STATUTORY RULES OF NORTHERN IRELAND

2017 No. 211

WATER AND SEWERAGE

The Private Water Supplies Regulations (Northern Ireland) 2017

Made - - - -	*6th October 2017*
Coming into operation	*27th October 2017*

The Department of Agriculture, Environment and Rural Affairs(**1**), in exercise of the powers conferred by Articles 107(1) and (3), 118(3) and (4) and 300(2)(f) of the Water and Sewerage Services (Northern Ireland) Order 2006(**2**) and now vested in it and being a Department designated(**3**) for the purposes of section 2(2) of the European Communities Act 1972(**4**) in relation to the environment in exercise of the powers conferred upon it by that section, hereby makes the following Regulations:

PART 1

GENERAL

Citation and commencement

1. These Regulations may be cited as the Private Water Supplies Regulations (Northern Ireland) 2017 and shall come into operation on 27th October 2017.

Interpretation

2.—(1) In these Regulations—

"consumer" means a person to whom a private water supply is provided for human consumption purposes;

"disinfection" means a process of water treatment to remove, or to render harmless to human health, every pathogenic micro-organism and pathogenic parasite that would otherwise be present in the water; and "disinfected" shall be construed accordingly;

(**1**) Formerly the Department of the Environment; see section 1(2) and (11) and Schedule 1 to, the Departments Act (Northern Ireland) 2010 (2016 c.5 (N.I.)). Pursuant to section 1(9) of that Act, the Department of the Environment is dissolved
(**2**) S.I. 2006/3336 (N.I. 21) as amended by 2016 c.13 (N.I.)
(**3**) S.I. 2008/301
(**4**) 1972 c.68

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

"indicative dose" or "ID" means the committed effective dose for one year of ingestion resulting from all the radionuclides whose presence has been detected in a supply of water intended for human consumption, of natural and artificial origin, but excluding tritium, potassium-40, radon and short-lived radon decay products;

"limit of detection" means the output signal or concentration value above which it can be affirmed, with a stated level of confidence that a sample is different from a blank sample containing no determinand of interest;

"limit of quantification" means a stated multiple of the limit of detection at a concentration of the determinand that can reasonably be determined with an acceptable level of accuracy and precision;

"radioactive substance" means any substance that contains one or more radionuclides the activity or concentration of which cannot be disregarded as far as radiation protection is concerned;

"relevant person" means—

(a) the owner or occupier (who may be the same or different persons) of premises which are supplied with water for domestic or food production purposes by means of a private supply;

(b) the owner or occupier (who may be the same or different persons) of land on which any part of the supply is situated;

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

"risk assessment" is an assessment carried out under regulation 7.

"the 2009 Regulations" means the Private Water Supplies Regulations (Northern Ireland)2009(**6**);

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

"the Appeals Commission" means the Water Appeals Commission for Northern Ireland within the meaning of Article 292 of the 2006 Order;

"the Department" means the Department of Agriculture, Environment and Rural Affairs;

"the Directive" means Council Directive 98/83/EC of 3 November 1998 on the quality of water intended for human consumption(**7**) as amended by Commission Directive (EU) 2015/1787 of 6 October 2015(**8**);

"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(**9**);

"uncertainty of measurement" is defined as a non-negative parameter characterising the dispersion of the quantity values being attributed to a measureand, based on the information used;

"water intended for human consumption" means all water:

(**5**) 1972 c.9 (NI)
(**6**) S.R. 2009 No. 413 as amended by S.R. 2010 No.131and S.R.2015 No.366
(**7**) OJ No. L 330, 5.12.1998, p.32
(**8**) OJ No. L 260, 7.10.2015, p.6
(**9**) 2009 c.1 (NI)

(a) either in its original state or after treatment, intended for drinking, cooking, food preparation or other domestic purposes, regardless of its origin and whether it is supplied from a distribution network, a tanker, or in bottles or containers;

(b) used in any food-production undertaking for the manufacture, processing, preservation or marketing of products or substances intended for human consumption unless, in accordance with Regulation (EC) No 852/2004 of the European Parliament and of the Council on the hygiene of foodstuffs(**10**), the competent authority(**11**) is satisfied that the quality of the water cannot affect the wholesomeness of the foodstuff in its finished form.

(2) The Interpretation Act (Northern Ireland) 1954(**12**) shall apply to these Regulations as it applies to an Act of the Northern Ireland Assembly.

