

Refuelling

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EPA 934/10: This information sheet is part of a series on environmental management practices for vessel and facility management on marine and inland waters. The information is extracted from the code of practice published in 2008.

Introduction

The most frequently reported water pollution from the marina and boating industry is from fuel and oil. Spills from refuelling are of great concern due to the adverse effects on marine life and the amenity of aquatic environments. Small incremental discharges add up to significant impacts. Oily products contain carcinogenic polycyclic aromatic hydrocarbons (PAHs). These have been implicated with diseases in aquatic organisms and subsequent human health problems.

Who this applies to

- vessel operators
- slipway operators
- marina operators
- boat yard operators
- boat ramp operators
- boat and yacht club operators
- port operators

Operators must (required outcomes)

- 1 not keep, sell or convey petroleum products unless authorised to do so under a SafeWork SA licence
 - 2 ensure fuel dispensing facility is roofed and bunded
 - 3 install trigger delivery nozzles with an automatic cut-off
 - 4 display standard operating procedures which outline environment management practices
 - 5 place a fuel spill kit in close proximity to the facility, erect signage showing procedures for the kit's use and ensure it is accessible (ie not locked) at all times during refuelling operations
 - 6 refuel vessel fuel tanks at designated fuel dispensing facilities and observe instructions for use
- OR
- if refuelling with hand-held containers cannot be avoided, undertake measures to ensure no fuel is spilt into waters (refer to recommended practices for options)
- 7 ensure refuelling tankers have spill control equipment before contracting them for refuelling.

Operators should (recommended practices)

- 8 refuel away from other vessels
- 9 moor vessel securely
- 10 shut down main engine
- 11 put all passengers ashore and clear any refuelling equipment
- 12 turn off pilot light to gas refrigerators and hot water systems, etc
- 13 cut off electric power at main switch
- 14 close all hatches and openings to prevent ingress of vapours to the hull and bilge
- 15 check for static electricity
- 16 have an onboard vessel spill control kit (including fire-fighting equipment), commensurate with the size of the vessel, to access whilst refuelling
- 17 place spill control equipment near the refuelling point and use if needed
- 18 prior to refuelling, determine the likely volume to be pumped into each tank
- 19 make sure adequate lighting is available
- 20 block scuppers and place buckets or safety bags at each breather while refuelling
- 21 do not start dispensing until the outlet nozzle is inserted in the tank
- 22 never lock or jam the trigger of a dispenser into an open position
- 23 adjust flow rate to suit tank to be filled
- 24 be aware that the flow regulating valve in fuel dispensing nozzles may foam diesel fuel, resulting in blowback
- 25 maintain contact between hose nozzle and filler neck to prevent static sparks
- 26 maintain a visual check on the breather while refuelling
- 27 while filling the tank, where possible, check for air escaping from the vent. When the tank is nearly full, you will feel a distinct increase in airflow, which is the signal to stop filling
- 28 not remove the filler hose until the fuel flow has stopped
- 29 lift the filler hose to drain all residual fuel into the tank
- 30 be aware that traces of vapours may remain in the lower extremities of vessel (ie hull and bilges)
- 31 if fuel has spilt into bilges, pump the bilges manually into sealed containers or pump ashore and leave vessel wide open for at least 30 minutes to ventilate
- 32 only permit passengers aboard when the vessel is completely free of vapours and engine has been started again
- 33 when rolling or floating drums out to vessels is absolutely necessary, ensure caps on drums or belly tanks in dinghies are completely sealed
- 34 ensure drums and tanks are in good condition
- 35 wherever possible, use mechanical lifting aids to minimise the risk of damage. This reduces the chance of accidental spillage and personal injury
- 36 where possible, when decanting from small drums, one person should lift the drum and a second person should hold the funnel and check the fuel level
- 37 use manual pumping when decanting from large drums
- 38 where possible, avoid storing extra fuel supplies on vessels. If onboard storage of additional fuel is necessary, it must be kept in a secured approved flammable liquids container away from LPG storage cylinders

