

do a little



change a lot



The Control of Pollution (Oil Storage) (Scotland) Regulations 2003

**A Consultation Paper including Draft
Regulations and Draft Guidance**

March 2003
Paper 2003/14



SCOTTISH EXECUTIVE

Making it work together

Scottish Executive Environment Group

**The Control of Pollution (Oil Storage)
(Scotland) Regulations 2003**

A Consultation Paper including Draft Regulations
and Draft Guidance

March 2003
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CONTENTS

Page

Purpose and Consultation Arrangements

Section 1	Introduction	1
Section 2	Contents of the draft Regulations	2
Annex A	The draft Regulations	4
Annex B	Regulatory Impact Assessment	11
Annex C	'Best Practice' Guidance	21

The Draft Control of Pollution (Oil Storage) (Scotland) Regulations 2003

PURPOSE

This Consultation Paper sets out the Scottish Executive's proposals for Regulations and guidance on the storage of oils and waste oils both outside and within buildings. Our intention is that regulations will codify existing good practice in order to prevent pollution of the water environment from any inadequate oil storage facilities and equipment. The Regulations are supported by advisory information giving recommended best practices and standards for equipment. A Regulatory Impact Assessment has also been undertaken and is included in this Paper.

CONSULTATION ARRANGEMENTS

We would welcome your views on the proposed draft Regulations, draft 'best practice' guidance and the draft Regulatory Impact Assessment that are attached at Annexes A-C.

Your comments on this consultation paper should reach us no later than **Monday 30 June 2003**. They should either be sent to:

Water Environment Unit, Freshwater Team
Scottish Executive Environment and Rural Affairs Department (SEERAD)
Area 1-H
Victoria Quay
EDINBURGH
EH6 6QQ

or you can e-mail your views to waterenvironment@scotland.gsi.gov.uk Alternatively, you can fax your comments to 0131 244 0245 or leave them on our voice mailbox 0131 244 7844

In order to help inform public debate on the matter covered by this paper, the Department intends to follow its usual practice of making available to the public, on request, copies of the responses received. We shall assume that responses can be made publicly available unless respondents indicate that all or part of their response is confidential; such confidentiality will be strictly respected.

The decisions on the response to the consultation will be for the next Executive to take, after the Scottish elections.

SECTION 1 - INTRODUCTION

The proposed *Control of Pollution (Oil Storage)(Scotland) Regulations 2003* will be made under the powers to take precautions to prevent pollution of rivers and coastal waters that are contained in Section 31A of the Control of Pollution Act 1974 (as amended). They will set minimum standards for all new and existing oil storage facilities located above ground, both outside and within buildings. The key requirement will be to have a secondary containment (a ‘bund’ or ‘drip tray’) to ensure that any leaking or spilt oil does not enter the water environment. The proposed regulations are set out in Annex A; they will come into force in 3 stages as explained in Section 2.

APPLICABILITY

The Regulations will apply to anybody who has custody or control of oil storage facilities, with certain exceptions listed in Section 2 (regulation 3). The people likely to be affected include those who are storing oil above ground, in a container with storage capacity of at least 200 litres, on industrial, commercial and institutional/residential premises. The proposed Regulations will also apply to waste oil storage facilities, along with relevant provisions of the *Waste Management Licensing Regulations 1994 (as amended)* and *Environmental Protection (Duty of Care) Regulations 1991*.

SEPA will be responsible for enforcing the proposed Regulations. Contact details for SEPA are provided at the end of Annex C.

The Regulations and supporting guidance apply to Scotland only. Equivalent provisions for England are provided in the DEFRA Guidance note and the *Control of Pollution (Oil Storage) (England) Regulations 2001*.

SECTION 2 - CONTENTS OF THE REGULATIONS

This section gives a brief summary of key points in the Regulations; the specific requirements are set out in the Regulations themselves in Annex A.

Regulations 1 and 7

It is proposed that the Regulations will come into force in 3 stages. In determining the entry into force date of the various provisions of the Regulations, regulation 1 must be read with regulation 7. It is intended that all new oil storage facilities must conform to the requirements of the Regulations 6 months after they are laid in Parliament. This is in order to give operators time to obtain planning permission. Regulation 7 sets out the dates for compliance for existing oil storage facilities, including mobile containers such as bowsers and drums, under transitional provisions. These are:

- within 2 years of the proposals being introduced in Parliament for facilities that are at significant risk due to their proximity to inland or coastal waters, wells or boreholes; or
- within 4 years of the proposals being introduced in Parliament for remaining facilities that are not a significant risk. This will include newly replaced, constructed, or substantially enlarged or reconstructed installations; or
- by the date specified in a notice, issued by SEPA under regulation 8, to minimise pollution risks to the water environment from an oil storage facility.

Regulation 2 contains definitions of key words used in the Regulations. It is clear from regulations 3 and 4 (read with regulation 2) that the Regulations apply to both fixed and mobile containers, and to oil of any kind including petrol, diesel and waste oils.

Regulation 3 makes clear that the Regulations apply to all oil storage containers that have a storage capacity of more than 200 litres and which are situated above ground (wholly or partly) whether inside or outside any premises. It lists the types of premises where the regulations do not apply (these being controlled under other legislation). Annex C gives examples and further information on the scope of these requirements.

Regulation 4 sets out the general requirements for the storage of oil. This includes the requirement for a secondary containment system - a further container to catch any oil leaking from the primary container or its ancillary pipework and equipment. This may take the form of a 'bund' used for primary containers, as illustrated in Annex C, including multiple drums or a drum storage area, or in the case of a mobile bowser or drum, a drip tray for preventing oil that is no longer in the container from escaping from the place where it is stored.

Regulation 5 sets out the specific requirements for fixed tanks, including intermediate bulk containers. Proprietary prefabricated tank systems that have an additional containment facility for attached pipework and ancillary equipment are considered to provide both primary and secondary containment. However, double skinned tanks are regarded as having only a primary containment (because of lack of space for ancillary equipment and pipework) and should be protected by a suitable bund.

Regulation 6 (and regulation 4) applies to mobile bowsers, except road tankers.

Regulation 8 provides powers for SEPA to serve a notice on the person having custody or control of oil stored in existing facilities (see above, regulations 1 and 7), where it considers there are significant risks to inland or coastal waters from oil storage facilities. These powers apply during the transitional period before the Regulations come into force for all categories of containers. The minimum period of compliance following such a notice is 28 days. The provision allows for the notice to be withdrawn or amended and the compliance period may be extended, for example, to take account of time needed to obtain planning permission, or to arrange for the contractor to do work, or due to extreme weather or site conditions.

Regulation 9 provides a right of appeal to Scottish Ministers against a notice under regulation 8, and

Regulation 10 sets out the offence provisions for a person with custody or control of any oil who is found to have breached the Regulations.

SCOTTISH STATUTORY INSTRUMENTS

2003 No.

WATER RESOURCES

The Control of Pollution (Oil Storage) (Scotland) Regulations 2003

<i>Made</i>	2003
<i>Laid before the Scottish Parliament</i>	2003
<i>Coming into force [6 months after date of laying but note effect of regulation 7]</i>	2003

The Scottish Ministers, in exercise of the powers conferred by sections 31A and 104(1)(a) and 105(1) of the Control of Pollution Act 1974⁽¹⁾ and of all other powers enabling them in that behalf, hereby make the following Regulations:

Citation, commencement and extent

1.—(1) These Regulations may be cited as the Control of Pollution (Oil Storage) (Scotland) Regulations 2003 and shall come into force on [6months after date of laying in Parliament, but note effect of regulation 7] 2003.

(2) These Regulations extend to Scotland only.

Interpretation

2.—(1) In these Regulations—

“container” means a fixed tank, a drum, a mobile bowser or (even if not connected to fixed pipework) an intermediate bulk container;

“drum” means an oil drum or similar container used for storing oil;

“fixed tank” includes an intermediate bulk container which is connected to fixed pipework;

“oil” means any kind of oil and includes petrol, diesel and waste oil;

“secondary containment system” means a drip tray, an area surrounded by a bund or any other system for preventing oil which is no longer in its container from escaping from the place where it is stored, and

“the parties to the appeal” are the appellant, SEPA and any person upon whom the appellant considers SEPA should instead have served a notice in accordance with regulation 9(3)(b) of these Regulations.

⁽¹⁾ 1974 c.40; section 31A was inserted by the Water Act 1989 (c.15), Schedule 23, paragraph 4 and section 31A(2) was amended by the Environmental Protection Act 1990 (c.43), section 145(2) and by the Environment Act 1995 (c.25), Schedule 22, paragraph 29(2); section 104 was amended by the Water Act 1989, Schedule 23, paragraph 7 and was repealed in part by the Environment Act 1995, Schedule 22, paragraph 29(34) and Schedule 24; section 105(1) contains definitions of “prescribed” and “regulations” which are relevant to the exercise of the statutory powers under which these Regulations are made. The functions of the Secretary of State were transferred to the Scottish Ministers by virtue of section 53 of the Scotland Act 1998 (c.46).