Water Supplies to which these Regulations apply

3.—(1) These Regulations apply to all water supplies that supply water 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) 2015(**13**); or

(b) water that is a medicinal product within the meaning of the Human Medicines Regulations 2012(**14**).

PART 2

Water Standards, Risk Assessments and Surveys

Wholesomeness

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

(a) it is free from any micro-organisms and parasites and from any substances which, in numbers or concentrations, constitute a potential risk to human health;

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

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

Use of products or substances in private supplies

6.—(1) Any product or substance used in the preparation or distribution of a private supply of water, or impurities associated with such products or substances, must not be present in water at the point at which a sample is taken in accordance with regulation 12 that would make it unwholesome or constitute a potential risk to human health.

(**10**) OJ No L 139, 30.4.2004, p 1 as last amended by Regulation (EC) No 219/2009 (OJ No L 87, 31.3.2009, p 109).
(**11**) The competent authority for the purpose of this Regulation is the Food Standards Agency (see S.R. 2006 No.3).
(**12**) 1954 c.33 (NI)
(**13**) S.R. 2015 No. 365 to which there are amendments not relevant to these Regulations
(**14**) S.I. 2012 No. 1916 to which there are amendments not relevant to these Regulations

(2) Where disinfection forms part of the preparation or distribution of a private supply, the relevant person must—

(a) design, operate and maintain the disinfection process so as to keep disinfection by-products as low as possible without compromising the effectiveness of the disinfection;

(b) ensure that the effectiveness of the disinfection process is maintained; and

(c) verify the effectiveness of the disinfection process.

Requirement to carry out a risk assessment

7.—(1) The Department must carry out an assessment ("a 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.

(2) The Department must carry out a risk assessment within six months of a private supply being identified as a private water supply under regulation 3.

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

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

(5) A risk assessment must be based on the general principles of a risk assessment set out in international standards such as EN 15975-2 concerning "security of drinking water supply, guidelines for risk and crisis management"(**15**);

(6) A risk assessment must take into account the results from the monitoring programmes—

(a) established under these regulations; and

(b) under regulation 11 (monitoring) of the Water Environment (Water Framework Directive) Regulations (Northern Ireland) 2017(**16**) in respect of bodies of water identified under regulation 8 of those Regulations (bodies of water used for the abstraction of drinking water).

(7) The Department must review and, where necessary, update the risk assessment—

(a) as soon as possible in the event that it becomes aware of the likelihood of a—

(i) deterioration of the quality of the water supply; or

(ii) modification to, or extension of, the supply system from which the water is supplied,

which is relevant for the protection of human health and was not previously taken into account; or

(b) when monitoring programmes are reviewed under regulation 9.

(8) A risk assessment arranged under paragraph (3) must be approved by the Department.

Radon Representative Surveys

8.—(1) The Department must carry out a representative survey in accordance with paragraph (2) to determine the likelihood of a supply failing the radon maximum concentration or value specified in Schedule 1 Part 2;

(2) The representative survey under paragraph (1) must be designed in such a way—

(a) as to be capable of determining the scale and nature of likely exposures to radon in water intended for human consumption originating from different types of groundwater sources and wells in different geological areas; and

(**15**) This standard was approved by the European Committee for Standardization (CEN) on 5th July 2013. Under reference BS EN 15975-2:2013, it is published as a UK standard by the British Standards Institution (ISBN 978 0 580 84737 0).
(**16**) S.R. 2017 No. 81

(b) that underlying parameters, especially the geology and hydrology of the area, radioactivity of rock or soil, and well type, can be identified and used to direct further action to areas of likely high exposure.

PART 3

Monitoring

Monitoring

9.—(1) The Department must monitor all private supplies in accordance with this Part and must discharge that obligation through the establishment of monitoring programmes in accordance with Schedule 2.

(2) The obligation described in paragraph (1) of this regulation does not apply to a supply to a single private dwelling where the water is not used as part of a commercial or public activity but the Department must offer appropriate advice to the relevant person in order to protect human health.

(3) The Department must ensure that a monitoring programme established under paragraph 1 is kept under review and updated or reconfirmed at least every 5 years.

Large supplies and supplies as part of a commercial or public premises

10.—(1) Paragraph (2) applies in the case of a private water supply that—

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

(b) supplies water as part of a commercial activity or to public land.

