station Rd, Melbourne, VIC 3000
Lot: 1 DP: 12345
Date of this plan drawing: 1 Jan 2017

LEGEND

-E-	Electrical
◎	Fill points
✦	Groundwater monitoring wells
▨	Stormwater grates
-SW-	Stormwater
-T-	Telstra
-W-	Water
—	(Blue) underground lines
---	Canopy
⊗	Vent pipes
—	Bunded area
Ⓢ	Spill kit
UPSS1	Diesel - Class C1 - Capacity 20,000 L
UPSS2	Petrol - Class 3 - Capacity 30,000 L



SPILL ACTIONS

Always shut down all pumps and assess the situation.

MAJOR SPILL

- Flow of fuel cannot be stopped, or
- Greater than your spill kit can contain, or
- Spill may enter stormwater drains/leave site, or
- Any leak from a tanker.

RACE: Rescue, Alarm, Contain, Evacuate

Rescue

Rescue any people in immediate danger if safe to do so.

Alarm

Notify relevant authorities

Police, Fire, Ambulance 000

EPA Victoria 1300 372 842

WorkSafe Victoria 1800 136 089

Water authority _____

Council _____

Block main driveway to site. If driveway cannot be blocked safely, divert traffic away from fuel spill area.

Contain

If safe, use spill kit to stop spill from

- entering stormwater drains
- leaving site
- spreading.

If situation is unsafe, evacuate to assembly area and await emergency services.

Evacuate

Evacuate customers and staff away from danger and to the assembly area.

Ensure all possible ignition sources are removed from spill area.

Provide relevant authority with Safety Data Sheets (SDS) and hazardous chemical manifest site plan (see 'Site plans' in this guide for example of site plan).

MINOR SPILL

- Can be contained by your spill kit, and
- Flow from fuel source can be or has stopped, and
- Will not enter stormwater drains or leave site.

Turn off the pump.

Assess for hazards.

Block off spill area with cones/tapes.

If safe, use spill kit to stop spill from:

- entering stormwater drains
- leaving site
- spreading.

FOLLOW-UP ACTIONS

After all spills

Remove liquid waste and spill cleanup materials to an approved waste facility.

Restock spill kit.

Review and implement measures to prevent spill from reoccurring.

After a major spill

Resume trading only after authorisation by relevant authorities. Relevant authorities include EPA, council, WorkSafe, Metropolitan Fire Brigade, Country Fire Authority.

SPILL KITS & CLEANUP EQUIPMENT

Spill kits are designed to contain and clean up small-scale spills of specific groups of chemicals. They must be readily accessible.

Types of spill kits you need to consider include:

- Oil and fuel: Specifically designed for oil and fuel.
- AdBlue: Required for sites with AdBlue, as oil and fuel kits are unsuitable.
- Hazardous chemicals: For use on chemicals used in workshops.
- Marine: Designed for use on oil and fuel spills on water.

If you have used your spill kit, ensure you dispose of the waste appropriately (see 'Waste disposal' in this guide) and restock the spill kit. Check that you have spill kits available and that they are suitable for all the different chemicals that you use.

Readily accessible equipment should include:

- shovels
- brooms
- rakes
- absorbent booms or socks and pads
- contaminant-resistant gloves
- disposable coveralls
- warning signs
- contaminated-waste container
- respirator with an organic cartridge
- safety glasses/goggles.

Check your spill kit regularly. Where spill kits are stored in a container that may be mistaken for a rubbish bin, a cover or quick-release lock will secure the contents while still making the contents accessible.

Employees should be aware of who to contact in the event of a spill (see 'Spill actions' and 'Contacts' in this guide) and trained in spill cleanup procedures.

LEAK INVESTIGATIONS

Loss detection investigation checks

If a discrepancy is identified during loss monitoring, the UPSS operator can conduct the following system checks OR engage a suitably qualified person to investigate and identify the source of the leak.

