EXPLANATORY MEMORANDUM TO

THE GROUNDWATER (ENGLAND AND WALES) REGULATIONS 2009

[2009] No. [XXXX]

1. This explanatory memorandum has been prepared by Department for Environment Food and Rural Affairs and is laid before Parliament by Command of Her Majesty. This memorandum contains information for the Joint Committee on Statutory Instruments.

2. Purpose of the instrument

2.1 The purpose of this instrument is to prevent the entry into groundwater of "hazardous substances" (defined as substances which are persistent, bio-accumulative or toxic) and the pollution of groundwater by "non-hazardous pollutants" (all other substances liable to cause pollution). The offence of discharging pollutants which might lead to an indirect input of such matter to controlled waters unless carried out in accordance with an authorisation granted by the Environment Agency, originally established in the Water Resources Act 1991 and incorporated in the 1998 Groundwater Regulations, is carried over in this instrument. Although the Regulations cover both 'direct' (directly into groundwater) and 'indirect' (after percolation through soil and strata) inputs of pollutants to groundwater, a discharge which leads to a direct input of such matter is already an offence under section 86 of the Water Resources Act 1991.

3. Matters of special interest to the Joint Committee on Statutory Instruments *or* the Select Committee on Statutory Instruments

3.1 None

4. Legislative Context

4.1 The Groundwater Regulations 2009 ("the 2009 Regulations") transpose certain elements of Directive 2000/60/EC, the Water Framework Directive (WFD), as they relate to groundwater and Article 6 of Directive 2006/118/EC, the '2006 Groundwater Directive', a 'daughter' Directive of the WFD. The 1980 Groundwater Directive provided for controls over discharges to prevent pollution of groundwater and was transposed into UK law principally through the Water Resources Act 1991 and the Groundwater Regulations 1998. Although the 1980 Groundwater Directive remains in force, in parallel with the WFD and the 2006 Groundwater Directive, until it is repealed in December 2013, new authorisations/permits will be granted in accordance with the 2006 Directive and these regulations taking into account the EU Common Implementation Strategy guidance No. 17 [1]. Given the WFD obligation to provide no lesser degree of protection than under the 1980 Groundwater Directive, this instrument combines relevant requirements of that Directive with transposition of the WFD and the 2006 Groundwater Directive. A brief transposition table is attached at Annex 1. The 1998 Regulations are repealed.

4.2 Where it has been necessary to rationalise the requirements of the Directives, the new Directives take precedence. It is desirable to produce a single, enduring instrument rather than interim arrangements which would require early review. Drafting has essentially involved updating the 1998 Regulations to incorporate the requirements of the WFD and the 2006 Groundwater Directive. Overall there are no fundamental differences in the approach to protecting groundwater. The main changes are

- replacement of the prescriptive Lists I and List II dangerous substances in the 1980 Directive with 'hazardous substances' and 'non-hazardous pollutants' respectively, to be determined by Member States;

- the scope and use of exemptions as a result of which it has been necessary to make transitional arrangements to bring radioactive substances and

[1] Common Implementation Strategy Guidance Document No.17 on preventing or limiting direct and indirect inputs in the context of the Groundwater Directive 2006/118/EC:
http://circa.europa.eu/Public/irc/env/wfd/library?l=/framework_directive/guidance_documents/guidance_document/_EN_1.0_&a=d

discharges from isolated dwellings not connected to the sewerage system (septic tanks) within groundwater controls;

- replacement of the four-yearly review of authorisations by a risk based approach.

4.3 The Lords and Commons Scrutiny Committees considered the proposal for a new Groundwater Directive from its inception in 2003 to adoption in October 2006. The Commons cleared scrutiny in debate on 21 January 2004 and subsequently considered the Commission's response to European Parliament proposed amendments. The Lords considered the proposal on a similar timescale but the Chairman advised that they were unable to clear scrutiny on 17 June 2005. Ministers wrote on 20 June 2005 stating their intention to proceed to agreement at the forthcoming Environment Council which was reached on 24 June 2005. The Lords finally cleared scrutiny on 6 December 2006. Both Committees were updated regularly.

4.4 During the Commons debate Ministers undertook to provide information, if available, on any financial subsidy for rural petrol stations. We are not aware of any such subsidy.

4.5 The 2009 Groundwater Regulations will in due course be absorbed into the Environmental Permitting Regulations 2007(EPR) which it is anticipated will be revoked and replaced in 2010. The EPR streamlined and amalgamated separate waste and pollution control systems within a single environmental permitting process. It is the intention that the second phase of the Environmental Permitting Programme will incorporate groundwater authorisations and the 2009 Groundwater Regulations have been prepared in parallel with this in mind. It was necessary to make the 2009 Groundwater Regulations in the interim in order to meet the 2006 Groundwater Directive's transposition timetable. The move to EPR will not involve changes of principle other than to provide for a single environmental permit to cater for all relevant areas of regulation on any one site.

4.6 As these Regulations are made under the Pollution Prevention and Control Act 1999, it is necessary for the WFD and the 2006 Groundwater Directive to be

designated for the purposes of that Act. The draft Order is annexed and will be in force by the time these Regulations are debated.

5. Territorial Extent and Application

5.1 This instrument applies to England and Wales.

6. European Convention on Human Rights

The Minister for the Natural and Marine Environment, Wildlife and Rural Affairs has made the following statement regarding Human Rights:

In my view the provisions of the Groundwater Regulations (England and Wales) 2009 are compatible with the Convention rights.

