Department of the
Environment
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Planning and Environmental Policy Group

CONSULTATION PAPER

on the

CONTROL OF POLLUTION (OIL STORAGE) REGULATIONS (NORTHERN IRELAND) 2010

March 2010

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(i) Consultation Arrangements

Comments on the issues and proposals raised in this paper should reach the Department by 17 June 2010

Comments may be made as follows:-

In writing

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How to obtain further copies of this consultation paper?

Further copies of this paper may be obtained:-

- on written request from the above address
- via the website at www.doeni.gov.uk
- by telephoning 02890 2 54740

Should you require a copy of this paper in an alternative format it can be made available on request:

- in braille, audiocassette, disc, large print, or text phone for the hearing impaired;
- in minority ethnic languages to those who are not proficient in English; or
- in an executive summary translated into Irish or Ulster Scots.

Information and additional copies of this document may also be requested by text phone on 028 90 5 40642.

A list of the consultees that we have contacted directly for this exercise is attached at Annex D. This list is not exhaustive and we welcome views from all interested parties.

(ii) Freedom of Information Act 2000 - Confidentiality of Consultations

The Department will publish a summary of responses following completion of the consultation process. Your response and all other responses to the consultation may be disclosed on request. The Department can only refuse to disclose information in exceptional circumstances. **Before** you submit your response, please read the paragraphs below with respect to the confidentiality of consultations, as they will give you guidance on the legal position about any information given by you in response to this consultation.

The Freedom of Information Act gives the public a right of access to any information held by a public authority, namely, the Department in this case. This right of access to information includes information provided in response to a consultation. The Department cannot automatically consider as confidential information supplied to it in response to a consultation. However, it does have the responsibility to decide whether any information provided by you in response to this consultation, including information about your identity, should be made public or treated as confidential.

This means that information provided by you in response to the consultation is unlikely to be treated as confidential except in very particular circumstances. The Lord Chancellor's Code of Practice on the Freedom of Information Act provides that:-

- The Department should only accept information from third parties in confidence if it is necessary to obtain information in connection with the exercise of any of the Department's functions and it would not otherwise be provided;

- The Department should not agree to hold information received from third parties 'in confidence' which is not confidential in nature; and

- Acceptance by the Department of confidentiality provisions must be for good reasons, capable of being justified to the Information Commissioner.

For further information about confidentiality of response please contact the Information Commissioner's Office or see the web site at: www.informationcommissioner.gov.uk.

1. Introduction

The purpose of this consultation paper is to seek your views on the Department's proposals to introduce Regulations to control above ground oil storage facilities in Northern Ireland.

The Water Framework Directive (2000/60/EC) (WFD) requires that for diffuse sources liable to cause pollution, measures are put in place to prevent or control the input of pollutants. It also requires that all surface waters and groundwaters must attain 'good status' by 2015.

The WFD is implemented in Northern Ireland through River Basin Management Plans which were published on 21 December 2009. Programmes of measures have been developed to ensure that the objectives of the WFD are met and included in these is a commitment to make these Regulations.

The proposed Regulations will contribute to the implementation of this Directive by complimenting and enhancing existing water pollution controls. They will codify existing good practice and will set minimum design standards for new and existing above ground oil storage facilities, providing a legal requirement for the standards to be met. 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.

The Northern Ireland Regulations will be made using the powers conferred under Articles 14 and 61(2) of The Water (Northern Ireland) Order 1999.

Your views will help the Department put in place a structure which will provide the necessary degree of protection for the aquatic environment, now and in the future, and will ensure that we achieve our environmental objectives responsibly and with due regard to all users of the water environment.

2. Existing Water Pollution Controls

Listed below are the current legal provisions in use in Northern Ireland:

(i) Groundwater Regulations (Northern Ireland) 2009 implement the Groundwater Daughter Directive (2006/118/EC). While adopting a similar approach to preventing groundwater pollution as the 1998 Groundwater Regulations, the 2009 Groundwater Regulations take a slightly more comprehensive risk based approach and introduce three additional requirements:

- the establishment of criteria for the assessment of good chemical status;
- the requirement to identify and reverse upward trends in pollution; and
- the establishment of measures to prevent or limit discharges to groundwater.

(ii) The Water (Northern Ireland) Order 1999 prohibits the unconsented entry to a waterway or water contained in any underground strata of any poisonous, noxious or polluting matter or any trade or sewage effluent.

(iii) The Water Environment (Water Framework Directive) Regulations (Northern Ireland) 2003 implement the WFD.

(iv) Other related regimes including the Pollution Prevention Control (PPC) and Waste Licensing legislation.

3. Background and Detail

3.1 Background

The WFD requires that for diffuse sources liable to cause pollution, measures are put in place to prevent or control the input of pollutants. It also requires that all surface waters and groundwaters must attain 'good status' by 2015.

With the exception of the agricultural and domestic sectors in Northern Ireland, there is no specific regulatory control for above ground oil storage facilities. Enforcement powers for facilities which pose a risk of pollution to surface water or groundwater are in place through The Water (Northern Ireland) Order 1999 and the Groundwater Regulations (Northern Ireland) 2009. However, these controls are limited and more reactive than proactive.

3.2 Detail

The purpose of the proposed Regulations is to reduce and prevent pollution of the aquatic environment from any inadequate above ground oil storage facilities. A key requirement will be for the storage container to have a secondary containment system (a bund, which is an outer wall or enclosure designed to contain the contents of an inner tank, or a drip tray) to ensure that any leaking or spilt oil is contained and does not enter the aquatic environment.

The proposed Regulations will apply to anybody who has custody or control of above ground oil storage facilities with a storage capacity of more than 200 litres, on industrial, commercial and institutional/residential (e.g. schools, day care centres, hospitals, nursing homes) premises. The proposed Regulations will also

apply to waste oil storage facilities and to companies who refine or distribute oil.

The proposed Regulations will not apply to:

- any container with a storage capacity of 200 litres or less;
- any premises used wholly or mainly as a private dwelling if the storage capacity of the container in which the oil is stored is 3500 litres or less;
- any farm if the oil is used in connection with agriculture within the meaning of the Agricultural Act (Northern Ireland) 1949; or
- any container which is wholly underground.

Provision will also be made for transitional cases with the proposed Regulations coming into operation in three stages;

- new storage facilities will have to comply within six months of the Regulations coming into operation;

- existing storage facilities, which are located within 10 metres of a waterway or 50 metres of a well, spring or borehole, will have to comply within two years of the Regulations coming into operation; and

- remaining existing storage facilities will have to comply within four years of the Regulations coming into operation.

In addition, where the Department considers that there is a risk of pollution to waterways or water contained in any underground strata, it will have the power to serve a notice on that person

having custody or control of the oil to minimise the risks in transitional cases.