- (2) In these Regulations—
- (a) any reference to a numbered regulation is a reference to the regulation so numbered in these Regulations; and
 - (b) any reference in a regulation or the Schedule to a numbered paragraph is a reference to the paragraph so numbered in that regulation or Schedule.

Application of Regulations

3.—(1) Subject to paragraph (2), these Regulations apply to the storage of oil on any premises.

- (2) These Regulations do not apply to the storage of oil—
- (a) in any container which is situated wholly underground;
 - (b) in any container with a storage capacity of 200 litres or less;
 - (c) on any premises used—
 - (i) wholly or mainly as a private dwelling if the storage capacity of the container in which it is stored is 2500 litres or less;
 - (ii) for refining oil; or
 - (iii) for the onward distribution of oil to other places; or
 - (d) on any farm if the oil is for use in connection with agriculture within the meaning of the Agriculture (Scotland) Act 1948⁽²⁾.

Requirements for storage oil – general

4.—(1) Oil shall be stored in a container which is of sufficient strength and structural integrity to ensure that it is unlikely to burst or leak in its ordinary use.

- (2) The container must be situated within a secondary containment system which satisfies the following requirements—
- (a) subject to paragraph (5), it must have a capacity of not less than 110% of the container's storage capacity or, if there is more than one container within the system, of not less than 110% of the largest container's storage capacity or 25% of their aggregate storage capacity, whichever is the greater;
 - (b) it must be positioned, or other steps must be taken, so as to minimise any risk of damage by impact so far as is reasonably practicable;
 - (c) its base and walls must be impermeable to water and oil;
 - (d) its base and walls must not be penetrated by any valve, pipe or other opening which is used for draining the system; and
 - (e) if any fill pipe, or draw off pipe, penetrates its base or any of its walls, the junction of the pipe with the base or walls must be adequately sealed to prevent oil escaping from the system.
- (3) Any valve, filter, sight gauge, vent pipe or other equipment ancillary to the container (other than a fill pipe or draw off pipe or, if the oil has a flashpoint of less than 32°C, a pump) must be situated within the secondary containment system.

⁽²⁾ 1948 c.45.

(4) Where a fill pipe is not within the secondary containment system, a drip tray must be used to catch any oil spilled when the container is being filled with oil.

(5) Where any drum is used for the storage of oil in conjunction with a drip tray as the secondary containment system, it is sufficient if the tray has a capacity of not less than 25% of–

- (a) the drum's storage capacity; or
- (b) if there is more than one drum used at the same time with the tray, the aggregate storage capacity of the drums.

(6) There must not be any direct outlet connecting the [secondary containment system] to any drain, sewer or watercourse and there must not be any discharges onto a yard or unmade ground.

Fixed tanks

5.—(1) Any fixed tank used for storing oil shall satisfy the following requirements.

(2) Any sight gauge must be properly supported and fitted with a valve which must be closed automatically when not in use.

(3) Any fill pipe, draw off pipe or overflow pipe must be positioned, or other steps must be taken, so as to minimise any risk of damage by impact so far as is reasonably practicable and–

- (a) if above ground, must be properly supported;
- (b) if underground–
 - (i) must have no mechanical joints, except at a place which is accessible for inspection by removing a hatch or cover;
 - (ii) must be adequately protected from physical damage;
 - (iii) must have adequate facilities for detecting any leaks;
 - (iv) if fitted with a leakage detection device which is used continuously to monitor for leaks, the detection device must be maintained in working order and tested at appropriate intervals to ensure that it works properly; and
 - (v) if not fitted with such a device, must be tested for leaks before it is first used and further tests for leaks must be performed, in the case of pipes which have mechanical joints, at least once in every 5 years and, in other cases, at least once in every 10 years; and
- (c) if made of materials which are liable to corrosion, must be adequately protected against corrosion.

(4) The tank must be fitted with an automatic overfill prevention device if the filling operation is controlled from a place where it is not reasonably practicable to observe the tank and any vent pipe.

(5) Where a screw fitting or other fixed coupling is fitted, it must be maintained in good condition and used whenever the tank is being filled with oil.

(6) Where oil from the tank is delivered through a flexible pipe which is permanently attached to the container–

- (a) the pipe must be fitted with a tap or valve at the delivery end which closes automatically when not in use;
- (b) the tap or valve must not be capable of being fixed in the open position unless the pipe is fitted with an automatic shut off device;

- (c) the pipe must be enclosed in a secure cabinet which is locked shut when not in use and is equipped with a drip tray, or the pipe must–
 - (i) have a lockable valve where it leaves the container which is locked shut when not in use; and
 - (ii) be kept within the secondary containment system when not in use.
- (7) Any pump must be–
- (a) fitted with a non-return valve in its feed line;
 - (b) positioned, or other steps must be taken, so as to minimise any risk of damage by impact so far as is reasonably practicable; and
 - (c) protected from unauthorised use.
- (8) Any permanent vent pipe, tap or valve through which oil can be discharged from the tank to the open must satisfy the following requirements–
- (a) it must be situated within the secondary containment system;
 - (b) it must be arranged so as to discharge the oil vertically downwards and be contained within the system; and
 - (c) in the case of a tap or valve, it must be fitted with a lock and locked shut when not in use.

Mobile bowzers

6.—(1) Any mobile bowser used for storing oil shall satisfy the following requirements.

- (2) Any tap or valve permanently fixed to the mobile bowser through which oil can be discharged to the open must be fitted with a lock and locked shut when not in use.
- (3) Where oil is delivered through a flexible pipe which is permanently attached to the mobile bowser–
 - (a) the pipe must be fitted with a manually operated pump or with a valve at the delivery end which closes automatically when not in use;
 - (b) the pump or valve must be provided with a lock and locked shut when not in use;
 - (c) the pipe must be fitted with a lockable valve at the end where it leaves the container and must be locked shut when not in use; and
 - (d) any sight gauge tanks must be fitted with a valve or tap which must be locked in the shut position when not in use.

Transitional provisions

7.—(1) Subject to paragraphs (2) and (3), the preceding provisions of these Regulations shall not apply until 2007 to the storage of oil in any container if the container was used for that purpose on any premises before 2003.

(2) Subject to paragraph (3), if the container or, if there is more than one container within the secondary containment system, any of them is situated less than—

- (a) 10 metres away from any inland or coastal waters; or
- (b) 50 metres away from a well or borehole,

the preceding provisions of these Regulations shall apply from 2005.

(3) If a notice served under regulation 8 is not complied with in relation to any container by the date specified in the notice, the preceding provisions of these Regulations shall apply from whichever is the latest of the following—

- (a) the date specified in the notice;
- (b) if the period for compliance is extended under regulation 8(4), the expiry of that extension; or
- (c) if there is an appeal against the notice, the date on which that appeal is determined or withdrawn.

Notices to minimise pollution risks in transitional cases

8.—(1) In a case where—

- (a) regulation 7(1) or (2) applies; or
- (b) SEPA otherwise considers that there is a significant risk of pollution of inland coastal waters from the entry of oil into those waters if steps are not immediately taken to minimise that risk,

SEPA may serve a notice on the person having custody or control of that oil requiring that person to carry out such works, take such precautions or such other steps as, in the opinion of SEPA, is appropriate for minimising that risk having regard to the requirements of regulations 4 to 6.

(2) The notice shall—

- (a) specify or describe the works, precautions or other steps which the person is required to carry out or take;
- (b) state the period within which any such requirement is to be complied with; and
- (c) inform that person of their rights under regulation 9.

(3) The period for compliance shall be such period as is reasonable in the circumstances and shall not in any case be less than 28 days.

(4) SEPA may at any time—

- (a) withdraw the notice;
- (b) extend the period for compliance with any requirement of the notice;
- (c) with the consent of the person on whom it is served, modify the requirements of the notice,

and shall do so if so directed by the Scottish Ministers under regulation 9(5).

Right of appeal in transitional cases

9.—(1) A person served with a notice under regulation 8 may within the period of 28 days beginning with the day on which the notice is served (or within such longer period as the Scottish Ministers may allow) appeal to the Scottish Ministers against the notice.

- (2) An appeal under this regulation shall be made by the appellant serving notice on the Scottish Ministers and the notice shall contain or be accompanied by a statement of the grounds of appeal.
- (3) At the same time as the appellant gives notice of the appeal to the Scottish Ministers, the appellant shall send a copy of the notice of appeal and any accompanying statement to
- (a) SEPA; and
 - (b) where a ground of appeal is that the appellant considers, having regard to the terms of regulation 8(1), that the notice should instead have been served on some other person, that person.
- (4) Before determining an appeal the Scottish Ministers shall—
- (a) take into account any written representations of the parties to the appeal; and
 - (b) if requested to do so by any party to the appeal afford them the opportunity of appearing before and being heard by a person appointed by the Scottish Ministers for the purpose.
- (5) On determining an appeal the Scottish Ministers may direct SEPA to withdraw the notice served under regulation 8, to modify its requirements, to extend the period for compliance with any requirement or to dismiss the appeal.
- (6) The period for compliance with a notice served to under regulation 8 shall, subject to any direction under paragraph (5), be extended so that it expires on the date on which the Scottish Ministers determine the appeal or, if the appeal is withdrawn, the date on which it is withdrawn.

