



STATUTORY INSTRUMENTS.

**S.I. No. 9 of 2010**

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EUROPEAN COMMUNITIES ENVIRONMENTAL OBJECTIVES  
(GROUNDWATER) REGULATIONS, 2010

**(Prn. A10/0091)**

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I, JOHN GORMLEY, Minister for the Environment, Heritage and Local Government, in exercise of the powers conferred on me by section 3 of the European Communities Act 1972 (No. 27 of 1972), consider it necessary for the purpose of giving further effect to Directive 2000/60/EC<sup>1</sup> of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy and giving effect to Directive 2006/118/EC<sup>2</sup> of the European Parliament and of the Council of 12 December 2006 on the protection of groundwater against pollution and deterioration to make provision for offences under the following Regulations to be prosecuted on indictment:

AND WHEREAS, I consider that it is necessary, having regard to section 3(3) of the Act of 1972, and for the purpose of ensuring that penalties in respect of an offence prosecuted in that manner under the following Regulations are effective, proportionate and have a deterrent effect, having regard to the acts or omissions of which the offence consists, to make such provisions in the following Regulations:

NOW THEREFORE, I JOHN GORMLEY, Minister for the Environment, Heritage and Local Government, in exercise of the powers conferred on me by section 3 of the European Communities Act 1972 (No. 27 of 1972) as amended by the European Communities Act 2007 (S.I. No. 18 of 2007) and for the purpose of giving further effect to Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy and giving effect to Directive 2006/118/EC of the European Parliament and of the Council of 12 December 2006 on the protection of groundwater against pollution and deterioration hereby make the following Regulations:

**PART I**

**PURPOSE AND INTERPRETATION**

***Citation and commencement***

1. (a) These Regulations may be cited as the European Communities Environmental Objectives (Groundwater) Regulations 2010;
- (b) These Regulations shall come into operation on 27th January 2010.

<sup>1</sup> OJ No. L. 327, 22.12.2000, p.1.

<sup>2</sup> OJ No. L. 372, 27.12.2006, p.19.

*Notice of the making of this Statutory Instrument was published in  
"Iris Oifigiúil" of 22nd January, 2010.*

***Purpose and scope of the Regulations***

2. These Regulations are made to give effect to the measures needed to achieve the environmental objectives established for groundwater by Article 4(1)(b) of Directive 2000/60/EC of the European Parliament and of the Council (hereinafter known as the Water Framework Directive) and to give effect to the requirements of Directive 2006/118/EC of the European Parliament and of the Council (hereinafter known as the Groundwater Directive), and include the following:

- (i) measures to prevent or limit the input of pollutants into groundwater and to prevent the deterioration of the status of all bodies of groundwater, in accordance with the requirements of Article 4(1)(b)(i) of Directive 2000/60/EC and Article 6 of Directive 2006/118/EC,
- (ii) measures to protect, enhance and restore all bodies of groundwater and to ensure a balance between abstraction and recharge of groundwater, with the aim of achieving good groundwater status by not later than 22 December 2015 in accordance with Article 4(1)(b)(ii) of Directive 2000/60/EC,
- (iii) measures requiring the reversal of any significant and sustained upward trend in the concentration of any pollutant resulting from the impact of human activity in order to progressively reduce pollution of groundwater in accordance with Article 4(1)(b)(iii) of Directive 2000/60/EC,
- (iv) measures for determining: groundwater quantitative status in accordance with section 2.1 of Annex V of Directive 2000/60/EC and groundwater chemical status in accordance with section 2.3 of Annex V of Directive 2000/60/EC,
- (v) measures establishing criteria and procedures for assessing groundwater chemical status in accordance with the requirements of Article 3 and Article 4 of Directive 2006/118/EC,
- (vi) measures establishing procedures for the identification of significant and sustained upward trends and the definition of the starting point for trend reversal in accordance with the requirements of Article 5 of Directive 2006/118/EC,
- (vii) the laying down of rules for the presentation and reporting of groundwater monitoring results, trend assessments and the classification of quantitative status and chemical status of groundwater bodies in accordance with the requirements of Article 15, Annex V and Annex VII of Directive 2000/60/EC and Articles 4 and 5 of Directive 2006/118/EC.

***Interpretation***

3. (1) In these Regulations, save where the context otherwise requires,—

“Act of 1972” means the European Communities Act of 1972 as amended by the European Communities Act 2007;

“Act of 1977” means the Local Government (Water Pollution) Act 1977 as amended by the Local Government (Water Pollution) (Amendment) Act 1990;

“Act of 1992” means the Environmental Protection Agency Act 1992 as amended by the Protection of the Environment Act 2003 and the Water Services Act 2007;

“Act of 1996” means the Waste Management Act 1996 as amended by the Waste Management (Amendment) Act 2001, Part 3 of the Protection of the Environment Act 2003, Part 2 of the Waste Management (Electrical and Electronic Equipment) Regulations 2005 (S.I. No. 290 of 2005), Waste Management (Environmental Levy) (Plastic Bag) Order 2007 (S.I. No. 62 of 2007), Waste Management (Registration of Brokers and Dealers) Regulations 2008 (S.I. No. 113 of 2008) and the Waste Management (Certification of Historic Unlicensed Waste Disposal and Recovery Activity) Regulations 2008 (S.I. No. 524 of 2008);

“Agency” means the Environmental Protection Agency;

“aquifer” means a subsurface layer or layers of rock or other geological strata of sufficient porosity and permeability to allow either a significant flow of groundwater or the abstraction of significant quantities of groundwater;

“available groundwater resource” means the long-term annual average rate of overall recharge of the body of groundwater less the long-term annual rate of flow required to achieve the ecological quality objectives for associated surface waters specified under Article 4 of Directive 2000/60/EC, to avoid any significant diminution in the ecological status of such waters and to avoid any significant damage to associated terrestrial ecosystems;

“background level” means the concentration of a substance or the value of an indicator in a body of groundwater corresponding to no, or only very minor, anthropogenic alterations to undisturbed conditions;

“baseline level” means the average value measured at least during the reference years 2007 and 2008 on the basis of monitoring programmes implemented for the purposes of Regulation 10 of the 2003 Regulations or, in the case of substances identified after these reference years, during the first period for which a representative period of monitoring data is available;

“body of groundwater” means a distinct volume of groundwater within an aquifer or aquifers;

“body of surface water” means a discrete and significant element of surface water such as a lake, reservoir, stream, river or canal, part of a stream, river or canal, a transitional water or a stretch of coastal water;

“co-ordinating local authority” has the same meaning as in the 2003 Regulations;

“Commission” means the Commission of the European Communities;

“Direct discharge to groundwater” means discharge of pollutants into groundwater without percolation throughout the soil or subsoil;

“Directive 80/68/EEC” means Council Directive 80/68/EEC of 17 December 1979 on the protection of groundwater against pollution caused by certain dangerous substances (OJ No. L 20, 26.1.1980);

“Directive 91/414/EEC” means Council Directive 91/414/EEC of 15 July 1991 concerning the placing of plant protection products on the market;

“European site” means—

- (a) a site (until the adoption, in respect of the site, of a decision by the European Commission under Article 21 of Council Directive 92/43/EEC for the purposes of the third paragraph of Article 4(2) of that Directive)—
  - (i) notified for the purposes of Regulation 4 of the European Communities (Natural Habitats) Regulations (S.I. No. 94 of 1997), subject to any amendments made to it by virtue of Regulation 5 of those Regulations,
  - (ii) details of which have been transmitted to the Commission in accordance with Regulation 5(4) of the said Regulations, or
  - (iii) added by virtue of Regulation 6 of the said Regulations to the list transmitted to the Commission in accordance with Regulation 5(4) of those Regulations,
- (b) a site adopted by the European Commission as a site of Community importance for the purposes of Article 4(2) of Council Directive 92/43/EEC in accordance with the procedures laid down in Article 21 of that Directive,
- (c) a special area of conservation within the meaning of the European Communities (Natural Habitats) Regulations, (S.I. No. 94 of 1997), or
- (d) an area classified pursuant to Article 4(1) or 4(2) of Council Directive 79/409/EEC;

“good groundwater status” means the status achieved by a groundwater body when both its quantitative status and its chemical status are at least good;

“good groundwater chemical status” means the chemical status of a body of groundwater, which meets all the conditions for good chemical status set out in Regulations 39 to 43 of these Regulations;

“good groundwater quantitative status” means the quantitative status of a body of groundwater, which meets all the conditions for good quantitative status set out in Regulations 33 to 36 of these Regulations;

