



Planning and Environmental Policy Group

**CONSULTATION PAPER
ON THE TRANSPOSITION
OF THE GROUNDWATER
DAUGHTER DIRECTIVE
2006/118/EC**

February 2009

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(i) Consultation Arrangements

Comments on the issues and proposals raised in this paper should reach the Department by 06 May 2009

Comments may be made as follows:-

In writing to:

Ms Michelle Hull
Department of Environment
Planning and Natural Resources Division
Water Quality
1st Floor
Calvert House
23 Castle Place
Belfast
BT1 1FY

By Fax: 028 9025 4732

By Text Phone: 028 9054 0642

By E-Mail: michelle.hull@doeni.gov.uk

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- via the website at www.doeni.gov.uk
- by telephoning 02890 254914

Further Information

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- in minority ethnic languages to those who are not proficient in English;
- an executive summary translated into Irish or Ulster Scots; and
- information and additional copies of this document may be requested by text phone on 02890 540642.

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.

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1 Introduction & Background

1. The purpose of this consultation paper is to seek your views on the Department's proposals for the transposition into Northern Ireland legislation of Directive 2006/118/EC on the protection of groundwater against pollution and deterioration.
2. The Directive is commonly known as the Groundwater Daughter Directive (GWDD). It was adopted on the 12 December 2006 and came into operation on 16 January 2007. It is a "daughter" Directive of the Water Framework Directive (2000/60/EC) (WFD) and is intended to operate alongside the WFD. The GWDD builds on and clarifies the requirements for groundwater protection in the WFD and combined with the existing Groundwater Directive makes up the new groundwater protection regime.

Water Framework Directive Requirements

3. The WFD was adopted in 2000; it requires a new approach to be taken to manage all our waters: rivers; lakes; estuaries; coastal waters; and groundwaters. It provides for the monitoring of groundwater bodies as well as measures to protect and restore groundwater to 'good status' by 2015. The WFD was transposed in Northern Ireland by the Water Environment (Water Framework Directive) Regulations (Northern Ireland) 2003.
4. In regard to groundwater the following objectives were set by the WFD:
 - to achieve good groundwater status (chemical and quantitative) and ensure no deterioration of status by 2015;
 - to prevent or limit the input of pollutants into groundwater; and
 - to implement measures to reverse any significant and sustained upward trend in pollutant concentrations.
5. Article 17 of the WFD requires Member States to adopt "*specific measures to prevent and control groundwater pollution*". It also required the European Commission to submit proposals for specific measures to prevent and control pollution with the aim of achieving the objective of good chemical status of groundwater. As a result the GWDD was adopted to provide clarification on the specific measures required to protect groundwater and is intended to operate and complement the WFD.

6. Objectives for groundwater set by the WFD rely in part on the protection of, or meeting the objectives for, surface waters that are fed by groundwater. The objectives for such surface waters must be known before the classification of groundwater - i.e. whether a groundwater body is at good or poor status - can be complete. Although the requirements for groundwater classification as set out in the GWDD are different to the requirements for surface water classification they are intrinsically linked as one of the main targets of the WFD is to prevent deterioration and to achieve at least 'good status' for all surface and groundwater bodies by 2015.
7. These objectives will be achieved through the implementation of River Basin Management Plans (RBMPs) for each river basin district (RBD) or international river basin district (IRBD). A river basin is the area of land from which all surface run-off flows through a sequence of streams, rivers and lakes into the sea at a single river mouth, estuary or delta. Each river basin must be assigned to a (I)RBD which is an area of land and sea identified as the main area for co-ordinated water management, made up of one or more neighbouring river basins together with their associated groundwater and coastal waters.
8. The RBMPs for each district identify the specific objectives and actions to be taken to achieve at least 'good status' for groundwater bodies by 2015. These actions are known as Programmes of Measures (PoMs) and are established under Article 11 of the WFD which is further clarified by Article 6 of the GWDD. Draft RBMPs including PoMs, have been prepared for each of the (I)RBD's in Northern Ireland and were published for consultation on 22 December 2008.
9. In order to provide an accessible and transparent legal instrument, the Department is considering making additional regulations for the classification of surface water bodies. A consultation paper on the options will be issued in early 2009 with a view to having regulations operational by the end of 2009.

Groundwater Directive (80/68/EEC)

10. The GWDD will operate alongside the earlier Groundwater Directive (80/68/EEC) until December 2013 when it will be repealed, as required, under the WFD. The 1980 Groundwater Directive was transposed into Northern Ireland legislation by the Groundwater Regulations (Northern

Ireland) 1998. These Regulations provide protection to groundwater by preventing the direct discharge of certain hazardous substances into groundwater and subjecting the discharge of other substances to an authorisation procedure.

11. The two Groundwater Directives adopt similar approaches to preventing groundwater pollution but adjustments are required to the existing controls to accommodate changes brought about by both the WFD and the GWDD. This paper aims to provide information on the proposed adjustments.

Groundwater in Northern Ireland

12. Groundwater occurs to some degree within the majority of geological strata across Northern Ireland. For the most part all bedrock contains some groundwater, mostly within fractures and fissures developed in the rock. Within glacial and more recent deposits overlying the bedrock the more permeable units, such as glacial sands and gravel and alluvium deposits, can also contain significant amounts of groundwater.
13. Groundwater is an important and valuable resource which requires protection. It sustains an important component of the water supply of Northern Ireland with about 5% of the water in the public supply system drawn directly from boreholes with many additional private supplies for industrial, agricultural and domestic use. In addition, groundwater storage contributes baseflow to surface streams and rivers. Wetlands can also be fed from groundwater with the ecology particularly sensitive to changes in groundwater level or chemistry. It is important that the volume of groundwater available is not significantly depleted and that the quality of the water is maintained at a high standard.
14. There are a wide variety of land-use activities that occur in Northern Ireland which have the potential to impact on the natural quality of groundwater. These can be broadly divided into point source and diffuse pressures.
15. Point sources such as sites e.g. fuel depots or certain industrial sites where hydrocarbons or solvents are used or stored can result in local impact on groundwater quality if a pollution event occurs. Impacts on local groundwater quality can also occur in the vicinity of waste disposal sites where leachate generated in the waste mass leaks to the underlying water table. Other activities that can lead to local impacts

on groundwater quality range from the poor siting, construction or maintenance of a septic tank to the illegal dumping of waste or other hazardous material. Pollution of groundwater from land contaminated by previous activities can also continue for a long period after the activity has ceased.

16. Diffuse pressures include agricultural activity where overuse or inappropriate disposal of agrochemicals and fertilisers can lead to the detection of pesticides and nutrients in groundwater. Such substances can also enter groundwater where they are used in association with amenity, transport infrastructure, domestic or forestry land use.
17. The measures outlined in this paper aim to address those pressures with a view to protect and conserve groundwater.

2 Position in England, Wales & Scotland

- 1 It is the intention in England and Wales to transpose Articles 3 & 4 (see paragraph 3(3)) via a separate classification instrument (a Direction) relating to classification issues for the WFD generally. Article 5 (see paragraph 3(7)) will also be transposed by way of Direction to their Environment Agency. The Department for Environment, Food and Rural Affairs (Defra) has indicated its intention to consult on groundwater threshold values in conjunction with issues relating to surface water classification under the WFD. This is because the establishment of threshold values to be adopted for use in groundwater classification, and the PoMs necessary to achieve 'good status' are an integral part of the classification process aligned to surface water standards and PoMs. Article 6 (see paragraph 3(8)) is to be transposed by way of new Groundwater Regulations.
- 2 Similarly, the Scottish Government will be consulting on its intention to transpose the GWDD Directive by way of amendment to existing legislation and Directions to the Scottish Environment Protection Agency (SEPA). The consultation will be available to view on the Scottish Government's website <http://www.scotland.gov.uk>

3 General Approach to Transposition of the GWDD in Northern Ireland

- 1 As the Northern Ireland Environment Agency (NIEA) is an Agency within the Department the use of Direction is not available. Therefore, it is the Department's intention to draw up regulations to transpose Articles 3, 4, 5 and 6 into local legislation.
- 2 The three key elements of the GWDD to be incorporated into local legislation relate to:
 - Chemical Status (Articles 3 and 4);
 - Pollution Trends (Article 5); and
 - Prevention or limitation (Article 6).