Offences

10.—(1) A person who has custody or control of any oil in circumstances in which there is a contravention of any provision of regulations 4 to 6 or the requirements of a notice under regulation 8 shall be guilty of an offence and shall be liable—

- (a) on summary conviction to imprisonment not exceeding 3 months or to a fine not exceeding £20,000 or to both; or
- (b) on conviction on indictment, to imprisonment for a term not exceeding two years or to a fine or both.

(2) Where an offence under paragraph (1) is committed by a body corporate or a partnership and is proved to have been committed with the consent or connivance of, or to be attributable to any neglect on the part of, any director, manager, secretary or similar officer of the body corporate, or any person who was purporting to act in such capacity (or in the case of a partnership, a partner or a person who was purporting to act as such), that person as well as the body corporate or the partnership, as the case may be, shall be guilty of the offence and shall be liable to be proceeded against and punished accordingly.

(3) Where the affairs of a body corporate are managed by its members, paragraph (2) shall apply in relation to the acts and defaults of a member in connection with the members management functions as if the member were a director of the body corporate.

St Andrew's House,
Edinburgh

2003

A member of the Scottish Executive

EXPLANATORY NOTE

(This note is not part of the Regulations)

These Regulations, which extend to Scotland only, require a person having custody or control of oil to carry out certain works and take certain precautions and other steps for preventing pollution of any inland or coastal waters.

Regulation 3(2) sets out circumstances in which these Regulations do not apply to the storage of oil.

Regulation 4 imposes general requirements in relation to the storage of oil. Additional requirements which apply to specific types of container are imposed by regulation 5 (fixed tanks) and regulation 6 (mobile bowsers).

Regulation 7 contains transitional provisions. Where in a transitional case SEPA considers that there is a significant risk of pollution of inland or coastal waters from the oil in question it has the power to serve a notice on the person having custody or control to minimise the risk (see regulation 8). A person served with a notice has a right of appeal to the Scottish Ministers under regulation 9.

Failure to comply with any of the requirements of regulations 4 to 6 or a notice under regulation 8 is a criminal offence (see regulation 10), punishable on conviction on indictment to imprisonment for a term not exceeding 2 years or to an unlimited fine or both or on summary conviction to imprisonment for a term not exceeding 3 months or a fine not exceeding £20,000 or to both.

REGULATORY AND ENVIRONMENTAL IMPACT ASSESSMENT

TITLE

The Control of Pollution (Oil Storage) (Scotland) Regulations 2003.

PURPOSE AND INTENDED EFFECT OF THE MEASURE

(i) Issue and objective

1. There has been a rising trend in oil-related water pollution incidents in Scotland in recent years, especially in the number of incidents since 1997. Every year there are over 500 recorded water pollution incidents caused by oil, of which some 70 are serious incidents. This is around 30% of all water pollution incidents. Incidents were mainly due to leaks from unbunded tanks, inadequate storage facilities and equipment, vandalism and poor management/human error.

2. Oil is considered to be a 'List I' substance within the meaning of the EC Directives on Dangerous Substances (76/464/EEC) and Groundwater (80/68/EEC) and the environmental damage caused as a result of these incidents can be significant and expensive to remedy. The UK Government is required by the directives to prevent pollution of the water environment from toxic substances rather than to treat pollution incidents after the event. The proposed regulations would contribute to the implementation of the EC Directives by complementing and enhancing existing water pollution controls in Scotland. They should ensure that, in the future, contamination of controlled waters by oil is prevented or minimised. Similar measures are already in place in England.

3. The proposed Regulations would set design standards for new and existing above ground oil storage facilities, mainly affecting the industrial, commercial and institutional sectors. The key requirement would be provision of secondary containment (a 'bund' or 'drip-tray') to ensure that any leaking or spilt oil cannot enter inland or coastal waters. The proposals would come into force in three stages following the introduction of the proposed Regulations in the Scottish Parliament:

- new tanks would have to comply within six months (in 2003-04);
- existing tanks at 'significant risk' (defined as facilities which are located within 10 metres of a watercourse or 50 metres of a borehole or well — though SEPA would have flexibility to issue a 'transitional notice' where there were other circumstances which it considered posed a significant risk) would have to comply within two years (in 2005-6); and
- Remaining existing tanks would have to comply within four years (in 2007-8).

4. The objective of the proposed Regulations would be to reduce the number of oil-related water pollution incidents by the year 2007 by about 250-300 per annum compared to 2000 levels. The proposals would mainly affect industrial, commercial, institutional (residential and non-residential) premises with new and existing above ground oil storage facilities in Scotland and would affect all such existing unbunded and inadequately banded tanks (approximately 60% of the overall existing stock), and any similar new stock. It should reduce the number of oil-related water pollution incidents by three-fifths, since SEPA has shown that unbanded and inadequately banded existing tanks are much more likely to cause a pollution incident. This view is supported by a sample study carried out in 1993/94 by the predecessor of the Environment Agency, which found that 60%-90% of oil-related pollution incidents resulted from poor storage facilities, eg unbanded tanks, leaking tanks and pipes, faulty valves, overfilling, vandalism, mobile plant, poor management and construction practices. In addition, some further reduction in incidents may be achieved from the impact of the proposals on inadequate equipment, vandalism or management practices.

(ii) Risk assessment

5. Oil spills are objectionable aesthetically but, more seriously, place all aquatic organisms at risk. Oil forms a film on the surface of rivers and lochs, which prevents or greatly reduces the rate at which atmospheric oxygen can be absorbed into water. This causes distress and even death to aquatic life. Oil may adhere to the feathers and coats of birds and animals reducing their natural waterproofing and has toxic effects. It also contaminates drinking water supplies and water used for irrigation, stock watering and many industrial purposes, and gives rise to problems in recreational waters. These effects cannot easily be costed, but are clearly severely detrimental to ecosystems.

OPTIONS

(i) Identified options

6. Three options have been identified to reduce the number of oil pollution incidents from industrial oil storage facilities and compared to the 'business as usual' or 'do nothing' option, as follows:

- Option 1: do nothing, or 'business as usual' scenario;
- Option 2: introduce a voluntary scheme
- Option 3: use economic incentives such as grants and tax breaks; or
- Option 4: regulate

(ii) Issues of equity or fairness

7. The proposed Regulations would create a 'level playing field' for oil consumers, ie those who own oil storage facilities in the industrial, commercial and institutional (eg public and voluntary organisations and institutional-residential premises and multi-occupier dwellings) market sectors. They would introduce similar requirements to control oil storage facilities in the agricultural sector implemented under The Control of Pollution (Silage, Slurry

and Agricultural Fuel Oil) Regulations 1991 (amended in 2001). The proposed Regulations would thus help ensure equity and fairness throughout all sectors of the economy, except for single dwellings in the domestic sector. The cost of meeting the minimum standards proposed by the Regulations would be likely to be proportionally greater for operators of small tanks, such as small businesses and voluntary groups.

8. Householders occupying single dwelling houses in the domestic sector owning heating oil storage tanks (largely found outside conurbations) would be exempted from these proposed Regulations, as the risk of water pollution from this sector is less than the costs of compliance with our regulatory proposals, if the tank concerned had a capacity of less than 2,500 litres. However, similar controls for domestic heating oil storage tanks are applied by the Building Standard (Scotland) Regulations 1990 (as amended).

9. The proposed Regulations are likely to affect the market for tanks and bunds and may encourage production of less expensive plastic integrally banded tanks at the smaller end of the market. This would be likely to benefit small businesses and voluntary groups as the costs of installation are lower. If this happens, it would have some effect on the market share of tank manufacturers and firms installing brick or concrete bunds, whose markets may shrink unless they can diversify.

BENEFITS

(i) Identify the benefits

10. The principal benefit of the proposals would be the reduction in the number of oil-related water pollution incidents in Scotland. This would reduce the risk to wildlife and help to safeguard surface waters, groundwaters and drinking water supplies. These measures would help to protect the water environment. Additionally, the reduction of further pollution to land and controlled waters would reduce the costs of remediation of contaminated land in the future.

(ii) Quantifying and valuing the benefits

11. It is difficult to quantify the benefits of the proposed Regulations to the sustainability of the water environment. However, the main quantifiable benefits of the 'do something' options (2-4) would stem from reducing the costs of remediating land and waters, ie lower clean-up costs.

- Option 1 — *do nothing or 'business as usual' scenario*. There are no benefits as industrial sites would be uncontrolled and the risk of pollution would continue at current high levels, except to the extent that businesses take voluntary action.
- Option 2 — *introduce a voluntary scheme*. This is similar to the Option 1 'business as usual' case. SEPA has produced several 'Pollution Prevention Guidelines' concerning the safe handling of oil, including oil storage, and has conducted a moderately successful Oil Care Campaign since 1999. SEPA has worked closely with the oil industry and businesses to educate operators about good environmental practices. However, the scheme has not demonstrably reduced the number of oil-related water pollution incidents. We do not consider that a voluntary scheme, such as a code of

practice, is likely to achieve much more than the existing guidance and the clean-up costs would remain similar to those at Option 1.