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

“groundwater quality standard” means an environmental quality standard expressed as the concentration of a particular pollutant, group of pollutants or indicator of pollution in groundwater, which should not be exceeded in order to protect human health and the environment;

“hazardous substance” means substances or groups of substances that are toxic, persistent and liable to bio-accumulate and other substances or groups of substances that give rise to an equivalent level of concern;

“indirect discharge to groundwater” means discharge of pollutants into groundwater after percolation throughout the soil or subsoil;

“input of pollutants into groundwater” means the direct or indirect introduction of pollutants into groundwater as a result of human activity;

“Minister” means the Minister for the Environment, Heritage and Local Government unless otherwise indicated;

“pollutant” means any substance liable to cause pollution, in particular those listed in Schedule 2 of these Regulations;

“pollution” means the direct or indirect introduction, as a result of human activity, of substances or heat into the 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;

“protected areas” means areas designated as requiring special protection under specific Community legislation for the protection of their surface water and groundwater or for the conservation of habitats and species of European sites directly dependent on water and listed in the register established by the Agency in accordance with Regulation 8 of the 2003 Regulations;

“public authority” means an authority or State Sponsored Body listed in Schedule 1 of these Regulations;

“quantitative status” is an expression of the degree to which a body of groundwater is affected by direct and indirect abstractions;

“river” means a body of inland water flowing for the most part on the surface of the land but which may flow underground for part of its course;

“river basin district” has the same meaning as in the 2003 Regulations;

“river basin district co-ordinating authorities” means an authority designated as a co-ordinating authority for a river basin district in accordance with Regulation 6 of the 2003 Regulations;

“river basin management plan” means a river basin management plan, made in accordance with Regulation 13 of the 2003 Regulations;

“significant and sustained upward trend” means any statistically and environmentally significant increase of concentration of a pollutant, group of pollutants, or indicator of pollution in groundwater for which trend reversal is identified as being necessary in accordance with Part VI of these Regulations;

“surface water” means inland waters, except groundwater, transitional waters and coastal waters, except in respect of chemical status for which it shall also include territorial waters;

“threshold value” means a groundwater quality standard referred to in Regulation 40(b) of these Regulations;

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

“1999 Regulations” means the Local Government (Water Pollution) (Amendment) Regulations 1999 (S.I. No. 42 of 1999);

“2003 Regulations” means the European Communities (Water Policy) Regulations 2003 (S.I. No. 722 of 2003) as amended;

“2007 Regulations” means the Waste Water Discharge (Authorisation) Regulations 2007 (S.I. No. 684 of 2007);

“2008 Regulations” means the European Communities (Water Policy) (Amendment) Regulations 2008 (S.I. No. 219 of 2008);

“2009 Regulations” means the European Communities (Good Agricultural Practice for the Protection of Waters) Regulations 2009 (S.I. No. 101 of 2009).

(2) A word or expression that is used in these Regulations and is also used in Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 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 of 12 December 2006 on the protection of groundwater against pollution and deterioration has, unless the contrary intention appears, the same meaning in these Regulations as in the Directive concerned.

(3) In these Regulations, unless otherwise identified, a reference to—

(a) a Part is a reference to a Part of these Regulations;

(b) a Regulation is a reference to a Regulation of these Regulations;

- (c) a paragraph or sub-paragraph is a reference to a paragraph or sub-paragraph of the Regulation or paragraph in which the reference occurs;
- (d) a Schedule is a reference to a Schedule of these Regulations.

## **PART II**

### **ENVIRONMENTAL OBJECTIVES FOR GROUNDWATER**

#### ***Duty on Public Authorities***

4. A public authority shall, insofar as its functions allow and subject to any provisions and limitations listed elsewhere in this Part, promote compliance with the requirements of these Regulations and take all reasonable steps including, where necessary, the implementation of programmes of measures, to:

- (a) prevent or limit, as appropriate, the input of pollutants into groundwater and prevent the deterioration of the status of all bodies of groundwater;
- (b) protect, enhance and restore all bodies of groundwater and ensure a balance between abstraction and recharge of groundwater with the aim of achieving good groundwater quantitative status and good groundwater chemical status by not later than 22 December 2015;
- (c) reverse any significant and sustained upward trend in the concentration of any pollutant resulting from the impact of human activity in order to progressively reduce pollution of groundwater;
- (d) achieve compliance with any standards and objectives established for a groundwater dependant protected area included in the register of protected areas established under Regulation 8 of the 2003 Regulations by not later than 22 December 2015, unless otherwise specified in the Community legislation under which the individual protected areas have been established.

5. A public authority shall not, in the performance of its functions, undertake those functions in a manner that knowingly causes or allows deterioration in the quantitative status or chemical status of a body of groundwater.

6. A public authority shall consult, cooperate and liaise with other public authorities within the river basin district and, where appropriate with the relevant competent authorities in Northern Ireland, in such a manner and to such extent as is necessary to ensure compliance with the requirements of these Regulations.

#### ***Prevention and Control of Groundwater Pollution***

7. Point source discharges and diffuse sources liable to cause groundwater pollution shall be controlled so as to prevent or limit the input of pollutants into groundwater.

8. (a) The direct discharge of pollutants into groundwater is prohibited;
- (b) The following discharges may be permitted subject to a requirement for prior authorisation provided such discharges, and the conditions imposed, do not compromise the achievement of the environmental objectives established for the body of groundwater into which the discharge is made;
- (i) 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. Such injections shall not contain substances other than those resulting from the above operations,
  - (ii) reinjection of pumped groundwater from mines and quarries or associated with the construction or maintenance of civil engineering works,
  - (iii) 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,
  - (iv) 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,
  - (v) discharges resulting from construction, civil engineering and building works and similar activities on, or in the ground which come into contact with groundwater. Such activities may be treated as having been authorised provided that they are conducted in accordance with general binding rules which are applicable to such activities,
  - (vi) 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;
- (c) Reinjection of water used for geothermal purposes into the same aquifer may be permitted subject to a requirement for prior authorisation.

9. In order to achieve the objective of preventing and limiting inputs of pollutants into groundwater the following shall apply:

- (a) The input of hazardous substances into groundwater is prohibited;

- (b) The input of non-hazardous substances shall be limited so as to ensure that such inputs do not cause deterioration in groundwater status or cause significant and sustained upward trends in the concentration of pollutants in groundwater;
- (c) For the purpose of establishing measures to meet the requirements of this Regulation, the Agency shall, as a first step, identify and publish a list of substances belonging to the families or groups of pollutants referred to in Schedule 2 which are to be considered hazardous or non-hazardous and which the Agency considers to present an existing or potential risk of pollution. The list of hazardous and non-hazardous substances shall be published in a technical report by 22 June 2010 at the latest and shall set out the basis for the Agency's determination in relation to the substances listed therein;
- (d) For the purpose of identifying hazardous substances the Agency shall take particular account of hazardous substances belonging to the families or groups of pollutants referred to in points 1 to 6 of Schedule 2, as well as of substances belonging to the families or groups of pollutants referred to in points 7 to 9 of Schedule 2, where these are considered to be hazardous;
- (e) The Agency shall, as it considers necessary, periodically review and publish the list of substances considered hazardous or non-hazardous, and shall prepare and make publicly available a technical report setting out the basis for the Agency's determination in relation to the substances listed therein;
- (f) The Agency shall undertake such consultation as it considers necessary for the purpose of identifying a list of hazardous and non-hazardous substances.

10. The Agency may, where it considers it necessary or appropriate, issue advice and/or give directions to a public authority or authorities concerned on the measures to be taken to prevent and limit inputs of pollutants into groundwater.

11. The Agency may, where it considers it necessary or appropriate:

- (a) review, or cause to have reviewed, existing codes of practice including other such mechanisms and controls already in place for the purpose of preventing or limiting the input of pollutants into groundwater;
- (b) identify such other areas and/or activities requiring the introduction of similar type controls so as to prevent or limit the input of pollutants into groundwater;
- (c) direct a public authority to undertake a review and, where necessary, update a code of practice, or in the case of sub-paragraph (b), prepare a new code of practice or system of control for the activity in question;

a public authority so directed shall comply with the direction given by the Agency within the timeframe prescribed.

For the purpose of this Regulation, the Agency shall ensure that inputs of pollutants from diffuse sources of pollution having an impact on groundwater chemical status are taken into account whenever technically possible.

***Review of existing authorisations allowing pollutant inputs to groundwater***

12. A public authority shall as soon as may be practicable, and not later than 22 December 2012:

- (a) examine the terms of every authorisation granted by it allowing the input of pollutants into groundwater and for the time being in force and determine whether, having regard to the requirements of these Regulations, the authorisation requires to be reviewed;
- (b) if the authorisation or revised authorisation requires to be so reviewed, complete such a review by not later than 22 December 2012, or;
- (c) if the authorisation or revised authorisation does not require to be so reviewed and accordingly, that no further action is required, declare in writing that this is the case.