The Northern Ireland Environment Agency (NIEA), an agency within the Department of the Environment, will be responsible for enforcing the proposed Regulations. Contact details for NIEA are provided at the end of Annex B - Draft Guidance Note.

4. Content of the Regulations

This section gives a brief summary of the key points in the Regulations. The full requirements are set out in the Regulations themselves attached at Annex A.

Regulation 1 details the title of the Regulations and the date on which they come into operation.

Regulation 2 contains definitions for some of the terms used in the Regulations.

Regulation 3 makes it clear that the Regulations apply to all above ground oil storage containers that have a storage capacity of more than 200 litres at qualifying premises and which are not exempted under regulation 3(2).

Regulation 4 sets out the general requirements for above ground oil storage. This includes the requirement for a secondary containment system i.e. a further container to catch any oil leaking from the primary container or its ancillary pipe work and equipment. This may take the form of a 'bund' used for primary containers, including multiple drums or a drum storage area. Alternatively in the case of a mobile unit such as a bowser or drum this may be a drip tray. The purpose of such a secondary containment system is to prevent oil that has escaped from the container from entering the aquatic environment.

Regulation 5 sets out the specific requirements for fixed tanks. Proprietary prefabricated tank systems that have an additional containment facility for attached pipe work and ancillary equipment

are considered to provide both primary and secondary containment. Double skinned tanks are considered to have only primary containment, as the ancillary equipment is not protected. Such facilities require a secondary containment system.

Regulation 6 sets out the specific requirements for mobile bowsers. Any tap, valve or sight gauge fixed to the bowser must be locked shut when not in use. Also, where oil is delivered through a flexible pipe which is permanently attached to the bowser it must be fitted with a manually operated pump or valve, all of which must be locked shut when not in use.

Regulation 7 outlines the transitional provisions following the coming into operation of the Regulations. It is proposed that the Regulations will come into operation in three stages, and that all new above ground oil storage facilities must conform to the requirements of the Regulations no later than six months after the Regulations come into operation. Regulation 7 sets out the dates for compliance for existing above ground oil storage facilities, including mobile containers such as bowsers and drums, under the transitional provisions.

Regulation 8 provides powers for NIEA to serve a notice in transitional cases on the person having custody or control of oil where it is considered that the oil is likely to enter the aquatic environment.

Regulation 9 outlines the right of appeal to the Water Appeals Commission against a notice issued under regulation 8.

Regulation 10 sets out the offence provisions for a person with custody or control of any oil in circumstances in which there is a contravention of any provision of regulations 4, 5 or 6 or the requirements of a notice served under regulation 8.

5. Specific Issues for Consultation

(i) Do you consider that the proposed Regulations will provide improved protection for the aquatic environment?

(ii) Are there any activities other than those specified in draft regulation 3(2) which should be exempted from the Regulations?

(iii) Are the timescales for the replacement of old tanks reasonable?

(iv) Have you any comments to make on the sectors to which the Regulations will apply?

(v) Do you consider the enforcement provisions are reasonable and effective?

(vi) Have you any comments on particular aspects of the proposed Regulations or the regime in general?

6. Rural Proofing Statement

Rural proofing is a process to ensure that all relevant Government policies are examined carefully and objectively to determine whether or not they have a different impact in rural areas from that elsewhere, because of the particular characteristics of rural areas; and where necessary, what policy adjustments might be made to reflect rural needs and in particular to ensure that, as far as is possible, public services are accessible on a fair basis to the rural community.

This paper details the measures proposed to prevent pollution of the water environment from inadequate above ground oil storage facilities, rather than to treat such pollution incidents after the event. The Regulations will apply to industrial, commercial, and institutional (e.g. schools, day care centres) and institutional residential (e.g. hospitals, nursing homes) sectors creating a level playing field for oil consumers in this sector. The Regulations will ensure that in future, contamination of the aquatic environment is prevented or minimised and so contribute to the protection of important natural habitats and the aquatic environment generally for the benefit of the whole community.

The Control of Pollution (Silage, Slurry and Agricultural Fuel 0il) Regulations (Northern Ireland) 2003 already apply to the storage of agricultural fuel oil, and require those people with custody or control of certain fuel oils to carry out works and take precautions or other steps for preventing pollution of waterways for the purposes of Part II of The Water (Northern Ireland) Order 1999.

The Department considers that the measures contained within the proposed Control of Pollution (Oil Storage) Regulations (Northern Ireland) 2010 are unlikely to have any different impact in rural areas to that within any other sector of the community.

7. Mandatory Consultation Requirements

Human Rights Compatibility Statement

The Human Rights Act 1998 implements the European Convention on Human Rights. The 1998 Act makes it unlawful for any public authority to act in a way that is incompatible with these rights. Since the implementation of the Human Rights Act 1998, all legislation must be checked to ensure compliance with the European Convention Rights.

The Department considers that the proposed Control of Pollution (Oil Storage) Regulations (Northern Ireland) 2010 is compatible with the Human Rights Act 1998.

Equality Impact Assessment

A preliminary screening exercise has been undertaken and there is no evidence that the proposed measures will have any impact on equality issues. Therefore, the Department does not consider a full Equality Impact Assessment to be necessary.

STATUTORY RULES OF NORTHERN IRELAND

2010 No.

WATER AND SEWERAGE

Control of Pollution (Oil Storage) Regulations (Northern Ireland) 2010

Made - - - -	*30 September 2010*
Coming into operation -	*31 October 2010*

The Department of the Environment, makes the following Regulations in exercise of the powers conferred by Articles 14 and 61(2) of The Water (Northern Ireland) Order 1999(**a**):

Citation and commencement

1. These Regulations may be cited as the Control of Pollution (Oil Storage) Regulations (Northern Ireland) 2010 and shall come into operation on 31 October 2010.

Interpretation

2. 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;

"draw off pipe" means a pipe used to withdraw oil from the container;

"drum" means an oil drum or similar container used for storing oil;

"fill pipe" means a pipe used to deliver oil into the container;

"fixed tank" includes an intermediate bulk container, which is connected to fixed pipework;

"oil" means any kind of oil and includes petrol; and

"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.

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 with a storage capacity of 200 litres or less;

(b) on any premises used wholly or mainly as a private dwelling if the storage capacity of the container in which it is stored is 3500 litres or less;

(**a**) S.I. 1999/662 (N.I.6); Article 14(2) was amended by The Water and Sewerage Services (Northern Ireland) Order 2006 (S.I.2006 No.3336 (N.I.21)) Article 291(8)

(c) on any farm if the oil is used in connection with agriculture within the meaning of the Agriculture Act (Northern Ireland) 1949(**b**); and

(d) in any container which is wholly underground.

Requirements for oil storage – general

4.—(1) Oil must 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 (6) 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) 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.

(4) 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 flash point of less than 32°C, a pump) must be situated within a secondary containment system.

(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.

