

# **DOE GUIDANCE DOCUMENT FOR THE CONTROL OF POLLUTION (OIL STORAGE) REGULATIONS (NORTHERN IRELAND) 2010**

**DECEMBER 2010**

## **PURPOSE OF THIS GUIDANCE DOCUMENT**

The purpose of this guidance document is to provide background information to the Control of Pollution (Oil Storage) Regulations (Northern Ireland) 2010 (the Regulations) and to outline recommended 'best practice' measures that go beyond the regulatory requirements of the legislation. The guidance makes the distinction between the regulatory requirements and those recommendations that go beyond statutory requirements by the use of the words '**must**' and '**should**' respectively.

This guidance document details the main requirements of the Regulations. It is not legally binding and cannot prevail over the statutory requirements of the Regulations.

## **REASONS FOR THE REGULATIONS**

In 2009 a total of 1248 substantiated pollution incidents were reported to the Northern Ireland Environment Agency (NIEA) and approximately 14% of these were oil-related water pollution incidents. These incidents were mainly as a result of leaks from tanks caused by inadequate storage and containment facilities, inadequate equipment, vandalism, poor management and human error.

The environmental damage caused by oil can be significant and expensive to remedy. It is a highly visible form of pollution and

even a small amount can cause a great deal of harm because of the way in which it spreads. It forms a film on the surface of water bodies drastically reducing the transfer of oxygen into the water.

Oil can also have an adverse affect on the abstraction of water for potable supply (drinking water), industrial and agricultural uses and on the recreational uses of surface water. The presence of oil renders water totally unsuitable for irrigation or livestock watering and for industrial uses such as cooling systems.

In order to reduce the number of oil pollution incidents and their accompanying impact, NIEA instigated a number of targeted initiatives designed to educate sectors of industry that store and handle oil as well as members of the public.

NIEA along with the Environment Agency for England and Wales (EA) and the Scottish Environment Protection Agency (SEPA) produced a series of Pollution Prevention Guidelines (PPG's). Several of these have been produced specially to provide information on the safe handling, storage and disposal of oil, as follows:-

- PPG02 gives detailed guidance on above ground oil storage tanks covering design details of the tanks, associated parts, pipe work and the secondary containment system surrounding the oil storage area;
- PPG03 covers the use and design of oil separators in surface water drainage systems ; and

- PPG08 provides guidance on the safe disposal of waste oils.

In addition, NIEA established an Oil Care Campaign in Northern Ireland in 1994. This campaign has been designed to promote good environmental practice and to minimise the impact of fuel oil throughout their lifecycle, by promoting safe practice for the handling, delivery and storage of oil and the proper collection and disposal of waste oils.

Since 1996 the total number of substantiated pollution incidents has shown an overall downward trend. In recent years the total number of incidents appears to have levelled at around 1200 per year. Similarly there has been a decreasing trend in the number of substantiated oil-related incidents, levelling at around 220 per year.

The introduction of these Regulations to control above ground oil storage facilities compliments and enhances existing water pollution controls in Northern Ireland and helps to further reduce the amount of oil-related pollution incidents.

The introduction of the Control of Pollution (Silage, Slurry and Agricultural Fuel Oil) Regulations (Northern Ireland) 2003 set minimum standards for agricultural oil stores as well as silage and slurry storage systems. NIEA also has powers under the terms of The Water (Northern Ireland) Order 1999 to serve anti-pollution works notices on polluters or potential polluters requiring them to carry out works or operations to remedy or prevent pollution of surface waters and groundwater.

These Regulations create a level playing field for above ground oil storage facilities in the industrial, commercial and institutional sectors. They introduce similar requirements to those already in place for the agricultural community helping to ensure equity and fairness throughout all sectors of the economy. Although single dwellings in the domestic sector are excluded from the Regulations they are subject to the requirements of The Building Regulations (Northern Ireland) 2000 as amended by The Building (Amendment Regulations) Regulations (Northern Ireland) 2006.