- Option 3 — *to use economic incentives such as grants and tax breaks.* This option runs against the ‘polluter pays’ principle as the environmental costs are subsidised. The availability of grants would almost certainly encourage tank operators to improve oil storage to reasonable standards. However, there would be no guarantee that grants would lead to an improvement in all tanks. A grant of less than 100% of the marginal costs (ie the extra costs of buying a bunded tank) would still leave tank operators facing extra expenditure and it is likely that a number of them would choose not to comply. Furthermore, it is estimated that there may be around 4,500 new oil storage tanks sold annually in the industrial, commercial and institutional sectors. Providing grants to finance the extra costs for this number of tanks would be very expensive.

- Option 4 — *to regulate.* We consider that this option would be the best way of controlling the number of oil-related water pollution incidents and ensuring equity and fairness between operators, as far as possible. In consultation with environmental clean-up companies, SEPA and the Institute of Petroleum, the consultants have estimated a range of benefits based on actual incidents occurring in all sectors and for different tank capacities of about £400-£254,000. The average range of benefits (at 1999 prices) is estimated to be around £11,000-£239,000 per incident in avoided clean-up costs, reimbursement to SEPA and replacing lost fuel. For a typical business with tank sizes of 2,500-5,000 litres the benefits would be £11,000-£30,000 per incident. In addition, polluters may face prosecution and fines of up to £20,000 per incident.

For businesses overall, we estimate that there are total quantifiable recurring benefits of some £1.8m-£7 million per annum for new tanks (at 1999 prices). If we also regulate existing tanks as proposed (those at significant risk within 2 years and the remainder within 4 years), we expect the total benefits of the proposals at 1999 prices would be approximately £30 million by the target year of 2007. These one-off benefits would be in addition to the recurring benefits of regulating new tanks.

COMPLIANCE COSTS FOR BUSINESS, CHARITIES AND VOLUNTARY ORGANISATIONS

(i) **Business sectors affected**

12. The proposed Regulations would have an impact on the following sectors:

- Consumers: Oil consumers, ie operators of oil storage facilities in Scotland in the industrial, commercial, institutional sectors, would be responsible for meeting the requirements of the proposed Regulations. A large number of consumers would be affected. In 1998, there were estimated to be over 102,000 existing above ground oil storage tanks (of which 12,500 were in the industrial, 58,000 in the commercial and 31,000 in the institutional sectors) in the non-domestic consumer market. An estimated 4,538 new above ground tanks are purchased annually (of which, 728 are in the industrial, 2,272 in the commercial and 1,538 in the institutional sectors) most of which are likely to replace existing tanks (which are assumed to be replaced every 25 years).

- Suppliers: Tank manufacturers, oil distributors/deliverers, and firms fitting, installing and maintaining tanks and bunds would be affected indirectly. Suppliers would need to meet the increased demand for tanks, pipework and bunds to the standard required in the Regulations within the timescale for compliance. Thereafter, annual sales could be expected to stabilise at a lower level. There are only a few suppliers of oil equipment in the UK. Suppliers have been consulted about any cost-benefit information in the small business ‘litmus test’.

(ii) Compliance costs for a ‘typical’ business

13. The costs of Options 1-3 would be minimal for business. In consultation with SEPA, DEFRA and OFTEC the oil trade association, the consultants have carried out a cost-benefit study of the costs of the Regulations (Option 4) for Scotland for the types of business or organisations most likely to be affected, ie oil consumers in the industrial, commercial and institutional sectors. The study estimates the one-off costs of installing new integrally bunded tanks, which are likely to be cheaper than buying an unbunded tank and building a separate brick bund; and the one-off costs of upgrading existing tanks within 2 years for those at ‘significant risk’ and within 4 years for the remainder. The costs will vary according to the total oil storage capacity at each premise. For convenience, they estimated the cost of purchasing or upgrading an individual tank at different tank capacities and consider that small businesses and those with small oil storage facilities should anticipate costs at the lower end of the range.

NON-RECURRING COSTS

14. The main compliance costs to firms is the one-off cost of upgrading an existing tank or installing a new tank to the required design specification, and in particular providing a bund. The costs will vary depending on tank capacity, which can be 1,000 litres at the lower end and 150,000 litres at the upper end. Most tanks affected by the proposed Regulations will have a capacity of about 2,500-5,000 litres and they consider that these will be typical businesses. Small businesses are likely to have a tank capacity in the range of 1,000-2,500 litres.

Costs of installing new bunded tanks

15. It is assumed that new integrally bunded above ground tanks are purchased. There are no additional labour costs beyond the cost that would have been incurred under the ‘business as usual’ scenario. There may be marginal additional costs for pipework and mobile tank requirements, but we have been unable to cost these. They estimate that the typical business is likely to face additional costs for installing new bunded tanks of £265—£487, and small businesses are likely to face additional costs of £211- £265. The full range of costs for different tank capacities is below:

Tank capacity (litres)	1,000	1,500	2,500	5,000	30,000	50,000	150,000
Extra cost of bund	£211	£263	£265	£487	£1898	£2960	£12,647

(1999 prices)

Costs of upgrading existing tanks

16. The additional costs of upgrading existing above ground tanks will vary enormously depending on the amount of work that is needed to bring the facilities up to the standard in the proposals and the age of unbunded tanks. Tanks may require remedial work or have to be completely replaced with a new integrally banded tank.

17. The typical business is likely to face additional costs in year 4 for upgrading existing tanks of some £1,000 (£867 at 1999 prices), and small businesses are likely to face additional costs of some £500 (£460 at 1999 prices). The full range of costs for different tank capacities is given below, assuming a 'worst case' scenario.

Tank capacity (litres)	1,000	1,500	2,500	5,000	30,000	50,000	150,000
Cost for tank where bund requires some remedial work	£200	£200	£200	£200	£200	£200	£200
Marginal cost for tank requiring complete replacement*, including £200 installation cost	£390	£460	£543	£867	£3,11503	£4,756	£16,646

*Note: This cost is dependent on the age of the tank after 4 years when the proposed Regulations come into force. It provides an example of the most expensive scenario, a 4 year old tank which -assuming an average lifespan of 25 years- would have had another 21 years of use. (1999 prices)

RECURRING COSTS

18. The main recurring cost is likely to be routine maintenance to ensure the reasonable standards proposed in the Regulations are met at all times, through an annual inspection and service. Maintenance proposals would not be onerous as storage tanks have few mechanical features and brick or concrete bund construction is very durable. Plastic integrally banded tanks have minimal maintenance requirements. These costs have not been included as routine maintenance could be incurred whether or not the proposals are introduced.

19. There are likely to be recurring costs for the minority of businesses in the supplier market. For many firms this is likely to be increased demand for products to meet the timing proposals in the Regulations, followed by some reduction in sales and thus lower profits in the interim years until new tanks are purchased. However, the cyclical nature of the loss of profits may be offset to some extent by the number of existing tanks that currently meet the proposals in the Regulations and the timing of any maintenance required. We have not been able to quantify these costs.

(iii) Total compliance costs

20. We estimate that the total recurring and non-recurring compliance costs for the oil consumers affected by the proposed Regulations in the industrial, commercial and institutional sectors would be as set out in paragraphs 21-23.

21. The number of new tanks purchased per annum in all sectors is 4,500 (based on 1998 figures provided by OFTEC). SEPA estimate that some 60-90% of new tanks purchased in the absence of Regulations would have been banded anyway and would comply with our proposals. Therefore, the extra cost of the proposed Regulations (mainly the bund)

would be for those 10-40% of tanks which otherwise would have been bought unbunded. Taking this into account, the total recurring compliance costs for new tanks in all sectors in Scotland is estimated to be £0.2-0.7 million (at 1999 prices).

22. Based on 1998 OFTEC data, it is estimated that there are 102,000 existing tanks. SEPA estimates that 60% of these are banded and, of these, 33% have an inadequate band. If we take a ‘worst case’ scenario, where we assume that 60% of existing stock is unbanded or inadequately banded, and the additional cost of the proposals would require complete replacement of the band. The total non-recurring costs (at 1999 prices) for existing tanks in all sectors in Scotland to comply with the proposals (within 2 years for tanks at significant risk and 4 years for the remaining tanks) is estimated to be £14 million over 4 years (by 2007) (at 1999 prices).

23. We estimate that the combined total compliance costs of our proposals at paragraph 22 (discounted to 1999 prices) as follows:

All sectors and tank sizes	Expected total costs
Additional recurring costs of purchasing new tanks	£0.2-0.7 m per annum
Additional non-recurring costs of upgrading existing tanks at ‘significant risk’ within 2 years and additional non-recurring costs of upgrading remaining existing tanks within 4 years	£14 million

CONSULTATION WITH SMALL BUSINESS: THE ‘LITMUS TEST’

24. We have consulted selected small businesses in the consumer (industrial, commercial and institutional premises) and supplier sectors prior to the consultation period by carrying out a litmus test, which assessed the impact of the proposals in the Regulations on small businesses. Although for most businesses there were some additional costs, the test showed it was not likely to affect their competitiveness or profitability. Overall the test found that there would be no significant impact to business and that the costs were in line with those used in the regulatory impact assessment.