Fixed tanks

5.—(1) Any fixed tank used to store oil must satisfy the following requirements —

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

(b) 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

(i) if above ground, must be properly supported;

(ii) if underground—

(aa) must have no mechanical joints, except at a place which is accessible for inspection by removing a hatch or cover;

(bb) must be adequately protected from physical damage;

(cc) must have adequate facilities for detecting any leaks;

(dd) if fitted with a leakage detection device which is 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

(**b**) 1949 c.2 (N.I.)

(ee) 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 five years and, in other cases, at least once in every ten years.

(iii) if made of materials which are liable to corrosion, must be adequately protected against corrosion.

(2)The tank must be fitted with an automatic overflow 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.

(3) 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.

(4) Where oil from the tank is delivered through a flexible pipe which is permanently attached to it—

(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 tank which is locked shut when not in use; and

(ii) be kept within the secondary containment system when not in use.

(5) 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.

(6) 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 that any oil discharged is 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 bowsers

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

(a) 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;

(b) any sight gauge must be secured to the mobile bowser and be fitted with a valve or tap which must be locked in the shut position when not in use.

(2) 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; and

(c) the pipe must be fitted with a lockable valve at the end where it leaves the mobile bowser and must be locked shut when not in use.

Transitional provisions

7.—(1) Subject to paragraphs (2) and (3), these Regulations must not apply until 2014 to the storage of oil in any container if the container was used for that purpose on the premises before 2010.

(2) Subject to paragraph (3), if any container is situated less than—

(a) 10 metres from any waterway; or

(b) 50 metres away from a well, spring or borehole;

these Regulations shall apply from 2012.

(3) If a notice served under regulation 8 is not complied with in relation to any container by the date specified in the notice, these Regulations must 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 any case—

(a) to which regulation 7(1) or (2) applies; and

(b) where it appears to the Department that there is significant risk of pollution from the entry of the oil in question into any waterway or water contained in any underground strata if steps are not immediately taken to minimise that risk;

the Department may serve a notice on the person having custody or control of that oil requiring him to carry out such works, take such precautions or such steps as, in the opinion of the Department, are appropriate for minimising that risk having regard to the requirements of regulations 4, 5 and 6.

(2)The notice must—

(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 the person of their rights under regulation 9.

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

(4) The Department 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.

Right of appeal in transitional cases

9. A person on whom a notice is served under regulation 8 may, within 28 days beginning with the date on which the notice is served, appeal in writing against the notice to the Water Appeals Commission.

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, 5 and 6 or the requirements of a notice under regulation 8 shall be guilty of an offence and shall be liable–

(a) on conviction on indictment, to imprisonment for a term not exceeding 2 years or to a fine or to both;

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

Sealed with the Official Seal of the Department of the Environment on 30 September 2010

Maggie Smith
A senior officer of the Department of the Environment

EXPLANATORY NOTE

(This note is not part of the Regulations)

These Regulations 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 waterway.

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 the Department considers that there is a significant risk of pollution of a waterway or water contained in any underground strata from the oil in question it has the power to serve a notice on the person having custody or control of the oil to minimise the risk (see regulation 8). A person served with a notice has a right of appeal under regulation 9.

Failure to comply with any of the requirements of regulations 4, 5 and 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 a fine or to both or on summary conviction to imprisonment for a term not exceeding 3 months or to a fine not exceeding £20,000 or to both.

The Regulations were notified in draft to the European Commission in accordance with Directive 98/34/EC as amended by Directive 98/48/EC.

Annex B

DRAFT GUIDANCE FOR THE CONTROL OF POLLUTION (OIL STORAGE) REGULATIONS (NORTHERN IRELAND) 2010

PURPOSE OF THIS GUIDANCE DOCUMENT

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

This guidance details the main requirements of the Regulations. It is not a substitute for the Regulations and there is a duty both to avoid causing pollution and to comply with the Regulations and other relevant legislation.

The guidance is not intended to have legal force and should be read in conjunction with the precise provisions and requirements of the Regulations.

REASONS FOR THE REGULATIONS

In 2008 a total of 1237 substantiated pollution incidents were reported to the Northern Ireland Environment Agency (NIEA). Approximately 16% of these incidents 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, 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:-

- PPG2 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;

- PPG3 covers the use and design of oil separators in surface water drainage systems ; and

- PPG8 provides guidance on the safe disposal of used 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. Similarily there has been a decreasing trend in the number of substantiated oil-related incidents, levelling at around 220 per year.

The introduction of Regulations to control above ground oil storage facilities would compliment and enhance existing water pollution controls in Northern Ireland in order 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.

The proposed Regulations will create a level playing field for above ground oil storage facilities in the industrial, commercial and institutional sectors as in England and Scotland. They will 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.

In addition to this guidance note, detailed information for users and individual sites is available from the Water Management Unit of NIEA.

SCOPE OF THE REGULATIONS

Types of Oil

The proposed Regulations will apply to any kind of oil including: mineral oils such as fuel; heating and lubricating oils; vegetable oils; and waste oils. The provisions of the Waste Management Licensing Regulations (Northern Ireland) 2003 will also apply to the handling, storage and disposal of waste oil.

Oil Storage Facilities

The proposed Regulations will 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, bowsers and other mobile units, which have a storage capacity of over 200 litres.

The following premises will 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.

Exemptions

The following exemptions to the proposed Regulations will apply:

- premises used wholly or mainly as a private dwelling with an oil storage capacity of less than 3500 litres;

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

- new storage facilities will have to comply within six months of the Regulations coming into operation;

- existing storage facilities that are located within 10 metres of any waterway or 50 metres away from a well, spring or borehole will have to comply within two years of the Regulations coming into operation; and

- remaining existing storage facilities will have to comply within four years of the Regulations coming into operation.

Where practicable, above ground oil storage containers should not be located within 10 metres of any waterway or 50 metres of a

well, spring or borehole as it is likely that leaking oil could enter groundwater or surface waters. These 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 NIEA.

PROPOSED STANDARDS FOR OIL STORAGE CONTAINERS

The proposed Regulations are attached at Annex A. They 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 for the Petroleum Industry (OFTEC) and the Construction Industry Research and Information Association (CIRIA). Further site-specific guidance is also available on request from NIEA.

The main provisions 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 (e.g. by impact from any vehicular traffic).

- Secondary containment must be provided to catch any oil leaking from the container or its ancillary pipe work and equipment (a bund or drip tray).

- The secondary containment system must have sufficient capacity to contain 110% of the maximum content of the oil container. Where more than one container is stored, the secondary containment system should be capable of storing 110% of the largest tank or 25% of their aggregate storage capacity, whichever is the greater. In the case of drums the secondary containment system should be at least 25% of the total storage capacity or, if more than one drum, the aggregate storage capacity.

- The base and walls of any bund must be impermeable to water and oil 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 proposed Regulations is given in the following table.