Chemical Status (Articles 3 and 4)

- 3 The requirements in the GWDD relating to chemical status and pollution trends (Articles 3, 4 and 5) do not have a parallel in the 1980 Directive. Articles 3 and 4 of the GWDD set criteria and procedures for assessing groundwater chemical status and require account to be taken of human toxicology and ecotoxicology knowledge when establishing threshold values. Article 3 requires threshold values for the purpose of classifying the chemical status of groundwater bodies to be set. Article 4 clarifies that the two "standards" (for nitrates and pesticides) set in the new Directive, and locally derived threshold values for other pollutants are to be used as triggers for investigation into whether certain environmental and amenity requirements are at risk. There is also a minimum list of pollutants (and their indicators) that should be considered when setting threshold values.
- 4 Threshold values are groundwater quality standards which are to be established either nationally, or on a local groundwater body scale. Threshold values are triggers, such that their exceedence prompts further investigation to determine whether the conditions for good status have been met, rather than representing the boundary between good and poor status.
- 5 The NIEA is a member of the UK Technical Advisory Group (UKTAG) which is responsible for developing UK approaches to WFD implementation. The UKTAG Groundwater Task Team (which included representation from the Republic of Ireland) has developed guidance for groundwater classification which is available on the UKTAG website <http://www.wfduk.org>. This guidance has taken full account of the requirements

of Articles 3 and 4 of the GWDD. A stakeholder review of the technical development of the guidance took place in 2007.

- 6 NIEA is applying the UKTAG guidance for the classification of all groundwater bodies in Northern Ireland. The draft classification including standards and threshold values have been applied in the draft RBMPs currently under consultation.

Pollution Trends (Article 5)

- 7 Article 5 requires significant and sustained upward trends in concentrations of pollutants to be identified in those groundwater bodies determined as being at risk of failing to achieve good status by 2015. In addition, the starting point for the reversal of a significant and sustained trend must also be established. The identification of upward trends has to be made in sufficient time to allow PoMs to be implemented to reduce pollution, avoid deterioration of groundwater status or avoid failure of any other relevant WFD objective. The first assessment of trends, where the data is available, has been reported in the RBMPs currently under consultation.

Question 1:

Do you agree with the general proposed approach to transposition of Articles 3, 4 & 5 of the GWDD?

Prevention or limitation (Article 6)

- 8 Article 6 clarifies the objective at Article 4 (1) (b) (i) of the WFD to “prevent or limit the input of pollutants into groundwater”, and the prohibition at Article 11 (3) (j) of the WFD on direct discharges of pollutants into groundwater.
- 9 The key requirements are to:
 - prevent inputs of hazardous substances;
 - limit the input of non-hazardous substances to avoid pollution; and
 - take action to address diffuse pollution wherever technically feasible to achieve good chemical status.

- 10 A range of exemptions to the prevention and limitation requirement are available (although it should be noted these are not exemptions from the requirement to control pollution where necessary).
- 11 The GWDD takes a slightly more comprehensive but risk-based approach to pollution prevention and control than the 1980 Directive. It is proposed that the existing regulatory system in Northern Ireland provides a good basis for a more flexible groundwater protection regime in future, using better regulation principles. However, the WFD and the GWDD envisage protection from a wider range of substances and anthropogenic influences, in conjunction with this more risk based approach.
- 12 It is the intention to transpose the GWDD into local legislation by making new groundwater regulations incorporating the requirements of the existing Groundwater Regulations (Northern Ireland) 1998. This will provide minimum change to the existing regime, therefore, maintaining continuity and clarity for groundwater protection.

4 Comparison between Article 6 of the GWDD and the requirements of the 1980 Directive

- 1 Article 6 of the GWDD covers the same general area as the 1980 Directive – i.e. pollution prevention. In general the GWDD is slightly wider in scope but will allow a more flexible and risk-based approach than the 1980 Directive, though the latter needs to continue to be implemented until December 2013.
- 2 The specific differences between Article 6 of the GWDD and the 1980 Directive include the following:

(i) Substances and activities covered

Difference

- **Article 6 of the GWDD** requires action to prevent inputs of all hazardous substances and limit all input of other substances into groundwater (inputs include any environmental inputs, e.g. from contaminated land).

The 1980 Directive is aimed at preventing the introduction of List I substances (**Annex A**) and limiting the introduction of List II substances (**Annex B**). It does not specifically cover nitrates and discharges of matter containing radioactive substances.

Comment

In practice, List I in the 1980 Directive is a very large subset of “hazardous substances” defined in the GWDD. The group of “other substances” defined in the GWDD also includes the List II substances in the 1980 Directive. The list of other substances is potentially large since any substance, given sufficient quantity, can cause pollution. Although nitrate is covered under Article 6, it is not a hazardous substance and, therefore, needs to be limited to avoid pollution – which is already in place through the Nitrates Action Programme Regulations (2006).

All anthropogenic inputs are potentially subject to the requirements, not simply deliberate discharges, disposals or current activities, but this wider scope is balanced by a new set of exemptions (see below).

(NB It is important to note here the clear distinction between

(a) the range of substances which need to be prevented or controlled under Article 6 of the GWDD (that is, all substances liable to cause pollution); and

(b) the lists of substances which will be used, further to Articles 2-5 of the GWDD, for classification and trend identification purposes (these are selected on the basis of risk to the WFD's status and trends objectives – which is more restricted than the risk of pollution).

The latter will be established on a groundwater body basis and threshold values determined for those substances will be used in assessing the status of (and trends in) relatively large groundwater bodies. There is no direct relationship between the threshold values set for groundwater bodies and the risk of pollution at a local scale.)

(ii) Measures necessary

Difference

- **Article 6 of the GWDD** requires Member States to ensure that their PoM's established under the WFD include all measures necessary to prevent hazardous substances entering groundwater, and to avoid pollution by all other substances subject to a range of exemptions.

The 1980 Directive requires specific authorisation of discharges to water, and of disposals to land, of listed substances. It requires Member States to take *“all appropriate measures they deem necessary to prevent any indirect discharge of substances in List I due to non-discharge and non-disposal activities”*;

WFD Article 11(3)(j) *prohibits direct discharges of pollutants into groundwater, subject to specific exclusions in that Directive.*

Comment

The authorisation process required under the 1980 Directive would need to continue at least until 2013 but the GWDD allows more flexibility in terms of the control mechanisms and thereby facilitates modern regulatory approaches.

Control of diffuse sources of pollution is required by both the WFD and Article 6 of the GWDD. Because diffuse pollution is particularly difficult to control, it is being considered separately as an issue which needs to be addressed to meet wider WFD objectives – not just those relating to groundwater. However, transposition of the GWDD will provide opportunities to extend the toolkit available for addressing diffuse pollution whilst at the same time allowing more flexibility to address point sources of pollution.

For instance, the Groundwater Regulations (NI) 1998, which set out an authorisation regime for discharges and disposals in accordance with the 1980 Directive, also gives the NIEA powers to control other activities “in or on land” which may cause groundwater pollution and allow Ministers to create codes of practice for potentially polluting activities. Such powers might be extended or supplemented, for example, by general binding rules – i.e. specific rules for those engaged in certain activities.

In relation to the control of direct discharges of pollutants Article 6 of the GWDD, in clarifying the objective at Article 4(1)(b)(i) of the WFD to “prevent or limit the input of pollutants”, also refers directly to Article 11 of the WFD. It, therefore, sets out the objective to be achieved by Article 11(3)(j) of the WFD.

(iii) Exemptions

Difference

- **Article 6 of the GWDD** includes a requirement for diffuse pollution to be taken into account where technically possible. It also allows specific exemption from measures to prevent inputs of hazardous substances, and to limit pollution by other substances, of the following:
 - a) direct discharges authorised under Article 11(3)(j) of the WFD;
 - b) de minimis inputs;
 - c) inputs due to accidents or exceptional circumstances of natural cause;
 - d) authorised artificial recharges;

- e) inputs which could not technically be prevented without measures which increased health or environmental risks, or were costly to remove from contaminated soil (which is consistent with the UK's approach to contaminated land); and
- f) an exemption relating to water management activities such as dredging.

