STATUTORY RULES OF NORTHERN IRELAND

2009 No. 413

WATER AND SEWERAGE

The Private Water Supplies Regulations (Northern Ireland) 2009

Made - - - -	*11th December 2009*
Coming into operation	*18th January 2010*

The Department of the Environment, in exercise of the powers conferred by Articles 107(2) and (3) and 118(3) and (4) of the Water and Sewerage Services (Northern Ireland) Order 2006 (**1**) and being a Department designated (**2**) for the purposes of section 2(2) of the European Communities Act 1972 (**3**) in relation to the environment in exercise of the powers conferred upon it by that section, hereby makes the following Regulations:

PART 1

Water Standards

Citation and commencement

1. These Regulations may be cited as the Private Water Supplies Regulations (Northern Ireland) 2009 and shall come into operation on 18th January 2010.

Interpretation

2.—(1) The Interpretation Act (Northern Ireland) 1954 (**4**) shall apply to these Regulations as it applies to an Act of the Assembly.

(2) In these Regulations—

"the 2006 Order" means the Water and Sewerage Services (Northern Ireland) Order 2006;

"the Appeals Commission" means the Water Appeals Commission for Northern Ireland as established under Part XII of the 2006 Order;

"the Department" means the Department of the Environment;

(**1**) S.I. 2006/3336 (N.I. 21)
(**2**) S.I. 2008/301
(**3**) 1972 c.68
(**4**) 1954 c.33 (NI)

"district council" means a district council as established under Part I of the Local Government Act (Northern Ireland) 1972(**5**);

"the Public Health Agency" means the Regional Agency for Public Health and Social Well-being as established under Section 12 of the Health and Social Care (Reform) Act (Northern Ireland) 2009(**6**);

a "responsible person" is—

(a) the owner or occupier of the land supplied; and

(b) any other person who exercises powers of management or control in relation to the supply.

(3) Any other expressions used in these Regulations and in Council Directive 98/83/EC on the quality of water intended for human consumption (**7**) have the same meaning as in that Directive.

Water Supplies to which these Regulations apply

3.—(1) These Regulations apply to all water supplies intended for human consumption not provided by a water undertaker appointed under Article 13 of the 2006 Order.

(2) The supplies in paragraph (1) are referred to in these Regulations as private supplies.

Exemptions

4. These Regulations do not apply in relation to—

(a) water controlled by the Natural Mineral Water, Spring Water and Bottled Drinking Water Regulations (Northern Ireland) 2007(**8**);

(b) water that is a medicinal product within the meaning of the Medicines Act 1968(**9**); or

(c) water used solely for washing a crop after it has been harvested and that does not affect the fitness for human consumption of the crop or of any food or drink derived from the crop.

Wholesomeness

5. Water is wholesome if all the following conditions are met—

(a) it does not constitute a risk to human health;

(b) it meets the concentrations and values specified in Part 1 of Schedule 1; and

(c) in the water: $\frac{\text{nitrate (mg/l)}}{50} + \frac{\text{nitrite (mg/l)}}{3} \leq 1$.

New installations

6. Only substances or products specified under regulation 30 of the Water Supply (Water Quality) Regulations (Northern Ireland) 2007(**10**) may be used for new installations for the preparation or distribution of water intended for human consumption.

(**5**) 1972 c.9 (NI)
(**6**) 2009 c.1 (NI)
(**7**) O.J. No. L 330, 5.12.98, p.32
(**8**) S.R. 2007 No. 420
(**9**) 1968 c. 67 (see section 130) to which there are amendments not relevant to these Regulations
(**10**) S.R. 2007 No. 147 as amended by S.R. 2009 No. 246

Requirement to carry out a risk assessment

7.—(1) The Department shall carry out an assessment ("risk assessment") of the potential risks associated with each private supply to which these Regulations apply (other than a supply to a single private dwelling) within eighteen months of the coming into operation of these Regulations, and subsequently every five years (or earlier if it considers that the existing risk assessment is inadequate).

(2) The Department shall carry out a risk assessment, where the private supply is a new supply and is to be used for the first time, within six months of that supply being identified as a private supply under Regulation 3.

(3) The Department may enter into an arrangement for any person to carry out a risk assessment on its behalf for the purposes of this regulation.

(4) The Department may provide for any such person to be reimbursed.

(5) The Department shall not enter into an arrangement under paragraph (3) unless it is satisfied that the task will be carried out promptly by a person competent to perform it.

(6) Schedule 2 (Requirements for Risk Assessment) has effect.