13. A public authority shall from time to time carry out such further examination, and where necessary review, of authorisations as may be necessary to comply with the requirements of these Regulations.

***Categories of exempted pollutant inputs***

14. The Agency may, where it considers it appropriate or necessary, establish detailed technical rules under which the following categories of pollutant inputs may be exempted from the provisions of this Part:

- (a) inputs that are the result of direct discharges authorised in accordance with Regulation 8;
- (b) inputs considered to be of a quantity and concentration so small as to obviate any present or future danger of deterioration in the quality of the receiving groundwater;
- (c) inputs that are the consequences of accidents or exceptional circumstances of natural cause that could not reasonably have been foreseen, avoided or mitigated;
- (d) inputs that are the result of artificial recharge or augmentation of bodies of groundwater authorised in accordance with Article 11(3)(f) of Directive 2000/60/EC;
- (e) inputs considered incapable, for technical reasons, 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; or
- (f) inputs that are 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, including at international level. Such activities, including cutting, dredging, relocation and deposition of sediments in surface water, shall be conducted in accordance with general binding rules, and, where applicable, with permits and authorisations issued on the basis of such rules, developed by the relevant authority for that purpose, provided that such inputs do not compromise the achievement of the environmental objectives established for the water bodies concerned.

The exemptions provided for in points (a) to (f) may be used only where the Agency is satisfied that adequate 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.

Where the Agency establishes detailed technical rules for identifying pollutant inputs exempted from the provisions of this Part, it shall undertake such consultation as it considers necessary for this purpose.

The Agency shall prepare and make publicly available a technical report setting out the detailed technical rules for identifying pollutant inputs exempted from the provisions of this Part. The Agency shall also, as it considers necessary, periodically review and if necessary, revise these rules. Where the rules are revised they shall be made publicly available in a technical report.

15. The Agency shall keep an inventory of the exemptions referred to in Regulation 14 for the purpose of notification, upon request, to the Minister, the Commission or any other person making such a request. For this purpose the Agency may direct a public authority to provide information in relation to the location and nature of inputs of pollutants, and any other information, which it considers necessary. The relevant public authority, shall take the steps necessary to provide the information requested by the Agency. The information shall be provided to the Agency in a timely manner.

#### ***Extended deadlines***

16. The deadline established under Regulation 4(b) for the restoration of bodies of groundwater may be extended for the purpose of the phased achievement of good status provided that no deterioration occurs in the status of the affected body of water and all of the following conditions are met:

- (a) it is demonstrated that the required improvements in status cannot reasonably be achieved within the timescales set out in Regulation 4(b) for at least one of the following reasons:

- (i) the scale of improvements can only be achieved in phases exceeding the timescale for reasons of technical feasibility,
  - (ii) completing the improvements within the timescale would be disproportionately expensive,
  - (iii) natural conditions do not allow timely improvements in the status of the body of water;
- (b) extension of the deadline, and the reasons for it, are set out and explained in the relevant river basin management plan prepared for the purposes of Regulation 13 of the 2003 Regulations;
  - (c) extensions shall be limited to a maximum of two further updates of the river basin management plan except in cases where the natural conditions are such that the objectives cannot be achieved within this period;
  - (d) a summary of the measures envisaged as necessary to bring the bodies of water progressively to the required status by the extended deadline, the reasons for any significant delay in making these measures operational, and the expected timetable for their implementation are set out in the river basin management plan. A review of the implementation of these measures and a summary of any additional measures shall be included in updates of the river basin management plan.

***Less stringent environmental objectives***

17. Less stringent environmental objectives may be applied in the case of groundwater bodies where the water bodies are so affected by human activity, as determined by the analysis of the characteristics of the river basin prepared for the purposes of Regulation 7 of the 2003 Regulations, or their natural condition is such that the achievement of the prescribed quality objectives would be unfeasible or disproportionately expensive, and the following conditions are met:

- (a) the environmental and socio-economic needs served by such human activity cannot be achieved by other means, which are a significantly better environmental option not entailing disproportionate costs;
- (b) the highest chemical and/or quantitative status possible is achieved in relation to any individual groundwater body, given impacts that could not reasonably have been avoided due to the nature of the human activity or pollution;
- (c) no further deterioration occurs in the status of the affected body of water;
- (d) the establishment of less stringent environmental objectives, and the reasons for it, are specifically mentioned in the river basin management plan referred to in Regulation 13 of the 2003 Regulations, and those objectives are reviewed every six years.

***Temporary deterioration in groundwater status***

18. Temporary deterioration in the status of bodies of groundwater shall not result in failure to meet the environmental objectives set out in these Regulations provided the deterioration is the result of circumstances of natural cause or force majeure which are exceptional and could not reasonably have been foreseen, in particular extreme floods or prolonged droughts or the results of circumstances due to accidents which could not reasonably have been foreseen, provided all of the following conditions are met:

- (a) all practicable steps are taken to prevent further deterioration in status and to protect other water bodies not affected directly by the said circumstances;
- (b) the conditions under which circumstances that are exceptional or could not reasonably have been foreseen are documented in the river basin management plan;
- (c) the measures to be taken under such exceptional circumstances are included in the programme of measures and will not compromise the recovery of the quality of the body of water once the circumstances have ceased;
- (d) the effects of the circumstances are reviewed annually and subject to consideration of scale, technical feasibility, cost and natural conditions, all practicable measures are taken to restore the body of water to the status that obtained prior to the effects of those circumstances as soon as reasonably practicable;
- (e) a summary of the effects of the circumstances and of such measures taken or to be taken to restore the body of water to the status that obtained prior to the effects of those circumstances is included in the next update of the river basin management plan.

***Alterations to groundwater levels***

19. Failure to achieve good groundwater status, or to prevent deterioration in the status of a body of groundwater resulting from alterations to the level of bodies of groundwater, shall not be a breach of these Regulations when all the following conditions are met:

- (a) all practicable steps are taken to mitigate the adverse impact on the status of the body of groundwater;
- (b) the reasons for these alterations are specifically set out and explained in the river basin management plan required under Regulation 13 of the 2003 Regulations and the objectives are reviewed every six years;
- (c) the reasons for these alterations are of overriding public interest and/or the benefits to the environment and to society of achieving the objectives established by Regulation 4 are outweighed by the benefits of the new alterations to human health, to the maintenance of human safety or to sustainable development; and

- (d) the beneficial objectives served by these alterations of the water body cannot for reasons of technical feasibility or disproportionate cost be achieved by other means, which are a significantly better environmental option.

***Application of exemption provisions***

20. Application of the exemption provisions referred to in Regulations 16, 17, 18 and 19 must ensure that:

- (a) achievement of the environmental objectives is not permanently excluded or compromised in other bodies of water within the same river basin district and measures taken are consistent with the implementation of other Community environmental legislation;
- (b) the same level of protection as is afforded by existing Community legislation is guaranteed.

**PART III**

**GENERAL DUTIES ON PUBLIC AUTHORITIES AND OTHER PERSONS UNDER THESE REGULATIONS**

***Prosecution of offences and performance of statutory functions by public authorities***

21. It shall be an offence not to comply with a requirement of these Regulations.

22. A person, public authority, body corporate or unincorporated body guilty of an offence is liable;

- (a) on summary conviction to a fine not exceeding €5,000 or to imprisonment for a term not exceeding 3 months or to both; or
- (b) on conviction on indictment to a fine not exceeding €500,000 or to imprisonment for a term not exceeding 3 years or to both.

23. A prosecution for an offence under these Regulations may be taken by the co-ordinating local authority for the river basin district, the Agency, a Minister of the Government, and, where appropriate, a relevant public authority. A prosecution for an offence may be taken by a local authority within the river basin district whether or not the offence is committed in the functional area of the authority.

***Performance of functions and duties under these Regulations***

24. Where the co-ordinating local authority for the river basin district, the Agency, the Minister, and, where appropriate, a relevant public authority, is of the opinion that a person, public authority or body corporate has failed to comply with a function or duty under these Regulations or has performed that function or duty in an unsatisfactory manner, the co-ordinating local authority, the Agency, the Minister or the relevant public authority, as appropriate, may request a report within a specified period from the person, public authority or

body corporate in relation to the matter and the person, public authority or body corporate shall comply with the request.