(2) Where this paragraph applies, the Department must monitor for any parameter in Schedule 1 in accordance with Schedule 3 and carry out any additional monitoring that a risk assessment shows to be necessary.

Other private supplies

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

(a) conductivity;

(b) enterococci;

(c) Escherichia coli (E.Coli);

(d) hydrogen ion concentration;

(e) turbidity; and

(f) any parameter in Schedule 1 identified in the risk assessment as being a potential risk to human health.

(2) The frequency of monitoring may be reduced to once every 5 years in accordance with the results of a risk assessment.

Sampling and analysis

12.—(1) When the Department monitors a private supply it must 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 those purposes; or

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

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

(6) Samples taken in accordance with this regulation must be taken at regular intervals so as to be representative of the quality of the water consumed throughout the year.

(7) The further provisions for sampling and analysis in Schedule 4 apply.

Maintenance of records

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

Publication of information

14.—(1) The Department must publish annually a report about private supplies monitored under these regulations.

(2) The report must 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 4

Action in The Event of Failure

Provision of information

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

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

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

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

(2) The Department must notify the Public Health Agency and the District Council for the district in which the private supply is situated regarding the steps taken under paragraph (1).

Investigation

16. The Department must carry out an investigation to establish the cause if it suspects that a private water supply monitored under these regulations is unwholesome or if an indicator parameter in a sample exceeds the concentrations or values prescribed in Schedule 1.

Procedure following investigation

17.—(1) Once the Department has established the cause of the water being unwholesome in a private water supply monitored under these regulations, it must act in accordance with paragraphs (2) to (4).

(2) If the cause of the water not being wholesome is attributable to the domestic distribution system within a private dwelling, the Department must promptly offer advice to the consumers 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 a relevant 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 must serve a notice in accordance with Article 119 of the 2006 Order or serve a notice under regulation 19, if the conditions in that regulation are fulfilled.

(4) Before serving a notice the Department must 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) A relevant 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 result in a risk to human health; and

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

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

(a) the relevant person;

(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 relevant person, 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 must 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 must be as short as possible and in any event must not exceed three years.

(6) The Department must 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 must 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 unless it considers the reason for the authorisation to be trivial and action is carried out which remedies the problem within 30 days.

(8) Towards the end of the duration of the authorisation the Department must 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 must 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 duration.

(10) If towards the end 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.

Notice on potential risk to human health

19.—(1) The Department must serve a notice under this regulation on a relevant person instead of a notice under Article 119 of the 2006 Order for a private water supply monitored under these regulations if—

(a) the supply is a potential 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 must prohibit the supply of water, or restrict what the water may be used for and must also specify—

(a) the relevant person;

(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 remedial action that the Department considers necessary to protect human health.

(3) The Department must ensure that consumers are promptly informed of the service of the notice and must provide any necessary advice to protect human health.

(4) The Department must notify the Public Health Agency, and District Council for the district in which the private supply is situated, regarding a notice issued under this regulation.

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

(6) The Department must revoke the notice as soon as there is no longer a potential risk to human health.

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 5

Offences and Penalties

Offences and penalties

22.—(1) It is an offence to fail to comply with a notice served under regulation 19.

(2) A person guilty of an offence under paragraph (1) 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.

(3) 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 6

Transitional Provisions

Transitional Provisions

23.—(1) Any authorisation granted by the Department under regulation 18 and Schedule 4 Part 1 paragraph 3 of the 2009 Regulations and which has not been revoked or expired by 27 October 2017 shall have effect as if granted under regulation 18 and Schedule 4 Part 1 paragraph 3(1) of these Regulations.

(2) Any notice served by the Department under regulation 19 of the 2009 Regulations and which has not been revoked or expired by 27 October 2017 shall have effect as if granted under regulation 19 of these Regulations.

Revocations

24. The Private Water Supplies Regulations (Northern Ireland) 2009(**17**), the Private Water Supplies (Amendment) Regulations (Northern Ireland) 2010(**18**), and the Private Water Supplies (Amendment) Regulations (Northern Ireland) 2015(**19**) are revoked.

Sealed with the Official Seal of the Department of Agriculture, Environment and Rural Affairs on 6th October 2017

L.S.