PART 2

Monitoring

Monitoring

8. The Department shall monitor all private supplies in accordance with this Part.

Large supplies and supplies to commercial or public premises

9. The Department shall monitor the private supply in accordance with Schedule 3 and carry out any additional monitoring that the risk assessment shows to be necessary if the private supply—

(a) provides an average daily volume of water of $10m^3$ or more or serves 50 or more persons; or

(b) supplies water to land where the water is used for a commercial activity (including commercial food production) or to public land.

Other private supplies

10.—(1) In the case of a private supply to more than one private dwelling that is not monitored in accordance with regulation 9, the Department shall monitor in accordance with the risk assessment and, in addition, at least once a year, it shall monitor for—

(a) conductivity;

(b) enterococci;

(c) Escherichia coli (E. coli);

(d) hydrogen ion concentration;

(e) turbidity;

(f) any parameter in Schedule 1 identified in the risk assessment as being at risk of exceeding the values in that Schedule; and

(g) anything else identified in the risk assessment as a potential risk to human health.

(2) The Department shall carry out any additional monitoring that the risk assessment shows to be necessary.

(3) The frequency of monitoring may be reduced to once every five years in accordance with the results of a risk assessment.

Supplies to single private dwellings

11. In the case of a private supply to a single private dwelling where the water is not used as part of a commercial activity the Department shall offer appropriate advice to the responsible person or persons.

Sampling and analysis

12.—(1) When the Department monitors a private supply it shall take a sample—

(a) from a tap normally used to provide water for human consumption and which, if there is more than one tap, is representative of the water supplied to the land;

(b) if the water is supplied for food production purposes, at the point at which it is used for food production; or

(c) if the water is supplied from a tanker, at the point at which it emerges from the tanker.

(2) The Department shall then ensure that any sample taken is analysed.

(3) The Department may enter into an arrangement for any person—

(a) to take and/or analyse samples on its behalf; and

(b) to report the findings to the Department as soon as they are available and to report any breach of these Regulations to it immediately.

(4) The Department may provide for any such person to be reimbursed.

(5) The Department shall not enter into an arrangement under paragraph (3) unless it is satisfied that the task will be carried out promptly by a person competent to perform it.

(6) Schedule 4 (Sampling and Analysis) has effect.

Maintenance of records

13. The Department shall keep records in respect of every monitored private supply in accordance with Schedule 5.

Publication of information

14.—(1) The Department shall publish annually a report about private supplies.

(2) The report shall contain —

(a) the number of private supplies in the preceding year; and

(b) any other information about private supplies, including information about the quality of private supplies, in such form as the Department may determine.

PART 3

Action in The Event of Failure

Provision of information

15.—(1) If the Department considers that a private supply is a risk to human health it shall take appropriate steps to ensure that people likely to consume water from it—

(a) are informed that the supply constitutes a risk to human health;

(b) where possible, are informed of the degree of the risk; and

(c) are given advice to allow them to minimise any such risk.

(2) The Department shall notify the Public Health Agency and the district council for the district in which the private supply is situated.

Investigation

16. The Department shall carry out an investigation to establish the cause if any sample that it takes is not wholesome, or if an indicator parameter in that sample exceeds the limits in Part 2 of Schedule 1.

Procedure following investigation

17.—(1) Once the Department has established the cause of the water not being wholesome, it shall act in accordance with this regulation.

(2) If the cause of the water not being wholesome is attributable to the domestic distribution system within a private dwelling, the Department shall offer advice to the responsible person or persons on measures necessary for the protection of health.

(3) If paragraph (2) does not apply and if it cannot solve the problem informally the Department—

(a) may, on application by any responsible person, grant an authorisation to that person if the conditions in regulation 18(2) are fulfilled; and

(b) if it does not grant an authorisation shall serve a notice either in accordance with article 119 of the 2006 Order or under regulation 19 if the conditions in that regulation are fulfilled.

(4) Before serving a notice the Department shall have regard to any agreement, contract, licence or other document produced to the Department relating to the terms on which water is supplied.

Authorisations of different standards

18.—(1) Any responsible person may apply to the Department for the granting of an authorisation under this regulation.

(2) The Department may grant an authorisation of different standards under this regulation if—

(a) the only cause of the water not being wholesome is that a parameter in Table B of Part 1 of Schedule 1 ("Table B") is not complied with;

(b) the Department has consulted the relevant District Council and the Public Health Agency and has taken their views into account;

(c) granting the authorisation does not cause a risk to human health; and

(d) the supply of water cannot be maintained by any other reasonable means.