7. Policy background

7.1 Article 17 of the Water Framework Directive (WFD) required the European Parliament and Council to adopt specific measures to prevent and control groundwater pollution with the aim of achieving good chemical status for bodies of groundwater as well as to protect the groundwater resource. The 2006 Groundwater Directive fulfils this requirement by setting out criteria by which to assess the status of bodies of groundwater (Articles 3 and 4), the reversal of pollution trends (Article 5). This instrument transposes only Article 6 (the other Articles having been transposed already) which requires Member States to take all necessary measures to prevent the input of hazardous substances and to limit the input of non-hazardous substances. The 2006 Directive replaces the 1980 Directive which continues in force until its repeal in 2013. Authorisations (which become permits under these Regulations) granted under the 1998 Groundwater Regulations remain valid.

The 2009 Regulations provide for the prevention of the input of hazardous substances and limitation of the input of non-hazardous pollutants. They bring under control previously exempted discharges of less than 2 cubic metres per day from properties not connected to the sewerage system (essentially septic tanks). They also bring

under control, for the first time for the purposes of groundwater protection, the disposal of radioactive substances.

Public interest in the policy has been mainly through interest groups representing those most likely to discharge pollutants to groundwater. The 31 responses to consultation included many from the water industry which simultaneously has an interest in protection of the groundwater resources for drinking water. Farmer/land managers have a parallel interest. Media attention has been minimal.

Since the approach to groundwater protection remains essentially unchanged, it is doubtful that the instrument would be regarded as politically significant. However it is an important legal instrument since it regulates the protection of an invaluable resource for drinking water supplies. The ending of exemptions for radioactive substances and septic tanks should be understood in the context of the risk-based approach of the WFD. Suitable transitional arrangements are provided and Defra guidance to the EA will aid understanding of the Regulations.

Whilst many of the principles of control are enshrined in the 1998 Groundwater Regulations, the transposition of a Directive generally requires Regulations to satisfy the Commission and that is the case here. Codes of Practice will continue to be an important and effective way of imparting good practice and assisting operators to comply with the Regulations.

The transposition table (Annex 1) shows how the 2009 Groundwater Regulations transpose the requirements of Article 6 the 2006 Groundwater Directive and indicates the way in which the provisions of the 1998 Groundwater Regulations have changed as a result.

Consolidation

7.2 This instrument is largely a consolidation of the 1998 Groundwater Regulations which takes account of the changes required by the Water Framework Directive and the 2006 Groundwater Directive.

8. Consultation outcome

8.1 The consultation document outlined the changes to the 1998 Groundwater Regulations which would be necessary to accommodate the requirements of the Water Framework Directive (WFD) and Article 6 of the 2006 Groundwater Directive and posed questions about the proposed changes. The main changes, the issues on which stakeholders were asked for views and the 31 responses received during the 12-week consultation period (from 28 May 2008 to 20 August 2008) are summarised below.

Changes to the 1998 Regulations

List I and List II substances replaced by hazardous substances and non-hazardous pollutants.

List I substances will in effect become a sub-set of hazardous substances and List II a sub-set of non hazardous pollutants. In future, hazardous substances will be defined by their intrinsic properties of persistence, bioaccumulation or toxicity (PBT) in groundwater rather than by reference to a prescribed list.

Responses *– Most considered this to be a practicable approach to transposition of Article 6. Concerns were raised over the role which the Joint Agencies Groundwater Advisory Group (JAGDAG) would have. Stakeholders asked to participate in the process and suitable arrangements will be made. Certain substances were identified for consideration by JAGDAG. Some noted that widening the scope of controlled pollutants from two defined lists to a potentially wider range of pollutants could increase costs of compliance for operators.*

Prevent inputs of hazardous substances and limit input of non-hazardous substances so as not to cause pollution.

The consultation document set out the proposed approach "to prevent inputs of hazardous substances" in the context of existing obligations to prevent the introduction of List I substances to groundwater.

Responses *- Many respondents were concerned that this did not convey the flexibility implied by the text in the new Groundwater Directive which reads "take all necessary*

measures to prevent.....". Concern was also expressed as to the interpretation of 'prevent' in that absolute prevention is rarely feasible. In subsequent discussions it has been made clear that the interpretation of 'prevent', given that absolute prevention is rarely feasible, should be the subject of guidance to make clear that relevant measures should be reasonable, that is technically feasible and not involving disproportionate cost.

There was some misunderstanding as to the application of WFD Article 4 exemptions to the 'prevent or limit' requirements of the new Groundwater Directive.

The WFD requires direct discharges of pollutants to groundwater to be prohibited. However the new Groundwater Directive requires only inputs of hazardous substances to be prevented and inputs of non-hazardous pollutants to be limited so as not to cause pollution and this approach was proposed.

Responses *- Most respondents considered this a pragmatic approach to implementing the WFD and the new Groundwater Daughter Directive although the water industry claims that 'preventing' direct discharges of hazardous substances will incur costs. Subsequent draft guidance has provided reassurance.*

Exemptions and Authorisations

The main changes are that radioactive substances (RAS) and domestic effluents from isolated dwellings (essentially those from septic tanks) are no longer exempted from groundwater controls. At the same time the range of exemptions is widened to include all those relevant to groundwater in the WFD and those listed in the new Groundwater Directive.

Responses *- Whilst there was some concern from respondents that the new groundwater controls would cover a wider range of activities and substances, most supported the accompanying list of exemptions, which will facilitate a more risk-based approach to groundwater controls.*

Diffuse pollution

Measures in the 1998 Groundwater Regulations to control diffuse pollution will be carried over in the new Regulations.

Responses *– Concern was expressed that the proposed amendments to the 1998 Regulations would not extend controls to cover diffuse pollution.*

Review of authorisations

The consultation document proposed that the four year review period for authorisations should be replaced by either a 6-yearly review (to synchronise with river basin management plan cycles) or a risk-based approach. The latter would provide for review at any time after 2012 depending on priorities and impacts, without maximum or minimum periodic time limits, such that the EA would determine the scope and extent of reviews based on risk.