Dave Foster
A senior officer of the
Department

(**17**) S.R. 2009 No. 413
(**18**) S.R. 2010 No. 131
(**19**) S.R. 2015 No. 366

SCHEDULE 1 Regulation 5

Prescribed Concentrations and Values

PART 1

Wholesomeness

TABLE A

MICROBIOLOGICAL PARAMETERS

Prescribed concentrations and values

Parameter	*Parametric value* *(number/volume)*
Enterococci	0/100 ml
Escherichia coli (E.Coli)	0/100 ml

TABLE B

CHEMICAL PARAMETERS

Prescribed concentrations and values

Part I: Directive requirements -Prescribed concentrations and values

Parameter	*Parametric value*	*Unit*
Acrylamide[(1)]	0.10	µg/l
Antimony	5.0	µg/l
Arsenic	10	µg/l
Benzene	1.0	µg/l
Benzo(a)pyrene	0.010	µg/l
Boron	1.0	mg/l
Bromate[(2)]	10	µg/l
Cadmium	5.0	µg/l
Chromium	50	µg/l
Copper	2.0	mg/l
Cyanide	50	µg/l
1,2-dichloroethane	3.0	µg/l
Epichlorohydrin[(1)]	0.10	µg/l
Fluoride	1.5	mg/l
Lead	10	µg/l

Parameter	*Parametric value*	*Unit*
Mercury	1.0	µg/l
Nickel	20	µg/l
Nitrate[(3)]	50	mg/l
Nitrite[(3)(4)]	0.50	mg/l
	0.10[(4)]	mg/l
Pesticides[(5)(6)] —		
Aldrin	0.030	µg/l
Dieldrin	0.030	µg/l
Heptachlor	0.030	µg/l
Heptachlor epoxide	0.030	µg/l
Other pesticide	0.10	µg/l
Pesticides: total[(5)(7)]	0.50	µg/l
Polycyclic aromatic hydrocarbons[(8)]	0.10	µg/l
Selenium	10	µg/l
Tetrachloroethene and trichloroethene[(9)]	10	µg/l
Trihalomethanes: total[(9)(10)]	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) Where possible, without compromising disinfection, a relevant person (in relation to a supply of water for human consumption purposes) must strive for a lower value.

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

(4) The additional parametric value of 0.10 mg/l applies only if the water is subject to treatment to improve its quality. The point of compliance for this additional parametric value is the point at which the water flows out from the treatment works.

(5) "Pesticide" means an organic insecticide, organic herbicide, organic fungicide, organic nematocide, organic acaricide, organic algicide, organic rodenticide, organic slimicide, a related product (including inter alia, growth regulator) and any relevant metabolite, degradation or reaction product. Only those pesticides which are likely to be present in a supply of water need to be monitored.

(6) "Other pesticide" means a pesticide other than aldrin, dieldrin, heptachlor and heptachlor epoxide. The parametric value applies to each "other pesticide" individually.

(7) The parametric value for this parameter is the sum of all individual pesticides detected and quantified in the monitoring procedure.

(8) The parametric value for this parameter is the sum of the concentrations of benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(ghi)perylene and indeno(1,2,3-cd)pyrene.

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

(10) The specified compounds are chloroform, bromoform, dibromochloromethane, bromodichloromethane and the parametric value applies to the sum of the concentrations of the individual compounds detected and quantified in the monitoring process.

Part II: National Requirements

Aluminium	200	µg/l

Colour	20	mg/l Pt/Co
Iron	200	µg/l
Manganese	50	µg/l
Odour	Acceptable to consumers and no abnormal change	
Sodium	200	mg/l
Taste	Acceptable to consumers and no abnormal change	
Tetrachloromethane	3	µg/l
Turbidity	4	NTU

PART 2

Indicator Parameters

TABLE C

Prescribed concentrations and values

Parameter	*Parametric value*	*Unit*
Ammonium	0.50	mg/l
Chloride[(1)]	250	mg/l
Clostridium perfringens (including spores)	0	number/100 ml
Coliform bacteria	0	Number/100ml
Colony count 22 °C	No abnormal change	number/1 ml
Conductivity[(1)]	2500	µS/cm at 20 °C
Hydrogen ion concentration[(1)]	≥ 6.5 and ≤ 9.5	pH units
Indicative Dose (for radioactivity)[(2)(3)(4)]	0.10	mSv

(1) The water must not be aggressive.

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

(3) Where treatment to reduce the level of radionuclides in water intended for human consumption has been taken, monitoring must be carried out under Schedule 3 Part 1 to ensure efficacy of treatment.