Note: A petrol station forecourt has flammable vapours and moving vehicles. The following work tasks may involve working at heights and/or in a confined space, with oxygen depletion, and poor visibility. All work tasks should only be undertaken by an experienced fuel system technician who has completed the Workplace Clearance Training.

Suspected issue to investigate	Loss/gain?	Example system checks to be conducted by a suitably qualified person
Inventory records	Loss or gain	Check the inventory control records from the last satisfactory result to ensure the discrepancy has not been caused by a record-keeping error.
Security/theft	Loss	• On non-24 hour sites, check that all tank openings (e.g. dip and fill points) are secured, particularly after hours. • On self-serve sites, check that the controlled authorisation of dispensers is operating. • Check CCTV or similar security system if available.
Human error	Loss or gain	Check: • UPSS installation records – was the installer accredited/certified? • for inaccurate measuring/recording • delivery losses/tank filling activities • for inadequate system management • failure to complete physical system checks.
Recent repairs to UPSS	Loss or gain	Check the maintenance records. If the UPSS has been repaired or reuse was performed, check whether compatible materials were used.
Water	Loss or gain	Check each tank for water by putting a water-finding paste on a dipstick. Identify entry point (e.g. if tank has a hole or water is entering via an open valve, fill point etc.). If using ATG, check the Inventory report that highlights the water's height and volume. (If you have also checked your dipstick and the two vary, it may simply be the location, distance and tank tilt. If you're still uncertain, have the calibration checked by a manufacturer-trained technician.)
Dipstick	Loss or gain	Check: • the dipstick for wear/damage and replace if necessary • that each tank has the correct dipstick • that the system operates to manufacturer's specifications and has been calibrated (if you're using ATG).

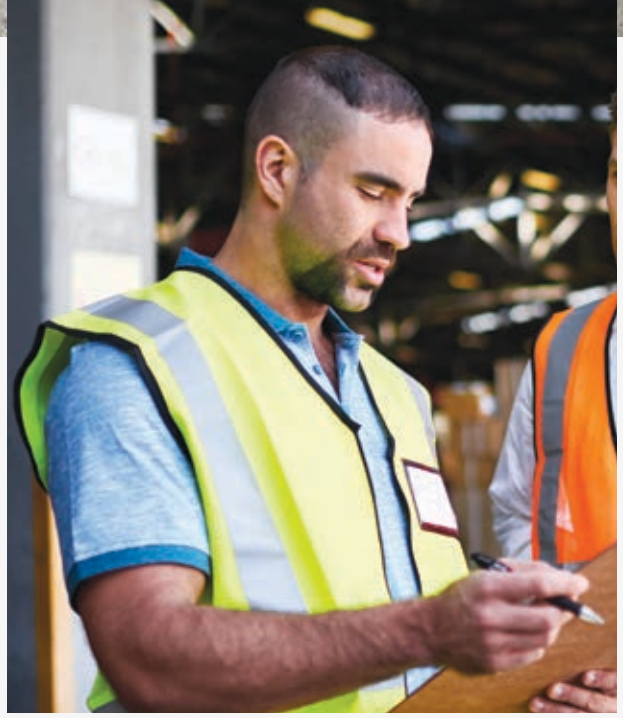
Leak investigations (overleaf)