Responses *- The risk-based approach was largely endorsed by stakeholders/respondents. They considered that this approach would be an acceptable, modern regulatory technique provided that there was guidance to clarify the criteria for review. The water industry expressed some concern that removing the 4 year limit would reduce certainty in terms of investment cycle planning.*

Other issues and next steps

It is envisaged that groundwater controls will be transferred to the Environmental Permitting Regulations in 2010. This will provide the opportunity to deploy other controls which will be available under EPR, in particular light-touch forms of regulation such as codes of practice and general binding rules (GBRs) in conjunction with registration schemes. GBRs which aim to cover diffuse sources of pollution such as septic tanks and exemptions for dredging is expected to be consulted on during the EPR consultation.

Responses *- There is considerable support for measures to tackle diffuse pollution.*

9. Guidance

9.1 Defra guidance to the Environment Agency and for public information is under preparation. It will cover each regulation in detail and will be published for consultation at the same time as the Regulations are made.

10. Impact

10.1 The impact on business, charities or voluntary bodies is estimated as follows:

- There may be a few, or none at all, increases in one-off and ongoing costs for stakeholders disposing of hazardous substances not currently included on List I of the existing regulations, that might lead to indirect discharges to groundwater, in seeking alternative disposal methods;

- There may be an increase in one-off costs for a few stakeholders who dispose non-hazardous substances not included in List II of the current regulations that might lead to direct and indirect discharges. Some of these stakeholders may incur one-off and ongoing costs in implementing controls over the discharges to prevent pollution. The flexibility to use 'light touch' controls should minimize any such costs;

- The wider scope of the proposed regulations relates to radioactive substances and domestic effluent from isolated dwellings not connected to a sewerage system and away from drinking water sources. Radioactive substances discharged from landfill are controlled under the Radioactive Substances Act 1993, so there should be no significant effect on costs. Guidance on the interpretation of the obligation to 'prevent' such inputs to groundwater will be designed to ensure that necessary measures are both technically feasible and do not involve disproportionate costs. A web-based registration scheme is envisaged for most discharges from isolated dwellings, with minimal associated costs. Where there is a need to control discharges, for example near sensitive areas, the flexibility afforded by a risk-based approach should minimize costs; and

- Where high-risk activities are authorised under current regulations, there may be an increase in one-off or ongoing costs due to review of the authorisations. However there may be a reduction in costs for lower-risk activities.

10.2 The impact on the public sector may involve additional costs for the Environment Agency in regulating discharges of hazardous substances not currently on List I, non-hazardous substances not currently on List II and discharges which are no longer exempt. However, the Environment Agency believes that such costs are likely to be minimal given the more flexible approaches envisaged.

10.3 An Impact Assessment is annexed.

11. Regulating small business

11.1 The legislation applies to small businesses.

11.2 Opportunities provided in the 2006 Groundwater Directive are used to full advantage to take a risk based approach, for example by exempting small discharges. It is not anticipated that there should be any additional burden to small businesses who routinely discharge to groundwater or that they should be significantly impacted by comparison with existing Regulations.

12. Monitoring & review

12.1 The 2009 Regulations provide for the 1980 Groundwater Directive to remain in force until 2013 whilst effecting the transition from the 1980 to the 2006 Groundwater Directive. It is not anticipated that the Regulations themselves should require early review although measures taken under them would require 6-yearly review under the WFD. The Groundwater Regulations will be absorbed into the Environmental Permitting Regulations which will involve changes of detail only.

13. Contact

Ian Macdonald at the Department for Environment Food and Rural Affairs Tel: 020 7238 5350 or email: Ian.Macdonald@defra.gsi.gov.uk.

Annex I

Article 6 – Measures to prevent or limit the input of pollutants into groundwater

These transpose the requirements of Article 6 as follows.

GWD Article 6 Provision	**Change to Groundwater Regulations 1998**
Paragraph 1(a)	Transposed principally through regulation 8 in conjunction with Regulation 3 which sets out the meaning of 'hazardous substance'. The broad meaning of 'hazardous' is taken from the WFD definition to which is added the relevant substances listed at Annex 8 of the WFD.
Paragraph 1(b)	Transposed principally through regulation 9 in conjunction with regulation 4 in which non-hazardous pollutants are taken by default to comprise all other pollutants. The term 'pollution' is used at regulation 9 because it is a higher test than either 'deterioration', which refers to deterioration in status, or 'significant and sustained upward trends in the concentrations of pollutants', which can only arise as a result of pollution. With regard to the final paragraph, the Environment Agencies in England, Scotland Wales and NI were required under the 1998 Regulations (now contained in relevant post devolution legislation) to determine which are List I substances and will continue to identify 'hazardous substances' in

	accordance with regulation 3.
Paragraph 2	Regulations 18 and 19 carry over from the 1998 Regulations the power to serve notice on activities which might result in the input to groundwater of pollutants and provide the means of enforcing the terms of codes of practice drawn up under regulation 20.
Paragraph 3	Regulations 5, 6 and 10. The exemptions for septic tanks and radio-active substances which were provided for in the 1980 Directive (and the 1998 Regulations) no longer exist. However, since the 1980 Directive remains in force until 2013, transitional arrangements are provided for bringing under control septic tanks, at regulation 13(2). In the case of radio-active substances authorisations under the Radio-active Substances Act 1993 are included within the definition of 'permit' at regulation 2 and, in accordance with regulation 12, will be reviewed alongside all other groundwater permits to ensure compliance with WFD and 2006 Groundwater Directive requirements.
Paragraph 4	Comprehensive provision for keeping registers of all authorisations is made at regulation 21.