Similar measures are already in place in England under the Control of Pollution (Oil Storage) England (Regulations) 2001 and in Scotland these Regulations are enacted as a General Binding Rule under the Water Environment (Oil Storage) Scotland Regulations 2006.

In addition to this guidance document, detailed information for users and individual sites is available from the Water Management Unit of NIEA. Their contact details can be found at the end of this document.

## **SCOPE OF THE REGULATIONS**

### **Types of Oil**

The Regulations apply to any kind of oil including: mineral oils e.g. petrol, diesel, kerosene; heating and lubricating oils; vegetable and plant oils; oil based solvents; waste oils and bio-fuels. They do not include uncut bitumen as this material will solidify in the vicinity of any spillage.

In addition, the provisions of the Waste Management Licensing Regulations (Northern Ireland) 2003 apply to the handling, storage and disposal of waste oil. The Controlled Waste (Duty of Care) Regulations (Northern Ireland) 2002 relate to the transport of controlled waste and the Hazardous Waste Regulations (Northern Ireland) 2005 apply to the movement of oil if it is classified as hazardous.

Information in relation to waste issues can be obtained from the Land and Resource Management Unit of NIEA. Their contact details can be found at the end of this document.

### **Oil Storage Facilities**

The Regulations apply to any kind of container which is being used for the above ground storage of oil whether inside or outside a building. These include fixed tanks, intermediate bulk containers and drums (or similar containers used for storing oil), bowzers and other mobile units, which have a storage capacity of over 200 litres.

The following premises have to comply with the Regulations:

*Industrial businesses* – including manufacturing premises such as food processing, textiles, paper and publishing, engineering, bricks and ceramics, metals and chemicals and quarries;

*Commercial businesses* – including shops, offices, theatres, hotels, restaurants, pubs, building and construction firms, motor garages, transport depots, bus stations; and

*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 above ground storage facilities.

They will also apply to waste oil storage facilities and to companies who refine or distribute oil and are not regulated under the Control of Major Accident Hazards Regulations (Northern Ireland) 2000, storing 2,500 tonnes of oil or more.

### **Health & Safety**

This guidance document applies to oils regardless of flashpoint. Health and safety of employees as well as environmental considerations must be considered when applying safeguards. Therefore, where storage involves oils with a flashpoint of less than 55°C the operator should comply with HSE guidance HS(G) 176 – “The Storage of Flammable Liquids in Tanks”. Particular note should be taken of the separation distances required and the need for ventilation.

Operators should also note that bunds may constitute a confined space for entry by personnel. If possible the construction of a confined space should be avoided or if absolutely required, then confined space entry procedures must be in place for all employees or contractors entering the area.

## **Exemptions**

The following exemptions to the Regulations apply:

- premises used wholly or mainly as a private dwelling with an oil storage capacity of less than 3500 litres;
- premises regulated under the Control of Major Accident Hazards Regulations (Northern Ireland) 2000 if the storage capacity of the container in which it is stored is 2,500 tonnes or more;
- any container with a storage capacity of 200 litres or less;
- any farm if the oil is used in connection with agriculture within the meaning of the Agricultural Act (Northern Ireland) 1949. (Provisions relating to the design standards for new and existing storage tanks in the agricultural sector are covered under The Control of Pollution (Silage, Slurry and Agricultural Fuel Oil) (Northern Ireland) Regulations 2003); and
- any container which is wholly underground such as those at petrol or diesel filling stations.

## **Time-frame for the Application of the Regulations**

The Regulations come into operation in three stages following their introduction. These stages are:-

- new storage facilities have to comply within six months of the Regulations coming into operation i.e. any new storage

facility in operation from 20 March 2011 will have to comply within the six months up to 20 September 2011;

- existing storage facilities located within 10 metres of any waterway or 50 metres of any well, spring or borehole have to comply within two years of the Regulations coming into operation i.e. by 20 March 2013; and
- remaining existing storage facilities have to comply by 31 December 2015.