Aspect	**Regulatory Requirements/including other Statutory Requirements that <u>Must</u> be Observed**	**Best Practice that <u>Should</u> be Observed**
Structural integrity and maintenance of primary container	Tanks, drums or other containers must be strong enough to hold oil without leaking or bursting. Containers must meet the desired performance standards specified in Regulations 4 - 6 at all times.	Purchase fixed containers expected to last for a minimum of 20 years. Tanks should be checked regularly for signs of damage or leaks. In addition, a qualified operator (e.g. OFTEC accredited) should conduct a more detailed inspection annually.
Safety zone and maintenance recommendations	Containers must be positioned to avoid damage from impact (e.g from vehicular traffic) as far as is practicable.	Where practicable, containers should not be constructed or situated within 50 metres of any well, spring or borehole or 10 metres from any waterway. NIEA can provide further guidance on this matter. Storage of inflammable liquids should be in steel tanks, which conform to BS7999 part 5, or in plastic tanks which conform to the OFTEC standard OFC t100. Such tanks are also subject to Health and Safety guidance.

Safety zone and maintenance recommendations (continued)		To prevent risk of pollution to water, weekly inspections and regular maintenance of both primary and secondary containment systems should be undertaken. A qualified operator (e.g. OFTEC accredited) should also carry out a more detailed annual inspection and service.

Secondary containment system (bunds or drip trays)	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. Oil drums must have a secondary containment system (drip tray) with a capacity of not less than 25% of the drums storage capacity or for several drums situated together, 25% of the aggregated storage capacity.	The secondary containment system may be conventionally constructed or a proprietary prefabricated tank system designed to the equivalent pollution prevention standards. 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 (R163) 'Construction of bunds for oil storage tanks'.

Secondary containment system (bunds or drip trays) (continued)	Any valve, pipe or other opening that is used for draining the containment system must not penetrate the bund base or walls. 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. 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 must be handled and disposed of in accordance with the Controlled Waste (Duty of Care) Regulations (Northern Ireland) 2002. There must not be any direct outlet connecting the bund to any drain or sewer nor must there be any discharge from the bund.	The bund wall should have a minimum height of 150mm and a collection sump for rainwater is recommended. Enclosed proprietary prefabricated storage systems or roofing over the storage area should be used to prevent rainwater getting into the bund. Petrol and flammable liquids should be stored in accordance with Health and Safety Executive Guidance. For proprietary prefabricated storage systems reference should be made to CIRIA study (C535)3 Bunds, tanks and pipe work should be checked regularly for signs of damage or leaks. In addition a qualified technician (e.g. OFTEC accredited) should conduct a more detailed inspection on an annual basis.

Primary containers - fixed tanks	Regulation 2 defines these primary containers as fixed tanks, drums, mobile bowsers or intermediate bulk containers and regulation 5 sets out specific requirements for fixed tanks.	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. Tanks that are made of materials liable to corrosion must be adequately protected. Steel tanks should comply with BS 799 and part 5 of the OFTEC Standard OFST200. 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. Tanks should be marked with the product type and tank capacity. Notices detailing safe delivery procedures should be positioned at the delivery point. It is recommended that there should be an

Primary containers – fixed tanks (continued)		adequate means of measuring the quanity of oil and an overfill alarm should be provided.
Requirements for pipework and other ancillary equipment	The base and walls must not be penetrated by any valve, pipe or other opening which is used for draining the system. All above ground pipework must be properly supported and positioned to avoid damage from impact (e.g. from any vehicular traffic). 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. 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.	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 BS799 Part 5 of OTS T100 or T200 as appropriate. Underground pipes should be avoided, but if used their route should be clearly marked. OFTEC technical note T1/134 provides further guidance. Pipes should comply with BS5410 Part 1 or 2 as applicable.

Requirements for pipework and other ancillary equipment (continued)	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. Where a screw fitting or other fixed coupling is fitted it must be used when filling the tank. 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. 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. 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. Pumps must be fitted with a non-return valve in the feed line. Pumps must also be protected from	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 accredited), should carry out inspections for leaks and of leak detection devices annually. 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. Valves should be made resistant to 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

Requirements for pipework and other ancillary equipment (continued)	unauthorised use as well as being positioned to minimise the risk of damage from impact.	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. 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. When not in use, draw-off pipes should be contained within a secure cabinet with a drip tray. Flexible pipes and fittings for filling vehicles and other similar tanks should comply with BS EN 1360:1997.
Requirements for mobile units including bowsers	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.	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.

Requirements for mobile units including bowsers (continued)	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. Mobile units must have secondary containment when in use/out on site. The requirements exclude road tankers used for the transport of oil.	If a dipstick is used it should be suitably calibrated for the tank.
Notice by NIEA to minimise pollution risks in transitional cases	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.	
Waste oil storage	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.	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 Land Resource

Waste oil storage (continued)		Management Unit of NIEA.
Security	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. Pumps must be protected from unauthorised use.	Oil storage areas and facilities should be resistant as far as practicable to unauthorised interference and vandalism. 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.
Dealing with spills		In the event of a spill take immediate action to contain the oil to prevent it entering any drains, sewers, waterways or groundwater. In addition NIEA should be informed using the 24-hour Pollution Hotline: Freephone 0800 80 70 60. 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. It is recommended to consider the risks of

Dealing with spills (continued)		spillage and to prepare a contingency plan. NIEA can provide guidance and further information is provided in PPG 21.

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 Annex.

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.niea.gov.uk and can also be requested from field officers and the Water Management Unit.

- PPG1 – General Guide to the Prevention of Water Pollution
- PPG2 – Above Ground Oil Storage Tanks
- PPG3 – Use and Design of Oil Separators in Surface Water Drainage Systems
- PPG8 – Safe Storage and Disposal of Used Oils
- PPG11 – Prevention of Pollution on Industrial Sites
- PPG15 – Retail Stores
- PPG16 – Schools and Educational Establishments
- PPG21 – Pollution Incident Response Planning
- PPG26 – Drum and Intermediate Bulk Container Storage

NIEA, SEPA and the EA have produced these PPG's jointly. The guidelines differ in places from the proposed 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 proposed Regulations. In addition, it is recommended that best practices be adopted where possible.

Other pollution prevention guidance notes of relevance are:

<u>Construction Industry Research and Information Association (CIRIA)</u>
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)

- B5799 Part 5 sets standards for steel tanks.
- BS55410 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 (1997) covers oil-firing installations of 44kW and above and Part 3 (1997) covers installations for furnaces, kilns, ovens and other industrial purposes.

Oil Firing Technical Association for the Petroleum Industry (OFTEC)

- OFS T100 set 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 –Standard developed for overfill alarms and steel tanks.

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 adapted the current national standard for Driver Training for Carriage of Dangerous Goods by Road, NVQ Level 2, for the oil distribution industry.