The 1980 Directive excludes:

- a) discharges from domestic effluents from isolated dwellings not connected to sewers and outside areas protected for abstraction of drinking water;
- b) discharges containing List I and List II substances at levels too small to cause deterioration of water quality; and
- c) discharges of matter containing radioactive substances;

It also exempts:

- discharges into permanently unusable groundwater;
- discharges from mining or civil engineering from the restrictions on List I substances, providing these are re-injected into the same strata; and
- authorised artificial discharges.

WDF Article 11(3)(j) also contains a range of specific exemptions relating to direct discharges to groundwater.

Comment

The overall range of the exemptions under Article 6 is similar to, but broader and more risk-based, than that of the 1980 Directive. It should be noted that these are exemptions to the requirement to “prevent or limit” rather than from any requirement for authorisation. The exclusions which apply exclusively to the 1980 Directive – i.e. those relating to domestic effluents and radioactive substances – cannot be read into Article 6. This implies that any necessary controls over these activities and substances need to be considered when implementing Article 6.

5 Using the existing regulatory regime as the basis for transposition of the GWDD

- 1 As mentioned above, the differences between the GWDD and the 1980 Directive are not great overall. This points to a similar overall approach to the control of pollution. Therefore, the existing Groundwater Regulations (Northern Ireland) 1998, and the associated statutory framework to prevent groundwater pollution, which is based on the need to comply with the 1980 Directive, form a good basis for implementing Article 6. The existing regime comprises:
 - (i) **The Groundwater Regulations (Northern Ireland) 1998** introduced:
 - a. a regime for authorising the disposal of listed substances to land such that List I substances do not enter groundwater and List II substances do not pollute groundwater; and
 - b. powers to allow the NIEA to control non-disposal activities in or on land to avoid entry of List I substances or pollution by List II substances.
 - (ii) **The Water (Northern Ireland) Order 1999** prohibits the unconsented entry to groundwaters of any poisonous, noxious or polluting matter or any trade or sewage effluent.
 - (iii) Other related regimes including the **PPC and Waste Licensing regimes**. Permits and licenses are treated as “authorisations” under the Groundwater Regulations (Northern Ireland) 1998.
 - (iv) **The Water Environment (Water Framework Directive) Regulations (Northern Ireland) 2003** implement the WFD, introducing amongst other things a requirement to introduce measures (in PoMs) in order to achieve its objectives.
- 2 As outlined it is the Department’s intention that the proposed Groundwater Regulations (Northern Ireland) 2009 will incorporate the requirements of the 1998 Groundwater Regulations. To maintain continuity and clarity the new regulations will provide for existing authorisations in respect of groundwater, waste and PPC regimes to remain valid.
- 3 It should be noted that NIEA does not currently apply a charging scheme to operate the existing Groundwater Regulations. However, it will be for the Minister to consider whether a charging scheme is required in the future to give effect to the government policy on the

'Polluter Pays Principle' and Treasury Guidance on Cost Recovery. A further consultation seeking views and comments on any proposals to introduce a charging scheme for Groundwater Regulations would be undertaken by NIEA.

- 4 Section 6 provides the detail regarding the proposals to transpose Article 6 of the GWDD including the need to maintain continuity until December 2013 when the 1980 Groundwater Directive is repealed.

6 Proposals for transposition of Article 6 of the GWDD, including questions for consultation

Article 6(1): general duty to include measures to prevent or limit inputs of pollutants in Programmes of Measures

- 1 Article 6(1) of the GWDD sets out a general duty to ensure that PoMs established under Article 11 of the WFD include “all measures to prevent ...” inputs of hazardous substances, and “all measures necessary to limit” inputs of non-hazardous substances. This general duty would fall on the NIEA acting on behalf of the Department of the Environment and as such it is proposed that this should be addressed through a simple extension of its existing duties.

Article 6(1)(a): Measures to prevent inputs of hazardous substances

- 2 Article 6(1)(a) requires Northern Ireland to take “all measures necessary to prevent inputs into groundwater of any hazardous substances...”. The ‘regulatory toolkit’ (i.e. measures available to be included in PoMs) needs to include ‘all measures necessary to prevent inputs into groundwater of any hazardous substance’.
- 3 The 1980 Directive already requires Northern Ireland to “take necessary steps to prevent the introduction into groundwater of substances in List I” (Article 3(a)). Article 4(1) of the 1980 Directive gives details of the steps required to comply with this obligation. They comprise, in essence, a prohibition of direct discharges, a prior investigation and authorisation requirement for the disposal or tipping for the purpose of disposal of List I substances that might lead to an indirect discharge, and the taking of ‘all appropriate measures deemed necessary to prevent any indirect discharge of List I substances due to other activities’.
- 4 These requirements are implemented through the Groundwater Regulations (Northern Ireland) 1998 (prohibition, prior investigation and authorisation requirements, groundwater notices and Codes of Practice provision) and other related regimes as mentioned above. These requirements must continue to be implemented until December 2013 (when the 1980 Directive is repealed). Thereafter it is necessary to maintain an equivalent level of protection for groundwater.
- 5 Continued implementation of the 1980 Directive requirement to prevent the introduction of List I substances should be sufficient to meet the requirements of Article 6(1)(a) of the GWDD as regards hazardous substances which are also List I substances (subject to the need to change the exceptions, discussed below). It should also meet

the requirement under Article 11(3)(j) of the WFD to prohibit direct discharges of pollutants (as regards List I substances).

- 6 List I of the 1980 Directive (and the Groundwater Regulations (NI) 1998) covers most, but not quite all, hazardous substances. For any hazardous substances which are not also List I substances it is proposed that existing controls over List I substances are extended to any non-listed hazardous substance. This would avoid the need for two separate regimes and would be consistent with Article 11(3) of the WFD which prohibits direct discharges of all pollutants, including hazardous substances.

Question 2:

Are you aware of any hazardous substances which do not fall within the groups of List I substances (Annex A) of the 1980 Directive?

Question 3:

Do you consider that the proposed approach to the prevention of inputs of hazardous substances – i.e. to subject them to the controls on List I substances currently required by the 1980 Directive, and the Groundwater Regulations (NI) 1998 – is practicable and fair?

Question 4:

Are there any particular costs and benefits which you consider relevant to this proposal?

- 7 Because List I is a subset of “hazardous substances”, it is also proposed that there is no longer a need to refer to List I in the new Regulations. Rather, hazardous substances should be referred to by their properties, which are defined at Article 2(29) of the WFD, and should be clarified by a transparent process under the Joint Agency Groundwater Directive Advisory Group (JAGDAG) which was established in the 1990s for assessing List I substances. This Group, which includes the UK environment agencies and stakeholders, recommends whether specific substances are hazardous on the basis of toxicity, persistence and bioaccumulation. Further information on List I substances identified can be found online at: www.environment-agency.gov.uk/commondata/acrobat/final_determinations.pdf

Question 5:

Do you consider that there would be any practical consequences, costs or benefits resulting from the proposal to refer to hazardous substances by their properties?

Question 6:

Do you consider that there would be practical consequences of moving to identification and clarification of hazardous substances by a transparent process under JAGDAG, and away from a list on the face of the Regulations?

Question 7:

Do you consider that the proposed approach to hazardous substances would imply specific costs or benefits? (If so, please provide details where you are able to do so).

Article 6(1)(b): Measures to limit inputs of non-hazardous substances

- 8 Article 6(1)(b) of the GWDD requires that Northern Ireland takes “all measures necessary to limit inputs of non-hazardous pollutants into groundwater so as to ensure that such inputs do not cause deterioration or significant and sustained upward trends in the concentrations of pollutants in groundwater”. In other words Northern Ireland is required to limit inputs of non-hazardous substances in order to avoid pollution, but the measures to be taken are not specified.
- 9 The 1980 Groundwater Directive already requires Northern Ireland to “take necessary steps to limit the introduction into groundwater of substances in List II so as to avoid pollution” (Article 3(b)). List II substances are essentially a large sub-set of non-hazardous pollutants. They comprise, in essence, a prior investigation and authorisation requirement for direct discharges of List II substances and the disposal or tipping for the purpose of disposal of List II substances that might lead to an indirect discharge, and the taking of all appropriate measures deemed necessary by the Department to limit all indirect discharges of List II substances due to other activities.