Where practicable, above ground oil storage containers should not be located within 10 metres of any waterway or 50 metres of any well, spring or borehole as it is likely that leaking oil could enter groundwater or surface waters. Waterways include any river, stream, inland water (whether natural or artificial) or coastal and tidal waters and any channel or passage through which water flows (whether natural or artificial). In cases where this poses difficulties, such as boatyards, it is important to seek advice from the Water Management Unit of NIEA. Contact details can be found at the end of this document.

## **STANDARDS FOR OIL STORAGE CONTAINERS**

The Regulations set required standards for new and existing above ground oil storage facilities, for the industrial, commercial and institutional sectors. It is recommended that those affected by these proposals refer to the exact provisions of the Regulations as well as the referenced guidance documents produced by NIEA, the

Oil Firing Technical Association (OFTEC) and the Construction Industry Research and Information Association (CIRIA).

The construction of an oil storage system within a site designated as an Area of Special Scientific Interest is also subject to the Environment (Northern Ireland) Order 2002. In the case of Special Areas of Conservation or Special Protected Areas, the Conservation (Natural Habitats etc) Regulations (Northern Ireland) 1995 will also apply. Further site-specific guidance is available on request from the Natural Heritage Directorate of NIEA. Contact details can be found at the end of this document.

A recommendation in this guidance document to comply with a specified standard is satisfied by compliance with:

- a relevant standard or code of practice of a national standards body or equivalent of any EEA State (e.g. a Member State, Norway, Iceland or Liechtenstein) or the Republic of Turkey;
- any relevant international standard recognised for use as a standard by any EEA State or the Republic of Turkey; or
- a technical specification or code of practice, whether mandatory or not, is recognised for use as a standard by a public authority of any EEA State or the Republic of Turkey,

in so far as the standard, code of practice, international standard or technical specification in question enables the objectives of the guidance to be met in an equivalent manner.

The main provisions introduced by the 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 (e.g. by impact from any vehicular traffic).
- A secondary containment system (e.g. a bund, which is an outer wall or enclosure designed to contain the contents of an inner tank, or drip tray) must be provided to catch any oil leaking from the container or its ancillary pipework and equipment.
- The secondary containment system must have sufficient capacity to contain 110% of the maximum contents of the oil container. Where more than one container is stored, the secondary containment system should be capable of storing not less than 110% of the largest container's storage capacity or 25% of their aggregate storage capacity, whichever is the greater. In the case of drums, the secondary containment system should have a capacity of not less than 25% of the drum's storage capacity or, if more than one drum, not less than 25% of the aggregate storage capacity of the drums.
- The base and walls of any bund must be impermeable to liquid and oil (e.g. the bund must be able to contain liquid

and oil for 72 hours, by which time the bund must be drained) and must be checked regularly for leaks. In addition, the walls must be sufficiently strong to withstand the hydraulic pressure generated by the collection of rainwater, the contents of the tank, or in an emergency situation, firewater.

- The base and walls must not be penetrated by any valve, pipe or other opening which is used for draining the system.
- Above ground pipe work must be properly supported.
- Below ground pipe work must be protected from physical and chemical damage (e.g. excessive surface loading, ground movement or disturbance and corrosion) and have adequate leakage detection. If mechanical joints have been used, they should be readily accessible for inspection.

Further guidance on the main requirements of the Regulations is given in the following table.