- 39 attempt to contain fuel and oil spills unless it is petrol. This is extremely flammable and spill containment should be left to professionals
- 40 if the spill is small, absorbent pads should be immediately placed on the spill and then removed and disposed of to a licensed waste facility
- 41 if the spill is large, professional help should immediately be sought. In the interim, try to contain the spill with available spill control equipment such as booms, mops and pads
- 42 dispose of used absorbent materials less than 0.1 m³ or 100 kg containing light to medium grade hydrocarbons to a licensed waste depot
- 43 if the quantity of used absorbent material exceeds 0.1 m³ or 100 kg, or the liquid absorbed is other than light to medium grade hydrocarbons, or the liquid includes 'listed wastes' as set out in Schedule 1 Part B of the Environment Protection Act 1993, the material should be directed to a licensed waste depot for appropriate treatment and/or disposal.

Service providers should (recommended practices)

- 44 ensure diesel fuel delivery nozzles are designed to minimise the foaming of diesel and avoid blowbacks
- 45 supply fuel collars (donuts) for drip containment on nozzles
- 46 regularly inspect and replace spill control equipment
- 47 establish a rule that refuelling must not be conducted over water in the marina unless it is conducted using the purpose-built dispensing facility
- 48 comply with the *EPA Guidelines: Assessment of underground storage systems* (2005)

Care with fuels and oils

Fuels and oils if handled incorrectly, and in the wrong environment can become volatile, resulting in harm to both life and property. Diesel is classed as nonflammable; however, petrol (used primarily in recreational boating) is classed as a dangerous good and extreme care should be taken when handling. SafeWork SA should be contacted for advice on requirements for handling of petroleum products at <www.safework.sa.gov.au>.

Underground storage systems

Underground storage systems (USS) are one of the major sources of soil and groundwater contamination. Groundwater contamination is a serious problem, as groundwater interacts with sensitive surface water and other ecosystems, and is used for drinking and irrigation. A number of operators are choosing to remove the risk of operating underground storage tanks altogether and are having them removed or made redundant (this usually involves sealing them off). Remediation may be necessary if the integrity of the storage tank has at any stage been compromised.

References

EPA, *EPA Guideline: Disposal of used hydrocarbon absorbent materials*,
www.epa.sa.gov.au/xstd_files/Waste/Guideline/guide_hydrocarbon.pdf.

EPA, *EPA Guideline: Bunding and spill management*,
www.epa.sa.gov.au/xstd_files/Waste/Guideline/guide_bunding.pdf.

EPA, *Code of Practice for vessel and facility management (marine and inland waters)*,
www.epa.sa.gov.au/xstd_files/Water/Code%20of%20practice/vessels.pdf

Department for Transport, Energy and Infrastructure, *Refuelling Guidelines*,
www.transport.sa.gov.au/pdfs/safety/refuelling_guide_23_6.pdf.

Australian Standard, AS 1940:2004–*The storage and handling of flammable and combustible liquids*, www.standards.org.au/.

SafeWork SA, *SafeWork SA Safeguards: Petroleum Products Class 3.1 Motor Spirit*, www.safework.sa.gov.au.

Useful websites

EPA Vessel and facility management pages, www.epa.sa.gov.au/vfm.

Disclaimer

This publication is a guide only and does not necessarily provide adequate information in relation to every situation. This publication seeks to explain your possible obligations in a helpful and accessible way. In doing so, however, some detail may not be captured. It is important, therefore, that you seek information from the EPA itself regarding your possible obligations and, where appropriate, that you seek your own legal advice.

Further information

Legislation

Legislation may be viewed at: <www.legislation.sa.gov.au>

Copies of legislation are available for purchase from:

Service SA Government Legislation Outlet
Adelaide Service SA Centre
108 North Terrace
Adelaide SA 5000

Telephone: 13 23 24
Facsimile: (08) 8204 1909
Website: <shop.service.sa.gov.au>

For general information please contact:

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