LEAK INVESTIGATIONS *CONTINUED*

Suspected issue to investigate	Loss/gain?	Example system checks to be conducted by a suitably qualified person
Fill points, spill boxes, pumps and piping manifolds	Loss or gain	• For a dispenser with a pump located inside the dispenser unit, remove the covers and check valves and pipework for leaks, both while it's operating and when it's switched off. • For submersible pumps, lift the pump cover and check the wells for leaks. • For piping manifolds, lift the pit cover and check for any leak. • Check fill point seals and covers for damage.
Tank pit observation wells and groundwater monitoring wells	Loss	Check for any evidence of petroleum in the wells.
Vents	Loss	Check: • vent caps for any visible blockages • vents for evidence of petroleum blow-out at either vent outlet or below vents on ground or buildings.
Dispenser pumps are over or under dispensing	Loss or gain	Check that dispenser totals and console totals are: • recorded • operating within their accepted tolerances • within acceptable limits (as stated by the National Measurement Institute). Also check the maintenance schedule and calibration of dispensers and inspect under sump pump (if there is one).
Sales test	Loss or gain	• Determine tank and dispenser relationships by identifying single stock systems. • Establish opening stock datum and do not alter the single stock systems for the duration of the sales test. • During the sales test the operator should satisfy the requirements of the delivery procedures and run the test for five days or until the issue is resolved. • The final stock reconciliation should be performed by the person responsible for the UPSS operation.
Interstitial monitoring (where relevant)	Loss	Check that: • the system is active • leak detection measurements are within the manufacturer's tolerances • leak detection measurements have been recorded for the system. If any other losses outside the manufacturer's leak detection tolerances have been reported in the last six months, undertake further investigation to identify the source of the leak.
Equipment integrity test (EIT)	Loss or gain	If none of the above investigations reveals a reason for the discrepancy in the reconciliation records, an EIT may be required.

Leak investigations (continued from overleaf)

REQUIREMENTS & OBLIGATIONS



Under the *Environment Protection Act 1970,* it is an offence to pollute land, air and water (including groundwater).

In practice, this means all operational sites must have:

- a UPSS management system containing
  - information on who owns the UPSS/site and who is responsible for operating it
  - contact details for everyone involved
  - details about the design, installation, size and location of all the UPSS infrastructure (including tanks, pipes and fill parts)
  - a leak detection system that can detect a leak of **at least** 0.76 L/hour with greater than 95% confidence
  - document setting out leak prevention and detection procedures, including maintenance and testing activities
  - documented procedures for spill response and loss investigation
  - staff training
  - performance monitoring, modifications and review of UPSS management system
- a site plan
- a dangerous goods manifest
- spill kits.

Other requirements are outlined in:

- State Environment Protection Policy (Prevention and Management of Contamination of Land), No. S95, Gazette 4/6/2002 (in particular section 17)
- State Environment Protection Policy (Groundwaters of Victoria), No. S160, Gazette 17/12/1997 as varied 19/3/2002, No. G12, Gazette 21/3/2002
- State Environment Protection Policy (Waters of Victoria) 3/6/2003, No. S107, Gazette 4/6/2003
- *Bunding* guideline (EPA Publication 347).

Other relevant legislation and standards are outlined in:

- Dangerous Goods (Storage and Handling) Regulations 2012 (in particular Reg. 38 and 41)
- The Design, Installation and Operation of Underground Petroleum Storage Systems AS 4897 – 2008
- Pipelines – Gas and Liquid Petroleum – General Requirements AS 2885.0 – 2008/Amdt-2:2015
- Pipelines – Gas and Liquid Petroleum – Design and Construction AS 2885.1 – 2012
- Pipelines – Gas and Liquid Petroleum – Operation and Maintenance AS 2885.3 – 2012
- The Control of Undesirable Static Electricity AS/NZS 1020 – 1995
- The Storage and Handling of Flammable Combustible Liquids AS 1940 – 2017
- Steel Tanks for Flammable and Combustible Liquids AS 1692 – 2006
- The Removal and Disposal of Underground Petroleum Storage Tanks AS 4976 – 2008
- Petroleum Products – Pipeline, Road, Tanker Compartment and Underground Tank Identification AS 4977 – 2008
- Explosive Atmospheres – Classification of areas – Explosive gas atmospheres AS/NZS 60079.10.1:2009 (supersedes AS2430).