<b>Aspect</b>	<b>Regulatory Requirements/including other Statutory Requirements that <u>Must</u> be Observed</b>	<b>Best Practice that <u>Should</u> be Observed</b>
Structural integrity and maintenance of primary container	<p>Tanks, drums or other containers must be strong enough to hold 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 containers expected to last for a minimum of 20 years.</p> <p>Tanks should be checked regularly for signs of damage or leaks. In addition, a qualified technician (e.g. OFTEC Registered) should conduct a more detailed inspection annually.</p>
Safety zone and maintenance recommendations	<p>Containers must be positioned to avoid damage from impact (e.g. from vehicular traffic) as far as is practicable.</p>	<p>Where practicable, containers should not be constructed or situated within 50 metres of any well, spring or borehole or 10 metres of any waterway. The Water Management Unit of NIEA can provide further guidance on this matter.</p> <p>Storage of flammable liquids should be in steel tanks, which conform to BS 799 Part 5, or in plastic tanks which conform to the OFTEC standard OFS T100. Such tanks are also subject to Health and Safety Executive guidance, HSG 176 – ‘The Storage of Flammable Liquids in Tanks’.</p>

<p>Safety zone and maintenance recommendations (continued)</p>		<p>To prevent risk of pollution to water, weekly inspections and regular maintenance of both primary and secondary containment systems should be undertaken. A qualified technician (e.g. OFTEC Registered) should also carry out a more detailed annual inspection and service.</p>
<p>Secondary containment system (bunds or drip trays)</p>	<p>In accordance with regulation 4, all containers must be situated within an oil tight secondary containment system which must be sufficient to contain 110% of the maximum contents of the oil container. Where more than one container is stored the system must be capable storing 110% of the largest tank or 25% of their aggregate storage capacity, whichever is the greater.</p> <p>Oil drums must have a secondary containment system (drip tray) with a capacity of:</p> <ul style="list-style-type: none"> <li>• in the case of a single drum, not less than 25% of the drum's storage</li> </ul>	<p>The secondary containment system may be conventionally constructed or a proprietary prefabricated tank system designed to the equivalent pollution prevention standards.</p> <p>Reinforced material should be used for the bund wall construction and there should be no damp proof course. Other methods for calculating bund sizes as developed by CIRIA should be considered for sites requiring additional protection (e.g. those upstream of a drinking water abstraction or sensitive habitats). For details refer to CIRIA report (163) 'Construction of Bunds for Oil Storage Tanks'.</p>

<p>Secondary containment system (bunds or drip trays) (continued)</p>	<p>capacity, or,</p> <ul style="list-style-type: none"><li>• for several drums situated together, at least 25% of the aggregated storage capacity.</li></ul>	
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<p>Secondary containment system (bunds or drip trays) (continued)</p>	<p>Any valve, pipe or other opening that is used for draining the containment system must not penetrate the bund base or walls.</p> <p>If a fill or draw off pipe penetrates the bund wall, its junction must 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 base and wall must be impermeable to liquid and oil e.g. the bund must be able to contain liquid and oil for 72 hours, by which time the bund must be drained. Oil or a mixture of oil and liquid that has collected in a bund must be handled and disposed of in accordance with the Controlled Waste (Duty of Care) Regulations (Northern Ireland) 2002 and the Waste Management Licensing Regulations (Northern Ireland) 2003. If the oil is classified as hazardous then the movement comes under the Hazardous Waste Regulations (Northern Ireland) 2005.</p> <p>There must not be any direct outlet connecting the bund to any drain or sewer nor must there be any</p>	<p>The bund wall should have a minimum height of 250mm and a collection sump for rainwater is recommended.</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>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 be made to CIRIA study (C535)3.</p> <p>Bunds, tanks and pipe work should be checked regularly for signs of damage or</p>
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<p>Secondary containment system (bunds or drip trays) (continued)</p>	<p>discharge from the bund.</p>	<p>leaks. In addition a qualified technician (e.g. OFTEC Registered) should conduct a more detailed inspection on an annual basis.</p>
<p>Primary containers - fixed tanks</p>	<p>Regulation 2 defines these primary containers as fixed tanks, drums, mobile bowlers or intermediate bulk containers and regulation 5 sets out specific requirements for fixed tanks.</p> <p>When filling fixed tanks from a place where it is not reasonably practicable to observe the tank and any vent pipe, an automatic overflow prevention device must be fitted to the tank (see OFTEC Standard OFS E105). Oil storage tank systems manufactured to OFS T100 and OFS T200 to include overflow prevention devices to EN 13616.</p>	<p>It is recommended that storage tanks should be product type tested to a recognised standard and produced to that standard under a quality assurance system complying with ISO 9001. Tank installers should be registered to ISO 9002.</p> <p>Tanks that are made of materials liable to corrosion should be adequately protected. Steel tanks should comply with BS 799 Part 5 or OFTEC Standard OFS T200.</p> <p>Where possible it is recommended that there is a minimum distance of 750mm between the tank and the bund wall and 600mm between the tank and the base so that tanks can be inspected for corrosion or leaks.</p>