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

Oil Firing Technical Association for the Petroleum Industry (OFTEC)
Century House
100 High Street
Banstead
Surrey
5M7 2NN

Telephone: 017 3737 3311 Fax: 017 3737 3553

Construction Industry Research and Information Association (CIRIA)
Classic House
174-184 Old Street
London
EC1V 9BP

Institute of Petroleum
61 New Cavendish Street
London
W1M 8AR

Telephone: 020 7467 7100 Fax: 020 7255 1472

British Standards Institution
British Standards House
389 Chiswick High Street
London W4 4Al

Telephone: 020 8996 9000 Fax: 020 8996 7400

ANNEX C

PARTIAL REGULATORY IMPACT ASSESSMENT

CONTROL OF POLLUTION (OIL STORAGE) REGULATIONS (NORTHERN IRELAND) 2010

Partial Regulatory Impact Assessment

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January 2010

1. Title of Proposal

Control of Pollution (Oil Storage) Regulations (Northern Ireland) 2010

2. Purpose and Intended Effect of Measure

(i) The Objective

The objective of the proposed Regulations is to reduce and prevent the number of oil-related water pollution incidents. They will do this by setting minimum design standards for new and existing above ground oil storage facilities, codifying existing good practice to ensure that above ground oil storage facilities are adequately constructed. They will also provide a legal requirement for the standards to be met.

The Regulations will cover industrial, commercial, institutional (e.g. schools, day care centres) and institutional residential (e.g. nursing homes, hospitals) sectors and will also extend to companies who refine or distribute oil. However, they will not apply:

- to oil stored in a container with a capacity of 200 litres or less;
- on premises used wholly or mainly as a private dwelling if the storage capacity of the container is 3500 litres or less;
- on any farm if the oil is used in connection with agriculture within the meaning of the Agricultural Act (Northern Ireland) 1949; and
- to any container which is wholly underground.

The Regulations make provision for transitional cases coming into operation in three stages:-

- new storage facilities will have to comply within six months of the Regulations coming into operation;
- existing storage facilities, which are located within 10 metres from a waterway or 50 metres from a well, spring or borehole, will have

to comply within two years of the Regulations coming into operation; and

- remaining existing storage facilities will have to comply within four years of the Regulations coming into operation.

In addition, where the Department considers that there is a risk of pollution to a waterway or water contained in any underground strata, it will have the power to serve a notice on that person having custody or control of the above ground oil storage container in order to minimise the risks in transitional cases.

Provision is also made for the right to appeal against a notice served by the Department in transitional cases and for penalties to be applied when an offence has been committed.

(ii) The Background

The Water Framework Directive (2000/60/EC) (WFD) requires that for diffuse sources liable to cause pollution, measures are put in place to prevent or control the input of pollutants. It also requires that all surface waters and groundwaters attain 'good status' by 2015.

The WFD is implemented in Northern Ireland through River Basin Management Plans which were published on 21 December 2009. Programmes of measures have been developed to ensure that the objectives of the WFD are met and included in these is a commitment to make these Regulations.

The proposed Regulations for above ground oil storage facilities will contribute to the implementation of the WFD by complimenting and enhancing existing water pollution controls in Northern Ireland. They should ensure that, in the future, contamination of both surface waters and groundwater by oil is prevented or minimised. A key requirement of the Regulations will be for the storage container to have a secondary containment system (a bund, which is an outer wall or enclosure designed to contain the contents of an inner tank, or, a drip tray) to ensure that any leaking or spilt oil is contained and does not enter the aquatic environment. 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.

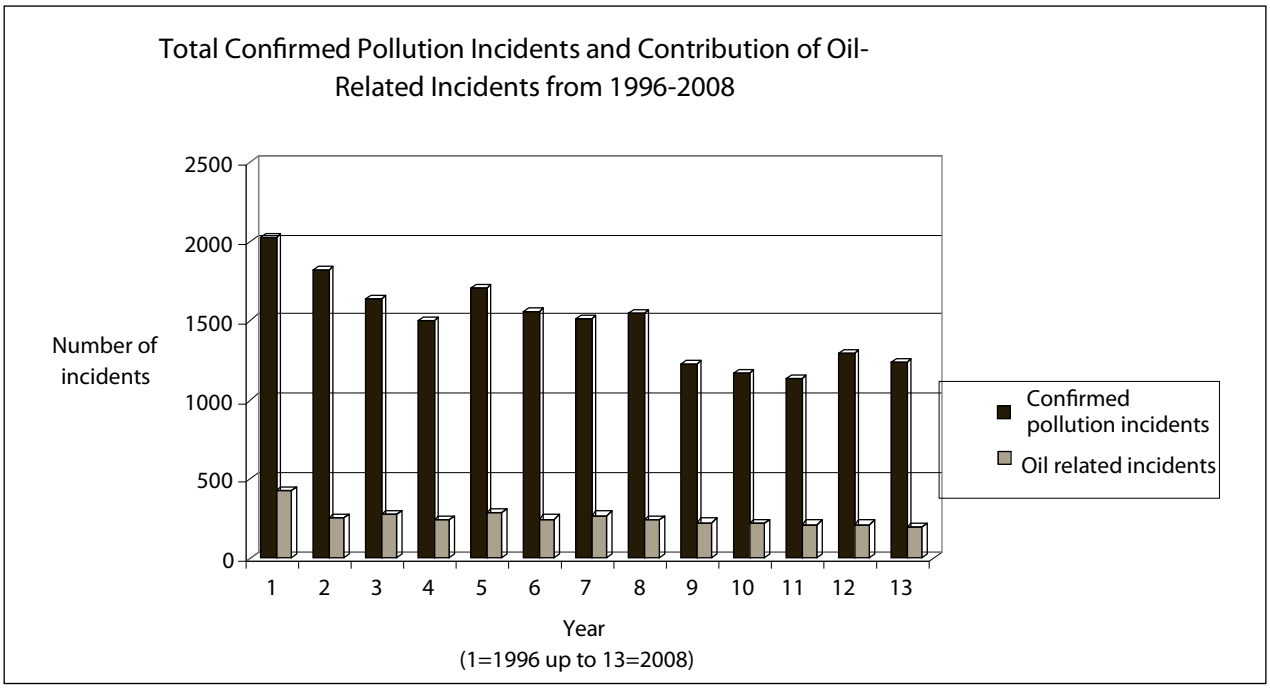
With the exception of the agricultural and domestic sectors in Northern Ireland, there is no specific regulatory control for above ground oil storage facilities. Enforcement powers for facilities which pose a risk of pollution to surface water or groundwater are in place through The Water (Northern Ireland) Order 1999 and the Groundwater Regulations (Northern Ireland) 2009. The Northern Ireland Environment Agency (NIEA) has existing powers to issue a notice requiring remedial work to be undertaken where it appears that oil is likely to enter, or to have been present, in any waterway or water contained in underground strata. However, these controls are more reactive than proactive. The proposed Regulations will enable NIEA to act to prevent pollution of the water environment rather than to treat oil pollution incidents after the event.