(3) An authorisation shall require the responsible person or persons to take action over a period of time to ensure that the parameters in Table B are complied with and shall specify—

(a) the responsible person or persons;

(b) the supply concerned;

(c) the grounds for granting the authorisation;

(d) the parameters concerned, previous relevant monitoring results, and the maximum permissible values under the authorisation;

(e) the geographical area, the estimated quantity of water supplied each day, the number of persons supplied and whether or not any food-production undertaking is affected;

(f) an appropriate monitoring scheme to be undertaken by either the Department or the responsible person or persons, with an increased monitoring frequency where necessary;

(g) a summary of the plan for the necessary remedial action, including a timetable for the work and an estimate of the cost and provisions for reviewing progress; and

(h) the duration of the authorisation.

(4) If the Department grants an authorisation, and action is taken in accordance with the timetable of works specified in the authorisation, the Department shall not serve a notice under article 119 of the 2006 Order concerning the matters specified in the authorisation without first amending or revoking the authorisation.

(5) The duration of the authorisation shall be as short as possible and in any event shall not exceed three years.

(6) The Department shall ensure that people affected are promptly informed of the authorisation and its conditions and, where necessary, ensure that advice is given to particular groups for which the authorisation could present a special risk.

(7) The Department shall inform the European Commission within two months of any authorisation concerning an individual private supply exceeding 1000m³ a day as an average or serving more than 5000 persons.

(8) Towards the end of the duration of the authorisation the Department shall review it to determine whether sufficient progress has been made. If the Department considers that sufficient progress has not been made, it may grant a second authorisation. If the Department intends to grant a second authorisation, this shall be communicated to the European Commission along with the results of the review.

(9) Subject to paragraph (8), the Department may grant a second authorisation for up to three years.

(10) If towards the end of the duration of the second period of authorisation the Department considers that sufficient progress has not been made the Department may grant a third period of authorisation but only if—

(a) the Department considers that there are exceptional circumstances to justify doing so; and

(b) the European Commission confirms its approval.

(11) The Department may revoke or amend any authorisation at any time, and in particular may revoke or amend it if the timetable for remedial action has not been adhered to.

Notices

19.—(1) The Department shall serve a notice under this regulation on one or more responsible persons instead of a notice under article 119 of the 2006 Order if—

(a) the private supply is a risk to human health; and

(b) serving the notice will not create a greater risk to human health than not serving it.

(2) The notice shall prohibit the supply of water, or restrict what the water may be used for and shall also specify—

(a) the responsible person or persons;

(b) the supply concerned;

(c) the grounds for the notice;

(d) the parameters concerned;

(e) previous relevant monitoring results;

(f) the geographical area, the estimated quantity of water supplied each day and whether or not any food production undertaking is affected; and

(g) any other action that the Department considers necessary to protect human health.

(3) The Department shall ensure that consumers are promptly informed of the service of the notice and shall provide any necessary advice.

(4) The notice may be subject to conditions and may be amended by further notice at any time.

(5) The Department shall revoke the notice as soon as there is no longer a risk to human health.

(6) It is an offence to fail to comply with a notice served under this regulation.

Appeals

20.—(1) Any person served with a notice under regulation 19 who is aggrieved by that notice may appeal in writing to the Appeals Commission within 28 days of the date of the notice and shall specify the grounds for appeal.

(2) A notice under regulation 19 shall have effect pending determination of the appeal.

Powers of the Appeals Commission

21. On an appeal against a notice served under regulation 19, the Appeals Commission may either cancel the notice or confirm it, with or without modification.

PART 4

Penalties

Penalties

22.—(1) A person guilty of an offence under these Regulations is liable—

(a) on summary conviction, to a fine not exceeding the statutory maximum or to a term of imprisonment not exceeding three months; or

(b) on conviction on indictment, to a fine or to imprisonment for a term not exceeding two years.

(2) For the purposes of these Regulations section 20(2) of the Interpretation Act (Northern Ireland) 1954 applies with the omission of the words "the liability of whose members is limited" and where the affairs of a body corporate are managed by its members, applies in relation to the acts or defaults of a member in connection with their functions of management as if they were a director of the body corporate.