(4) If the gross alpha activity exceeds 0.1Bq/l or the gross beta activity exceeds 1.0Bq/l analysis for specific radionuclides is required.

(5) If tritium concentration exceeds its parametric value an investigation (which may include analysis) of the presence of other artificial radionuclides must be carried out.

(6) Remedial action is deemed to be justified on radiological ground without further consideration, where radon exceeds 1,000Bq/l.

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

Parameter	*Parametric value*	*Unit*
Sulphate[(1)]	250	mg/l
Radon (for radioactivity)[(3)(6)]	100	Bq/l
Total organic carbon	No abnormal change	mg/l
Tritium (for radioactivity)[(3)(5)]	100	Bq/l
Turbidity[(7)]	1	NTU

(1) The water must not be aggressive.

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

(3) Where treatment to reduce the level of radionuclides in water intended for human consumption has been taken, monitoring must be carried out under Schedule 3 Part 1 to ensure efficacy of treatment.

(4) If the gross alpha activity exceeds 0.1Bq/l or the gross beta activity exceeds 1.0Bq/l analysis for specific radionuclides is required.

(5) If tritium concentration exceeds its parametric value an investigation (which may include analysis) of the presence of other artificial radionuclides must be carried out.

(6) Remedial action is deemed to be justified on radiological ground without further consideration, where radon exceeds 1,000Bq/l.

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

SCHEDULE 2

Regulation 9

Monitoring Programmes

Monitoring programmes

1.—(1) A monitoring programme for a private water supply established under regulation 9 must—

(a) verify that—

(i) the measures in place to control risks to human health throughout the water supply chain (from the catchment area through abstraction, treatment and storage to distribution) are working effectively; and

(ii) water at the point of compliance is wholesome;

(b) subject to regulation 11, provide information on the quality of water supplied for human consumption to—

(i) demonstrate whether or not the water complies with prescribed concentrations and values for parameters in Schedule 1;

(ii) determine the organoleptic and microbiological quality of the water; and

(iii) establish the effectiveness of the treatment of the water, particularly of disinfection where it is used.

(c) identify the most appropriate means of mitigating any risk to human health.

(d) have regard to Schedule 3.

(2) A monitoring programme must consist of either—

(a) the collection and analysis of discrete water samples; or

(b) measurement recorded by a continuous monitoring process,

or a combination of both of the methods described in sub-paragraphs (a) and (b).

(3) In addition, monitoring programmes may consist of—

(a) inspections of records of the functionality and maintenance status of equipment; and

(b) inspections of the catchment area, water abstraction, treatment, storage and distribution infrastructure.

(4) The monitoring programme may be based on the findings of a risk assessment as set out in regulation 7.

(5) When choosing appropriate parameters and other micro-organisms, parasites or substances for monitoring programmes, local conditions for each private water supply system must be taken into consideration.

SCHEDULE 3

Regulation 10

Monitoring for Group A and Group B Parameters

Part 1

Monitoring for Group A parameters

Sampling

1.—(1) The Department must monitor for a Group A parameter in accordance with this Part.

(2) "Monitoring for a Group A parameter" means sampling for—

(a) each parameter listed in column 1 of Table 1 of this Schedule in the circumstances listed in the entry which corresponds with that parameter in column 2 of Table 1 of this Schedule; and

(b) any other parameter which may be identified as relevant by the Department in the monitoring programme.

TABLE 1

Group A parameters

(1) Parameter	*(2) Circumstances*
Aluminium[(1)]	If used as water treatment chemicals or where the water originates from, or is influenced by, surface waters
Ammonium	Where chloramination is practised
Coliform bacteria	In all supplies
Colony Counts	In all supplies
Colour	In all supplies
Conductivity	In all supplies

(1) A supply which consists of both groundwater and surface water shall be deemed to be a supply which consists only of surface water.

(1) Parameter	*(2) Circumstances*
Disinfectant residual	When disinfection treatment is practised
Escherichia coli (E. coli)	In all supplies
Indicative Dose	Where there is treatment in place to reduce the level of radionuclides in water intended for human consumption.
Iron[(1)]	If used as water treatment chemicals or where the water originates from, or is influenced by, surface waters
Manganese[(1)]	Where the water originates from, or is influenced by, surface waters
Nitrite	Where chloramination is practised
Odour	In all supplies
pH (Hydrogen ion)	In all supplies
Radon	Where there is treatment in place to reduce the level of radionuclides in water intended for human consumption.
Taste	In all supplies
Tritium	Where there is treatment in place to reduce the level of radionuclides in water intended for human consumption.
Turbidity	In all supplies

(1) A supply which consists of both groundwater and surface water shall be deemed to be a supply which consists only of surface water.