Annex II - **Impact Assessment**

Summary: Intervention & Options		
Department/Agency: Defra	**Title:** Impact Assessment of transposition Options for Article 6 of the Groundwater Daughter Directive	
Stage: Full Impact Assessment	**Version:** 1	**Date:** 14 May 2009
Related Publications: Post conciliation partial regulatory impact assessment, December 06		
Contact for enquiries: Ian MacDonald	**Telephone:** 020 7238 5350	

What is the problem under consideration? Why is government intervention necessary?

The aim of the proposal is to ensure that the UK meets its Treaty obligations to transpose the new Groundwater Directive, 2006/118/EC, into UK law by 16 January 2009. The Directive makes operational the requirements in Article 17 of the Water Framework Directive (WFD) for strategies to prevent and control pollution of groundwater.

What are the policy objectives and the intended effects?

Articles 3-5 of the GD focus on establishing the chemical status of groundwater bodies and on the identification of significant and sustained upward pollution trends. These aspects will be carried forward separately as part of the WFD implementation and included within the impact assessments relating to WFD implementation. Article 6 of the GD clarifies the WFD Article 4 objective to 'prevent or limit' the input of pollutants into groundwater. It requires immediate transposition to enable the EA to commence its statutory four-yearly review of authorisations.

What policy options have been considered? Please justify any preferred option.

There are three potential options for transposition of the GD. These are:

(1) No action: retain the existing regulations until 2013 and the WFD provisions. This risks infringement proceedings.

(2) Amend the existing regulations to introduce a single regime for all substances. This is the preferred option.

(3) Incorporate the requirements into the Environmental Permitting Programme. This is considered impractical within the required timescale.

When will the policy be reviewed to establish the actual costs and benefits and the achievement of the desired effects?

All aspects of the WFD, including groundwater, will be reviewed regularly as part of the regular river basin management planning process.

Ministerial Sign-off for SELECT STAGE Impact Assessments:

I have read the Impact Assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the leading options.

Signed by the responsible Minister:

..... **Date:**

Summary: Analysis & Evidence	
Policy option:	**Description:**
ANNUAL COSTS	**Description and scale of key monetised costs by 'main affected groups'**
One-off (Transition)	**Yrs**
£minimal	4
Average Annual Cost	
(excluding one-off)	
£minimal	**Total Cost (PV)** £minimal
Other key non-monetised costs by 'main affected groups'	
Possible costs to householders in isolated dwellings not connected to sewerage systems and to dischargers of substances not controlled under current regulations.	

ANNUAL BENEFITS	**Description and scale of key monetised costs by 'main affected groups'**
One-off	**Yrs**
£	
Average Annual Benefit	
(excluding one-off)	
£	**Total Benefit (PV)** £
Other key non-monetised benefits by 'main affected groups'	
Cost savings to low-risk discharges and disposals through substitution of authorisation by lighter touch controls; avoidance of potentially disproportionate controls under default WFD provisions.	

Key assumptions/Sensitivities/Risks
Little information is available on discharges and disposals not currently regulated, so there is a small risk that additional unknown impacts will occur.

Price Base Year 2008 **Time Period Years** 19 **Net Benefits Range (NPV)** £limited **NET BENEFIT (NPV Best estimate)** £minimal

What is the geographic coverage of the policy/option?	England and Wales
On what date will the policy be implemented?	January 2009

Which organisation(s) will enforce the policy? Environment Agency

What is the total annual cost of enforcement for these organisations? £minimal

Does enforcement comply with Hampton principles?	Yes
Will implementation go beyond minimum EU requirements?	No
What is the value of the proposed offsetting measure per year?	£ n/a
What is the value of changes in greenhouse gas emissions?	£ none
Will the proposal have a significant impact on competition?	No

Annual cost per organisation	**Micro**	**Small**	**Medium**	**Large**
(excluding one-off)	minimal	minimal	minimal	minimal

Impact on Admin Burdens Baseline (2005 Prices)		
Increase of £ none	**Decrease of** £limited	**Net impact** £minimal

EVIDENCE BASE

1. Rationale and objectives of Government intervention

The aim of the proposal is to ensure that the UK meets its Treaty obligations to transpose the new Groundwater Directive (GD), 2006/118/EC, into UK law.

The Water Framework Directive (WFD) 2000/60/EC, adopted on 22 December 2000, establishes a framework for Community action in the field of water policy, covering both quality and quantity[2]. The WFD sets out a number of general principles with the aim of progressively reducing groundwater and surface water pollution. Article 17 of the WFD requires Member States to take "*all measures to prevent and control groundwater pollution*", Article 11(j) of the WFD places a prohibition on direct discharges of all pollutants into groundwater. The WFD also requires the European Commission to submit proposals for specific measures to prevent and control

[2] Implemented through the Water Environment (Water Framework Directive) (England and Wales) Regulations 2003.

pollution with the aim of achieving the objective of good chemical status of groundwater.

The GD was adopted on 12 December 2006. The GD fulfils the requirement at Article 17 of the WFD for "*measures to prevent and control groundwater pollution*". The GD needs to be transposed in the UK by 16 January 2009. Articles 3 – 5 of the GD focus on establishing the chemical status of groundwater bodies and on the identification of significant and sustained upward pollution trends. These aspects are closely linked to the surface water standards and programmes of measures; they will be carried forward separately as part of the WFD implementation and included within the impact assessments relating to WFD implementation. Article 6 of the GD clarifies the WFD Article 4 objective to 'prevent or limit' the input of pollutants into groundwater. It requires Member States to prevent inputs of hazardous substances to groundwater and to limit inputs of non-hazardous substances to avoid pollution, subject to various exemptions. Article 6 requires immediate transposition to enable the EA to commence its statutory four-yearly review of authorisations on schedule for the wider WFD implementation programme, and in so doing to provide for GD Article 6.