- 10 This requirement has been implemented in Northern Ireland through the Groundwater Regulations (Northern Ireland) 1998 and other related regimes as mentioned above. It must continue to be implemented until December 2013 (when the 1980 Directive will be repealed). The WFD requires that any successor regime must give at least an equal level of protection to groundwater. It is proposed that transposition should use and build on these controls in order to give effect also to the requirements of the GWDD and WFD and, without lessening the overall protection, to introduce a slightly more flexible approach as intended by the GWDD.
- 11 Because the set of “non-hazardous substances” is greater than its subset of List II substances, and because the GWDD envisages a “risk-based” approach, it is proposed that the NIEA be allowed greater flexibility over the precise requirements of a permit. Ideally a general binding rule (plus a registration scheme) might satisfy this requirement for very low risk disposals, where possible. This would still mean that the permit should require the information set out at Articles 9 and 10 of the 1980 Directive and/or such other information as the NIEA considers necessary.
- 12 Although Article 11(3)(j) of the WFD requires that direct discharges of all pollutants should be prohibited, subject to specific exemptions, it needs to be read alongside the introduction to Article 6 of the GWDD, and Article 4(1)(b)(i) of the WFD. These latter articles envisage a more risk-based approach to the control of non-hazardous substances. In particular, the GWDD (and the 1980 Directive) clearly envisages that inputs of non-hazardous substances should be limited to avoid pollution (rather than prohibited outright). This approach is both more practical and more consistent with the broader intention of the WFD and GWDD.

Question 8:

Are you aware of specific non-hazardous substances which are currently not controlled under List II but which would be controlled under the new regime? If so, any information on the circumstances in which these substances are used would be helpful.

Question 9:

Are you aware of any direct discharges of non-hazardous substances? If so, your views of the costs and benefits of preventing them absolutely, or of limiting them to prevent pollution would be helpful.

Question 10:

Are there any other particular costs and benefits which you consider relevant to the proposal for dealing with non-hazardous substances?

Review of authorisations

- 13 A four-yearly review cycle for authorisations is required under the 1980 Directive. It is proposed that, at the earliest opportunity consistent with the requirements of that Directive, this should be changed to a requirement to review authorisations every six years (i.e. in line with the river basin planning cycles in the WFD), or at an alternative frequency where the NIEA considers that this is justified in relation to risk. It is also intended that the NIEA should determine the scope/extent of the review based on risk – i.e. to the likelihood/possibility that the discharge could adversely affect the quality of the receiving groundwater.

Question 11:

Do you consider that there would be any specific practical consequences, costs or benefits arising from a change from a 4-yearly cycle of reviews to reviews based on a 6-yearly cycle or alternative frequency based on risk?

Question 12:

Do you consider that there would be practical consequences, costs or benefits if the NIEA were to determine the scope/extent of reviews based on risk?

Article 6(2): Diffuse sources of pollution

- 14 Article 6(2) of the GWDD requires that “Inputs of pollutants from diffuse sources of pollution having an impact on the groundwater chemical

status shall be taken into account whenever technically possible". Since diffuse pollution is a particularly difficult issue to address it is being considered under the WFD on a wider basis than groundwater. However, there are mechanisms within the groundwater regime which could helpfully contribute to tackling diffuse pollution. Although groundwater authorisations and powers to serve notices under the Groundwater Regulations (Northern Ireland) 1998 would normally cover point source pollution, codes of practice made under Regulation 20 can be used to target potential pollution from both point and diffuse sources. It is proposed that the potential role of notices and codes to address diffuse pollution will be made more explicit within the new Regulations.

Question 13:

Do you consider that there would be any specific practical consequences, costs or benefits arising from the proposal to explicitly extend notice powers and codes of practice to cover diffuse sources of pollution?

Article 6(3): Exemptions to the controls on hazardous and non-hazardous substances (also covers, exceptions under Article 11(3)

(j) WFD and exemptions under the 1980 Directive)

a) Exemptions to the prohibition on direct discharges of pollutants

15 Article 11(3)(j) WFD prohibits direct discharges into groundwater and also provides for exemptions. The 1980 Directive also provides for exemptions to such requirements. In addition, Article 6(3) of the GWDD introduces other exemptions which could be read as applying to measures to prevent direct discharges.

16 The overlaps could be confusing and lead to some uncertainty. One approach could be only to apply the exemptions that are permitted by both the Groundwater Directives and Article 11(3)(j) of the WFD, namely:

- permissible to authorise, specifying conditions for: de minimis discharges of substances for scientific purposes, for characterisation or protection or remediation of water bodies, provided they do

not compromise achievement of environmental objectives (Article 2(b) of the 1980 Directive, so far as it overlaps with the sixth indent to Article 11(3)(j) WFD).

- permissible to authorise certain artificial recharges where the achievement of the environmental objectives for either the source or the groundwater body is not compromised (which fulfils the requirements at Article 11(3)(f) of the WFD), and where there is no risk of polluting the groundwater (which fulfils the requirement of Article 6 of the 1980 Directive).

17 However, this would seem to go against the intention of Directives, and would also raise significant practical issues.

18 The proposed approach, therefore, is to apply all the exemptions at Article 6(3) of the GWDD (as clarified below) to Article 11(3)(j) of the WFD. This is appropriate because the GWDD clarifies the intention of the WFD Article 4(1)(b)(i) objective to “prevent or limit” the input of pollutants into groundwater, and Article 11(3)(j) is merely a measure for achieving that objective. This does not mean that direct discharges would not still need to be controlled appropriately, even where an Article 6(3) exemption applies. This is because Article 6(3) provides exemptions from preventing or limiting inputs of pollutants, not exemption from necessary controls.

Question 14:

Do you consider that there would be any specific practical consequences, costs or benefits arising from allowing, where appropriate, Article 6(3) exemptions to be applied to direct discharges to groundwater? If so, please specify the exemption or exemptions to which you are referring.

19 It is proposed that the exemptions outlined in Article 11(3)(j) of the WFD, found at <http://www.doeni.gov.uk/wfd.pdf>, should be applied to direct discharges on the basis that they are generally in line with what is required under the 1980 Directive as follows:

- first and third points of Article 11(3)(j): these are more restrictive than the 1980 Directive (the application of permanently unsuitable is restricted to fewer circumstances) and the NIEA currently applies the “permanently unsuitable” exemption to direct discharges in

accordance with Article 4(2) of the 1980 Directive;

- point 2 of Article 11(3)(j): this is directly equivalent to Article 4(3) of the 1980 Directive;
- point 4 of Article 11(3)(j): this covers matters outside the 1980 Directive and is, in any case, subject to a provision that there should be no present or future danger of deterioration in the quality of the receiving groundwater – similar to the existing de minimis provision;
- point 5 is roughly equivalent to Article 4(3) of the 1980 Directive, the only difference being that it would allow general binding rules (plus registration) to be used as authorisations; and
- point 6, which allows discharges of small quantities of substances for scientific purposes, is related to the overall objectives of the WFD.

Question 15:

Do you consider that there would be any specific practical consequences, costs or benefits arising from allowing, where appropriate, the exemptions at Article 11(3)(j) of the WFD in relation to direct discharges to groundwater? If so, please specify the exemption or exemptions to which you are referring.

b) Exemptions to the other measures to prevent or limit inputs of pollutants

20 Some of these exemptions in the 1980 Directive are not included in the GWDD. It is proposed that, in order to avoid risking underimplementing the GWDD and the WFD, the exemptions in the 1980 Directive may only be used where they also occur in the GWDD. On that basis the following exemptions would be disapplied:

- those relating to radioactive substances;
- domestic effluent from isolated dwellings not connected to a sewerage system and away from drinking water sources; and
- those which relate to inputs to permanently unsuitable groundwater.