(iii) Risk Assessment

The environmental damage caused as a result of a pollution incident due to the release of oil can be significant and expensive to remedy. Oil spills are objectionable aesthetically, but more seriously, place all aquatic organisms at risk. Oil is considered toxic to animal and invertebrate life. It forms a film on the surface of waterways, 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 grooming can then have toxic effects. It can result in the contamination of drinking water supplies and water used for irrigation, stock watering and many industrial purposes, making it unfit for use. Oil can taint fish flesh making it inedible causing severe implications for fish farming or game angling. The recreational use of water can also be adversely affected by contamination with oil. These impacts cannot easily be costed but are clearly severely detrimental to the environment.

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 (see figure below). Similarly there has been a decreasing trend in the number of substantiated oil-related incidents, levelling at around 220 per year.



The most frequent polluting oil types are diesel, central heating oil, petrol and waste engine oil. The reported incidents occurred mainly as a result of spills, leaks, inadequate facilities and irresponsible disposal.

A sample study carried out by NIEA between November 2003 and March 2004 found that of 241 oil depots surveyed 162 had oil storage facilities on site. Of these 59 (36%) had inadequate bunding, 35 (22%) had no bund at all, 86 (53%) had no drip control, 59 (36%) had no pump containment and 103 (64%) had no fill point containment. These findings are not unexpected since the majority of oil-related pollution incidents are as a result of poor storage facilities, e.g. unbunded tanks, leaking tanks and pipes, overfilling, faulty valves, together with vandalism and poor management and construction practices.

In the first six years of the implementation of the Oil Storage Regulations in England there was a 41% reduction in oil and fuel incidents. On this basis it is anticipated that the proposed Regulations will contribute to reduce the number of incidents in Northern Ireland from approximately 220 per year to 130 per year by 2016.

3. Options

Three options have been identified to reduce the number of oil pollution incidents from above ground oil storage facilities and are 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

Option 4: Regulate

Explanation of Options

Option 1: *Do nothing or business as usual scenario*

This is included as a baseline option and represents the situation at present. NIEA has existing powers to issue notices where it considers that oil is likely to enter into waterways and groundwater. However the cost of undertaking site inspections, issuing improvement notices, contesting appeals and following up on remedial work is excessive. This is not considered to be an effective use of resources. In addition, pollution incidents would continue at current high levels, except to the extent that business takes voluntary action. For these reasons this option can be discounted.

Option 2: *Introduce a voluntary scheme*

This is similar to the Option 1 case. NIEA has produced several 'Pollution Prevention Guidelines' in conjunction with the Scottish Environment Protection Agency (SEPA) and the Environment Agency for England and Wales (EA) concerning the safe handling of oil and oil storage. NIEA has also conducted a moderately successful "Oil Care Campaign" since 1994. NIEA has worked closely with the oil industry and businesses to educate operators about good environmental practices. However, these actions

have not significantly reduced the number of oil-related water pollution incidents. It is not considered 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. Also, there would not be a level playing field as good operators would be at a financial disadvantage.

Option 3: ***Use economic incentives such as grants and tax breaks***

This option runs against the 'polluter pays' principle as the environmental costs are subsidised and operators who have financed a current good standard would be at a disadvantage. 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 (i.e. the extra costs of buying a bunded tank) would still leave the tank operators facing extra expenditure and it is likely that a number of them would choose not to comply.

Option 4: ***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 it is possible. In addition there are a number of benefits to the operators of affected sites, although there would be a cost in providing the required level of containment. At 2008 prices the cost of remedial measures should an oil spill occur would be substantially reduced, avoiding clean-up costs in the region of £1,000 - £30,000 for industrial spills. A clean-up for the worst case scenario could cost up to £400,000. For a typical business with tank sizes of 2,500 – 5,000 litres the benefits would be £20,000 - £50,000 per incident. (These figures were provided with assistance from UK Spill.) In addition, the risk of prosecution, imprisonment, and fines of up to £20,000 per offence would be greatly reduced. NIEA costs, which averaged £325 per case and ranged from approximately £200 - £4,000 in the period March to December 2008, would also be reduced

Issues of Equality and Fairness

The proposed Regulations will create a 'level playing field' for above ground oil storage facilities. They will set statutory minimum standards to

control such facilities in the commercial, industrial and institutional sectors in line with those already in place in the agricultural sector implemented under the Control of Pollution (Silage, Slurry and Agricultural Fuel Oil) Regulations (Northern Ireland) 2003. The proposed Regulations will help to ensure equity and fairness throughout all sectors of Northern Ireland.

Single dwelling householders in the domestic sector who own heating oil storage tanks will be exempted from these proposed Regulations, if the tank concerned has a capacity of less than 3,500 litres. However, a similar control for domestic heating oil storage tanks is applied by Regulation 9, Schedule 2, Part L1(4) and L7 of the Building (Amendment) Regulations (Northern Ireland) 2006.

The cost of meeting the minimum standards proposed by the Regulations may be proportionally greater for operators of small tanks, such as small businesses and voluntary groups. The proposed Regulations may affect the market for tanks and bunds and possibly encourage the production of less expensive plastic integrally bunded tanks at the smaller end of the market. This would be of benefit to 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.

4. Costs and Benefits

The proposed Regulations will have an impact on the following sectors:-

- Consumers: Premises with above ground oil storage facilities in the industrial, commercial and institutional sectors in Northern Ireland will be responsible for meeting the requirements of the proposed Regulations. A large number of sites will be affected.

- Suppliers: Tank manufacturers and firms fitting, installing and maintaining tanks and bunds will be affected indirectly. Suppliers will need to meet the increased demand for tanks, pipe work 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 Northern Ireland.

Costs

The costs of Options 1-3 would be minimal for business. The costs for Option 4 will vary according to the total oil storage capacity at each site. For convenience, the cost of purchasing or upgrading an individual tank at different tank capacities has been estimated. We consider that small businesses and those with small oil storage facilities should anticipate costs at the lower end of the range.

Non-recurring Costs

The main compliance costs to firms are the one-off costs of upgrading an existing tank and in particular providing a bund; or, installing a new tank to the required design specification. The costs will vary depending on tank capacity, which can be from 600 litres at the lower end to 150,000 litres at the upper end. Many tanks affected by the proposed Regulations will have a capacity of about 2,500 – 5,000 litres and these will be typical businesses. This range will be used to estimate costs and benefits. In comparison, small businesses are likely to have a tank capacity in the range of 1,000 – 2,500 litres.

These costs and benefits are broad estimates. This is because it is not possible to calculate these using a robust methodology. However, they should allow a rough comparison of costs and benefits which can be used to gauge the merits of the proposed Regulations. It should also be noted that the costs and benefits are those over and above the status quo.