In order to understand the implications of the GD, the Department for Environment, Food and Rural Affairs (DEFRA) has contracted Risk & Policy Analysts Ltd (RPA) and ADAS to develop a Regulatory Impact Assessment (RIA). An Initial RIA was prepared on 7 March 2003, based on the draft Proposal available at the time, and made available to stakeholders. A Partial RIA was prepared in October 2003, following publication of the Proposal, issued to stakeholders and attached to the Explanatory Memorandum submitted with the Proposal to Parliament in December 2003. The Partial RIA was revised and updated in May 2006, following developments to the proposal in negotiations. A Post-Conciliation Partial RIA, reflecting the final version of the proposal for the Directive, was prepared in December 2006[3].

[3] RPA and ADAS (2006). Post Conciliation Partial RIA for groundwater proposals under Article 17 of the WFD (prepared for the Department for Environment, Food and Rural Affairs)

This Impact Assessment focuses on the potential impact of options for transposition of Article 6 of the GD. The remaining articles of the GD are closely linked to the WFD objective setting and programmes of measures and have largely been brought into legislation through a 2006 direction to the Environment Agency.

2. Policy options considered

Transposition of Article 6 of the GD takes place against a background of an existing regime relating to groundwater. This is summarised in Table 1.

Table 1: Existing regime relating to groundwater

Measure	Main elements
Groundwater Regulations 1998	Implement Groundwater Directive 80/68/EEC. Introduce a regime for authorising disposal of listed substances to land; gives powers to control non-disposal activities to control listed substances. Under the GD, Directive 80/68/EEC will remain in force until 22 December 2013. Permits under the Pollution Prevention and Control and Waste Management regimes need to comply with the Regulations.
Water Resources Act 1991	Prohibits un-consented entry into groundwater of any poisonous, noxious or polluting matter or solid waste.

The requirements of the GD are not likely to result in significant changes to the regulation of groundwater, compared to the existing regime. The main changes are summarised in Table 2.

Table 2: Main changes in the regulation of groundwater resulting from the WFD as clarified by the GD

Existing regime requirements	GD Article 6 requirements	Comments
1. Substances and activities covered		

Prevent introduction of List I substances into groundwater and limit the introduction of List II substances. Nitrates and radioactive substance discharges are not covered	Prevent inputs of hazardous substances and limit inputs of all other substances to prevent pollution. Nitrates and radioactive substances are not specifically exempt; diffuse pollution should be taken into account where possible.	In practice, List I already includes most substances likely to be considered hazardous in groundwater. Non-hazardous substances and activities covered by the 'limit' requirements of the GD could be wider than under the current regulations. Measures are already under way under the Nitrates Directive to prevent pollution from nitrates. Diffuse pollution is currently addressed through notices and/or Codes of Practice; further work is ongoing under other WFD implementation activities
2. Measures to be used		
Requires authorisation of discharges to groundwater, and disposals to land, of listed substances and to take 'all measures necessary' to prevent any indirect discharges of List I substances. It also allows Ministers to create codes of practice for potentially	Requires Member States to take 'all measures necessary', subject to a range of exemptions relating to practicability, impact and overall benefit. It does not specify what the measures should be. It amends the WFD prohibition on direct discharges to prevent	The GD provides greater flexibility for non-hazardous substances, which will be addressed on a risk basis. It enables more modern regulatory approaches than authorisation to be used.

polluting activities	discharges of hazardous substances and limit discharges of non-hazardous substances.	
3. Exemptions		
Excludes 'de minimis' discharges, authorised artificial recharges, discharges of domestic effluents from isolated dwellings not connected to sewers, discharge of radioactive substances	Excludes from prevent and limit requirements direct discharges authorised under the WFD, 'de minimis' inputs, authorised artificial recharge, inputs due to serious accidents or exceptional circumstances, inputs which could not technically be prevented without measures which increase health or environmental risks or are disproportionately costly, or certain water management activities (such as dredging).	The overall range of the exemptions in Article 6 of the GD is broader and more risk-based than in the existing regime. However, activities specifically exempted under the existing regime will not automatically be exempt under Article 6 of the GD, unless they meet one of the Article 6 criteria.

There are three potential options for transposition of the GD. These are:

(1) No action: the1998 Groundwater regulations will remain in place until 2013, with non-listed substances subject to the provisions on groundwater in the WFD. After 2013, all substances will be subject to the WFD provisions on groundwater.

(2) Issue amendments to the 1998 Groundwater Regulations to introduce a single regime covering all substances. Thereafter, the groundwater regulations will be brought into the Environmental Permitting Programme (EPP) in future.

(3) Incorporate the requirements of the GD into the EPP.

3. Analysis and evidence

This Section assesses the impact of the issues to be addressed in transposing Article 6 of the GD, and the different transposition options, on the potential costs and benefits identified in the Post-conciliation partial RIA.

Overall costs and benefits of the new Groundwater Directive

The main findings of the Post-conciliation Partial RIA were that, overall, the new GD imposes no quantifiable incremental costs (and has no quantifiable incremental benefits) compared with the WFD baseline, of the requirements introduced by the WFD. This is in contrast to earlier proposals, which could have significantly increased costs by introducing common European standards for groundwater rather than a risk-based approach.

In relation to Article 6 of the GD, the Post-conciliation Partial RIA noted that:

> Option 2 [the Directive as adopted] also requires the prevention of inputs to groundwater of dangerous substances (from Annex VIII to the Water Framework Directive) which are permitted in some circumstances under the current Groundwater Directive. The practical impacts of this requirement should be the same as for Option 1 (no action), as a series of exemptions apply under Article 6(3)…Option 2 also requires Member States to take

account of inputs of pollutants from diffuse sources wherever possible. The exemptions under Article 6(3) also apply in these cases.