PART 5

Revocations

Revocations

23. The Private Water Supplies Regulations (Northern Ireland) 1994(**11**) are revoked.

Sealed with the Official Seal of the Department of the Environment on 11th December 2009

Maggie Smith
A senior officer of the
Department

(**11**) S.R. 1994 No. 237

S C H E D U L E S

SCHEDULE 1 Regulation 5

Concentrations and Values

PART 1

Wholesomeness

TABLE A

MICROBIOLOGICAL PARAMETERS

Directive requirements – Prescribed concentrations and values

Parameters	*Maximum concentration or value*	*Units of Measurement*
Escherichia coli (E. coli)	0	Number/100ml
Enterococci	0	Number/100ml

TABLE B

CHEMICAL PARAMETERS

Directive requirements – Prescribed concentrations and values

Parameters	*Maximum concentration or value*	*Units of Measurement*
Acrylamide [(1)]	0.10	µg/l
Antimony	5.0	µgSb/l
Arsenic	10	µgAs/l
Benzene	1.0	µg/l
Benzo(a)pyrene	0.010	µg/l
Boron	1.0	mgB/l
Bromate	10	µgBrO_3/l
Cadmium	5.0	µgCd/l
Chromium	50	µgCr/l
Copper	2.0	mgCu/l
Cyanide	50	µgCN/l
1, 2 dichloroethane	3.0	µg/l

Parameters	*Maximum concentration or value*	*Units of Measurement*
Epichlorohydrin [(1)]	0.10	µg/l
Fluoride	1.5	mgF/l
Lead	(a) 25 until immediately before 25th December 2013	µgPb/l
	(b) 10, on and after 25th December 2013	µgPb/l
Mercury	1.0	µgHg/l
Nickel	20	µgNi/l
Nitrate [(2)]	50	mgNO_3/l
Nitrite	0.5	mgNO_2/l
Pesticides [(3)]		
Aldrin	0.030	µg/l
Dieldrin	0.030	µg/l
Heptachlor	0.030	µg/l
Heptachlor epoxide	0.030	µg/l
other pesticides	0.10	µg/l
Pesticides total [(4)]	0.50	µg/l
Polycyclic aromatic hydrocarbons [(5)]	0.10	µg/l
Selenium	10	µgSe/l
Tetrachloroethene and Trichloroethene [(6)]	10	µg/l
Trihalomethanes: Total [(7)]	100	µg/l
Vinyl chloride [(1)]	0.50	µg/l

(1) The parametric value refers to the residual monomer concentration in the water as calculated according to specifications of the maximum release from the corresponding polymer in contact with the water. This is controlled by product specification.

(2) See also the nitrate-nitrite formula in regulation 5(c)

(3) For these purposes "Pesticides" means—
(a) organic insecticides,
(b) organic herbicides,
(c) organic fungicides,
(d) organic nematocides,
(e) organic acaricides,
(f) organic algicides,
(g) organic rodenticides,
(h) organic slimicides,
(i) related products (inter alia, growth regulators)
And their relevant metabolites, degradation and reaction products.
Only those pesticides which are likely to be present in a given supply need to be monitored.

(4) "Pesticides total" means the sum of the concentrations of the individual pesticides detected and quantified in the monitoring process.

(5) The specified compounds are:
(a) benzo(b)fluoranthene
(b) benzo(k)fluoranthene
(c) benzo(ghi)perylene
(d) indeno(1,2,3-cd)pyrene.
The parametric value applies to the sum of the concentrations of the individual compounds detected and quantified in the monitoring process.

(6) The parametric value applies to the sum of the concentrations of the individual compounds detected and quantified in the monitoring process.

(7) The specified compounds are:
(a) chloroform
(b) bromoform
(c) dibromochloromethane
(d) bromodichloromethane
The parametric value applies to the sum of the concentrations of the individual compounds detected and quantified in the monitoring process.

National requirements – Prescribed concentrations and values

Parameters	*Maximum concentration or value or state*	*Units of Measurement*
Aluminium	200	µgAl/l
Colour	20	mg/l Pt/Co
Iron	200	µgFe/l
Manganese	50	µgMn/l
Nitrite **(1)**	0.10	mgNO_2/l
Odour	Acceptable and no abnormal change	
Sodium	200	mgNa/l
Taste	Acceptable and no abnormal change	
Tetrachloromethane	3	µg/l
Turbidity	4	NTU

(1) Ex water treatment works only. (See also the nitrate-nitrite formula in regulation 5(c))

PART 2

Indicator Parameters

Parameters	*Maximum concentration or value or state (unless otherwise stated)*	*Units of measurement*
Ammonium	0.50	mgNH_4/l
Chloride **(1)**	250	mgCl/l

(1) The water should not be aggressive.

(2) Excluding tritium, potassium-40, radon and radon decay products.

(3) Only in the case of surface water treatment where the parametric value should be strived for in the water ex-treatment works.