Question 16:

Do you consider that there would be any specific practical consequences, costs or benefits arising from the removal of certain exemptions in the 1980 Directive which are not replicated in either the WFD or the GWDD?

- 21 Conversely, on the basis that the intention of the GWDD is to ensure a risk-based approach to groundwater protection, it is proposed that the exemptions at Article 6(3) of the GWDD which relate to prevention of inputs of hazardous substances, and limitation of inputs of non-hazardous substances (not to the controls which may be necessary to achieve these objectives), be applied as follows:
- a) Art 6(3)(a): Direct discharges subject to control under Article 11(3)(j) of the WFD.
 - b) Art 6(3)(b): This exemption relates to inputs of a quantity and concentration so small as to obviate any present or future danger of deterioration in the quality of the receiving groundwater – it relates to “inputs” rather than “discharges” but is generally equivalent to that in the 1980 Directive;
 - c) Art 6(3)(c) relates to *“accidents or exceptional circumstances of natural cause that could not reasonably have been foreseen, avoided or mitigated”*. Since it is not possible to prevent or limit such inputs it would be appropriate to include the exemption in the amended Regulations.
 - d) Art 6(3)(d) allows artificial recharges, which are permitted under Article 6 of the 1980 Directive and Article 11(3)(f) of the WFD, to be allowed to continue, subject to authorisation.
 - e) Art 6(3)(e)(i) allows exclusion of inputs which are *“incapable of being prevented or limited without using measures which would increase risks to human health or to the quality of the environment as a whole”*. It would seem that not allowing exemption of such inputs would create situations unintended under either the Groundwater Directives or the WFD.
 - f) Art 6(3)(e)(ii) relates to inputs which are incapable of being prevented or limited without using disproportionately costly measures to remove quantities of pollutants from, or otherwise

control their percolation in, contaminated ground or subsoil. Since: (i) the GWDD recognises the practical point that it is not always appropriate to remove pollutants already in the ground on the basis of disproportionate cost and technical feasibility; (ii) this is consistent with the WFD; and (iii) this exemption does not relate to discharges per se, and, therefore, falls under the heading of “all appropriate measures” in the 1980 Directive, this exemption could be used. This would be consistent with the UK’s risk-based approach to land contamination.

- g) Art 6(3)(f): This exemption was introduced to address particular problems in another Member State in relation to dredging activities. It is proposed that the substantive element – interventions in surface waters for management purposes, such as cutting, dredging, relocation and deposition of sediments – should be combined with the exception at Article 6(3)(e)(i), as an instance of where the latter would apply.

Question 17:

Do you consider that there would be any specific practical consequences, costs or benefits arising from allowing, where appropriate, the exemptions at Article 6(3) of the GWDD to be applied?

- 22 The use of these exemptions would be at the discretion of the NIEA and conditional upon the final paragraph of Article 6(3) being adhered to:

“The exemptions provided for in points (a) to (f) may be used only where the competent authorities have established that efficient monitoring of the bodies of groundwater concerned, in accordance with point 2.4.2 of Annex V to Directive 2000/60/EC, or other appropriate monitoring, is being carried out.”

7 Regulatory Impact Assessment

1. The aim of the consultation is to transpose the Groundwater Daughter Directive 2006/118/EC into Northern Ireland legislation to meet its legal obligations. Transposition takes place against a background of an existing regime implementing Groundwater Directive 80/68/EEC. This regime already prevents the discharge of certain hazardous substances into groundwater and subjects the discharge of other substances to an authorisation procedure.
2. As highlighted in Section 3, Articles 3, 4 and 5 of the GWDD relating to chemical status and pollution trends are new components which require transposition into local legislation. However, Article 6 relating to prevention and limitation also requires to be transposed as it introduces a more risk-based approach than the current regime and as outlined in this consultation is not likely to result in significant changes to the current regulation of groundwater.
3. A UK post conciliatory partial Regulatory Impact Assessment (RIA) carried out for the GWDD identified that transposition would be cost-neutral as it does not add any burdens beyond what is already required under the WFD. In fact, the clarification brought by the GWDD may allow a more cost-effective approach to be used in achieving the objectives of the WFD.
4. The main sectors however, that may be affected by compliance costs to meet the requirements of the GWDD are:
 - Agriculture – through measures to reduce nitrate and pesticide pollution (however, actions already introduced through the Nitrates Action Programme Regulations go a long way to meeting the requirements of the GWDD);
 - Water – through measures to reduce leakage from sewers (the investment in infrastructure improvements should meet GWDD requirements);
 - Transport – through measures to reduce pollution from runoff (diffuse pollution will be taken forward under WFD); and
 - Industry and waste disposal – through measures to control point sources of pollution, including historic sources (the ongoing implementation of the Waste and Contaminated Land regimes should meet requirements).

5. There may also be some small additional cost to the NIEA due to the establishment of groundwater monitoring networks which have been established in Northern Ireland to meet the requirements of the WFD. These will require ongoing review to ensure that the requirements of the GWDD are met.
6. However, the risk-based approach of the new Regulations will allow for flexible and proportionate regulation with potential cost savings for stakeholders and regulators. This would be done by substituting authorisations with 'lighter touch' controls such as general binding rules. Also, as discharges of non-hazardous pollutants would not be prohibited due to the wider exemptions being introduced, both one-off and ongoing costs of compliance for dischargers could potentially be reduced.
7. Introduction of the proposed Regulations will complement existing pollution control measures and be consistent with similar GB provisions.

8 The Regulations

1. A copy of the proposed Regulations to transpose into local legislation EC Directive 2006/118/EC on the protection of groundwater against pollution and deterioration is attached at **Annex C**.
2. The proposed Regulations provide a flavour of the specific measures required to protect groundwater and outline a more flexible and risk-based approach to pollution prevention and control.
3. Following closure of the consultation all responses/comments received will be fully considered and the regulations will be amended, where necessary. A summary of the responses will be provided to the Environment Committee along with a copy of the proposed regulations. The Regulations will come into operation as soon as possible following the Environment Committee's scrutiny and subject to the Minister's final approval.

9 Rural Proofing Statement

1. 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.
2. This paper details the Department's proposals for Regulations to transpose into local legislation Directive 2006/118/EC on the protection of groundwater against pollution and deterioration.
3. Compliance costs to meet the requirements of the Regulations will mainly affect Government bodies. Sectors involved in agriculture, water, transport, industry and waste disposal may also face compliance costs although it is considered that current action being undertaken in these areas to protect groundwater should make a major contribution to meeting the requirements of the GWDD. However, the risk-based approach of the proposed Regulations will allow for flexible and proportionate regulation with potential cost savings for stakeholders and regulators.
4. The proposed Regulations will contribute to the protection of the aquatic environment and generally be of benefit to the whole community. The Department considers that the measures contained within the proposed Groundwater Regulations (Northern Ireland) 2009 are unlikely to have any different impact in rural areas to that within any other sector of the community.

10 Mandatory consultation requirements

Human Rights Compatibility Statement

- 1 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.
- 2 The Department considers that the proposed Groundwater Regulations (Northern Ireland) 2009 are compatible with the Human Rights Act 1998.

Equality Impact Assessment

- 3 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.

Annex A

List I

A substance is in list I if it belongs to one of the following families or groups of substances-

- (a) organohalogen compounds and substances which may form such compounds in the aquatic environment;
- (b) organophosphorus compounds;
- (c) organotin compounds;
- (d) substances which possess carcinogenic, mutagenic or teratogenic properties in or via the aquatic environment
- (e) mercury and its compounds;
- (f) cadmium and its compounds;
- (g) mineral oils and hydrocarbons;
- (h) cyanides.

(2) A substance is not in list I if it has been determined by the Department to be inappropriate to list I on the basis of a low risk of toxicity, persistence and bioaccumulation.