The consultation on the transposition of Article 6 broadly supports this finding. Stakeholders did not identify any significant additional costs and benefits, beyond those that would be incurred under the existing groundwater regulations and the WFD requirements

Impacts of transposition options

None of the transposition options is expected to result in significant changes to current regulatory practice or to the benefits and costs of the GD, as identified in the post-conciliation partial RIA. Overall, therefore, **the impact of transposition is expected to be cost-neutral**. However, there are differences between the transposition options, which may have impacts for certain stakeholders.

Option 1: No action

The **risk** associated with this option is that it could be considered as not fully transposing the GD or the WFD, thus potentially leading to infraction proceedings.

The main **economic benefit** of this option is that there would be no change to the current requirements for stakeholders discharging or depositing listed substances, and no requirement for action by the public authorities. There are not expected to be any significant **environmental benefits** from this option.

There is potential that this Option could give rise to **environmental costs**, if the greater flexibility and risk-based approach, coupled with wider coverage in terms of substances, afforded by the GD is not available to regulators. In particular, the Environment Agency would have less scope to direct its resources according to risk, particularly before 2013 when the 1980 Directive is repealed. There would also be uncertainty as to the action which needs to be taken on direct discharges to groundwater. These are prohibited under WFD article 11(j), but the GD clarifies the prohibition in a more risk-based way. Without this clarification, direct discharges to

groundwater that currently pose no risks might be replaced by other disposal methods, which could be more harmful to the environment or which could have other knock- on effects, for example in terms of additional water treatment, pollution clean up costs or failure to achieve WFD objectives.

The main **economic cost** to stakeholders would arise from the following:

- direct dischargers of non-hazardous substances could face a prohibition on such discharges under WFD Article 11(j) from 2012, if they are unable to benefit from the risk-based clarification of this requirement and the accompanying range of risk-based exemptions afforded by the GD. Such dischargers could incur significant one-off and ongoing costs in seeking alternative treatment options. The number of currently-authorised direct discharges of non-hazardous substances is small (around 400, mostly agricultural[4]); however, seeking alternative disposal means in cases which would be prohibited could impose significant one-off and ongoing costs for the stakeholders concerned

- it would not be possible for stakeholders to take advantage of the exemptions introduced by the GD

- it would not be possible for stakeholders and regulators to taken advantage of the more flexible and risk-based approach to authorisation, such as registration and general binding rules, which would be available under the GD, particularly before 2013 when the 1980 GD is repealed. A range of sectors could be affected by this provision, including agriculture and the water industry.

There might also be costs to stakeholders responsible for activities giving rise to diffuse pollution, as the WFD article 11(h) requires Member States to introduce measures to prevent or control the input of pollutants from diffuse sources liable to cause pollution. Without the clarification provided by the GD, this requirement could be read as requiring consents for all such activities, and therefore cause uncertainty. The potential costs cannot be quantified at present; work to characterise the

[4] Primarily foot and mouth carcasses and ash, plus a small number of sheep dip consisting of list 2 substances only

significance of diffuse sources of pollution, for both surface and ground water bodies, is currently being carried out under the WFD.

There would also be costs if two different regimes for the GD and WFD were to run in parallel until 2013, when the 1980 Directive is repealed. This could also result in ongoing costs over this period for stakeholders, in understanding the different requirements and which applied to their activities.

There would be ongoing costs to the public authorities – in particular the Environment Agency - of operating two separate regimes for groundwater, one for listed substances and another for non-listed substances, until 2013.

Option 2: Issue amendments to the 1998 Groundwater Regulations

There are no significant **risks** associated with this Option.

The main **economic benefits** associated with Option 2, compared to Option 1, are that:

- the more risk-based approach to authorisation could reduce ongoing administrative costs for low-risk discharges and disposals through substitution of authorisation by 'lighter touch' controls, such as general binding rules and registration. This could result in cost savings for both dischargers and the Environment Agency over the entire period of operation of the regulations;

- the wider exemptions introduced by the new regulations could potentially reduce both one-off and ongoing costs of compliance for dischargers, compared to Option 1. The current groundwater regime contains a 'de minimis' exemption, which is taken forward in the GD. This will avoid the potential for disproportionate regulation which is introduced by Option 1;

- under Option 2, unlike Option 1, direct discharges of non-hazardous pollutants would not be prohibited. Option 2 would therefore avoid the one-off and ongoing

costs to dischargers of finding alternative disposal routes, which could be significant, even though the number of such discharges is small.

As the proposed regulation introduces a flexible approach, such benefits will arise on a case-by-case basis and therefore cannot be quantified.

The option will also generate **environmental benefits**; it will enable discharges and disposals to groundwater to be managed flexibly, to avoid the risk of pollution of groundwater. As it will apply to all substances, not just those listed under the current regime, the Environment Agencies will have the flexibility to adapt regulation to take account of any new risks to groundwater as soon as they are identified. By introducing a flexible regime for regulation, the Option will also allow the Environment Agency to focus its activities on the areas of greatest risk to groundwater, increasing its effectiveness in protecting the environment. This will help balance any consequences of the coverage of additional substances, compared to Option 1.