IDENTIFY ANY OTHER COSTS

25. We have estimated the costs to the environment of options 1 and 2. These figures become the benefits to the environment of regulating (option 4) by avoidance of clean-up costs.

26. It is possible that the oil consumer sector would pass on the costs of compliance with the proposed Regulations to citizens by increasing the prices of goods and services. However, many may simply absorb the additional costs and overall we estimate that the impact on inflation would be minimal.

27. There would also be costs to Government. As regulator and enforcer, SEPA would monitor and enforce the proposed Regulations at an estimated cost of £50,000 in 2003/04. There would probably be further enforcement costs for the proposals in two and four years after the introduction of Regulations, estimated at £10,000 in 2005 and £20,000 in 2007. Costs would be at a minimal maintenance level thereafter to ensure that the maintenance proposals were met. These costs are significantly lower than the cost of using existing powers at individual sites and the costs to SEPA of cleaning up a pollution incident. The proposed Regulations would therefore significantly reduce the burden on SEPA of oil-related water pollution incidents.

28. Local authorities do not bear any enforcement costs, though local authorities storing oil would need to meet the requirements of these proposals.

RESULTS OF CONSULTATIONS

29. The proposals and the regulatory impact assessment have been discussed extensively with the oil industry, initially in connection with proposals for the Regulations in England. The Regulations take account of comments made by industry, regulatory and environmental interests in a preliminary formal three month consultation and subsequently in the April 2000 consultation.

SUMMARY AND RECOMMENDATIONS

30. Non-recurring compliance cost-benefits of Option 4 for a ‘typical business’ in the oil consumer market are likely to be:

Typical business	Expected costs per tank 2,500 - 5,000 litres for tank	@ Expected benefits per incident @ 2,500 - 5,000 litres
Purchase new facilities	£304-541	£11,000 — £30,000
Upgrade existing facilities	minimal-£867	£11,000 — £30,000

(1999 prices)

31. Recurring costs for maintenance, such as an annual inspection and service, have not been included as they could be incurred whether or not the proposals are introduced. A minority of businesses supplying oil tanks and equipment may incur recurring costs in terms of loss of profits. We have been unable to quantify these.

32. Total compliance cost-benefits of Option 4 for businesses in the oil consumer market and for Government would be recurring for newly purchased tanks, assuming that the level of unbundled or inadequately bundled stock remained the same if the proposals were not introduced. We have also estimated that total non-recurring costs of the proposals to regulate existing stock at ‘significant risk’ within 2 years and remaining existing stock within 4 years. There are no recurring costs of the proposals to regulate existing stock. Estimated total costs (at 1999 prices) are likely to be in the range:

All sectors and tank sizes	Expected total costs	Expected total benefits of reduction in clean-up
Business: additional recurring costs of purchasing new tank, bund	£0.2m – 5.5m per annum	£1.8m – £7m per annum
Business: additional one-off cost of ‘worst case’ upgrade of existing tank at significant risk within 2 years and remainder within 4 years	£14m for existing stock with 2 year and 4 year compliance	£30m for existing stock with 2 year and 4 year compliance
Government: additional one-off costs of monitoring and enforcement	£50,000 in 2003/04, further costs in 2 and 4 years and minimal costs thereafter	Costs avoided of attending pollution incidents, typically £190-£2,000 per incident

(1999 prices)

33. The historic high incidence of water pollution from inadequate oil storage facilities justifies statutory measures to protect the environment. We recommend that the proposed Regulations are brought into force as soon as possible under the Control of Pollution Act 1974 so that the unquantifiable and the identified quantifiable benefits to the environment can commence.

ENFORCEMENT, SANCTIONS, MONITORING AND REVIEW

34. The Executive and SEPA would jointly issue a publicity leaflet to alert oil consumers of their responsibility for complying with the proposed Regulations. This would be issued to consumers with the help of the oil industry trade associations who deliver oil to industrial, commercial and institutional oil storage premises. The Executive would also issue detailed guidance explaining the proposed Regulations.

35. In consultation with the Executive, SEPA would issue guidance and undertake training of regional staff to ensure that the proposed Regulations were implemented, monitored and enforced fairly and equitably across Scotland.

36. The proposed Regulations provide for operators of oil storage facilities (oil consumers) in breach to be prosecuted and for penalties to be imposed. SEPA would be sympathetic to the difficulties facing small businesses and organisations and would encourage them to comply with the proposed Regulations so that any sanctions for non-compliance were proportionate to the problem.

37. SEPA would monitor compliance with the proposed Regulations in the data that is collected for the annual report on pollution incident statistics. SEPA would ensure that monitoring data is consistent across Scotland. If the proposals were introduced, we would formally review the effectiveness of the Regulations and consider if the reasonable standards are appropriate in the light of further developments five years after the proposals are introduced.

Contact point:

Angela Paul

Water Environment Unit

Scottish Executive Environment and Rural Affairs Department

Area: 1-H

Victoria Quay

Edinburgh

EH6 6QQ

Telephone: 0131-244-1413

Facsimile: 0131-244-0245

E-mail: angela.paul@scotland.gsi.gov.uk

GUIDANCE NOTE FOR THE CONTROL OF POLLUTION (OIL STORAGE)(SCOTLAND) REGULATIONS 2003

PURPOSE OF THIS GUIDANCE DOCUMENT

1. The purpose of this guidance is to provide background information on the proposed *Oil Storage (Scotland) Regulations*, and outline recommended 'best practice' measures that go beyond the requirements of the legislation. For example, the guidance distinguishes between the proposed regulatory requirements by using 'must' and those recommendations that go beyond the statutory requirements by using 'should'.
2. This guidance outlines the key requirements of the Regulations for those affected by the proposed changes. It is not a substitute for the Regulations and is not intended to have legal force. We recommend that you refer to the precise provisions and requirements of the Regulations. There is a duty both to avoid causing pollution and to comply with the Regulations and other relevant legislation. There may be variations in local conditions that may imply more stringent standards on some premises storing oil in order to prevent pollution.

Reasons for the Regulations

3. There has been a rising trend in oil-related water pollution incidents in Scotland in recent years, especially in the number of significant incidents since 1997. Every year in Scotland there are over 500 recorded water pollution incidents caused by oil, of which approximately 70 are serious incidents. According to SEPA's *Annual Report 1999-2000*, oil pollution is the second most common source of pollution in Scotland and oil pollution accounts for more than a third of all Scottish pollution incidents.
4. The increase in water pollution from oil in recent years has been attributed to inadequate storage and management of oil supplies (eg in tanks, drums, bowsers). The Scottish Executive is obliged to fulfil the requirements of the EC Dangerous Substances and Groundwater Directives to prevent pollution of the water environment by List I substances³ as well as ensuring that measures are taken to treat pollution incidents after the event. The proposed Regulations will contribute to the implementation of the Directives by complementing and enhancing existing water pollution controls in Scotland. The proposed *Oil Storage (Scotland) Regulations* are aimed at an immediate reduction in the numbers of oil-related water pollution incidents and to meet the long-term sustainable development strategy of the Scottish Parliament.

³ List I contains certain pollutants, including oils, that belong to some families and group of substances selected mainly on the basis of their toxicity, persistence and bioaccumulation. The purpose of the *EC Dangerous Substances Directive (76/464/EEC)* is to eliminate pollution of surface waters of List I substances and the purpose of the *EC Groundwater Directive (80/68/EEC)* is to prevent ingress of List I substances into groundwater.

5. In addition to this guidance note, detailed information for users at individual sites is available from the Scottish Environment Protection Agency (SEPA).

SCOPE OF THE REGULATIONS

Types of oils

6. The proposed Regulations apply to any kind of oil including petrol, diesel and waste oil. You should note that the relevant provisions of *Waste Management Licensing Regulations 1994 (as amended)* will also apply to handling and storage of waste oil. Additionally, there are special requirements for ‘flammable liquids’ with a flash point of less than 32°C under the *Highly Flammable Liquids and Liquefied Petroleum Gases Regulations 1972*.

Oil storage facilities

7. The proposed Regulations will apply to any kind of container which is being used and which is stored above ground, whether inside or outside a building. These include fixed tanks, intermediate bulk containers, drums (oil drums or similar containers used for storing oil) or mobile bowsers - wherever these have a storage capacity which exceeds 200 litres.

8. The following premises will have to comply with the Regulations:

- *industrial businesses*: small manufacturing premises such as food processing, textiles, paper and publishing, engineering, bricks and ceramics, metals, chemicals;
- *commercial businesses*: such as shops, offices, theatres, hotels, restaurants, pubs, building and construction firms, motor garages, transport depots, bus stations;
- *institutions (residential and non-residential)*: in the public and private sector, charities and voluntary groups. These include schools, hospitals, churches, prisons, libraries, public sector buildings, nursing homes; and occupiers of multi-residential dwellings whether, privately or publicly owned, blocks of flats or other dwellings where oil is supplied from communal storage facilities.