Annex B

List II

A substance is in list II if it could have a harmful effect on groundwater and it belongs to one of the following families or groups of substances-

(a) the following metalloids and metals and their compounds:

Zinc	Tin
Copper	Barium
Nickel	Beryllium
Chrome	Boron
Lead	Uranium
Selenium	Vanadium
Arsenic	Cobalt
Antimony	Thallium
Molybdenum	Tellurium
Titanium	Silver:

- (b) biocides and their derivatives not appearing in list I;
 - (c) substances which have a deleterious effect on the taste or odour of groundwater, and compounds liable to cause the formation of such substances in such water and to render it unfit for human consumption;
 - (d) toxic or persistent organic compounds of silicon, and substances which may cause the formation of such compounds in water, excluding those which are biologically harmless or are rapidly converted in water into harmless substances;
 - (e) inorganic compounds of phosphorus and elemental phosphorus;
 - (f) fluorides;
 - (g) ammonia and nitrites.
- (2) A substance is also in list II if-
- (a) it belongs to the families and groups of substances set out in paragraph 1(1);
 - (b) it has been determined by the Department to be inappropriate to list I under paragraph 1(2); and
 - (c) it has been determined by the Department to be appropriate to be classed in list II having regard to toxicity, persistence and bioaccumulation.

2009 No.

ENVIRONMENTAL PROTECTION

Groundwater Regulations (Northern Ireland) 2009

Made - - - -

Coming into operation -

The Department of the Environment, in exercise of the powers conferred by section 2(2) of the European Communities Act 1972^(a) and section 72 of the Waste and Contaminated Land (Northern Ireland) Order 1997^(b) hereby makes the following Regulations:

PART 1

Introduction

Citation and commencement

1. These Regulations may be cited as the Groundwater Regulations (Northern Ireland) 2009 and shall come into operation on

Interpretation

2.— (1) In these Regulations—

“the Appeals Commission” means the Water Appeals Commission for Northern Ireland;

“authorisation” means any of the following in so far as they relate to groundwater—

- (a) an authorisation under these Regulations;
- (b) a discharge consent under Article 7 of The Water (Northern Ireland) Order 1999 as amended by Article 280 of The Water and Sewerage Services (Northern Ireland) Order 2006^(c);
- (c) an authorisation under Article 6 of the Industrial Pollution Control (Northern Ireland) Order 1997 in relation to a process designated for integrated central control under Article 3 of that Order;
- (d) a permit under the Pollution Prevention and Control Regulations (Northern Ireland) 2003 in so far as it authorises the operation of a Part A installation or a Part A mobile plant within the meaning of those Regulations; and
- (e) a waste management licence, existing disposal licence or existing resolution of a district council;

“the Department” means the Department of the Environment;

“direct input” in relation to groundwater means the introduction of a pollutant into groundwater without percolation through soil or subsoil;

“the Directive” means Council Directive 2006/118/EC of 12 December 2006 on the protection

^(a) 1972 c. 68

^(b) S.I. 1997 No.2778 (N.I.19)

^(c) S.I. 2006 No.3336 (N.I.21)

of groundwater against pollution and deterioration^(d);

“existing disposal licence” and “existing resolution of a district council” shall have the meanings given by Article 47(1) of the Waste and Contaminated Land (Northern Ireland) Order 1997;

“groundwater” means all water which is below the surface of the ground in the saturation zone and in direct contact with the soil or subsoil;

“indirect input” in relation to groundwater means the introduction of a pollutant into groundwater after percolation through soil or subsoil;

“pollutant” means any substance liable to cause pollution;

“pollution” means the direct or indirect introduction, as a result of human activity, of substances or heat into air, water or land which may be harmful to human health or the quality of aquatic ecosystems or terrestrial ecosystems directly depending on aquatic ecosystems, which result in damage to material property, or which impair or interfere with amenities and other legitimate uses of the environment;

“river basin district and international river basin districts” mean—

(f) an area identified by regulation 4(1) of the Water Environment (Water Framework Directive) Regulations (Northern Ireland) 2003^(e), being the main unit for the management of river basins for the purposes of the Water Framework Directive and being made up of a river basin or neighbouring river basins, together with associated groundwater, transitional waters and coastal water;

(g) the North Eastern River Basin District; or

(h) the Neagh Bann, North Western and Shannon International River Basin Districts;

“starting point” in relation to trend reversal means the point at which measures must be implemented to reverse a significant and sustained upward trend in pollutant concentrations or indicators of pollution identified under regulation 12(1)(a);

“waste management licence” means a waste management licence issued under the Waste and Contaminated Land (Northern Ireland) Order 1997; and

“the Water Framework Directive” means Directive 2000/60/EC of the European Parliament and of the Council of 23rd October 2000 establishing a framework for Community action in the field of water policy.

(2) Any expression used in both these Regulations, the Directive and the Water Framework Directive and not otherwise defined in these Regulations has the same meaning for the purposes of these Regulations as it has for the purposes of that Directive.

(3) References in the Directive to “threshold values”, “threshold values established in accordance with Article 3 and Annex II” and “threshold values established pursuant to Article 3” shall be taken to be references to threshold values approved by the Department of the Environment.

(4) The Interpretation Act (Northern Ireland) 1954^(f) shall apply to these Regulations as it applies to an Act of the Assembly.

Meaning of “hazardous substance”

3.—(1) A hazardous substance is any substance or group of substances that are toxic, persistent and liable to bio-accumulate.

(2) This includes in particular the following when they are toxic, persistent and liable to bio-accumulate—

(a) organohalogen compounds and substances which may form such compounds in the aquatic

^(d) OJ No.L372, 27.12.2006, p.19

^(e) S.R. 2003/544

^(f) 1954 c. 33 (N.I.)

- environment;
- (b) organophosphorous compounds;
 - (c) organotin compounds;
 - (d) substances and preparations, or the breakdown products of such, which have been proved to possess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine-related functions in or via the aquatic environment;
 - (e) persistent hydrocarbons and persistent and bioaccumulable organic toxic substances;
 - (f) cyanides;
 - (g) metals (in particular cadmium and mercury) and their compounds;
 - (h) arsenic and its compounds;
 - (i) biocides and plant protection products.

Meaning of “non-hazardous pollutant”

4. A non-hazardous pollutant is any pollutant other than a hazardous substance.

Exceptions

5. These regulations do not apply in relation to the consequences of accidents or exceptional circumstances of natural cause that could not reasonably have been foreseen, avoided or mitigated.

Exemptions granted by the Department

6.—(1) The Department may exempt, in any specific case or class of case, any of the following from the requirement for an authorisation—

- (a) an input of a pollutant into groundwater of a quantity and concentration so small as to obviate any present or future danger of deterioration in the quality of the receiving groundwater;
- (b) an input of a pollutant into groundwater that, for technical reasons, is incapable of being prevented or limited without using—
 - (i) measures that would increase risks to human health or to the quality of the environment as a whole; or
 - (ii) disproportionately costly measures to remove quantities of pollutants from, or otherwise control their percolation in, contaminated ground or subsoil.

(2) The Department shall record all exemptions under this regulation.

PART 2

Authorisations

Discharge of functions

7. The Department shall, for the purposes of implementing the Directive grant any authorisation in accordance with these Regulations.

Review of existing disposal licences and existing resolutions of a District Council

8. The Department shall review all existing disposal licenses and all existing resolutions which authorise—

- (a) any disposal of a hazardous substance or non-hazardous pollutant which might lead to an

indirect discharge into groundwater of such a substance; or

- (b) a direct discharge into groundwater of a hazardous substance or non-hazardous pollutant;

and shall, so far as may be necessary to give effect to Council Directive 80/68/EEC exercise its powers under Articles 47(2) and (3) of the Waste and Contaminated Land (Northern Ireland) Order 1997 to apply Articles 10 and 12 of the 1997 Order (variation and revocation, etc. of licences) in relation to any such authorisation.

General duty in the Neagh Bann, North Western and Shannon International River Basin Districts

9. In discharging its functions in compliance with these Regulations the Department shall co-operate with the Department of Environment, Heritage and Local Government in Ireland in relation to the exercise of corresponding functions, so as to secure that the assessment of groundwater chemical status, identification of significant and sustained upward trends and determination of the starting point for trend reversal is co-ordinated for the whole of the international river basin districts.

Threshold values

10.—(1) Threshold values must be derived in accordance with Parts A and B of Annex II to the Directive on the basis of methodologies approved by the Department of the Environment.