<p>Primary containers – fixed tanks (continued)</p>		<p>Tanks should be marked with the product type and tank capacity. Notices detailing safe delivery procedures should be positioned at the delivery point.</p>
<p>Requirements for pipework and other ancillary equipment</p>	<p>The base and walls must not be penetrated by any valve, pipe or other opening which is used for draining the system.</p> <p>All above ground pipework must be properly supported and positioned to avoid damage from impact (e.g. from any vehicular traffic).</p> <p>Underground pipework must be protected from physical and chemical damage and have demonstrable leak detection facilities. If mechanical joints have been used these must be readily accessible for inspection.</p>	<p>Fill pipes should be located within the secondary containment system and should be fitted with a shut-off valve. Fill pipes should be fitted with a 50mm 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 are recommended, except where tanks are connected with a balance pipe with a greater flow capacity than the fill pipe. Where possible remote fill points should be avoided. If unavoidable they should conform to BS 799 Part 5 or OFS T100 or T200 as appropriate. Underground pipes should be avoided, but if used their route should be clearly marked. OFTEC Technical Book 3 provides further</p>

<p>Requirements for pipework and other ancillary equipment (continued)</p>	<p>Sight gauges, if used, must be properly supported and fitted with a valve that will close automatically when not in use. An automatic overflow prevention device or an alarm system must be fitted if the tank and any vent pipe cannot be seen by the person controlling the delivery of oil.</p> <p>Where a fill pipe is outside the bund a drip tray must be used to catch any oil spilled during delivery. This drip tray must have adequate capacity to contain the contents of the fill pipe. Screw fittings or other fixed couplings must be maintained in "good condition" and used when filling the tank. The Regulations do not define "good condition" but it is sensible to consider whether a fitting is fit for purpose in the broadest sense.</p> <p>Pipework must be adequately protected against</p>	<p>guidance. Pipes should comply with BS 5410 Part 1 or 2 as applicable.</p> <p>An adequate means of measuring the quantity of oil should be provided. The use of high level alarms is strongly recommended and reference should be made to OFTEC standard OFS E105. A qualified technician (e.g. OFTEC Registered), should carry out inspections for leaks and of leak detection devices annually.</p> <p>Using a screw fitting to fill a tank should not increase the risk of oil spillage or jeopardise operator health and safety.</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. Overflow alarms should be provided for all tanks.</p> <p>Valves should be made resistant to</p>
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<p>Requirements for pipework and other ancillary equipment (continued)</p>	<p>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. In addition unless the pipe is fitted with an automatic shut-off device, it must not be possible to fix the tap or valve in the open position.</p> <p>Any vent pipe, tap or valve through which oil can be discharged from the tank to the open must be arranged so that the oil is retained within the secondary containment system. Valves and taps 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 the feed line or an isolating device. Pumps must also be protected from unauthorised use as well as being positioned to minimise the risk of damage from</p>	<p>unauthorised interference and vandalism (e.g. with lockable or removable hand wheels). They should be durable 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>Air vent pipes should, where possible, be positioned so that they can easily be seen during delivery and should not be narrower than the inlet pipe.</p> <p>When not in use, draw-off pipes should 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>
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<p>Requirements for mobile units including bowzers</p>	<p>impact.</p> <p>Any tap or valve permanently fixed to the mobile unit through which oil can be discharged to the open or when delivered through a flexible pipe which is fitted permanently to the mobile unit, 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 units must have secondary containment when in use/out on site.</p> <p>The requirements exclude road tankers used for the transport of oil.</p>	<p>When dial gauges are fitted, these should be in a prominent position and regularly checked for accuracy. Further guidance is given in OFTEC's OFS T103.</p> <p>If a dipstick is used it should be suitably calibrated for the tank.</p>
<p>Notice by NIEA to minimise pollution risks in transitional cases</p>	<p>A notice issued by NIEA under regulation 8 requires a person having custody or control of oil stored in existing facilities to carry out works, or to take precautions or any other action that NIEA considers necessary to minimise pollution risks. The notice specifies a time period for compliance. There is an appeals provision against such notices.</p>	