2.—(1) Sampling for a Group A parameter which is not a radioactive substance must be undertaken at the frequencies specified in Table 2 for those parameters.

(2) Sampling for a Group A parameter which is a radioactive substance must be undertaken at the frequencies specified in Table 3 for those parameters.

TABLE 2

Sampling frequency of sampling for Group A parameters (non radioactive substances)

Volume m^3/day(calculated as averages taken over a calendar year)	*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

Volume m^3/day(calculated as averages taken over a calendar year)	*Sampling frequency per year*
> 7,000 ≤ 8,000	28
> 8,000 ≤ 9,000	31
> 9,000 ≤ 10,000	34
> 10,000	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)

TABLE 3

Minimum frequency of sampling for Group A monitoring radioactive substances

Volume m^3 /day (calculated as averages taken over a calendar year)	*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)
> 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)

PART 2

Monitoring for Group B Parameters

Sampling

3.—(1) The Department must monitor for a Group B parameter in accordance with this Part.

(2) "Monitoring for a Group B parameter" means sampling for each parameter listed in Schedule 1 (other than parameters already being monitored for Group A parameter monitoring).

Frequency of sampling

4.—(1) Sampling for a Group B parameter must be undertaken at the frequencies specified in Table 4 for those parameters.

TABLE 4

Minimum frequency of sampling for Group B parameters

Volume m^3 /day (calculated as averages taken over a calendar year)	*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)
> 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)

PART 3

Deviation from monitoring requirements of Group A and Group B monitoring

Deviation from standard parameters and frequencies

5.—(1) The Department may, provided that a risk assessment is performed in accordance with regulation 7 and subject to paragraphs (6) and (7) deviate from the requirements of Group A and Group B monitoring required by this Schedule.

(2) Based on the results of a risk assessment and in accordance with paragraph (1), the list of parameters in this Schedule including any other micro-organism, parasite or substance included in the Group A or Group B parameters (except radon, tritium and indicative dose), must be extended and/or the minimum sampling frequencies in this Schedule increased by the Department if the list of parameters, substances or microorganisms or frequencies required to be monitored is not sufficient to;

(a) be representative of the water consumed throughout the year;

(b) verify that the obligations imposed by regulation 6(2) have been met;

(c) ensure the obligations in paragraph 1(1)(a) of Schedule 2 have been met;

(d) verify that the requirements of regulation 5(a) have been met.

(3) In accordance with paragraph (1) and subject to paragraphs (4) and (5) the sampling frequency for a parameter in this Schedule including any other micro-organism, parasite or substance included in the Group A or Group B parameters (except radon, tritium and indicative dose), may be reduced or the parameter removed (except radon, tritium and indicative dose) from the list of parameters to be monitored under this Schedule provided that the following conditions are met—

(a) the monitoring for *Escherichia coli (E. Coli.)* is not removed from the monitoring programme and the frequency of monitoring is not reduced below the frequency required by this Schedule ; and

(b) for other parameters in the list—

(i) the location and frequency of sampling is determined in relation to the parameter's origin, as well as the variability and long term trend of its concentration, taking into account the prescribed concentration and values in Schedule 1;

(ii) to reduce the sampling frequency for a parameter under this Schedule, the results obtained from samples collected at regular intervals over a period of at least 3 years must all be less than 60% of the prescribed concentration or value for the parameter;

(iii) to remove a parameter from the list of parameters to be monitored under this Schedule the results obtained from samples collected at regular intervals over a period of at least 3 years must all be less than 30% of the prescribed concentration or value of the parameter; and

(iv) to remove a parameter from the list of parameters to be monitored under this Schedule must be based on the result of a risk assessment, informed by the results of monitoring of sources of water under these Regulations and subject to confirmation that human health is protected from the adverse effects of any contamination of water.

(4) The sampling frequency for a parameter under this Schedule including any other micro-organism, parasite or substance included in the Group A or Group B parameters (except radon, tritium and indicative dose) may be reduced under paragraph (3)(b)(ii) only if the risk assessment confirms that no factor (that can be reasonably anticipated) is likely to cause deterioration of the quality of the water.