Costs of Installing New Bunded Tanks

It is assumed that new integrally bunded above ground oil storage 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 pipe work and mobile tank requirements, but we have been unable to cost these. We estimate that the typical business is likely to face additional costs for installing new bunded tanks of £800 - £1,000, and small businesses are likely to face additional costs of £600 - £800. The full range of costs for different tank capacities is detailed below:

Tank Capacity (litres)	600	1,000	1,500	2,500	5,000	30,000	50,000	150,000
Base	£400	£400	£500	£600	£800	£1,200	£1,500	£2,000
Bunded tank	£200	£200	£200	£200	£200	£500	£500	£500
Total cost	£600	£600	£700	£800	£1,000	£1,700	£2,000	£2,500

(2008 prices)

Costs of Upgrading Existing Tanks

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 and where new bund construction is called for it may be cheaper to completely replace with a new integrally bunded tank.

The typical business is likely to face additional costs in year 4 for upgrading existing tanks of up to £1,800, and small businesses are likely to face additional costs of up to £1,200. The full range of costs for different tank capacities is given below.

Tank capacity (litres)	600	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	£400	£400	£400	£800	£800	£1,000
***Cost for replacing tank including £200 installation fee**	£700	£800	£1,000	£1,200	£1,800	£20,000	£25,000	£35,000

(2008 prices)

*Note: This cost is dependent on the age of the tank after 4 years when the proposed Regulations come into operation. 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.

Recurring Costs

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 and, for open bunds, removal of collected rainwater. Maintenance requirements would not be onerous as storage tanks have few mechanical features and brick or concrete bund construction is very durable. Integrally bunded tanks have minimal maintenance requirements and don't need to have rainwater removed. It is estimated that routine maintenance and service could cost £50 - £75 per annum. Removal of rainwater could cost approximately £50 per tonne of material removed. These costs may be incurred whether or not the proposals are introduced.

There are likely to be implications for a minority of businesses in the supplier market. For many firms there will be a surge in demand to meet the timescale of the Regulations followed by a reduction when that has been delivered. There will be a consequent reduction in revenue but overall there will be increased business. We have been unable to quantify the costs or benefits involved.

Total Compliance Costs

Upgrading Existing Tanks

It is estimated that there are 365,000 existing tanks in Northern Ireland, 15,000 of which are in the industrial, commercial and institutional sectors, with the remaining 350,000 found in the domestic sector. The majority of the domestic sector would be private dwellings (and would be exempt). Therefore, this cost modelling will focus on the industrial, commercial and institutional sectors. NIEA estimates that 50% (7,500) of these are bunded and, of these, 50% (3,750) have an inadequate bund. This is a prudent estimate. Therefore, we assume that 7,500 of existing stock is unbunded and 3,750 is inadequately bunded.

The calculations are shown below.

For 5,000L tanks:

Cost for remedial work = £400

Cost for Replacing Tank = £1,800

Total Cost = (£400 x 3750) + (£1800 x 7500) = £15m

For 2,500L tanks:

Cost for remedial work = £400

Cost for Replacing Tank = £1,200

Total Cost = (£400 x 3750) + (£1200 x 7500) = £10.5m

Therefore the one-off cost to the industrial, commercial and institutional sectors to update existing tanks could range from £10.5m to £15m (based on 2,500L-5,000L tanks).

New Tanks

Sales figures for new tanks purchased in Northern Ireland are not available. However we know that sales of bunded versus non-bunded tanks has declined since 2007, when sales would have been nearly 50-50. Current advice is 25% bunded versus 75% non-bunded which reflects limited budgets.

Defra's RIA on their Oil Storage Regulations showed that new tanks per annum represented 4% of existing tanks. Whilst this is not ideal as regards accuracy, it is felt that this is a reasonable estimate. This would mean 600 new tanks per annum in Northern Ireland for the industrial, commercial and institutional sectors. Most of these are likely to replace existing tanks (which are assumed to be replaced every 25 years). If we assume that these tanks would have been purchased under the status quo, then it is the bunding of these tanks that should form part of the analysis. Therefore, 75% of these new tanks would now need bunding (450 tanks). The difference in cost between a bunded tank or an unbunded (single skin) tank varies depending on the manufacturer and supplier. However, using data gathered it can be assumed that bunded tanks cost three times more than unbunded tanks. This is a very prudent estimate. The table below shows

the figures used. Note that the cost is just for the tank and does not include installation which is assumed to be similar for both types of tank.

Size	Unbunded Tank Cost	Bunded Tank Cost
2,500L	£250	£750
5,000L	£500	£1,500

This means that the cost associated with new tanks ranges from £500 to £1,000 per unit. If 450 tanks will now need to be bunded due to the Regulations then the extra cost per annum will range from £225,000 to £450,000.

Therefore, the total cost to the industrial, commercial and institutional sectors over 10 years, is estimated to be between £12.8m (2,500L tank) and £19.5m (5,000L tank).

Identify Any Other Costs

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.

It is possible those industrial and commercial sites, which have above ground oil storage facilities, would pass on the costs of compliance with the proposed Regulations to customers 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.

There would also be costs to Government. As regulator and enforcer, NIEA would monitor and enforce the proposed Regulations at an estimated cost of £10,000 per year pro-rata (as estimated by NIEA), from and including 2010. 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 DOE of cleaning up a pollution incident. The proposed Regulations would therefore significantly reduce the burden on DOE of oil-related water pollution incidents.

Benefits

There are no additional benefits as regards Options 1 and 2.

Option 3 (to use economic incentives such as grants and tax breaks) 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 (i.e. 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 36,000 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 far too costly for the public finances.

Zero-rated VAT for new equipment complying with the proposals might reduce the costs for operators who install them, but they would still face additional expenditure. Given the number of tanks involved, such a scheme would be too costly and would not achieve the relatively fast reduction in oil pollution incidents that we are looking for or the 'level playing field' between operators.

The principal benefit of the proposed Regulations (Option 4) will be the reduction in the number of oil-related water pollution incidents in Northern Ireland. This will reduce the risk to wildlife and habitats and help to safeguard surface waters and groundwater thus protecting drinking water supplies. Additionally, the reduction of further pollution to land, surface waters and groundwater will reduce the costs of remediation of contaminated land in the future.

It is difficult to quantify the environmental benefits of introducing the proposed Regulations. The value placed on benefits in this RIA only refers to the savings made in relation to a reduction in clean-up costs. Therefore, it should be noted that the environmental benefits of preserving wildlife and habitats and safeguarding surface waters have not been quantified.

The methodology below was used to place a value on the savings made in relation to clean-up costs.

It is estimated that there are approximately 220 substantiated oil-related incidents per year. In the first six years of the implementation of the Oil Storage Regulations in England there was a 41% reduction in oil and fuel incidents. On this basis it is anticipated that the proposed Regulations will

contribute to reduce the number of incidents in Northern Ireland by 90 in six years; this is 15 incidents per year. It is assumed that for a typical business with tank sizes of 2,500 – 5,000 litres, the benefits would be £20,000 - £50,000 per incident.