Parameters	*Maximum concentration or value or state (unless otherwise stated)*	*Units of measurement*
Clostridium perfringens		
(including spores)	0	Number/100ml
Coliform bacteria	0	Number/100ml
Colony counts	No abnormal change	Number/1ml at 22°C
	No abnormal change	Number/1ml at 37°C
Conductivity [(1)]	2,500	µS/cm at 20°C
Hydrogen ion	9.5	pH value
	6.5 (minimum)	pH value
Sulphate [(1)]	250	$mgSO_4/l$
Total indicative dose (for radioactivity) [(2)]	0.10	mSv/year
Total organic carbon (TOC)	No abnormal change	mgC/l
Tritium (for radioactivity)	100	Bq/l
Turbidity [(3)]	1	NTU

(1) The water should not be aggressive.

(2) Excluding tritium, potassium-40, radon and radon decay products.

(3) Only in the case of surface water treatment where the parametric value should be strived for in the water ex-treatment works.

SCHEDULE 2

Regulation 7

Requirements for Risk Assessment

1. When undertaking or reviewing and updating a risk assessment for the purposes of regulation 7 the Department shall do so in accordance with the provisions of this Schedule.

2. A risk assessment shall comprise the following—

(a) documentation on and a description of the supply, including the catchment from which the supply draws water;

(b) a hazard assessment and risk characterisation;

(c) an identification of the measures by which potential risks may be controlled;

(d) establishment of verification procedures,

and for the purposes of this paragraph, "hazard" means a biological, chemical, physical or radiological agent that has the potential to cause harm or danger to human health; and "risk" means the likelihood of identified hazards causing harm in exposed populations in a specified time, including the magnitude of that harm and/or the consequences of such harm.

3. In respect of a supply which comprises, either alone or in any combination thereof, catchments, surface water or ground water, the risk assessment shall include provision in relation to the relevant matters specified in Table A of this Schedule.

4. In respect of a supply which receives treatment, including treatment at source and any point thereafter, the risk assessment shall make provision in relation to the relevant matters specified in Table B of this Schedule.

5. In respect of a supply which comprises intermediate tanks and distribution, the risk assessment shall include provision in relation to the relevant matters specified in Table C of this Schedule.

TABLE A

SOURCE AND CATCHMENT

(1)	(2)
Source of supply	Information to be considered in the risk assessment
(1) Catchments	(i) geology and hydrology (ii) meteorology and weather patterns (iii) general catchment and river health (iv) wildlife (v) competing water uses (vi) nature and intensity of development and land use (vii) other activities in the catchment that potentially release contaminants into source water (viii) planned future activities
(2) Surface water	(i) description of water body type (e.g. river, reservoir, dam) (ii) flow and reliability of source water (iii) retention times (iv) water constituents (physical, chemical, microbial) (v) protection (e.g. enclosures, access) (vi) recreational and other human activity (vii) bulk water transport
(3) Groundwater	(i) confined or unconfined aquifer (ii) aquifer hydrogeology (iii) flow rate and direction (iv) dilution characteristics (v) recharge area (vi) wellhead protection (vii) depth of casing (viii) bulk water transport

TABLE B

TREATMENT

(i) treatment process
(ii) equipment design
(iii) monitoring equipment and automation
(iv) water treatment chemicals used
(v) treatment efficiencies
(vi) disinfection removals of pathogens
(vii) disinfection residuals/contact time

(viii) maintenance schedules

TABLE C

INTERMEDIATE TANKS AND DISTRIBUTION

(i) reservoir/tank design
(ii) retention times
(iii) seasonal variations
(iv) protection (e.g. covers, enclosures, access)
(v) distribution system design
(vi) hydraulic conditions (e.g. water age, pressures, flows)
(vii) backflow protection
(viii) disinfection residuals
(ix) maintenance and cleaning schedules

SCHEDULE 3 Regulation 9

Monitoring

PART 1

Check Monitoring

Sampling

1. Check monitoring means sampling for each parameter listed in Table A in the circumstances listed in that table.

TABLE A

Check monitoring

Parameter	Circumstances
Aluminium	When used as flocculant or where the water originates from, or is influenced by, surface waters
Ammonium	In all supplies
Clostridium perfringens (including spores)	Where the water originates from, or is influenced by, surface waters
Coliform bacteria	In all supplies
Colour	In all supplies
Conductivity	In all supplies
Escherichia coli (E. coli)	In all supplies
Hydrogen ion	In all supplies

Parameter	Circumstances
Iron	When used as flocculant or where the water originates from, or is influenced by, surface waters
Manganese	Where the water originates from, or is influenced by, surface waters
Nitrate	When chloramination is practised
Nitrite	When chloramination is practised
Odour	In all supplies
Taste	In all supplies
Turbidity	In all supplies
Disinfectant residual	When disinfection treatment is practised.