(2) The Department shall by 22nd December 2008—

- (a) prepare methodologies to be applied for the purpose of deriving threshold values; and
(b) establish and thereafter keep up to date a list of approved threshold values.

(3) Where any new information indicates that a threshold value should be set for an additional substance, that an existing threshold value should be amended, or that a threshold value previously removed from the list should be reinserted, in order to protect human health and the environment, the Department shall amend the list of threshold values.

(4) Where in the opinion of the Department a body of groundwater is no longer at risk from the corresponding pollutants, group of pollutants or indicators of pollution, the Department shall amend the list of threshold values to protect human health and the environment.

(5) The Department shall supply to the Department of Environment, Heritage and Local Government copies of proposals under this paragraph relating to threshold values for bodies of groundwater associated with the Neagh Bann, North Western and Shannon International River Basin Districts.

(6) The Department shall apply the threshold values for the purposes of assessing groundwater chemical status and determining the starting point for trend reversal.

Criteria for assessing groundwater chemical status

11.—(1) The Department shall apply the approach in the relevant provisions of the Directive when assessing groundwater chemical status.

(2) The relevant provisions of the Directive for the purposes of sub-paragraph (1) are—

- (a) Article 4(1) and (2); and
(b) paragraphs 1 to 4 of Annex III.

Significant and sustained upward trends and the starting point for trend reversal

12.—(1) Subject to sub-paragraph (8), for the purposes of giving effect to paragraphs 2.4.4 and 2.4.5 of Annex V to the Water Framework Directive, the Department shall, in relation to each body or group of bodies of groundwater that it has characterised as being at risk of failing to meet the objectives under Article 4 of that Directive, by 22nd December 2008—

- (a) identify any significant and sustained upward trend in pollutant concentrations, groups of pollutants or indicators of pollution; and
 - (b) determine the starting point for reversal of each trend so identified.
- (2) A body of groundwater shall be treated as being subject to a significant and sustained upward trend where it is subject to a statistically significant increase of concentrations of a pollutant, group of pollutants or indicator of pollution, which represents a significant environmental risk.
- (3) The Department shall base the assessment of whether a body of groundwater is subject to a significant and sustained upward trend on information from the sources specified in sub-paragraph (4), assessed in accordance with paragraph 2(c) and (d) of Part A of Annex IV to the Directive.
- (4) The sources mentioned in sub-paragraph (3) are—
- (a) monitoring programmes for groundwater—
 - (i) established under the provision specified in sub-paragraph (9); and
 - (ii) designed in accordance with the requirements of those provisions and paragraphs 1 and 2(a) and (b) of Part A of Annex IV to the Directive; and
 - (b) for the purposes of identifying trends for the first river basin management plan, any data deemed relevant by the Department and gathered before the start of the monitoring programmes.
- (5) The Department shall carry out an additional trend assessment in the circumstances described in Article 5(5) of the Directive in order to verify that a plume of pollution from a contaminated site does not—
- (a) expand;
 - (b) cause a deterioration in the chemical status of a body or group of bodies of groundwater, or
 - (c) present a risk to human health or the environment.
- (6) The starting point for trend reversal must be determined in accordance with Article 5(3) and paragraph 1 of Part B of Annex IV to the Directive.
- (7) On each sixth anniversary of the 22nd December 2008, the Department shall review and where necessary revise its determination made under sub-paragraph (1) or, where that determination has since that date been reviewed and revised under this sub-paragraph, made or part made under this sub-paragraph.
- (8) In relation to pollutants or indicators of pollution for which insufficient information is available to identify significant and sustained upward trends and determine starting points for trend reversal by 22nd December 2008, the Department shall comply with sub-paragraph (1) as soon as possible after that date.
- (9) The provisions specified in this sub-paragraph are regulation 9 of the Water Environment (Water Framework Directive) Regulations (Northern Ireland) 2003.

Information to be included in a river basin management plan

- 13.**—(1) The Department shall ensure each river basin management plan and revised river basin management plan in relation to the river basin district—
- (a) details approved threshold values together with the information specified in Part C of Annex II to the Directive;
 - (b) in the case of a revised river basin management plan, details any applicable changes to the list of threshold values since the date of publication of the previous version of the plan;
 - (c) a summary of each assessment undertaken for the purposes of determining groundwater chemical status, including an explanation as to the manner in which exceedences of groundwater quality standards or threshold values at individual monitoring points have been taken into account;

- (d) a summary of the information specified in Article 5(4)(a) of the Directive;
- (e) details each starting point for trend reversal determined under regulation 12(1)(b) or, as the case may be, regulation 12(7), together with a summary of the reasons for each determination; and
- (f) a summary of the results of any additional trend assessments carried out under regulation 12(5).

(2) The provision specified in this sub-paragraph is regulation 11(1) of the Water Environment (Water Framework Directive) Regulations (Northern Ireland) 2003.

Preventing the input of hazardous substances into groundwater

14.— (1) An authorisation, including an authorisation for—

- (a) a direct discharge into groundwater,
- (b) any other discharge that might lead to an indirect input of a hazardous substance into groundwater, or
- (c) any other activity on or in the ground that might lead to an indirect input of a hazardous substance into groundwater,

may only be granted if all necessary measures are taken to prevent the input of any hazardous substance into groundwater.

(2) However, provided it does not compromise the achievement of the environmental objectives established for that body of groundwater, an input of a hazardous substance into groundwater may be authorised for—

- (a) the injection of water containing substances resulting from the operations for exploration and extraction of hydrocarbons or mining activities, and injection of water for technical reasons, into geological formations from which hydrocarbons or other substances have been extracted or into geological formations which for natural reasons are permanently unsuitable for other purposes, provided that the injection does not contain substances other than those resulting from the above operations;
- (b) the reinjection of pumped groundwater from mines and quarries or associated with the construction or maintenance of civil engineering works;
- (c) the injection of natural gas or liquefied petroleum gas (LPG) for storage purposes into geological formations which for natural reasons are permanently unsuitable for other purposes;
- (d) the injection of natural gas or liquefied petroleum gas (LPG) for storage purposes into other geological formations where there is an overriding need for security of gas supply, and where the injection is such as to prevent any present or future danger of deterioration in the quality of any receiving groundwater;
- (e) construction, civil engineering and building works and similar activities on, or in the ground which come into contact with groundwater;
- (f) discharges of small quantities of substances for scientific purposes for characterisation, protection or remediation of water bodies limited to the amount strictly necessary for the purposes concerned;
- (g) the result of interventions in surface waters for the purposes, amongst others, of mitigating the effects of floods and droughts, and for the management of waters and waterways;
- (h) the artificial discharge or augmentation of groundwater bodies for the purposes of groundwater management;
- (i) reinjection into the same aquifer of water used for geothermal purposes.

Authorisations relating to non-hazardous pollutants to avoid pollution

15. An authorisation including an authorisation for—

- (a) a direct discharge into groundwater;
- (b) any other discharge that might lead to an indirect input of a non-hazardous pollutant into groundwater;
- (c) any other activity on or in the ground that might lead to an indirect input of a non-hazardous pollutant into groundwater,

must not be granted if it would result in the pollution of groundwater by a non-hazardous pollutant.

Authorisations generally

16.—(1) When the Department receives an application for an authorisation that includes the discharge of a pollutant, it must ensure that all necessary investigations have been carried out to ensure that the discharge applied will not lead to—

- (a) the input of a hazardous substance into groundwater, or
- (b) the pollution of groundwater by a non-hazardous pollutant.

(2) If it grants an authorisation, it must include conditions requiring all necessary technical precautions to be observed to prevent this.

(3) An authorisation may not be granted without examination of—

- (a) the hydrogeological conditions of the area concerned;
- (b) the possible purifying powers of the soil and subsoil; and
- (c) the risk of pollution and alteration of the quality of the groundwater from the discharge,

and without establishing whether the input of pollutants into groundwater is a satisfactory solution from the point of view of the environment.

(4) An authorisation may only be granted if the Department has checked that the groundwater (and, in particular, its quality) will undergo the requisite surveillance.