<p>Waste oil storage</p>	<p>All relevant requirements of the proposed Regulations will be applicable to waste oil storage. The provisions of the Waste Management Licensing Regulations (Northern Ireland) 2003 will also apply to handling storage and disposal of waste oil.</p> <p>The Controlled Waste (Duty of Care) Regulations (NI) 2002 relate to the transport of controlled waste and if the oil is classified as hazardous then the movement comes under the Hazardous Waste Regulations (Northern Ireland) 2005.</p>	<p>Waste oil should not be mixed with other substances such as solvents or paints. A licensed disposal company should be used for the disposal of waste oil. Details of approved companies in Northern Ireland can be obtained from the Land and Resource Management Unit of NIEA.</p>
<p>Security</p>	<p>Any permanent taps or valves through which oil can be discharged from the container to open areas must be fitted with a lock that 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 practicable to unauthorised interference and vandalism.</p> <p>Taps or valves should be made of metal and marked to show whether they are open or closed. They should be fitted with a blanking cap or plug.</p>
<p>Dealing with spills</p>		<p>In the event of a spill take immediate action to contain the oil to prevent it entering any drains, sewers, waterways or groundwater.</p>

<p>Dealing with spills (continued)</p>	<p>In addition NIEA should be informed using the 24-hour Pollution Hotline: Freephone 0800 80 70 60.</p> <p>A supply of suitable oil absorbent materials (e.g. dry sand) should be stored close to the storage area. 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. NIEA can provide guidance and further information is provided in PPG 21.</p>
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## BEST PRACTICE GUIDANCE

A range of 'best practice' guidance about above ground oil storage facilities is available and is outlined below. This guidance does not have statutory force. Contact details of the organisations that are responsible for producing this guidance are given at the end of this guidance document.

NIEA will offer help and guidance in complying with the Regulations, 'best practice' guidance or otherwise preventing pollution. The PPG's listed below are available on the NIEA web site – [www.netregs.gov.uk/netregs/links/107968.aspx](http://www.netregs.gov.uk/netregs/links/107968.aspx) and can also be requested from field officers and the Water Management Unit.

- PPG01 General Guide
- PPG02 Above Ground Oil Storage Tanks
- PPG03 Design and Use of Oil Separators
- PPG08 Safe Storage and Disposal of Waste Oils
- PPG21 Pollution Incident Response Planning
- PPG26 Storage and Handling of Drums and IBCs

NIEA, SEPA and the EA have produced these PPG's jointly. The guidelines differ in places from the Regulations as they describe best practice whereas the Regulations set minimum standards. There is a legal requirement to comply with the minimum standards contained in the Regulations. In addition, it is recommended that best practices be adopted where possible.

Other pollution prevention guidance notes of relevance are:

### Construction Industry Research and Information Association (CIRIA)

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 types 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. In addition, CIRIA have produced the following guidance leaflets.