25. The co-ordinating local authority, the Agency, the Minister or the relevant public authority, as appropriate, having considered any report of the person, public authority or body corporate may, with a view to ensuring the satisfactory performance of the function or duty in question—

- (a) Issue such advice and recommendations to the person, public authority or body corporate as it considers necessary; or
- (b) Provide, on such terms and conditions as may be agreed, such assistance or support as the co-ordinating local authority, the Agency, the Minister or the relevant public authority considers, in consultation with the person, public authority or body corporate concerned, would be helpful.

26. Where the co-ordinating local authority for the river basin district, the Agency, the Minister or the relevant public authority is of the opinion that the response of the person, public authority or body corporate to advice or recommendations issued or assistance or support offered under Regulation 25 is inadequate for the purpose of complying with a duty or function under these Regulations it may, without prejudice to any powers under any other statute, direct the person, public authority or body corporate to carry out, cause to carry out, or arrange for, such action related to the function or duty in question as the co-ordinating local authority, the Agency, the Minister or the relevant public authority considers necessary within such period as may be specified.

27. Where a person, public authority or body corporate fails without reasonable cause to comply with a direction under Regulation 26, the co-ordinating local authority, the Agency, the Minister or the relevant public authority may carry out, cause to be carried out, or arrange for, such action related to the function or duty in question as it considers necessary to ensure compliance with the direction and the costs of such action may be recovered by the co-ordinating local authority, the Agency, the Minister or the relevant public authority, as appropriate, from the person, public authority or body corporate as a simple contract debt in any court of competent jurisdiction.

#### ***Application to the courts***

28. Where, on application by the co-ordinating local authority for the river basin district, the Agency, a Minister of the Government, or the relevant public authority to the District Court, the Circuit Court or the High Court, the Court is satisfied that a person, public authority or body corporate is not undertaking or does not intend to undertake, its' functions or duties under these Regulations in a manner consistent with the achievement of the environmental objectives established, or with a direction issued by the co-ordinating local authority, the Agency, the Minister or the relevant public authority under Regulation 26, the Court may by order—

- (a) Direct that person, body corporate or public authority to take such steps as are necessary to address the inconsistencies or other matters identified; and
- (b) Make such other provision, including provision in relation to the payment of costs, as the court considers appropriate.

29. An application for an order under Regulation 28 shall be by motion and the court, when considering the matter, may make such interim or interlocutory order as it considers appropriate.

***Powers, duties and functions assigned to public authorities***

30. The powers, duties and functions assigned to a public authority by these Regulations are additional to and not in substitution for, the powers, duties and functions assigned by any other statute.

**PART IV**

**DUTY ON THE ENVIRONMENTAL PROTECTION AGENCY TO CLASSIFY GROUNDWATER BODIES**

31. The Agency shall, by not later than 22 June 2011, classify in accordance with the requirements of Part V each groundwater body identified for the purposes of Regulation 7 of the 2003 Regulations according to its quantitative status and chemical status.

32. The Agency shall—

- (a) provide a map of the resulting assessment of groundwater quantitative status, colour-coded as indicated below:
  - (i) Good: green,
  - (ii) Poor: red,
- (b) provide a map of groundwater chemical status, colour-coded as indicated below:
  - (i) Good: green,
  - (ii) Poor: red,
- (c) indicate by a black dot on the map specified in paragraph (b) above, those groundwater bodies which are subject to a significant and sustained upward trend in the concentrations of any pollutant resulting from the impact of human activity. Reversal of a trend shall be indicated by a blue dot on the map;
- (d) provide, for inclusion in the river basin management plan, a map showing for each groundwater body or groups of groundwater bodies both the quantitative status and the chemical status of that body or group of bodies, colour-coded in accordance with the requirements of

paragraphs (a) and (b) above. The Agency may choose not to provide separate maps under paragraphs (a) and (b) above but shall in that case also provide an indication in accordance with the requirements of paragraph (c) on the map required under this sub-section, of those bodies which are subject to a significant and sustained upward trend in the concentration of any pollutant or any reversal in such a trend;

- (e) prepare the information specified in paragraphs (a) to (d) in a form which is available for introduction into a geographical information system (GIS) and/or the geographical information system of the European Commission (GISCO).

## PART V

### THE ASSESSMENT OF GROUNDWATER QUANTITATIVE STATUS AND CHEMICAL STATUS

#### *The assessment of groundwater quantitative status*

33. The quantitative status of a body or bodies of groundwater shall be assigned by the Agency and shall be based on the characterisation carried out in accordance with Regulation 7 of the 2003 Regulations and Section 2.2 of Annex II to Directive 2000/60/EC and the results of the quantitative monitoring programmes established for the purposes of Regulation 10 of the 2003 Regulations.

34. The Agency may classify a body or a group of bodies of groundwater as being of good quantitative status if it is satisfied, on the basis of Regulation 33, that the body or a group of bodies of groundwater is not at risk of failing to achieve good groundwater quantitative status.

35. Where the Agency is not satisfied that a body or a group of bodies of groundwater can be classified as being of good quantitative status on the basis of the procedure outlined in Regulation 34 then quantitative status shall be assigned on the basis of the procedures outlined in Regulation 36.

36. The Agency shall apply the appropriate test procedures in Schedule 3 to each body or group of bodies of groundwater and shall assign quantitative status on the basis of these test procedures, as follows;

- (a) Where the Agency is satisfied that none of the test conditions for applying any of the test procedures in Schedule 3 are met, then it shall classify a body or a group of bodies of groundwater as being at good quantitative status;
- (b) Where the Agency is satisfied that one or more of the test conditions for applying any of the test procedures in Schedule 3 are met, then it shall carry out an appropriate investigation, in accordance with the relevant test procedures set out in Schedule 3, to determine whether or not the criteria for poor quantitative status are met. On the basis of the appropriate investigation the Agency shall classify a body or a group of bodies of groundwater as follows;

- (i) Where the criteria for poor quantitative status are not met by the appropriate test procedures in Schedule 3, then the Agency shall classify a body or a group of bodies of groundwater as being at good quantitative status,
- (ii) Where the criteria for poor quantitative status are met by one or more of the test procedures in Schedule 3, then the Agency shall classify a body or a group of bodies of groundwater as being at poor quantitative status.

37. To enable the Agency to estimate the long-term annual average rate of abstraction for each groundwater body referred to in Table 4 of Schedule 3, the Agency may direct a person, public authority, body corporate or unincorporated body, as appropriate, to provide information in relation to any groundwater abstraction for which it is responsible. Such information may include the location and rate of abstraction and any other information, which the Agency considers necessary for the purposes of these Regulations. The relevant person, public authority, body corporate or unincorporated body shall take the steps necessary to obtain the information requested by the Agency.

38. To enable the Agency to determine whether the level of groundwater in the groundwater body is such that the available groundwater resource is not exceeded by the long-term annual average rate of abstraction, as required in Table 4 of Schedule 3, the Agency shall monitor levels in the national groundwater level monitoring network established for the purposes of Regulation 10 of the 2003 Regulations and shall keep water balance estimations updated using recharge and abstraction rates for each groundwater body characterised as being at risk of failing to achieve good groundwater quantitative status in accordance with Regulation 7 of the 2003 Regulations.

***The assessment of chemical status***

39. The chemical status of a body or bodies of groundwater shall be assigned by the Agency and shall be based on the characterisation carried out in accordance with Regulation 7 of the 2003 Regulations and Section 2.2 of Annex II to Directive 2000/60/EC and the results of the chemical monitoring programmes established for the purposes of Regulation 10 of the 2003 Regulations.

40. The Agency shall apply the following criteria for the purpose of assessing the chemical status of a body or a group of bodies of groundwater:

- (a) groundwater quality standards for nitrate and active substances in pesticides, as listed in Schedule 4;
- (b) threshold values for pollutants or indicators of pollutants, as listed in Schedule 5 and established in accordance with the rules set out in Schedule 6.

41. The Agency may classify a body or a group of bodies of groundwater as being of good chemical status if it is satisfied, on the basis of Regulation 39, that the body or a group of bodies of groundwater is not at risk of failing to achieve good groundwater chemical status.

42. Where the Agency is not satisfied that a body or a group of bodies of groundwater can be classified as being of good chemical status on the basis of the procedure outlined in Regulation 41 then chemical status shall be assigned on the basis of the procedures outlined in Regulation 43.