No **environmental costs** are anticipated from this option. A number of stakeholders may face some additional **economic costs** under Option 2 compared to Option 1; however, the costs for these stakeholders are expected to be significantly lower than the costs associated with Option 1:

- *stakeholders disposing of hazardous substances, not currently included on List I of the existing regulations, that might lead to indirect discharges to groundwater*. Under the revised regulations, such discharges would be prevented, unless they are subject to the exemptions listed in Article 6(3) of the new Directive. This could give rise to one-off and ongoing costs in seeking alternative disposal methods. However, the EA believes that there are few, if any, such discharges (as most, if not all, substances likely to be classified as hazardous under the revised regulations are on List I) and therefore the costs are minimal;

- *disposers of non-hazardous substances not included in List II of the current regulations that might lead to direct and indirect discharges*. The EA believes that only a few such discharges exist that are not currently regulated, either because

the substances are part of a discharge which also includes List II substances or because the discharge are already regulated under the more general powers of the Water Resources Act. Costs to these stakeholders are expected to be significantly lower under Option 2 than under Option 1. Under the revised regulations, such discharges would be subject to limitations to avoid pollution. Dischargers could incur one-off administrative costs in applying for authorisation. The revised regulations will aim to minimize these costs by enabling the EA to use a flexible approach to regulation, such as general binding rules and registration rather than determination of applications for authorisation and associated cost recovery. As such discharges are not currently regulated, there are no firm data on the numbers of discharges involved. Some of these stakeholders may also incur one-off and ongoing costs in implementing controls over the discharges to prevent pollution. In the few cases where discharges of substances not controlled under the current regulations are giving rise to pollution, the introduction of controls to prevent pollution are necessary and proportionate to comply with the WFD and protect groundwater quality.

- *Stakeholders with discharges to groundwater which are specifically excluded or exempted from the current regulations*. These comprise discharges relating to radioactive substances; and domestic effluent from isolated dwellings not connected to a sewerage system and away from drinking water sources. Discharges of radioactive materials to groundwater from landfills are already subject to permitting under the Radioactive Substances Act 1993, so ending the exemption from groundwater permitting should have no significant effect. Although the exclusion for domestic effluent from single dwellings not connected to mains sewerage would cease, this is not expected to result in significant costs for householders. There is a requirement to consent such discharges under the Water Resources Act, which conflicts with the current exemption under the 1980 directive. These discharges are generally low risk. Therefore, in line with the modern regulation agenda, the EA does not currently seek to consent sewage discharges of two or less cubic metres per day unless within a sensitive location or there are particular reasons to impose controls to avoid pollution. There are thought to be several thousand such discharges but records are limited. If control were to be required in particular instances, the revised regulations seek to

provide flexibility for the EA to adopt a 'light touch' approach, for example registration, codes of practice and general binding rules. This will regularise the current conflict between different regulations, which has led to some confusion.

- *holders of authorisations under the existing regulations.* Option 2 may result in additional one off or ongoing compliance costs for stakeholders with higher risk activities, but reduced costs for those with lower-risk activities. During the four-yearly review of permits under the current regulations, due to begin in 2008, the EA may make changes to the conditions of permits in line with the risk-based approach of the proposed amended regulations. This will be determined on a case-by-case basis, taking account of the risks posed by individual discharges. The costs cannot be quantified at this stage but, because of the limited changes in regulatory practice anticipated and the opportunity to introduce 'light touch' controls, any additional costs would not be expected to be significant.

- *public authorities*. The Environment Agency may incur additional costs in regulating discharges of hazardous substances not currently on List I, non-hazardous substances not currently on List II, no longer exempt discharges and diffuse sources. However, the EA believes that such costs are likely to be minimal and indeed could assist with regulation of a small number of known problems; they are also likely to be lower than the costs associated with Option 1. In addition, the flexible approach (such as use of general binding rules and registration) should enable the EA to operate controls over groundwater pollution more cost-effectively.

Option 3: Incorporate the requirements of the GD into the EPP

The main **risk** with this option is that, because extensive guidance and schedules would need to be drafted for incorporation of groundwater into the EPP, there will be a delay in transposing the requirements of Article 6 of the GD in time to commence review of authorisations in 2008.

This option would incur similar costs to, and generate similar benefits as Option 2.

The **benefits** associated with this option compared to Option 2 are:

- Some minor potential cost savings to the public sector by immediately incorporating the GD requirements into EPP, compared with Option 2 (which involves first amending the groundwater regulations and then transferring the regime to EPP).

- Potentially, additional clarity for stakeholders from moving to EPP in one step. However, as permits granted under Option 2 will simply be deemed to be EPP permits once the regime is transferred to EPP, these benefits are not expected to be significant.

These potential benefits are likely to be offset by the likely **costs** compared with Option 2**:**

- it is likely that, given the extent of guidance that will need to be drafted for groundwater under EPP, transposition of the new Groundwater Directive will not be achieved in time to avoid infraction proceedings;

- this option would be less transparent, as the changes to the existing regime introduced by the GD might be masked by the move into EPP; and

- the fact that the time required for drafting guidance will mean that incorporating groundwater into the EPP cannot be achieved to coincide with the timetable for review of authorisations under the existing regulations. This could mean that the EA would first have to review authorisations under the existing regulations and then review them again once the GD requirements were incorporated into EPP. This could also give rise to additional administrative and compliance costs for stakeholders. There might also be a risk of infraction proceedings under the WFD if Programmes of Measures do not include authorisations updated in line with the WFD/GD.

Conclusion

The relative costs and benefits of the options are summarised in Table 3; the table indicates that Option 2 provides the best overall balance of costs and benefits for transposing Article 6 of the GD.