Frequency of sampling

2.—(1) Sampling shall be carried out at frequencies specified in Table B of this Schedule.

TABLE B

Sampling frequency for check monitoring

Volume m^3/day	*Sampling frequency per year*
≤10	1
> 10 ≤ 100	2
> 100 ≤ 1,000	4
> 1,000 ≤ 2,000	10
> 2,000 ≤ 3,000	13
> 3,000 ≤ 4,000	16
> 4,000 ≤ 5,000	19
> 5,000 ≤ 6,000	22
> 6,000 ≤ 7,000	25
> 7,000 ≤ 8,000	28
> 8,000 ≤ 9,000	31
> 9,000 ≤ 10,000	34
> 10,000	

Volume m^3/day	*Sampling frequency per year*
	4 + 3 for each 1,000 m^3/day of the total volume (rounding up to the nearest multiple of 1,000 m^3/day)

(2) The Department may reduce the frequency of sampling for a parameter to a frequency not less than half if—

(a) it is of the opinion that the quality of water in the supply is unlikely to deteriorate;

(b) in the case of hydrogen ion the parameter has had a pH value that is not less than 6.5 and not more than 9.5; and

(c) in all other cases, in each of two successive years the results of samples taken for the purposes of monitoring the parameter in question are constant and significantly lower than the concentrations or values laid down in Schedule 1.

(3) The Department may set a higher frequency for any parameter if it considers it appropriate taking into account the findings of any risk assessment and, in addition, may monitor anything else identified in the risk assessment.

PART 2

Audit Monitoring

Sampling

3.—(1) Audit monitoring means sampling for each parameter listed in Schedule 1 (other than parameters already being sampled under check monitoring).

(2) The Department may, for such time as it may decide, exclude a parameter from the audit monitoring of a private supply—

(a) if the Department considers that the parameter in question is unlikely to be present in the supply or system at a concentration or value which poses a risk of the private supply failing to meet the concentration, value or state specified in Schedule 1 in respect of that parameter; and

(b) taking into account the findings of any risk assessment.

(3) The Department may monitor anything else identified in the risk assessment.

Frequency of sampling

4.—(1) Sampling shall be carried out at the frequencies specified in Table C of this Schedule.

TABLE C

Sampling frequency for audit monitoring

Volume m3 /day	*Sampling frequency per year*
≤ 1000	1
> 1000 ≤ 10,000	1 + 1 for each 3,300 m^3/day of the total volume (rounding up to the nearest multiple of 3,300 m^3/day)

Volume m3 /day	*Sampling frequency per year*
> 10,000 ≤ 100,000	3 + 1 for each 10,000 m^3/day of the total volume (rounding up to the nearest multiple of 10,000 m^3/day)
> 100,000	10 + 1 for each 25,000 m^3/day of the total volume (rounding up to the nearest multiple of 25,000 m^3/day)

(2) The Department may set a higher frequency for any parameter if it considers it appropriate taking into account the findings of any risk assessment.

SCHEDULE 4 Regulation 12

Sampling and Analysis

PART 1

General

Samples: general

1.—(1) The Department shall ensure that each sample taken in accordance with a monitoring programme is—

(a) representative of the water at the sampling point at the time of sampling;

(b) not contaminated in the course of being taken;

(c) kept at such temperature and in such conditions as will secure that there is no material alteration of a concentration, value or state of any parameter for which the sample is to be analysed; and

(d) analysed as soon as may be after it has been taken—

(i) by a person who is competent to perform that task; and

(ii) with the use of such equipment as is suitable for the purpose.

Analysing samples

2.—(1) The Department shall ensure that each sample is analysed in accordance with this paragraph.

(2) For each parameter specified in the first column of Table A in Part 2 of this Schedule—

(a) the method of analysis specified in the second column of that table; or

(b) an alternative method of analysis authorised under paragraph 3;

(3) For each parameter specified in the first column of Table B in Part 2 of this Schedule the method of analysis is one that is capable of—

(a) measuring concentrations and values with the trueness and precision specified in the second and third columns of that table; and

(b) detecting the parameter at the limit of detection specified in the fourth column of that table.

(4) For hydrogen ion, a method of analysis which is capable at the time of use of measuring a value with a trueness of 0.2 pH unit and a precision of 0.2 pH unit.