43. The Agency shall assign chemical status based on the following procedures:

- (a) Where the values for the groundwater quality standards listed in Schedule 4 and the relevant threshold values listed in Schedule 5 are not exceeded at any monitoring point in a body or group of bodies of groundwater, then the Agency shall classify that body or group of bodies of groundwater as being at good chemical status; or
- (b) Where the value of a groundwater quality standard listed in Schedule 4 or a relevant threshold value listed in Schedule 5 is exceeded at one or more monitoring points in a body or group of bodies of groundwater, then the Agency shall carry out an appropriate investigation, in accordance with the relevant test procedures described in Schedule 7, to determine whether or not the criteria for poor chemical status are met. On the basis of the appropriate investigation the Agency shall classify a body or a group of bodies of groundwater as follows;
  - (i) Where the criteria for poor chemical status are not met by the appropriate test procedures in Schedule 7, then the Agency shall classify a body or a group of bodies of groundwater as being at good chemical status,
  - (ii) Where the criteria for poor chemical status are met by one or more of the test procedures in Schedule 7, then the Agency shall classify a body or a group of bodies of groundwater as being at poor chemical status.

44. If a body of groundwater is classified as being of good chemical status in accordance with Regulation 43(b)(i), the Agency may make recommendations or give directions to the relevant public authorities, in the context of their respective functions, regarding the measures it considers necessary, in accordance with Regulation 12(1)(b) of the 2003 Regulations, to protect aquatic ecosystems, terrestrial ecosystems and human uses of groundwater dependent on the part of the body of groundwater represented by the monitoring point or points at which the value for a groundwater quality standard or the threshold value has been exceeded.

***Interim classification of groundwater bodies for the first river basin planning cycle***

45. For the purpose of the first river basin management plan, and pending full classification of groundwater bodies in accordance with the requirements of Regulations 33 to 36 and Regulations 39 to 43, the Agency shall assign an

interim classification of groundwater quantitative status and groundwater chemical status to each body of groundwater where the Agency is satisfied that it can reliably do so on the basis of available information and/or expert knowledge. The Agency shall:

- (a) as a minimum assign a status of ‘good’ or ‘poor’ to those bodies of groundwater where available data and knowledge allows; and
- (b) assign ‘undetermined status’ to those remaining bodies of groundwater where the Agency is not, by that date, in a position to assign a reliable interim classification due to a lack of data or other reason; and
- (c) periodically review the interim classifications and add to the list of bodies of water so classified as data availability and knowledge improves.

46. In assigning interim status, the Agency shall have regard to all relevant data relating to the body of groundwater in question, including the results of monitoring, the results of analyses undertaken for the purpose of Regulation 7 of the 2003 Regulations as well as monitoring and assessments undertaken in relation to associated surface waters and protected areas.

47. The interim classification of groundwater quantitative status and groundwater chemical status assigned by the Agency in accordance with Regulation 45, shall be a classification of status as if assigned by the Agency in accordance with the procedures set out in Regulations 33 to 36 and Regulations 39 to 43 and shall be deemed so for the purpose of these Regulations.

***Duty on the Environmental Protection Agency to keep threshold values for the assessment of groundwater chemical status updated***

48. (a) The Agency may make recommendations to the Minister to amend the list of threshold values referred to in Schedule 5, where it considers it necessary due to new information on pollutants, groups of pollutants, or indicators of pollution indicating 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 re-inserted, in order to protect human health and the environment;
- (b) Threshold values can be removed from the list when the body of groundwater concerned is no longer at risk from the corresponding pollutants, groups of pollutants or indicators of pollution;
- (c) Any such changes to the list of threshold values shall be reported in the context of the periodic review of the river basin management plans.

49. The Minister shall, if appropriate, on receipt of a recommendation or recommendations from the Agency arising from a requirement under Regulation 48, undertake consultation on the recommendation or recommendations

made by the Agency and shall, as soon as may be practicable, amend these Regulations having regard to the advice given to the Minister by the Agency, the results of such consultation and any representation made by a Minister of Government or any other person or body.

50. (a) When recommending additional threshold values the Agency shall ensure that the proposed threshold values are in accordance with the procedure set out in Part A of Schedule 6 for the pollutants, groups of pollutants and indicators of pollution which, within the territory of Ireland, have been identified as contributing to the characterisation of bodies or groups of bodies of groundwater as being at risk, taking into account at least the list contained in Part B of Schedule 6;

(b) The proposed threshold values applicable to good chemical status shall be based on the protection of the body of groundwater in accordance with the guidelines for establishing threshold values set out in Schedule 6, Part A, points 1, 2 and 3 having particular regard to its impact on, and interrelationship with, associated surface waters and directly dependent terrestrial ecosystems and wetlands and shall *inter alia* take into account human toxicology and ecotoxicology knowledge.

51. The Agency may propose additional threshold values at the national level, at the level of the river basin district or at the level of a body or a group of bodies of groundwater.

52. The Agency shall ensure that, for bodies of groundwater shared with Northern Ireland and for bodies of groundwater within which groundwater flows across the border between Ireland and Northern Ireland, the proposal of additional threshold values is subject to consultation with the relevant authorities in Northern Ireland, in accordance with Regulation 3(1)(c) of the 2003 Regulations.

## PART VI

### THE IDENTIFICATION OF SIGNIFICANT AND SUSTAINED UPWARD TRENDS IN POLLUTION AND THE DEFINITION OF STARTING POINTS FOR TREND REVERSAL

53. The Agency shall identify any significant and sustained upward trend in concentrations of pollutants, groups of pollutants or indicators of pollution found in bodies or groups of bodies of groundwater identified as being at risk of failing to achieve good groundwater chemical status in accordance with Regulation 7 of the 2003 Regulations on the basis of the results obtained from the chemical monitoring programmes established for the purposes of Regulation 10 of the 2003 Regulations. The Agency shall define the starting point for reversing that trend, in accordance with the procedures set out in Schedule 8.

54. The Agency may issue a direction to a public authority or authorities concerned, where it considers it necessary, on the measures to be taken to reverse upward pollution trends where the trend presents a significant risk of

harm to the quality of aquatic ecosystems or terrestrial ecosystems, to human health, or to actual or potential legitimate uses of the water environment. Trend reversal shall be in accordance with Schedule 8, Part B.

55. The Agency shall define the starting point for trend reversal as a percentage of the level of the groundwater quality standards set out in Schedule 4 and of the threshold values set out in Schedule 5, on the basis of the identified trend and the environmental risk associated therewith, in accordance with the criteria set out in Schedule 8, Part B, point 1.

56. Where necessary to assess the impact of existing plumes of pollution in bodies of groundwater that may threaten the achievement of the objectives in Article 4 of Directive 2000/60/EC, and in particular, those plumes resulting from point sources and contaminated land, the Agency shall carry out, or shall cause to have carried out, additional trend assessments for identified pollutants in order to verify that plumes from contaminated sites do not expand, do not cause the chemical status of the body or group of bodies of groundwater to deteriorate, and do not present a risk for human health and the environment.

57. For the purpose of undertaking a trend assessment of existing plumes of pollution referred to in Regulation 56 the Agency may direct a person, public authority, body corporate or unincorporated body, as appropriate, to provide the appropriate additional chemical monitoring within a groundwater body. The direction may specify the location of sampling points, the frequency of sampling, the parameters to be monitored and any other conditions that the Agency considers necessary for the purposes of Regulation 56. The relevant person, public authority, body corporate or unincorporated body shall take the steps necessary to provide the additional monitoring requested by the Agency. The results from the additional monitoring shall be provided to the Agency in a timely manner.

## **PART VII**

### **REPORT TO BE PREPARED BY THE ENVIRONMENTAL PROTECTION AGENCY AND INFORMATION TO BE CONTAINED IN RIVER BASIN MANAGEMENT PLAN**

#### *Report to be prepared by the Environmental Protection Agency*

58. The Agency shall prepare and publish a detailed technical report containing the following;

- (a) The methods and procedures used to assign groundwater quantitative status referred to in Regulations 33 to 36,
- (b) The methods and procedures used to assign groundwater chemical status referred to in Regulations 39 to 43,
- (c) All threshold values established for all bodies or groups of bodies of groundwater together with a summary of the information regarding the relevant pollutants and their indicators as set out in Schedule 6, Part C of these Regulations,

- (d) The methods and procedures used to identify those bodies which are subject to a significant and sustained upward trend in concentration of any pollutant or which are showing a reversal of that trend in accordance with Regulation 32(d) and how trend assessment from individual monitoring points within a body or a group of bodies of groundwater has contributed to this identification,
- (e) The reasons for the starting points for pollution trend reversal which have been defined pursuant to Regulation 55,
- (f) Where undertaken by the Agency and other parties in accordance with Regulation 57, the results of the additional monitoring and trend assessments for identified pollutants used to verify that plumes from contaminated sites do not expand, do not cause the chemical status of the body or group of bodies of groundwater to deteriorate and do not present a risk to human health and the environment.