Table 3: Summary of findings			
Option	**Benefits**	**Costs**	**Risks**
1. No action	No changes to existing regime until 2013. Possible environmental benefit from cessation of discharges	Potentially significant costs to stakeholders from cessation of discharges after 2013 Costs to stakeholders and industry from running two parallel regimes until 2013	Could be considered as not fully transposing Article 6, leading to infraction proceedings
2. Amendment to 1998 Groundwater Regulations	Risk-based approach will allow for flexible and proportionate regulation, with potential cost savings for stakeholders and regulators, particularly from allowing non-hazardous discharges Environmental benefits from focus	Some (minor) additional costs up to 2013 for discharges specifically exempted from current regime	None identified

	of regulatory resources on highest risk activities		
3. Incorporate requirements into EPP	Minor cost savings for public authorities compared to Option 2 Possible greater clarity for stakeholders from moving to EPP in one step	Potential additional costs to public authorities and stakeholders since transposition could not be competed in line with the timetable for review of current authorisations	Extent of guidance required to be developed may delay transposition beyond the deadline, risking infraction proceedings

Stakeholders affected

The main stakeholders affected by the transposition of Article 6 of the GD will be:

- stakeholders who are currently authorised to discharge or deposit listed substances to groundwater or deposit listed substances on land. This includes the water industry, waste disposal, agriculture and certain mining and manufacturing operations;

- stakeholders who currently discharge or deposit non-listed substances. These are likely to be primarily the waste management sector, which is subject to other regulation. There may be other sectors affected which are not currently regulated; however, consultation did not identify any such affected stakeholders;

- stakeholders whose discharges and deposits are currently exempted from regulation and do not fall into the “de minimis” category. However, light touch regulation should limit any additional costs.

Specific tests

The table below summarises the analysis of impacts against specific impact tests.

Table 4: Specific Impact Tests	
Test	**Potential impacts**
Competition assessment	No significant impacts anticipated
Small firms impact test	Impacts on small firms will be minimised by ‘light touch’ regulatory approach
Legal aid	No impacts anticipated
Sustainable development	Will contribute to sustainable development through helping to maintain good status of groundwater
Carbon assessment	No impact anticipated
Other environment	Will have positive environmental impact through effective control over pollution of groundwater
Health impact assessment	Controlling groundwater pollution may have positive impacts for public health
Race equality	No impacts anticipated
Disability equality	No impacts anticipated
Gender equality	No impacts anticipated
Human rights	No impacts anticipated
Rural proofing	Agriculture is one of the main sectors affected by the proposals, but impacts will be minimised through use of a risk-based approach and light-touch regulation

Specific Impact Tests: Checklist

Use the table below to demonstrate how broadly you have considered the potential impacts of your policy options.

Ensure that the results of any tests that impact on the costs-benefit analysis are contained within the main evidence base; other results may be annexed.

Type of testing undertaken	Results in Evidence Base?	Results annexed?
Competition Assessment	Yes	No
Small Firms Impact Test	Yes	No
Legal Aid	Yes	No
Sustainable Development	Yes	No
Carbon Assessment	Yes	No
Other Environment	Yes	No
Health Impact Assessment	Yes	No
Race Equality	Yes	No
Disability Equality	Yes	No
Gender Equality	Yes	No
Human Rights	Yes	No
Rural Proofing	Yes	No

ANNEX III

Keyed 16 June 2009
John Lavery

STATUTORY INSTRUMENTS

2009 No.

ENVIRONMENTAL PROTECTION, ENGLAND AND WALES

Pollution Prevention and Control (Designation of Directives) (England and Wales) Order 2009

Made - - - -	***
Coming into force - -	*19th June 2009*

The Secretary of State, in relation to England, and the Welsh Ministers, in relation to Wales, make this Order in exercise of the powers conferred by paragraph 20(2)(c) of Schedule 1 to the Pollution Prevention and Control Act 1999([5]).

Citation, commencement and extent

1.—(1) This Order may be cited as the Pollution Prevention and Control (Designation of Directives) (England and Wales) Order 2009; it extends to England and Wales and comes into force on 19th June 2009.

(2) In this article—

(a) England and Wales includes the sea adjacent to England and Wales out as far as the seaward boundary of the territorial sea; and

(b) the sea adjacent to Wales has the same meaning as in section 158 of the Government of Wales Act 2006([6]).

Designation

2. The following Directives are designated as relevant directives for the purposes of paragraph 20(2)(c) of Schedule 1 to the Pollution Prevention and Control Act 1999—

([5]) 1999 c. 24. Functions of the Secretary of State under section 2 (except in relation to offshore oil and gas exploration and exploitation), so far as exercisable in relation to Wales, were transferred to the National Assembly for Wales by article 3 of S.I. 2005/1958. Those functions were then transferred to the Welsh Ministers by paragraph 30 of Schedule 11 to the Government of Wales Act 2006 (c. 32).

([6]) 2006 c.32 ("the Act"); the boundary between the sea adjacent to Wales and that adjacent to England is described by article 6 of and Schedule 3 to the National Assembly for Wales (Transfer of Functions) Order 1999 (S.I. 1999/672). By virtue of paragraph 26 of Schedule 11 to the Act, S.I. 1999/672 continues to have effect.

(a) Directive 2000/60/EC of the European Parliament and of the Council (establishing a framework for Community action in the field of water policy([7])), and

(b) Directive 2006/118/EC of the European Parliament and of the Council (on the protection of groundwater against pollution and deterioration(**8**)).

Name
Parliamentary Under Secretary of State
Date Department for Environment, Food and Rural Affairs

Name
Date One of the Welsh Ministers

EXPLANATORY NOTE

(This note is not part of the Order)

This Order designates Directive 2000/60/EC of the European Parliament and of the Council (establishing a framework for Community action in the field of water policy) and Directive 2006/118/EC of the European Parliament and of the Council (on the protection of groundwater against pollution and deterioration) as relevant directives for the purposes of paragraph 20(2)(c) of Schedule 1 to the Pollution Prevention and Control Act 1999. This Order extends to England and Wales.

A full impact assessment has not been produced for this instrument as no impact on the public, private or voluntary sectors is foreseen.

([7]) OJ No L327, 22.12.2000, p. 1 as last amended by Directive 2008/105/EC of the European Parliament and of the Council (OJ No L 348, 24.12.2008, p. 84).

([8]) OJ No. L372, 27.12.2006, p. 19.