(5) For these purposes—

"limit of detection" is to be calculated as—

(a) three times the relative within-batch standard deviation of a natural sample containing a low concentration of the parameter; or

(b) five times the relative within-batch standard deviation of a blank sample;

"precision" (the random error) is to be calculated as twice the standard deviation (within a batch and between batches) of the spread of results about the mean; and

"trueness" (the systematic error) is to be calculated as the difference between the mean value of the large number of repeated measurements and the true value.

Authorisation of alternative methods of analysis

3.—(1) If the Department is satisfied that an alternative method of analysis is at least as reliable as a method of analysis prescribed by paragraph 2(2)(a), it may authorise its use instead of the prescribed method.

(2) The Department shall provide the European Commission with relevant information concerning such methods and their equivalence.

Laboratories

4. The Department shall ensure that any laboratory at which samples are analysed has a system of analytical quality control that is subjected from time to time to checking by a person who is—

(a) not under the control of either the laboratory or the Department; and

(b) approved by the Department for that purpose.

Interpretation

5. In this schedule—

"laboratory" includes any land at which samples are analysed for the purposes of these Regulations (including on-site analysis); and

"taking and analysing samples" includes taking, handling, transporting, storing and analysing samples.

PART 2

Analytical Methods

TABLE A

Prescribed methods of analysis

(1) *Parameter*	*(2)* *Method*
Clostridium perfringens (including spores)	Membrane filtration followed by anaerobic incubation of the membrane on m-CP agar* at 44 ± 1°C for 21 ± 3 hours. Count opaque yellow colonies that turn pink or red after exposure to ammonium hydroxide vapours for 20 to 30 seconds.
Coliform bacteria	BS-EN ISO 9308-1
Colony count 22°C-enumeration of culturable microorganisms	BS-EN ISO 6222
Colony count 37°C-enumeration of culturable microorganisms	BS-EN ISO 6222
Enterococci	BS-EN ISO 7899-2
Escherichia coli (E. coli)	BS-EN ISO 9308-1

*Use the following method to make m-CP agar:

Make a basal medium consisting of—

30.0g Tryptose;

20.0g Yeast extract;

5.0g Sucrose;

1.0g L-cysteine hydrochloride;

0.1g MgSO4.7 H_2O;

40.0mg Bromocresol purple;

15.0g Agar; and

1,000.0ml Water.

Dissolve the ingredients of the basal medium, adjust pH to 7.6 and autoclave at 121°C for 15 minutes. Allow the medium to cool. Dissolve the following into 8ml sterile water before adding to the medium—

400.0mg D-cycloserine;

25.0mg Polymyxine-B sulphate; and

60.0mg Indoxyl-β-D-glucoside.

Add to the medium—

20.0 ml Filter-sterilised 0.5% phenolphthalein diphosphate solution; and

2.0ml Filter-sterilised 4.5% $FeCl_3.6H_2O$

TABLE B

Prescribed performance characteristics for methods of analysis

(1) *Parameters*	*(2)* *Trueness % of prescribed concentration or value or specification*	*(3)* *Precision % of prescribed concentration or value or specification*	*(4)* *Limit of detection % of prescribed concentration or value or specification*
Aluminium	10	10	10
Ammonium	10	10	10
Antimony	25	25	25
Arsenic	10	10	10
Benzene	25	25	25
Benzo(a)pyrene	25	25	25
Boron	10	10	10
Bromate	25	25	25
Cadmium	10	10	10
Chloride	10	10	10
Chromium	10	10	10
Colour	10	10	10
Conductivity	10	10	10
Copper	10	10	10
Cyanide [(1)]	10	10	10
1,2-dichloroethane	25	25	10
Fluoride	10	10	10
Iron	10	10	10
Lead	10	10	10
Manganese	10	10	10
Mercury	20	10	20
Nickel	10	10	10

(1) The method of analysis should determine total cyanide in all forms.

(2) The performance characteristics apply to each individual pesticide and will depend on the pesticide concerned.

(3) The performance characteristics apply to the individual substances specified at 25% of the parametric value in Table B of Part 1 of Schedule 1.

(4) The performance characteristics apply to the individual substances specified at 50% of the parametric value in Table B of Part 1 of Schedule 1.

(5) The performance characteristics apply to the prescribed value of 4 NTU.

(6) The performance characteristics apply to the specification of 1 NTU for water leaving surface water treatment works.