It is also important to be aware of the *Dangerous Goods Act 1985*, especially Part V – Accidents and Security:

An occupier or person in charge of premises where dangerous goods are manufactured, stored or sold, an owner or person in charge of a vehicle or boat used to transport dangerous goods and a person who uses, handles or transfers dangerous goods—

(a) must take all reasonable precautions for the prevention of—

(i) tampering, theft or unauthorised access;

(ii) any fire or explosion;

(iii) any leakage; or

(iv) any damage to property or danger to the public incurred by an accident—

involving dangerous goods in the ownership, control or possession of that person; and

(b) must not abandon, discard or otherwise neglect to dispose safely of any dangerous goods in the ownership, control or possession of that person.

STAFF TRAINING

It pays to train your staff in incident prevention and management. It will inform and remind them of the procedures that you have in place to reduce the likelihood of leaks and spills and tell them what to do if an incident occurs. Use this template to record training session details and make a note of any comments that arise from training.

Staff training schedule

Date	Training module	Attendees	Attendee signatures	Comments/Issues

FREQUENTLY ASKED QUESTIONS

Do EITs cause UPSS to leak?

EITs do not create leaks. Businesses that provide EITs have strict procedures in place to prevent this occurring.

Is the minimum standard of 0.76 L/hr for leak detection systems an allowable loss?

No. The default industry and government minimum standard for monitoring UPSS must be able to detect a leak of **at least** 0.76 L/hour (18 L/day) with greater than 95% confidence. This can result in a loss of up to 18 litres in a day – enough to significantly impact human health and the environment, as well as your profits and property. It can also result in enforcement actions (fines/penalty notices).

Do groundwater monitoring wells need to be sampled and analysed by a laboratory every month?

EPA Publication 888 recommends the operators of UPSS to conduct monthly observations of groundwater monitoring wells. A simple observation for any oily sheen on water and/or odour is all that is required. Immediately investigate any oily sheen or odour as it could indicate a leak.

WASTE DISPOSAL

The waste at fuel dispensing sites can be hazardous. You must ensure your waste is stored, transported and disposed of safely and legally. To find local waste collection services, waste facilities, recyclers and transporters, visit **businessrecycling.com.au**

Waste can typically include:

Lead acid batteries

Car batteries contain a variety of hazardous chemicals as well as valuable metals. There are regulations relating to the safe transport and disposal of lead acid batteries. Approximately 96% of them can be recycled. For more information visit **www.recyclingnearyou.com.au/car-batteries/MelbourneVIC**

Waste tyres

To dispose of old tyres, responsible options include:

- visiting the Australian Tyre Recyclers Association's (ATRA) website **atra.org.au** to search for ATRA members that collect tyres from your area (charges apply)
- visiting Tyre Stewardship Australia's website **tyrestewardship.org.au** to search for accredited tyre recyclers and collectors that service your area (charges apply)
- contacting your local waste and resource recovery group to identify disposal and recycling options in your local area **www.sustainability.vic.gov.au/wrrgs**
- contacting your local council to find out if you can use your local landfill.