Review of authorisations

17.—(1) An authorisation must be reviewed before 22nd December 2012 and may be reviewed at any time after that.

(2) The Department shall assess compliance with the conditions of any such authorisation and the effects on groundwater.

(3) If the conditions of any such authorisation are not complied with, the appropriate steps shall be taken to ensure compliance and, if necessary, the revocation of the authorisation.

Inventory of authorisations

18. The Department shall keep an inventory of all authorisations to which these Regulations relate.

PART 3

Discharge of a hazardous substance or non-hazardous pollutant

Discharge of a hazardous substance or non-hazardous pollutant

19.—(1) It is an offence to knowingly or otherwise permit the discharge of any hazardous substance or non-hazardous pollutant in circumstances that might lead to an indirect input of that

substance into groundwater unless it is carried on under and in accordance with an authorisation granted by the Department under this regulation.

(2) But an operator of a road drain does not commit an offence under this Regulation unless the Department has served a notice on the operator under regulation 22 in relation to that discharge, an operator has failed to comply with that notice.

(3) In this regulation a “road drain” means a drain which the Department is entitled to keep open by virtue of Article 45 of the Road (Northern Ireland) Order 1993.

Application of Article 11 of the Water (Northern Ireland) Order 1999

20. Article 11 of the Water (Northern Ireland) Order 1999 (power to make scheme of charges) may apply in relation to an authorisation under regulation 19 as if any reference to a discharge consent included a reference to such an authorisation.

Transfer of an authorisation

21. Paragraph 8 of Schedule 1 to the Water (Northern Ireland) Order 1999 (transfer of discharge consents) applies in relation to an authorisation under regulation 19 as if—

- (a) any reference to a consent included a reference to such an authorisation;
- (b) references to paragraphs 3 and 6 of that Schedule were references to regulation 19; and
- (c) references to carrying on or making discharges were references to carrying on the activities regulated by the authorisation.

Grant of an authorisation

22.—(1) An application for an authorisation under these regulations shall be made to the Department.

(2) If in any case the Department considers that there are special reasons why the application should be advertised, it may require the applicant to advertise the application in a specified manner.

(3) An authorisation may be subject to conditions.

(4) If the Department refuses an authorisation it must give its reasons.

(5) The Department may, by notice in writing, at any time vary or revoke the authorisation but the notice must give the Department’s reasons.

(6) A revocation does not have effect until 3 months from the service of the notice.

(7) A person may within 28 days appeal against a refusal, variation or revocation of an authorisation to the Appeals Commission, but, unless the Appeals Commission direct otherwise—

- (a) a variation has effect pending the appeal, and
- (b) or revocation does not have effect pending the appeal.

PART 4

Enforcement and penalties

Power to require the provision of information

23.—(1) For the purposes of discharging its functions under these Regulations, the Department may, by notice served on any person, require that person to provide, in such form and within such period as is specified in the notice, the information specified in the notice.

(2) A notice may require a person to provide any information where that requirement is reasonable, including the provision of information—

- (a) not in the person's possession; and
 - (b) which would not usually come into the person's possession.
- (3) Failure to comply with a notice is an offence.

Notice to prevent or control the input of hazardous substances or non-hazardous pollutants

24.—(1) Where—

- (a) any person is carrying on, or proposing to carry on, any activity on or in the ground; and
- (b) that activity might lead to the input into groundwater of any hazardous substance or non-hazardous pollutant,

the Department may serve notice in writing on that person prohibiting him from carrying on that activity or authorising him to carry on that activity subject to such conditions as are specified in the notice.

- (2) The Department may at any time, by notice in writing, vary or revoke that notice and a notice of variation or revocation shall state the Department's reasons.
- (3) Breach of a notice or condition of a notice is an offence.

Appeals against notices

25.—(1) Any person who is aggrieved by a notice under regulation 24 may appeal by notice in writing to the Appeals Commission within 28 days from the date on which he was notified of the Department's decision, or within such longer period as the Appeals Commission may allow.

- (2) The Appeals Commission may cancel the notice or confirm it, with or without changes.
- (3) The notice must be complied with pending appeal unless the Appeals Commission directs otherwise.

Codes of practice

26.—(1) The Department may approve for the purposes of these Regulations codes of practice issued for the purpose of giving practical guidance to persons discharging hazardous substances or non-hazardous pollutants on the steps they should take to prevent them from entering groundwater.

- (2) The Department shall take into account whether or not a code of practice is or is likely to be, complied with before taking any enforcement action under these Regulations.
- (3) A code of practice must be publicised as the Department sees fit.

Particulars to be included in registers

27.—(1) The Department shall, as soon as reasonably practicable, enter on registers maintained by it under Article 30 of The Water (Northern Ireland) Order 1999 full particulars of—

- (a) any authorisation under regulation 19;
- (b) any application for such an authorisation;
- (c) any variation or revocation of such an authorisation;
- (d) any notice under regulation 24;
- (e) any variation or revocation of any such notice;
- (f) any information furnished to the Department for the purposes of regulation 19 or 22;
- (g) any monitoring information provided in connection with any authorisation under regulation 19;
- (h) any conviction for an offence under these regulations;

- (i) any code of practice for the time being approved under these regulations.
- (2) Nothing in paragraph (1) shall require the Department to keep on a register—
 - (a) monitoring information more than 4 years after that information was entered on the register;
 - (b) other information which has been superseded by later information more than 4 years after that later information was entered on the register; or
 - (c) information relating to an application for an authorisation under regulation 22 after the application has been withdrawn.

Penalties

- 28.**—(1) A person guilty of an offence under regulation 19 or 23 is liable—
- (a) on summary conviction, to a fine not exceeding £20,000 or to imprisonment for a term not exceeding six months, or to both; or
 - (b) on conviction on indictment to a fine or to imprisonment not exceeding 5 years or to both.
- (2) A person guilty of an offence under regulation 24 is liable—
- (c) on summary conviction to imprisonment for a term not exceeding 3 months or to a fine not exceeding the statutory maximum or both, or
 - (d) on conviction on indictment to imprisonment for a term not exceeding 2 years or to a fine or to both.
- (3) Where a body corporate is guilty of an offence under these Regulations, and that offence is proved to have been committed with the consent or connivance of, or to have been attributable to any neglect on the part of—
- (a) a qualified person appointed as such for the purpose of these Regulations;
 - (b) any director, manager, secretary or other similar person of the body corporate; or
 - (c) any person who was purporting to act in such a capacity,
- that person is guilty of the offence as well as the body corporate.
- (4) For the purposes of paragraph (3) above, “director”, in relation to a body corporate whose affairs are managed by its members, means a member of the body corporate.

Revocation

- 29.** The Groundwater Regulations (Northern Ireland) 1998^(g) are revoked.

Sealed with the Official Seal of the Department of the Environment on



Maggie Smith
A senior officer of the
Department of the Environment

^(g) S.R. 1998 No. 401 as amended by S.R. 2003 No. 46, S.R. 2003 No. 493 and S.R. 2006 No. 280

Annex D

List of consultees

Alpha Environmental Systems
Chartered Institution of Water and Environmental Management
Confederation of British Industry
Construction Employers Association
Department of Environmental Science
Drinking Water Inspectorate
Environment Agency
Environmental Engineering Research Centre QUB
Environmental Protection Agency
GeoDelft Environmental
Geological Survey of Northern Ireland
Geotechnical Engineering, Dept of Finance and Personnel
Industrial Pollution and Radiochemical Inspectorate
Institute of Civil Engineers
Institute of Directors
Institute Geologists of Ireland
Invest Northern Ireland
Land and Resource Management Unit
Marenco Ltd
Natural Heritage
NI Environment Link
Northern Ireland Water
Northern Ireland Water Council
Pentland Macdonald Ltd
Planning Service
Quarry Product Association Northern Ireland
Rivers Agency
RPS Planning and Environment Ltd
Scottish Environment Protection Agency
The Northern Ireland Water Council Secretariat
The Wildfowl and Wetlands Trust
Ulster Farmers Union
Waste Management Advisory Board for Northern Ireland
Water Management Unit
White Young Green