The technical report shall be published by the Agency as a background document supporting the river basin management plans to be submitted in accordance with Regulation 13 of the 2003 Regulations and shall be submitted to the Minister and the coordinating local authority of each River Basin District.

***Information to be contained in river basin management plan***

59. The coordinating authorities shall include the following in the river basin management plans to be submitted in accordance with Regulation 13 of the 2003 Regulations:

- (a) A summary of the assessment of groundwater quantitative status referred to in Regulations 33 to 36;
- (b) A summary of the assessment of groundwater chemical status referred to in Regulations 39 to 43. This summary, established at the level of the river basin district or the part of the international river basin district falling within the territory of Ireland, shall also include an explanation as to the manner in which exceedances of groundwater quality standards or threshold values at individual monitoring points have been taken into account in the final assessment;
- (c) A summary of;
  - (i) the way in which the trend assessment from individual monitoring points within a body or a group of bodies of groundwater has contributed to identifying, in accordance with Regulation 32 (d), those bodies that are subject to a significant and sustained upward trend in concentration of any pollutant or a reversal of that trend, and
  - (ii) the reasons for the starting points defined pursuant to Regulation 55;

- (d) Where undertaken by the Agency and other parties in accordance with Regulation 57, the results of the additional monitoring and trend assessments for identified pollutants used to verify that plumes from contaminated sites do not expand, do not cause the chemical status of the body or group of bodies of groundwater to deteriorate and do not present a risk to human health and the environment.

## **PART VIII**

### **MISCELLANEOUS PROVISIONS**

#### ***Transitional provisions***

60. In the period between the coming into operation of these Regulations and 22 December 2013, any new authorisation procedure pursuant to Articles 4 and 5 of Directive 80/68/EEC, in particular; authorisations granted under the Act of 1992, the Act of 1996, the Local Government (Water Pollution) Acts 1977 to 1990 made for such purpose under the European Communities Act of 1972 and the 2007 Regulations shall take into account the criteria for assessing groundwater chemical status set out in Regulation 40 of these Regulations, the procedure for assessing groundwater chemical status set out in Regulations 39 to 43 of these Regulations and the procedures for identifying significant and sustained upward trends in pollution and defining the starting points for trend reversals set out in Part VI of these Regulations.

#### ***Revocation***

61. With effect from 22 December 2013, the Local Government (Water Pollution) (Amendment) Regulations 1999 (S.I. No. 42 of 1999) are revoked.

## SCHEDULE 1

### *Relevant public authorities*

The public authorities to which these Regulations apply are—

The Environmental Protection Agency  
The relevant local authorities  
The regional authorities in the area  
The regional fisheries boards in the area  
The Geological Survey of Ireland  
Teagasc  
The National Roads Authority  
The Radiological Protection Institute of Ireland  
The Central Fisheries Board  
The Electricity Supply Board  
The Commission for Energy Regulation  
Port and Harbour Authorities including Port companies established under the 1996 Harbours Act  
The Dublin Docklands Development Authority  
Waterways Ireland  
An Bord Pleanála  
Bord Na Móna  
Coillte  
The Health and Safety Authority  
The Commissioners of Public Works  
The Minister for Agriculture, Fisheries and Food  
The Minister for Communications, Energy and Natural Resources  
The Minister for Enterprise, Trade and Employment  
The Minister for Environment, Heritage and Local Government  
The Minister for Transport

**SCHEDULE 2*****Indicative list of the main pollutants***

1. Organohalogen compounds and substances, which may form such compounds in the aquatic environment.
2. Organophosphorous compounds.
3. Organotin compounds.
4. 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.
5. Persistent hydrocarbons and persistent and bioaccumulable organic toxic substances.
6. Cyanides.
7. Metals and their compounds.
8. Arsenic and its compounds.
9. Biocides and plant protection products.
10. Materials in suspension.
11. Substances, which contribute to eutrophication (in particular, nitrates and phosphates).
12. Substances, which have an unfavourable influence on the oxygen balance (and can be measured using parameters such as BOD, COD, etc.).

### SCHEDULE 3

#### *Test procedures for assigning quantitative status to groundwater bodies*

The following four tests shall be applied, where applicable, to assess groundwater body quantitative status; these are summarised below.

#### **Table 1: Assessment for the presence of saline or other intrusions (test 1)**

This is a common assessment for groundwater chemical status and groundwater quantitative status.

Conditions for applying test	Criteria for poor groundwater quantitative status
Failure of a threshold value indicative of a risk of saline intrusion; or  Indications of a significant risk of other intrusions	(a) Significant and sustained upward trends in electrical conductivity indicating saline intrusion;  (b) Significant or sustained upward trend in the concentration of indicators of the risk of other intrusions; or  (c) Evidence that abstractions have been rendered unsuitable for use without additional treatment as a result of an intrusion.

#### **Table 2: Assessment of adverse impacts of groundwater abstraction on associated surface water bodies (test 2)**

Conditions for applying test	Criteria for poor groundwater quantitative status
A river flow standard that is required to achieve 'good status' is failed in an associated surface water body and there is reason to suspect that groundwater abstractions may be contributing to the failure	(a) An applicable river flow standard for 'good status' is failed in an associated river water body; and  (b) The total volume of groundwater abstractions in the surface water catchment associated with the failing river are greater than 50% of the required surface water flow standard.

**Table 3: Assessment of adverse impacts of groundwater abstraction on groundwater dependent terrestrial ecosystems (wetlands) included in the register of protected areas established under Regulation 8 of the 2003 Regulations (test 3)**

Conditions for applying test	Criteria for poor groundwater quantitative status
Indications of significant damage to a wetland, included in the register of protected areas established under Regulation 8 of the 2003 Regulations, resulting from insufficient water availability where alterations to groundwater levels are suspected to be the major cause of the insufficient water availability	There is evidence of significant damage to a wetland, included in the register of protected areas established under Regulation 8 of the 2003 Regulations, caused by insufficient water availability and the major reason for the insufficient water availability is judged to be alterations to groundwater levels resulting from human activities.

**Table 4: Assessment of water balance in a groundwater body (test 4)**

Conditions for applying test	Criteria for poor groundwater quantitative status
Apply to all bodies where there are groundwater abstractions	<p>(a) The long-term annual average volume of water abstracted from the groundwater represents more than 80% of the long-term annual volume of recharge (i.e. water that replenishes the groundwater); or</p> <p>(b) The long-term annual average volume of water abstracted from the groundwater represents more than 20% of the long-term annual volume of recharge in bedrock groundwater bodies (30% in gravel bodies) and there is evidence of a long-term drop in groundwater levels in the body of groundwater; or</p> <p>(c) A Groundwater dependent terrestrial ecosystem (GWDTE), included in the register of protected areas established under Regulation 8 of the 2003 Regulations, is damaged and the long-term annual average volume of water abstracted from the groundwater represents more than 5% of the long-term annual volume of recharge in the groundwater body containing the GWDTE and there is evidence of a long-term drop in groundwater levels in the groundwater body.</p>

## SCHEDULE 4

### *Groundwater Quality Standards*

1. For the purposes of assessing groundwater chemical status in accordance with Regulations 39 to 43, the following groundwater quality standards will be the quality standards referred to in Regulation 40(a) and established in accordance with Article 17 of Directive 2000/60/EC.

Pollutant	Quality standards
Nitrates	50 mg/l
Active substances in pesticides, including their relevant metabolites, degradation and reaction products <sup>(1)</sup>	0.1 µg/l 0.5 µg/l (total) <sup>(2)</sup>
<sup>(1)</sup> 'Pesticides' means plant protection products and biocidal products as defined in Article 2 of Directive 91/414/EEC and in Article 2 of Directive 98/8/EC, respectively. <sup>(2)</sup> 'Total' means the sum of all individual pesticides detected and quantified in the monitoring procedure, including their relevant metabolites, degradation and reaction products.	

2. The results of the application of the quality standards for pesticides in the manner specified for the purposes of this Directive will be without prejudice to the results of the risk assessment procedures required by Directive 91/414/EEC or Directive 98/8/EC.

3. Where, for a given body of groundwater, it is considered that the groundwater quality standards could result in failure to achieve the environmental objectives specified in the Article 4 of Directive 2000/60/EC, for associated bodies of surface water, or in any significant diminution of the ecological or chemical quality of such bodies, or in any significant damage to terrestrial ecosystems which depend directly on the body of groundwater, more stringent threshold values will be established by the Agency in accordance with Regulations 48 to 52 of these Regulations. Programmes and measures required in relation to such a threshold value will also apply to activities falling within the scope of the 2009 Regulations.