Contaminated soil

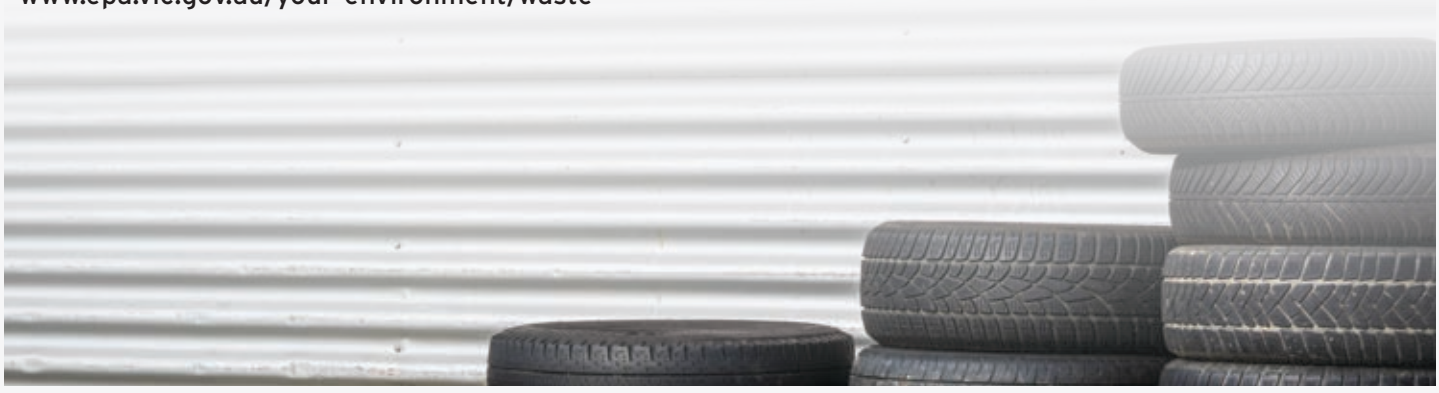
After a leak or spill, the surrounding soil will need to be analysed and categorised. Landfill operators will require analytical results to demonstrate that the contaminated soil meets the relevant licence condition. Refer to Industrial Waste Resource Guideline *Soil hazard categorisation and management* (EPA Publication IWRG621) **www.epa.vic.gov.au/publications** for more information.

Waste oil

While one litre of oil can contaminate one million litres of water, it can also be a valuable resource when recovered and reused. Many local council and waste management facilities will accept used oil for recycling and disposal purposes. You can search for liquid waste treatment facilities that are licensed by the EPA at **www.epa.vic.gov.au/business-and-industry/forms/prescribed-industrial-waste-database**

Spill kit materials used to contain and clean up fuel and other volatile substance spills should be categorised for appropriate disposal. Landfill operators will require analytical results to demonstrate that the contaminated soil meets the relevant criteria set out in their licence. If doubt exists as to which hazard category applies to a waste, seek advice from EPA. Refer to Industrial Waste Resource Guideline *Soil hazard categorisation and management* (EPA Publication IWRG621) **www.epa.vic.gov.au/publications** for more information.

For details on the legislative requirements related to these and other waste types visit **www.epa.vic.gov.au/your-environment/waste**



MAINTENANCE & SYSTEM CHECKS TEMPLATE

YEAR _____ MONTH _____

DAILY ACTIONS	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30	Day 31
Date																															
1 Dip tanks and record measurements																															
2 Dip E10 (bio-blend) tanks for water and dip all tanks after heavy rain																															
3 Remove water if above tolerance threshold																															
4 Check fill/dip points for damage																															
5 Check drains and remove blockages																															
6 Remove forecourt traffic hazards																															
7 Check spill kit contents, remove litter																															
8 Check collection pits and sump levels																															
9 Check hoses and nozzles for damage																															

WEEKLY ACTIONS	Week 1	Week 2	Week 3	Week 4	Week 5
1 Check dip stick for wear					
2 Dip tanks for water and remove water if present (non E10 & bio-blend)					
3 Dip tanks for water and begin investigation if water level is increasing					
4 Check vent points and remove blockages (if safe to do so)					
5 Check tank pit observation wells					
6 Check sump under pumps					

Monthly actions

Check SIRA report and immediately investigate all discrepancies including 'fail' and 'inconclusive' results.

Conduct observations of groundwater monitoring and tank pit observation wells.

Pre-delivery actions

Check fill point spill containment area for product/water. Remove liquid prior to delivery and store for appropriate waste disposal.

Annual actions (recommended to be undertaken by a suitably qualified and experienced person)

Service leak detection equipment i.e. mechanical line leak detectors, electronic line leak detectors, sensor etc.

Service cathodic protection systems.

Actions for new and modified tanks/systems

Ensure a suitably qualified person tests the system (including pipework) for leaks before and after burial in accordance with AS4897-2008 and EPA Publication 888.

Check equipment requirements when upgrading or modifying UPSS.

Waste disposal (overleaf)