Exemptions

9. The following exemptions to the proposed Regulations would apply:

- Premises used wholly or mainly as a single private dwelling with an oil storage capacity of less than 2,500 litres. The proposed *Oil Storage (Scotland) Regulations* are expected to be consistent with the provisions of storage of liquid and gaseous fuels (mainly used for space or water heating, or cooking) in the existing *Building Standards (Scotland) Regulations 1990 (as amended)*. Such premises would be exempted from the proposed Regulations unless they are ‘significant risk’ facilities as determined by a risk assessment⁴

⁴ Risk Assessment as described in Oil Firing Technical Association for the Petroleum Industry (OFTEC) *Technical Information Note TJ/133*.

or SEPA determines the facility poses significant risk to the environment. In these circumstances the tank would need to comply with requirements within 2 years – see paragraph 10 below.

- The Regulations would not apply to wholly underground oil storage facilities, such as those at petrol and diesel filling stations, as these may be adequately controlled under the *Groundwater Regulations 1998* and petrol storage is also subject to Health and Safety regulations. Guidance for these is set out in the Institute of Petroleum/ Association for Petroleum & Explosives Administration (IP/APEA) publication, *Design, Construction, Modification and Maintenance of Petrol Filling Stations*.
- Premises used for refining oil or its onward distribution. This includes sites where operations such as blending, filling and packaging are carried out, but does not include fuel installations for transport companies. The relevant standards for these sites are set out in the IP publication, *Design, Construction and Operation of Distribution Installations*.
- Farms - the provisions relating to the design standards for new and existing above ground storage tanks in the agricultural sector are covered under the *Control of Pollution (Silage, Slurry and Agricultural Fuel Oil) (Scotland) Regulations 1991 (as amended)*.

Time-frame for the application of the Regulations

10. The Regulations will come into force in 3 stages following their introduction in Parliament. These stages are:

- new tanks will have to comply within 6 months of the Regulations having been laid in Parliament -[in 2003 - 04],
- existing tanks at significant risk (ie facilities that are located within 10 metres of any inland or coastal waters watercourse or 50 metres of a borehole or well - though SEPA has flexibility to issue a notice where there are circumstances which it considers pose a significant risk) will have to comply within 2 years [in 2005 - 06]
- remaining existing tanks will have to comply within 4 years [in 2007 - 08].

Where practicable, oil storage containers should not be located, as indicated above, where there is a high risk that leaking oil could enter groundwater, inland or coastal waters. These include rivers, lochs, reservoirs and smaller watercourses. In cases where this poses difficulties, eg boatyards, or where it is difficult to fit a bund, it is important to seek advice from SEPA.

PROPOSED STANDARDS FOR OIL STORAGE CONTAINERS

11. The proposed Regulations are attached at Annex A. They set required standards for new and existing above ground oil storage facilities, mainly affecting the industrial, commercial and institutional sectors. We recommend that parties affected by the proposals refer to the exact provisions of the proposed Regulations as well as the guidance documents about oil storage, which are produced by SEPA, the Oil Firing Technical Association for the Petroleum Industry (OFTEC) and the Construction Industry Research and Information Association (CIRIA). Where drums are stored within a building, SEPA will give advice on whether the requirements may be met by forming a lip at the doorway of the room in which they are stored, of such height that sufficient volume of containment is achieved.

12 The main changes introduced by the proposed Regulations are outlined below:

- Tanks, drums or other containers must be strong enough to hold the oil without leaking or bursting,
- If possible, the oil container must be positioned to avoid damage (eg impact from any vehicular traffic),
- A bund or drip tray must be provided to catch any oil leaking from the container or its ancillary pipework and equipment,
- The bund must be sufficient to contain 110% of the maximum contents of the oil container. Where more than one container is stored, the bund should be capable of storing 110% of the largest tank or 25% of the total storage capacity, whichever is the greater (in the case of drums the tray/bund size should be at least 25 % of total storage capacity),
- The bund base and walls must be impermeable to water and oil and checked regularly for leaks,
- Any valve, filter, sight gauge, vent pipe or other ancillary equipment must be kept within the bund when not in use,
- Above ground pipework must be properly supported,
- Below ground pipework must be protected from physical damage (eg excessive surface loading, ground movement or disturbance) and have adequate leakage detection. If mechanical joints have to be used, they should be readily accessible for inspection,
- SEPA has power to serve notices to minimise pollution risks during the transitional period before the Regulations come into force for all existing containers.

13 Some of the main requirements of the proposed Regulations, highlighting the ‘best practice’ measures, are described in more detail in **Table 3.1**.

Table 3.1 Regulatory requirements and ‘best practice’ measures

Aspect	Regulatory Requirement/Other statutory requirements that <u>must</u> be observed	Best Practice that <u>should</u> be observed
Structural integrity and maintenance of primary container	<p>Tanks, drums or other containers must be strong enough to hold the oil without leaking or bursting.</p> <p>Containers must meet the desired performance standards specified in regulations 4 - 6 at all times,</p>	<p>Purchase fixed container expected to last for a minimum of 20 years.</p> <p>Regular inspection of containers by qualified inspectors. For detail information refer to OFTEC information note TJ/120 Oil Storage Inspection and Maintenance.</p>
Safety zone and maintenance recommendations	<p>Containers must be positioned to avoid damage from impact (eg from any vehicular traffic) as far as practicable.</p>	<p>Where practicable, containers should not be constructed or situated within 50 metres of any borehole or 10 metres of any controlled waters. You should seek SEPA’s advice where there is any such risk to the water environment.</p> <p>Storage of flammable liquids should be in steel tanks and is subject to Health and Safety guidance HSG 176 ‘The Storage of Flammable Liquids in Tanks’.</p> <p>To prevent risk of pollution to water, you should undertake weekly inspections and regular maintenance of the primary and secondary containment systems, as well as a more detailed annual inspection and service.</p>
Secondary containment system bunds or drip trays	<p>In accordance with regulation 4, all containers must be situated within an oil-tight secondary containment system such as a bund.</p> <p>The bund must be sufficient to contain 110% of the maximum contents of the oil container. Where more than one container is stored, the bund should be capable of storing 110% of the largest tank or 25% of the total storage capacity, whichever is the greater.</p> <p>Oil drums must have a drip tray with a capacity of not less than 25% of the drum’s storage capacity or, for several drums situated together, 25% of the aggregated storage capacity.</p>	<p>The bund maybe conventionally constructed or a proprietary prefabricated tank system designed to equivalent pollution prevention standards.</p> <p>Reinforced materials should be used for bund wall construction and there should be no damp proof course.</p> <p>Sensitive sites should take into account alternative methods for calculating bund sizes as developed by CIRIA. For details information refer to CIRIA report (R163) ‘Construction of bunds for oil storage tanks’.</p>

Aspect	Regulatory Requirement/Other statutory requirements that <u>must</u> be observed	Best Practice that <u>should</u> be observed
	<p>Any valve, pipe or other opening that is used for draining the containment system must not penetrate the bund base and walls. If a fill pipe or draw off pipe penetrates the bund wall or base, its junction should be sealed into the bund with a material that is resistant to damage by the stored oil, to ensure the bund remains leak proof.</p>	<p>The bund wall should have a minimum height of 150mm to allow for rainfall and fire fighting foam, and a collection sump for rainwater is recommended. Water collecting in the base of the bund may be removed using either a manually operated pump or a fail-safe automatic pump.</p> <p>Enclosed proprietary prefabricated storage systems or roofing over the storage area should be used to prevent rainwater getting into the bund.</p>
	<p>The bund base and wall must be impermeable to water and oil. Oil or a mixture of oil and water that has collected in a bund, should be handled and disposed of in accordance with the <i>Environmental Protection (Duty of Care) Regulations 1991</i> and <i>Waste Management Licensing Regulations 1994</i>.</p> <p>There must not be any direct outlet connecting the bund to any drain, sewer or watercourse nor should there be any discharges onto a yard or unmade ground.</p>	<p>Petrol and flammable liquids should be stored in accordance with Health and Safety Executive guidance HSG 176 ‘The Storage of Flammable Liquids in Tanks’. For proprietary prefabricated storage systems, reference should also be made to the CIRIA study: ‘Review of Proprietary Prefabricated Bunded Oil Storage Tank Systems’.</p> <p>Bunds, tanks and pipework should be checked regularly for leaks or signs of damage. Additionally, a trained operator should conduct a more detailed annual check-up.</p>
<p>Primary containers - fixed tanks</p>	<p>Regulation 2 defines these primary containers as fixed tanks drums, mobile bowsers and intermediate bulk containers, and Regulation 5 sets out specific requirements for fixed tanks</p>	<p>It is recommended that storage tanks should be type tested to a recognised standard and produced to that standard under a quality assurance system complying with ISO 9001. Tanks installers should be registered to ISO 9002.</p> <p>Tanks made of materials that are liable to corrosion must be adequately protected against corrosion. Steel tanks should comply with BS 799: Part 5 or the OFTEC standard OFS T200 which also includes prefabricated steel tank systems.</p> <p>Where possible, it is recommended that a minimum distance of 750mm between the tank and the bund wall and 600mm between the tank and the base be maintained so tanks can be inspected externally for corrosion or leaks.</p>