In addition, NIEA clean-up costs averaged £325 per case but could range from approximately £200 - £4,000. The average cost was used in this instance.

The table below shows the clean-up savings from the introduction of the scheme to the target year, when all facilities must comply (year 4).

Year	**1**	**2**	**3**	**4**
Incidents	205	190	175	160
Saving (5,000L Tank)	£0.75m	£1.50m	£2.25m	£3.00m
Saving (2,500L Tank)	£0.30m	£0.60m	£0.90m	£1.20m
Saving (NIEA)	£4,875	£9,750	£14,625	£19,500

The total benefits to the industrial, commercial and institutional sectors over 10 years is estimated between £13.5m (2,500L tank) to £33.8m (5,000L tank). This assumes that the number of oil-related incidents per year remains constant after year 6. If these were to continue to fall then the benefits would be greater.

Summary of Costs and Benefits

The total costs and benefits have been calculated over 10 years and this has been shown in the table below. For prudence purposes it has been assumed that the number of oil-related incidents per year remains constant after year 6. If these were to continue to fall then the benefits would be greater.

Sector	**Total Cost**	**Total Benefit**
Private	£12.8m to £19.5m (2,500L to 5,000L)	£13.5m to £33.8m (2,500L to 5,000L)
Public	£0.1m	£0.2m

The limitations of the calculations used to estimate these figures should be recognised. It has been assumed that all tanks in the industrial, commercial and institutional sectors are in the range of 2,500L to 5,000L. This is clearly not the case. In addition, it was not possible to quantify all of the benefits of introducing the Regulations; particularly in relation to reducing the risk to wildlife and habitats and helping to safeguard surface waters and groundwater. Nevertheless, the data included in this RIA should allow the merits of the proposed Regulations to be assessed.

A Net Present Value (NPV) calculation was also completed over 15 years using a discount rate of 3.5%. This is an economic tool used to reflect time preference theory. The NPV over 15 years was between £4.7m and £23.4m depending on tank size (2,500L and 5,000L respectively).

5. Small Firms Impact Assessment

Although there may be some additional costs to small businesses it is not likely to affect their competitiveness or profitability. It is considered that introducing the Regulations will not disproportionately affect small businesses.

Small businesses and their representatives which might be affected by the potential implications of the Regulations are invited to respond to this consultation.

6. Enforcement and Sanctions

NIEA aims to protect the environment by consistent and fair application of the legislation it enforces. It will continue to work co-operatively with those it regulates in order to secure improved performance and will offer advice where appropriate.

NIEA will continue to promote the Oil Care Campaign and will continue to issue guidance on the handling, delivery and storage of oil and the proper collecting of oil to industrial, commercial and institutional oil storage premises.

NIEA will issue guidance and undertake training of staff to ensure that the proposed Regulations are implemented, monitored and enforced fairly and equitably across Northern Ireland.

The proposed Regulations provide for operators of oil storage facilities in breach to be prosecuted and for penalties to be imposed. In taking enforcement action NIEA will continue to apply the existing published Enforcement and Prosecution Policy for Environmental Protection.

A range of enforcement tools is available, and includes warning letters, enforcement and prohibition notices as well as prosecution. The choice of enforcement action taken will depend on the individual case, but NIEA will continue to be consistent, proportionate and transparent in the action taken.

7. Monitoring and Review

NIEA will monitor compliance with the proposed Regulations in the data that is collected for the annual report on pollution incident statistics. NIEA will ensure that monitoring data is consistent across Northern Ireland. If the proposed Regulations are introduced the Department will review the effectiveness of the Regulations and consider if the standards are appropriate in the light of further developments 5 years after their introduction.

8. Consultation

This partial RIA forms part of the Department's formal consultation process with key stakeholders on the implications of the proposed Regulations.

The proposals have been discussed with oil industry representatives and the proposed Regulations take account of comments made.

9. Summary and Recommendation

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	£800 - £1,000	£20,000 - £50,000
Upgrade existing facilities	Minimal - £1,800	£20,000 - £50,000

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.

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 unbunded or inadequately bunded stock remained the same if the proposals were not introduced. We have also estimated the 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 annual total costs and benefits are shown below.

Sector	Expected total costs	Expected total benefits of reduction in clean-up
Business: additional one-off cost of 'worst case' upgrade of existing tank at significant risk within 2 years and remainder within 4 years and bunding new tanks	£1.28m to £1.95m (2,500L to 5,000L)	£1.35m to £3.38m (2,500L to 5,000L)
Government: additional costs of monitoring and enforcement	£10,000 per annum pro-rata from and including 2010	£20,000 per annum pro-rata from and including 2010

The NPV over 15 years was between £4.7m and £23.4m depending on tank size (2,500L and 5,000L respectively).

It should be noted that given the methodology used, costs are likely to have been overestimated and benefits underestimated.

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 be brought into operation as soon as possible under the Water (Northern Ireland) Order 1999 in order to better protect the aquatic environment.

ANNEX D

List of consultees

Environment Committee of the Northern Ireland Assembly

A H Fuel Oils
Armagh Oil
Bradagh Fuels
Bradley and Company
Carlisle Fuels
Clean Oil
Cloverhill Fuels
Conlon 2003
Craig Fuels
Crossroad Fuels
David Meekin
Donaghmore Fuels
Economy Fuels
Energy NI
EUG 200
Ferguson Fuels
Finlay Fuels
Gillen Fuels
Hayes Fuels
Hylands Fuels
Irwin Fuels
Jennings Fuels
Kingsberry Fuels
Kirkland Fuels
Lisburn Fuels
MCS Fuels
McGinleys
McHugh Oil
McTurk Oils
Maxol
Milligan Oil
Molloy Fuels
Moore 89
Morgan Fuels
Morrow Fuels
Nicholl Fuels
Patterson Oil
Quinn Contracts
Salt Oils
Scotts Fuels
Springtown Fuels
Strangford Fuels
TDF Oil
Thompson Fuels

Top
Topaz Energy
Watt Fuels

Kevin Gildernew
W M Lorimer
W R Kennedy

Oil Firing Technical Association (OFTEC)
OHES Environmental Consultancy

Balmoral Tanks Ltd
Cemo UK
Clarehill Plastics Ltd
Kingspan Environmental Ltd (PC Roto Moulding)
Kingspan Environmental Ltd (Titan Environmental)
J A Envirotanks Ltd
James Blake & Co (Enginneers) Ltd
J Seed & Co Ltd
Mayweld Engineering Co Ltd
Oil Tank Supplies Ltd
PDA Limited t/a Atlas Tanks
PDA Limited t/a DESO
Platinum Tanks Ltd
Polytank Group Ltd
QSS Oil Tanks
S Koronka (Manufacturing) Limited