(1) *Parameters*	*(2)* *Trueness % of prescribed concentration or value or specification*	*(3)* *Precision % of prescribed concentration or value or specification*	*(4)* *Limit of detection % of prescribed concentration or value or specification*
Nitrate	10	10	10
Nitrite	10	10	10
Pesticides and related products [(2)]	25	25	25
Polycyclic aromatic hydrocarbons [(3)]	25	25	25
Selenium	10	10	10
Sodium	10	10	10
Sulphate	10	10	10
Tetrachloroethene [(4)]	25	25	10
Tetrachloromethane	20	20	20
Trichloroethene [(4)]	25	25	10
Trihalomethanes: Total [(3)]	25	25	10
Turbidity[(5)]	10	10	10
Turbidity[(6)]	25	25	25

(1) The method of analysis should determine total cyanide in all forms.

(2) The performance characteristics apply to each individual pesticide and will depend on the pesticide concerned.

(3) The performance characteristics apply to the individual substances specified at 25% of the parametric value in Table B of Part 1 of Schedule 1.

(4) The performance characteristics apply to the individual substances specified at 50% of the parametric value in Table B of Part 1 of Schedule 1.

(5) The performance characteristics apply to the prescribed value of 4 NTU.

(6) The performance characteristics apply to the specification of 1 NTU for water leaving surface water treatment works.

SCHEDULE 5

Regulation 13

Records

1.—(1) Within twelve months of these Regulations coming into force the Department shall compile records to include—

(a) the name and address of every responsible person for the land or private supply;

(b) the location and description of the private supply;

(c) an eight figure ordnance survey grid reference of the location of the source of supply;

(d) a description of the source;

(e) the addresses of the land supplied by the private supply;

(f) a plan of the private supply showing the sources and land supplied;

(g) the purposes for which the water is supplied;

(h) the estimated average daily volume of water supplied;

(i) an estimate of the numbers of people served by the supply;

(j) any drinking-water treatment to which the supply is subject;

(k) the monitoring programme for the supply;

(2) The Department shall review and update the record at least once a year.

(3) It shall keep the record for at least thirty years.

2.—(1) For each private supply the Department shall record each of the following within 28 days of the event—

(a) date and results of any sampling and analysis relating to that supply;

(b) sufficient records to show that the requirements of regulations 7 and 8 and Schedules 3 and 4 have been satisfied;

(c) the results of any investigation undertaken in accordance with these Regulations;

(d) any authorisation;

(e) any action taken or required to be taken by any person under these Regulations;

(f) any action taken or required to be taken following a notice given under Article 119 of the Water and Sewerage Services (Northern Ireland) Order 2006(**12**);

(g) in respect of any risk assessment, the date and results of any inspection of the supply and the results of analysis of samples taken for the purposes of the assessment;

(h) any notices served under these Regulations;

(i) any request for the Department to carry out sampling and analysis, undertake a risk assessment or give advice;

(j) a summary of any advice given in relation to the supply; and

(k) such other particulars as the Department may determine.

(2) The Department shall keep the records of sampling and analysis for at least 30 years, and all other records under this paragraph for at least 10 years.

(**12**) SI 2006/3336 (N.I. 21)

EXPLANATORY NOTE

(This note is not part of the Regulations)

These Regulations implement Council Directive 98/83/EC on the quality of water intended for human consumption (O.J. No. L330, 5.12.1998 p.32) in relation to private water supplies specified in regulation 3.

Part 1 of the Regulations deals with water standards. Regulation 5 and Schedule 1 define wholesomeness. Regulation 7 places a duty on the Department of the Environment ("the Department") to carry out a risk assessment of a private water supply, and Schedule 2 details the requirements of a risk assessment.

Part 2 and Schedule 3 deal with monitoring private water supplies. Regulation 8 requires the Department to monitor private water supplies in accordance with that Part, and regulation 12 and Schedule 4 specify how samples must be taken and analysed. Regulation 13 and Schedule 5 require the Department to keep records. Under regulation 14 the Department shall publish information annually.

Part 3 deals with what happens if the water supply is not wholesome or exceeds specified parameters. If the problem cannot be solved informally or through the granting of an authorisation, the Department shall serve a notice. Failure to comply with a notice served under regulation 19 is an offence, punishable on summary conviction to a fine not exceeding the statutory maximum or to imprisonment for a term not exceeding three months, or on conviction on indictment, to a fine or to imprisonment for a term not exceeding two years.

A regulatory impact assessment of the costs and benefits and the effect that this instrument will have on the business and voluntary sector is available from the Department of the Environment, Calvert House, 23 Castle Place, Belfast BT1 1FY.