Aspect	Regulatory Requirement/Other statutory requirements that <u>must</u> be observed	Best Practice that <u>should</u> be observed
		<p>Tanks should be marked with the product type and tank capacity. An instruction note giving details of safe delivery procedures and emergency procedures should be sited at the delivery point.</p> <p>It is recommended that an adequate means of measuring the quantity of oil and an overflow alarm should be provided (for details see OFTEC standard OFS EI05).</p>
Requirements for pipework and other ancillary equipment	<p>Any valve, sight gauge, vent pipe or other ancillary equipment (other than a fill pipe or draw-off pipe or, if the oil has a flashpoint of less than 32⁰C, a pump) must be situated within the secondary containment system and arranged so that discharges of oil are contained within the system.</p> <p>All above ground pipework must be properly supported and positioned to avoid damage from impact (eg from any vehicular traffic).</p> <p>Underground pipework must be protected from physical damage and have adequate leakage detection facilities. These should meet EC leak detection standard EN13160-1 to 7. If a leakage detection device is installed to continuously monitor for leaks, it must be maintained in working order and tested at appropriate intervals. In case of no leakage detection device, the underground pipework must be tested for leaks before it is first used and also tested subsequently at appropriate intervals. If mechanical joints have had to be used, they must be readily accessible for inspection.</p>	<p>Fill pipes should be located within the bund and should be fitted with a shut-off valve. Fill pipes should have a 50 mm diameter threaded connection, a lockable fill cap with a chain and be clearly marked with the product type, tank capacity and tank number. Separate fill pipes for each tank is recommended (except when tanks are connected with a balance pipe with a greater flow capacity than the fill pipe). Where possible, remote fill points should be avoided, but where unavoidable they should conform to BS799: Part 5 or OFS T100 or T200 as appropriate.</p> <p>Underground pipes should be avoided, but if used, their route should be clearly marked. You should refer to OFTEC technical note T1/134.</p> <p>Pipes used for supplying oil to fixed appliances should comply with the requirements of BS 5410: Part I or 2, as applicable.</p> <p>Use suitable frost resistant valves and insulation for pipes to prevent damage in freezing conditions.</p>

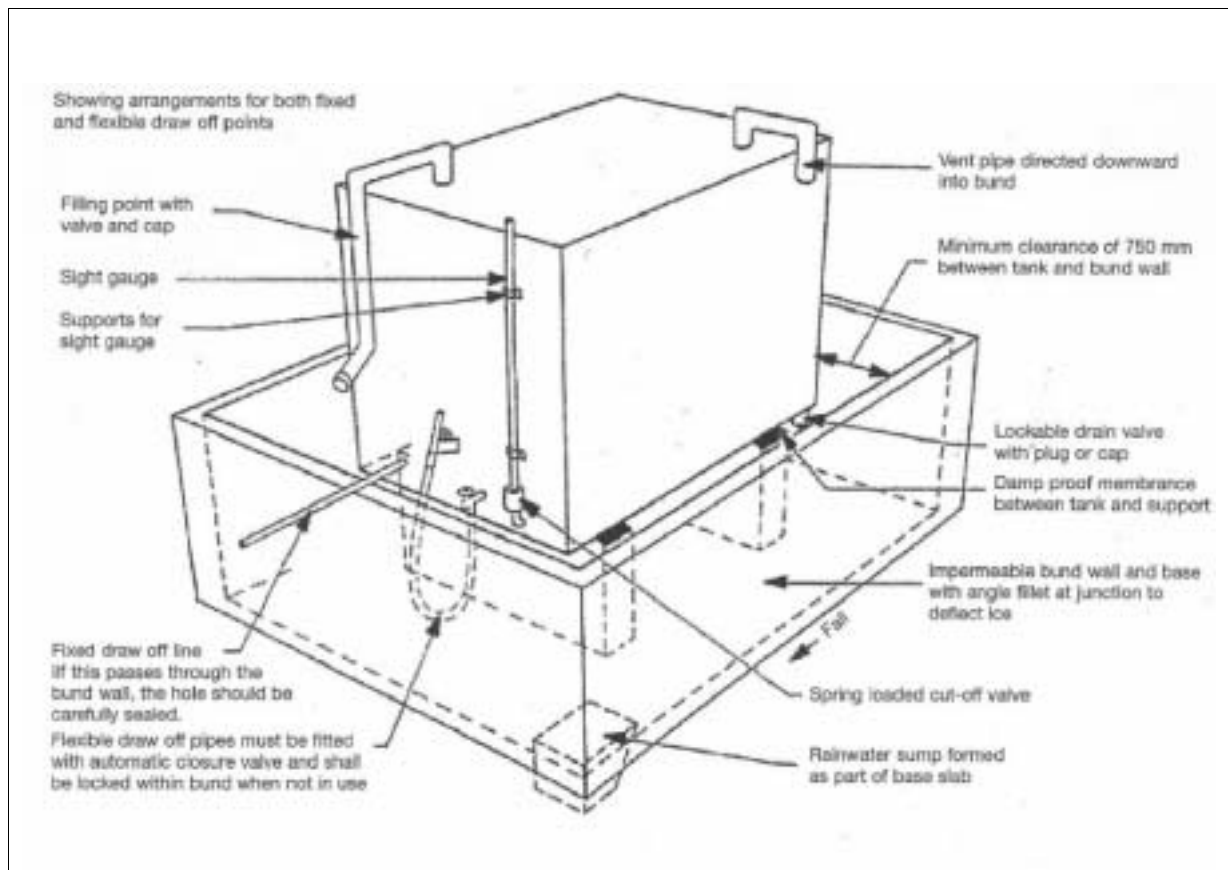
Aspect	Regulatory Requirement/Other statutory requirements that must be observed	Best Practice that should be observed
	<p>Sight gauges, if used, must be properly supported and fitted with a valve that will close automatically when not in use. An automatic overfill prevention device must be fitted if the tank and any vent pipe cannot be seen by the person controlling the delivery of oil.</p>	<p>An adequate means of measuring the quantity of oil should be provided. The use of electronic gauges and high level alarms is strongly recommended, and reference should be made to OFTEC standard OFS E105.</p>
	<p>Where a fill pipe is outside the bund, a drip tray capacity must be used to catch any oil spilled during delivery. For a fill pipe located outside the containment system, the drip tray provided must be of adequate capacity to contain the contents of the fill pipe. Also, where a screw fitting or other fixed coupling is fitted, it must be in good condition, and must be used when filling the tank.</p> <p>Pipework must be adequately protected against corrosion. If a flexible pipe which is permanently attached to the tank is used to dispense oil from the tank, it must be fitted with a tap or valve at the delivery end that closes automatically when not in use.</p> <p>Moreover, unless the pipe is fitted with an automatic shut-off device, it must not be possible to fix the tap or valve in open position.</p>	<p>Inspections for leaks and of leak detection devices should be carried out annually and by a qualified person.</p> <p>Top outlet draw-off pipes should be used where possible. When dial gauges are fitted, these should be in a prominent position and regularly checked for accuracy. Overfill alarms should be provided for all tanks.</p> <p>Valves should be made resistant to unauthorised interference and vandalism, eg with lockable or removable hand wheels. They should be durable, ‘fit for purpose’ and marked to show whether they are open or closed. They should be fitted with a blanking cap or plug and kept locked when not in use. A notice should be displayed requiring the valves to be kept locked when not in use and all trigger guns and hoses stored within the bund or suitable secure cabinet</p>
	<p>Any vent pipe, tap or valve through which oil can be discharged from the tank to the open must be arranged to discharge the oil vertically downwards. Tap or valves must also be fitted with a lock and locked shut when not in use.</p> <p>Pumps must be fitted with a non-return valve in its feed line. It should be protected from unauthorised use as well as positioned to minimise the risk of damage from impact.</p>	<p>Air vent pipes should, where possible, be positioned so they can easily be seen during delivery and should not be smaller than the inlet pipe.</p> <p>When not in use, draw off pipes may be contained within a secure cabinet with a drip tray.</p> <p>Flexible pipes and fittings for filling vehicles and other similar tanks should comply with BS EN 1360:1997.</p>