## SCHEDULE 5

### *Groundwater Threshold Values*

Parameter	Units	Threshold Values for Chemical Status Tests <sup>1</sup>				Overall Threshold Value Range
		Column 1	Column 2	Column 3 <sup>2</sup>	Column 4 <sup>3</sup>	
		Test: Assessment for the presence of saline or other intrusions.	Test: Assessment of adverse impacts of chemical inputs from groundwater on associated surface water bodies	Test: Assessment of whether groundwater intended for human consumption in drinking water protected areas is impacted by pollutants and/or is showing a significant and sustained rise in pollutant levels.	Test: Assessment of the general quality of groundwater in a groundwater body in terms of whether its ability to support human uses has been significantly impaired by pollution.	
<b>Inorganic &amp; Metals</b>						
Electrical Conductivity	µS/cm	800	-	1875	-	800 — 1875
Molybdate Reactive Phosphorus	µg/l P	-	35	-	-	35
Ammonium	µg/l N	-	65	175	175	65 — 175
Nitrite	µg/l NO <sub>2</sub>	-	-	375	-	375
Nitrate	mg/l NO <sub>3</sub>	-	-	37.5	37.5	37.5
Chloride	mg/l Cl	24	-	187.5	-	24 — 187.5
Sulphate	mg/l SO <sub>4</sub>	-	-	187.5	187.5	187.5
Sodium	mg/l Na	-	-	150	-	150
Boron	µg/l B	-	-	750	750	750
Chromium	µg/l Cr	-	-	-	37.5	37.5
Arsenic	µg/l As	-	-	-	7.5	7.5
Lead	µg/l Pb	-	-	-	18.75	18.75
Nickel	µg/l Ni	-	-	-	15	15
Mercury	µg/l Hg	-	-	-	0.75	0.75
Cadmium	µg/l Cd	-	-	-	3.75	3.75
Copper	µg/l Cu	-	-	-	1500	1500
Aluminium	µg/l Al	-	-	-	150	150
Cyanide	µg/l Cn	-	-	-	37.5	37.5
<b>Pesticides</b>						
Atrazine	µg/l	-	-	0.075	0.075	0.075

Simazine	µg/l	-	-	0.075	0.075	0.075
MCPA	µg/l	-	-	0.075	0.075	0.075
Lindane	µg/l	-	-	0.075	0.075	0.075
Diuron	µg/l	-	-	0.075	0.075	0.075
4,4 — DDT	µg/l	-	-	0.075	0.075	0.075
Dieldrin	µg/l	-	-	0.075	0.075	0.075
Cypermethrin	µg/l	-	-	0.075	0.075	0.075
Bentazone	µg/l	-	-	0.075	0.075	0.075
Glyphosate	µg/l	-	-	0.075	0.075	0.075
Chlortoluron	µg/l	-	-	0.075	0.075	0.075
Mecoprop	µg/l	-	-	0.075	0.075	0.075
Isoproturon	µg/l	-	-	0.075	0.075	0.075
2,4 Dichlorophenoxyacetic acid	µg/l	-	-	0.075	0.075	0.075
Total Pesticides	µg/l	-	-	0.375	0.375	0.375
<b>Organics</b>						
1,2-Dichloroethane	µg/l	-	-	-	2.25	2.25
Vinyl Chloride	µg/l	-	-	-	0.375	0.375
Total Tetrachloroethene & Trichloroethene	µg/l	-	-	-	7.5	7.5
Benzene	µg/l	-	-	-	0.75	0.75
Benzo(alpha)pyrene	ng/l	-	-	-	7.5	7.5
Total Polycyclic Aromatic Hydrocarbons	µg/l	-	-	-	0.075	0.075
Total Trihalomethanes	µg/l	-	-	-	75	75

**Notes**

<sup>1</sup> “Threshold values” have been established for pollutants that are causing a risk to groundwater bodies. Exceedance of a relevant threshold value at a representative monitoring point triggers further investigation to confirm whether the criteria for poor groundwater chemical status are being met. If the criteria for poor chemical status are being met by one or more of the test procedures in Schedule 7, then a body or a group of bodies of groundwater is classified as being at poor chemical status.

Threshold values are expressed as annual arithmetic mean concentrations.

<sup>2</sup> For the drinking water test, further investigation includes an assessment of significant and sustained upward trends in concentration of the relevant pollutant at the monitoring point.

<sup>3</sup> For the general chemical test, further investigation includes the aggregation of data from a representative group of monitoring points, comparison of the aggregated annual arithmetic mean concentration of the relevant pollutant with the threshold value and confirmation of significant impairment of the groundwater body’s ability to support human uses.

**SCHEDULE 6*****Rules for establishing threshold values for groundwater pollutants and indicators of pollution****Part A***Guidelines for the establishment of threshold values by Member States in accordance with Regulations 48 to 52 of these Regulations**

Where the Agency identifies additional pollutants and indicators of pollution which, pursuant to the characterisation performed in accordance with Article 5 of Directive 2000/60/EC, characterise bodies or groups of bodies of groundwater as being at risk of failing to achieve good groundwater chemical status, the Agency will establish additional threshold values for those additional pollutants and indicators of pollution.

Threshold values will be established in such a way that, should the monitoring results at a representative monitoring point exceed the thresholds, this will indicate a risk that one or more of the conditions for good groundwater chemical status referred to in Article 4(2)(c)(ii), (iii) and (iv) of Directive 2006/118/EC are not being met.

When establishing threshold values, the Agency will consider the following guidelines:

- 1) the determination of threshold values should be based on:
  - (a) the extent of interactions between groundwater and associated aquatic and dependent terrestrial ecosystems;
  - (b) the interference with actual or potential legitimate uses or functions of groundwater;
  - (c) all pollutants which characterise bodies of groundwater as being at risk, taking into account the minimum list set out in Part B;
  - (d) hydro-geological characteristics including information on background levels and water balance.
- 2) the determination of threshold values should also take account of the origins of the pollutants, their possible natural occurrence, their toxicology and dispersion tendency, their persistence and their bioaccumulation potential.
- 3) wherever elevated background levels of substances or ions or their indicators occur due to natural hydro-geological reasons, these background levels in the relevant body of groundwater shall be taken into account when establishing threshold values.

4) the determination of threshold values should be supported by a control mechanism for the data collected, based on an evaluation of data quality, analytical considerations, and background levels for substances which may occur both naturally and as a result of human activities.

*Part B*

**Minimum list of pollutants and their indicators for which the Agency must consider when establishing threshold values in accordance with Regulations 48 to 52 of these Regulations**

1) Substances or ions or indicators which may occur both naturally and/or as a result of human activities:

Arsenic  
Cadmium  
Lead  
Mercury  
Ammonium  
Chloride  
Sulphate

2) Man-made synthetic substances:

Trichloroethylene  
Tetrachloroethylene

3) Parameters indicative of saline or other intrusions <sup>(1)</sup>:

Conductivity

*Part C*

**Information to be provided by the Agency with regard to the pollutants and their indicators for which threshold values have been established**

The Agency shall provide to the Minister and the coordinating local authority of each river basin district a summary of the way the procedure set out in Part A of this Schedule has been followed for inclusion in the river basin management plans to be submitted in accordance with Regulation 13 of the 2003 Regulations.

In particular, the Agency will provide, where feasible:

(a) information on the number of bodies or groups of bodies of groundwater characterised as being at risk and on the pollutants and indicators of pollution which contribute to this classification, including the observed concentrations/values;

<sup>1</sup> With regard to saline concentrations resulting from human activities, the Agency may decide to establish threshold values either for sulphate and chloride or for conductivity.

(b) information on each of the bodies of groundwater characterised as being at risk, in particular the size of the bodies, the relationship between the bodies of groundwater and the associated surface waters and directly dependent terrestrial ecosystems, and, in the case of naturally-occurring substances, the natural background levels in the bodies of groundwater;

(c) the threshold values, whether they apply at the national level, at the level of the river basin district or the part of the international river basin district falling within the territory of Ireland, or at the level of a body or a group of bodies of groundwater;

(d) the relationship between the threshold values and:

(i) in the case of naturally-occurring substances, the observed background levels,

(ii) the environmental quality objectives and other standards for water protection that exist at national, Community or international level, and

(iii) any relevant information concerning the toxicology, ecotoxicology, persistence, bioaccumulation potential, and dispersion tendency of the pollutants.

## SCHEDULE 7

### *Test procedures for assigning chemical status to groundwater bodies*

The following five tests shall be applied, where applicable, to assess groundwater body chemical status; these are summarised below.