- Masonry Bunds for Oil Storage Tanks: EA/CIRIA

- Concrete Bunds for Oil Storage Tanks: EA/CIRIA

#### British Standards Institution (BSI)

- BS 799 Part 5 sets standards for steel single skin tanks.
- BS 5410 Part 1:1997 is a Code of Practice for Oil Firing Installations up to 45kW output capacity for space heating and hot water purposes.
- BS 5410 Part 2 (1978) covers oil-firing installations of 45kW and above and Part 3 (1976) covers installations for furnaces, kilns, ovens and other industrial purposes.

#### Oil Firing Technical Association

- OFS T100 set standards for polyethylene tanks.
- OFTEC Technical Booklet 3 covers the risk of environmental damage from domestic oil storage tanks and installing oil supply pipes underground respectively.
- OFTEC Technical Books 2 and 5 provide detailed guidance regarding inspection of oil storage and supply systems.
- OFS T103 – ‘Gauges for Use with Oil Supply Tanks’ provides information on standards for sight gauges.
- OFS T200 – OFTEC standard for steel integrally banded storage tanks.
- OFS T100 – OFTEC standard for polyethylene oil storage tanks.
- OFS E104 – OFTEC standard for oil strainers, oil filters and water separators.
- OFS E105 – OFTEC standard for overfill alarms and prevention devices.

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

The Institute of Petroleum (IP) produces Environmental Guidelines for Petroleum Distribution Installations.

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

The Federation of Petroleum Suppliers Ltd (FPS) has a Driver Training Course and Driver Certificate of Professional Competence (CPC) Driving Courses which have been approved by the Joint Approvals Unit for Periodic Training. The CPC courses include modules on tank and spill prevention. The FPS also produces a 'Guide to Safer Deliveries' which was written with and endorsed by the Environment Agency in England. This publication is also used as best practice in legal cases.

The 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.

## **USEFUL CONTACTS**

### **Northern Ireland Environment Agency**

Water Management Unit  
17 Antrim Road  
Lisburn  
BT28 3AL

Telephone: 028 92 623100                      Fax: 028 92 676054

Water Pollution Hotline: 0800 80 70 60

Oil Bank Line: 0800 66 33 66

Land and Resource Management Unit  
Klondyke Building  
Cromac Avenue  
Gasworks Business Park  
Belfast  
BT7 2JA

Telephone: 028 9056 9340

Natural Heritage Directorate  
Klondyke Building  
Cromac Avenue  
Gasworks Business Park  
Belfast  
BT7 2JA

Telephone: 028 90 569517

Web: [www.ni-environment.gov.uk](http://www.ni-environment.gov.uk)

**Health & Safety Executive Northern Ireland**  
83 Ladas Drive  
Belfast  
BT6 9FR

Telephone: 0800 0320 121 or 028 9024 3249

Fax: 028 9023 5383

Email: [hseini@detini.gov.uk](mailto:hseini@detini.gov.uk)

Web: [www.hseini.gov.uk](http://www.hseini.gov.uk)

**Oil Firing Technical Association (OFTEC)**

Foxwood House  
Dobbs Lane  
Kesgrave  
Suffolk  
IP5 2QQ

Telephone: 0845 65 85 080

Fax: 0845 65 85 181

Web: [www.oftec.org](http://www.oftec.org)

**Construction Industry Research and Information Association  
(CIRIA)**

Classic House  
174-180 Old Street  
London  
EC1V 9BP

Telephone: 020 7549 3300

Fax: 020 7253 0523

Web: [www.ciria.org](http://www.ciria.org)

**Energy Institute**

61 New Cavendish Street  
London  
W1G 7AR

Telephone: 020 7467 7100

Fax: 020 7255 1472

Web: [www.energyinst.org](http://www.energyinst.org)

**British Standards Institution**

British Standards House  
389 Chiswick High Street  
London W4 4AL

Telephone: 020 8996 9001

Fax: 020 8996 7001

Web: [www.bisgroup.com](http://www.bisgroup.com)