Aspect	Regulatory Requirement/Other statutory requirements that <u>must</u> be observed	Best Practice that <u>should</u> be observed
Requirement for mobile bowzers	<p>The requirements exclude road tankers used for the transport of oil.</p> <p>Any tap or valve permanently fixed to the mobile bowser through which oil can be discharged to the open or when delivered through a flexible pipe which is fitted permanently to the mobile bowser, it must be fitted with a lock and locked shut when not in use.</p> <p>Sight gauges must be fitted with a valve or tap, which must be shut when not in use. Sight gauge tubes, if used, must be well supported and fitted with a valve.</p> <p>Mobile bowzers must be bunded or have a suitably sized drip tray fitted underneath when in use/out on site.</p>	<p>When dial gauges are fitted, these should be in a prominent position and regularly checked for accuracy.</p> <p>You should refer to OFTEC's OFS T103 'Gauges for use with oil supply tanks'. If a dipstick is used, it should be suitably calibrated for the tank.</p>
Notice by SEPA to minimise pollution risks in transitional cases	<p>A notice, issues by SEPA under regulation 8 requires a person having control or custody of oil stored in existing facilities to carry out works, or take precautions, or any other action that SEPA considers necessary to minimise pollution risks.</p> <p>Minimum period of compliance following such a notice is 28 days. There is provision for appeal against such notices.</p>	
Waste oil storage	<p>All relevant requirements of the proposed Regulations will be applicable to waste oil storage. In addition, the provisions of the <i>Waste Management Licensing Regulations 1994</i> and <i>Environmental Protection (Duty of Care) Regulations 1991</i> will also be applicable for removal or disposal of waste oil.</p>	<p>Waste oil should not be mixed with other substances such as solvents or paints and should be taken to an oil-recycling bank. The nearest waste oil recycling bank can be found by dialling 0800 66 33 66.</p>

Aspect	Regulatory Requirement/Other statutory requirements that <u>must</u> be observed	Best Practice that <u>should</u> be observed
Security	<p>Any permanent taps or valves through which oil can be discharged from the tank to open areas must be fitted with a lock and must be locked shut when not in use.</p> <p>Pumps must be protected from unauthorised use.</p>	<p>Oil storage areas and facilities should be resistant as far as possible to unauthorised interference and vandalism.</p> <p>Taps or valves should be made of steel and marked to show whether they are open or closed. They should be fitted with a blanking cap or plug.</p>
Dealing with spills		<p>If a spill should occur, immediately notify SEPA's emergency hotline: 0800-807060. Take action to contain the oil to prevent it entering any drains or watercourses.</p> <p>A supply of suitable oil absorbent materials (eg dry sand) should be stored close to the storage area. This can be used to soak up accidental spillages. Detergents should not be used to clean-up spills.</p> <p>It is recommended to consider the risks of spillage and to prepare a contingency plan (see PPG2 1: Pollution Incident Response Planning</p>

14 A typical arrangement for a fixed oil storage tank as per 'best practice guidance' is shown in **Figure 3.1**.

Figure 3.1 Bunded oil tank



BEST PRACTICE GUIDANCE

15 A range of ‘best practice’ guidance about above ground oil storage installations is available and is outlined below, but does not have statutory force. Contact addresses for the organisations are given at the end of this Annex.

16 **‘Pollution Prevention Guidelines: PPG 2 — Above Ground Oil Storage Tanks.’** SEPA, the Environment Agency for England and Wales, and the Environment and Heritage Service in Northern Ireland have produced this guidance jointly. These guidelines differ in places from the proposed Regulations as they describe best practice, whereas the Regulations set minimum standards. Whilst people are only legally required to adopt the minimum standards of the proposed Regulations, we recommend that best practices are adopted where possible.

17 SEPA will offer help and guidance in complying with the Regulations, ‘best practice’ guidance or otherwise preventing pollution. The PPGs below are available on the SEPA website - www.sepa.org.uk , or alternatively can be requested from the local offices.

- PPG 1 - General Guide to the Prevention of Water Pollution
- PPG 3 - Use and Design of Oil Separators in Surface Water Drainage Systems
- PPG 8 - Safe Storage and Disposal of Used Oils
- PPG 11 - Preventing Pollution on Industrial Sites
- PPG 15 - Retail Stores
- PPG 16 - Schools and Educational Establishments
- PPG 21 - Pollution Incident Response Planning
- PPG 26 - Drum and Intermediate Bulk Container Storage

18 Other Pollution Prevention Guidance notes of relevance are:

- Masonry bunds for oil storage tanks: Environment Agency/CIRIA
- Concrete bunds for oil storage tanks: Environment Agency/CIRIA

19 **British Standards Institution (BSI)**

- B5799 Part 5 sets standards for steel tanks.
- B55410 Part 1:1997 is a Code of Practice for Oil Firing Installations up to 45kW output capacity for space heating and hot water purposes.
- B55410 Part 2 (1978) covers oil-firing installations of 44kW and above and Part 3 (1978) covers installations for furnaces, kilns, ovens and other industrial purposes.

20 **Oil Firing Technical Association for the Petroleum Industry (OFTEC)**

- OFS T100 sets standards for polyethylene tanks.
- Technical Information sheets TI/133 and TJ/134 cover the risk of environmental damage from domestic oil storage tanks and installing oil supply pipes underground respectively.
- Technical information sheet TI/120 ‘Oil Storage Inspection and Maintenance’

- OFS T103 — ‘Gauges for use with oil supply tanks’ provides information on standards for sight gauges.
- OFS T200 — A further standard has been developed for overfill alarms and steel tanks.

The OFTEC Driver Training Programme will provide training to registered tanker drivers in accordance with their Code of Practice OCP/2-D to help ensure compliance with the Regulations.

21 **Institute of Petroleum (IP)** — produces Environmental Guidelines for Petroleum Distribution Installations.

22 Technical advice on constructing installations is also available from companies supplying equipment. We recommend that OFTEC accredited companies are used to install tanks, deliver oil and to carry out inspections at regular intervals.

23 **Federation of Petroleum Suppliers Ltd (FPS)** — has adapted the current national standard for Driver Training for Carriage of Dangerous Goods by Road, NVQ Level 2, for the oil distribution industry.

24 **Construction Industry Research and Information Association (CIRIA)** has completed a *‘Review of Proprietary Prefabricated Bunded Oil Storage Tank Systems’ (Report C535)*, which has recommendations and best practice guidelines for use by manufacturers and the oil industry on these type of oil storage systems. The review also looks at causes of pollution from oil storage tanks and best practice prevention measures. The *‘Construction of bunds for oil storage tanks’ (Report 163)* contains guidance on the design and construction of bunds.

25 **United Kingdom Accreditation Service (UKAS)** is the sole national body for the assessment and accreditation of conformity assessment bodies whose activities include sampling, testing, calibration, inspection and product, personnel and system certification.

OIL SPILL EMERGENCY

25 You should prepare a contingency plan which considers all risks of oil spillage on your premises. You should have a stock of materials such as sand or commercially available absorbent materials, gully seals and booms on site to deal with spillages.

26 There is a high risk of a spill occurring during a delivery. It is therefore essential to ensure that there is sufficient capacity in the tank before a delivery, the secondary containment system will contain any spill due to overfilling, and, where there are multiple tanks, the delivery is made to the correct tank.

27 If a spillage does occur, you should take immediate action to contain it and to prevent it from entering any drains or watercourses. Detergents should not be used and spillages should not be hosed down drains. Additionally, you should contact SEPA immediately. SEPA staff may be able to provide advice and assistance, which could prevent the spill becoming a pollution incident. This could help both reduce the impact of the pollution and the cost of clean-up.

SCOTTISH ENVIRONMENT PROTECTION AGENCY AND OTHER CONTACTS

28 For help interpreting these guidelines and the Regulations, please contact SEPA at any of the following offices:

Scottish Environment Protection Agency

Corporate Office
Erskine Court,
The Castle Business Park,
Stirling FK9 4TR
Tel: 01786 457700
Fax: 01786 446885
Emergency Hotline: 0800 807060

Edinburgh Office (SEPA East)
Clearwater House
Heriot Watt Research Park
Avenue North
Riccarton
Edinburgh EH14 4AP
Tel: 0131 449 7296
Fax: 0131 449 7277

Dingwall Office (SEPA North)
Graesser House
Fodderty Way
Dingwall Business Park
Dingwall IV15 9XB
Tel: 01349 862021
Fax: 01349 863987

East Kilbride Office (SEPA West)
5 Redwood Crescent
Peel Park
East Kilbride G74 SPP
Tel: 01355 574200
Fax: 01355 574688

29 You may also wish to get in touch with the following organisations as given below:

British Oil Spill Control Association

30 Great Guildford Street
London
SE1 OHS
Tel: 020 7928 9199
Fax: 020 7928 6599

Oil Firing Technical Association for the Petroleum Industry (OFTEC)

Century House
100 High Street
Banstead
Surrey
SM7 2NN
Tel: 01737 373311
Fax: 01737 373553

Construction Industry Research and Information Association (CIRIA)

6 Storey's Gate
Westminster
London
SW1P 3AU
Tel: 020 7222 8891
Fax: 020 7222 1708

Scottish Oil Care Campaign

Telephone: 07960 683495

Fax: 0870 138 5851

Institute of Petroleum

61 New Cavendish Street

London

W1M 8AR

Tel: 020 7467 7100

Fax: 020 7255 1472

British Standards Institution

British Standards House

389 Chiswick High Street

London

W4 4AL

Tel: 020 8996 9000

Fax: 020 8996 7400



Small changes in the way we perform everyday tasks can have huge impacts on Scotland's environment.

Walking short distances rather than using the car, or being careful not to overfill the kettle are just two positive steps we can all take.

This butterfly represents the beauty and fragility of Scotland's environment. The motif will be utilised extensively by the Scottish Executive and its partners in their efforts to persuade people they can do a little to change a lot.

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