**Table 1: Assessment for the presence of saline or other intrusions (test 1)**

This is a common assessment for groundwater chemical status and groundwater quantitative status.

Conditions for applying test	Criteria for poor groundwater chemical status
Failure of a threshold value indicative of a risk of saline intrusion; or  Indications of a significant risk of other intrusions	(a) Significant and sustained upward trends in electrical conductivity indicating saline intrusion;  (b) Significant or sustained upward trend in the concentration of indicators of the risk of other intrusions; or  (c) Evidence that abstractions have been rendered unsuitable for use without additional treatment as a result of an intrusion.

**Table 2: Assessment of adverse impacts of the chemical inputs from groundwater on associated surface water bodies (test 2)**

Conditions for applying test	Criteria for poor groundwater chemical status
Failure of a groundwater threshold value that is indicative of a potential adverse impact on associated surface waters; or an associated surface body is at less than good status and there is reason to suspect that inputs of pollutants <i>via</i> groundwater are contributing to the failure	(a) An applicable chemical or physicochemical standard for 'good status' is failed in an associated surface water body; and  (b) The inputs <i>via</i> groundwater contribute greater than 50% of the surface water standard in the surface water body

**Table 3: Assessment of adverse impacts of groundwater on groundwater dependent terrestrial ecosystems (wetlands) included in the register of protected areas established under Regulation 8 of the 2003 Regulations (test 3)**

Conditions for applying test	Criteria for poor groundwater chemical status
Indications of significant damage to a wetland included in the register of protected areas established under Regulation 8 of the 2003 Regulations resulting from pollution where the source of pollution is suspected to be from groundwater.	There is evidence of significant damage to a wetland included in the register of protected areas established under Regulation 8 of the 2003 Regulations caused by pollution and the pollutants responsible for that damage are judged to have reached the wetland <i>via</i> groundwater.

**Table 4: Assessment of whether the quality of untreated groundwater satisfies the drinking water protected areas requirements (test 4)**

Conditions for applying test	Criteria for poor groundwater chemical status
<p>Failure of a threshold value indicative of potential risks to abstractions for human consumption;</p> <p>Indications of a risk of failure of the drinking water protected area objective for the water body</p>	<p>(a) An applicable chemical or physicochemical threshold value has been exceeded for a drinking water protected area (or the threshold value is projected to be exceeded in the next river basin management plan cycle); and</p> <p>(b) There are statistically significant or sustained upward trend in the concentration of this parameter.</p>

**Table 5: Assessment of the general quality of groundwater in the body in terms of whether its ability to support human uses has been significantly impaired by pollution (test 5)**

Conditions for applying test	Criteria for poor groundwater chemical status
<p>Failure of a threshold value indicative of a potential risk to the general quality of the water body.</p>	<p>(a) A chemical or physicochemical threshold value, that is applicable to human uses, has been exceeded at any representative monitoring point in a groundwater body or group of groundwater bodies; and</p> <p>(b) The average of the monitoring results representative of the groundwater in the body exceeds the threshold value; and</p> <p>(c) Evidence confirms that there is a significant impairment to the groundwater body's ability to support human uses.</p>

**SCHEDULE 8****Identification and reversal of significant and sustained upward trends***Part A***Identification of significant and sustained upward trends**

The Agency will identify significant and sustained upward trends in all bodies or groups of bodies of groundwater that are characterised as being at risk in accordance with Regulation 7 of the 2003 Regulations, taking into account the following requirements:

1) in accordance with Regulation 10 of the 2003 Regulations, the monitoring programme will be so designed as to detect significant and sustained upward trends in concentrations of the pollutants identified pursuant to Regulation 40 of these Regulations;

2) the procedure for the identification of significant and sustained upward trends will be based on the following elements:

(a) monitoring frequencies and monitoring locations will be selected such as are sufficient to:

(i) provide the information necessary to ensure that such upward trends can be distinguished from natural variation with an adequate level of confidence and precision,

(ii) enable such upward trends to be identified in sufficient time to allow measures to be implemented in order to prevent, or at least mitigate as far as practicable, environmentally significant detrimental changes in groundwater quality. This identification will be carried out as soon as possible, and will take into account existing data, in the context of the report on trend identification within the first river basin management plan referred to in Regulation 13 of the 2003 Regulations, and at least every six years thereafter,

(iii) take into account the physical and chemical temporal characteristics of the body of groundwater, including groundwater flow conditions and recharge rates and percolation time through soil or subsoil;

(b) the methods of monitoring and analysis used will conform to international quality control principles, including, if relevant, CEN or national standardised methods, to ensure equivalent scientific quality and comparability of the data provided;

(c) the assessment will be based on a statistical method, such as regression analysis, for trend analysis in time series of individual monitoring points;

(d) in order to avoid bias in trend identification, all measurements below the quantification limit will be set to half of the value of the highest quantification limit occurring in time series, except for total pesticides;

3) the identification of significant and sustained upward trends in the concentrations of substances which occur both naturally and as a result of human activities will consider the baseline levels and, where such data are available, the data collected before the start of the monitoring programme in order to report on trend identification within the first river basin management plan referred to in Regulation 13 of the 2003 Regulations.

### *Part B*

#### **Starting points for trend reversals**

The relevant public authorities, in the context of their functions, will reverse identified significant and sustained upward trends, in accordance with Regulations 53 to 56 of these Regulations, taking into account the following requirements:

1) the starting point for implementing measures to reverse significant and sustained upward trends will be when the concentration of the pollutant reaches 75% of the parametric values of the groundwater quality standards set out in Schedule 4 of these Regulations and of the threshold values set out in Schedule 5 of these Regulations, unless:

(a) an earlier starting point is required to enable trend reversal measures to prevent most cost-effectively, or at least mitigate as far as possible, any environmentally significant detrimental changes in groundwater quality;

(b) a different starting point is justified where the detection limit does not allow for establishing the presence of a trend at 75% of the parametric values; or

(c) the rate of increase and the reversibility of the trend are such that a later starting point for trend reversal measures would still enable such measures to prevent most cost-effectively, or at least mitigate as far as possible, any environmentally significant detrimental changes in groundwater quality. Such later starting point may not lead to any delay in achieving the deadline for the environmental objectives.

For activities falling within the scope of the 2009 Regulations, the starting point for implementing measures to reverse significant and sustained upward trends will be established in accordance with those Regulations and with the 2003 Regulations and, in particular, adhering to environmental objectives for water protection as set out in

Regulation 12 of the 2003 Regulations, and as amended by the 2008 Regulations;

2) once a starting point has been established for a body of groundwater characterised as being at risk in accordance with Regulation 7 of the 2003 Regulations and pursuant to point 1 above, it will not be changed during the six-year cycle of the river basin management plan required in accordance with Regulation 13 of the 2003 Regulations;

3) trend reversals will be demonstrated, taking into account relevant monitoring provisions contained in Part A, point 2.



GIVEN under my Official Seal,  
20th January 2010.

JOHN GORMLEY,  
Minister for the Environment, Heritage and Local  
Government.

## EXPLANATORY NOTE

*(This note is not part of the Instrument and does not purport to be a legal interpretation).*

These Regulations establish a new strengthened regime for the protection of groundwater by giving effect to the measures needed to achieve the environmental objectives established for groundwater by Directive 2000/60/EC and by giving effect to the requirements of Directive 2006/118/EC. The Regulations establish clear environmental objectives to be achieved in groundwater bodies within specified timeframes and introduce the legal basis for a more flexible, proportionate and risk-based approach to implementing the legal obligation to prevent or limit inputs of pollutants into groundwater, which already exists under Directive 80/68/EEC. Measures for this purpose include the following:

- measures to prevent or limit the input of pollutants into groundwater and to prevent the deterioration of the status of all bodies of groundwater
- measures to protect, enhance and restore all bodies of groundwater and to ensure a balance between abstraction and recharge of groundwater, with the aim of achieving good groundwater within a particular timeframe
- measures requiring the reversal of any significant and sustained upward trend in the concentration of any pollutant resulting from the impact of human activity in order to progressively reduce pollution of groundwater
- measures for determining groundwater quantitative and chemical status
- measures establishing procedures for the identification of significant and sustained upward trends and the definition of the starting point for trend reversal
- the laying down of rules for the presentation and reporting of groundwater monitoring results, trend assessments and the classification of quantitative status and chemical status of groundwater bodies

These Regulations revoke the Local Government (Water Pollution) (Amendment) Regulations 1999 (S.I. No. 42 of 1999) from 2013.

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