(5) Any such parameter may be removed from the list of parameters to be monitored under paragraph (3)(b)(iii) only if the risk assessment confirms that no factor (that can be reasonably anticipated) is likely to cause deterioration of the quality of the water.

(6) In the case of naturally occurring radionuclides, where previous results have shown that the concentration of radionuclides is stable, the frequency, in derogation from the minimum sampling requirements set out in Tables 3 and 4, may be reduced, taking into consideration the risk to human health.

(7) The Department is not required to monitor private supplies for radon or tritium or to establish the ID for a period of time to be determined by the Department, where it is satisfied on the basis of representative surveys carried out under regulation 8, monitoring data or other reliable information that the levels of radon, tritium or of the calculated ID will remain well below the respective parametric values or specifications.

(8) A notice of a decision not to monitor under sub-paragraph (7) along with supporting evidence for the decision including any representative surveys carried out under regulation 8, monitoring data or other reliable information must be communicated to the European Commission.

SCHEDULE 4

Regulation 12

Sampling and Analysis

PART 1

General

Samples: general

1. The Department must 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) for the chemical parameters copper, lead and nickel taken without prior flushing and is a random daytime sample of one litre volume;

(d) for chemical parameters in the distribution network be undertaken in accordance with ISO 5667-5, other than where the sample is taken from a consumer's tap;

(e) for microbiological parameters taken and handled according to EN ISO 19458, sampling purpose A and B;

(f) 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/measurement/observation for which the sample is to be analysed; and

(g) analysed as soon as may be possible 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 must ensure each sample is analysed in accordance with this paragraph and that analysis methods used are validated and documented in accordance with EN ISO/IEC 17025 or other equivalent standards accepted at an international level.

(2) For each parameter specified in the first column of Table A in Part 2 of this Schedule "Table A" the method of analysis is specified in the second column of that table.

(3) For each parameter specified in the first column of Table B in Part 2 of this Schedule "Table B" the method of analysis must be capable of measuring concentrations equal to the parametric value with a limit of quantification of 30% or less of the relevant parametric value set in Schedule 1 and an uncertainty of measurement as specified in Table B.

(4) The Department must not use the uncertainty of measurement in Table B as an additional tolerance to the parametric values set in Schedule 1.

(5) 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.

(6) The result of analysis of parameters under this regulation must be expressed using at least the same number of significant figures as for the associated parametric values in Part 1 of Schedule 1.

(7) For these purposes—

"limit of quantification" is to be calculated using an appropriate standard or sample, and may be obtained from the lowest calibration point on the calibration curve, excluding the blank; and

"measurement uncertainty" shall be estimated at the level of the parametric value, unless otherwise specified.

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), it may authorise its use instead of the prescribed method.

(2) The Department shall provide the European Commission with relevant information concerning such methods authorised in paragraph 3(1) and their equivalence.

(3) Until 31 December 2019 the Department may use "trueness", "precision" and "limit of detection" as specified in Table C in Part 2 of this Schedule ("Table C") as alternative sets of performance characteristics to "limit of quantification" and "uncertainty of measurement" specified in paragraph 6 and Table B of this Schedule.

(4) For the purposes of this paragraph the method of analysis for each parameter specified in the first column of Table C must be 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.

(5) For hydrogen ion, a method of analysis must be 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.

(6) 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.

(7) In the absence of an analytical method meeting the minimum performance criteria set out in sub-paragraph (3) and paragraph 2(3) the Department must ensure that monitoring is carried out using best available techniques not entailing excessive costs.

Laboratories

4. The Department must ensure that the laboratory at which samples are analysed has a system of analytical quality control in accordance with EN ISO/IEC 17025 or other equivalent standards accepted at an international level and 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 and Performance Characteristics

TABLE A

Prescribed methods of analysis

(1) Parameter	*(2) Method*
Clostridium perfringens (including spores)	EN ISO 14189

(1) Parameter	*(2) Method*
Coliform bacteria	EN ISO 9308-1 or EN ISO 9308-2
Colony count 22°C-enumeration of culturable microorganisms	EN ISO 6222
Enterococci	EN ISO 7899-2
Escherichia coli (*E. coli*)	EN ISO 9308-1 or EN ISO 9308-2
Pseudomonas aeruginosa	EN ISO 16266

TABLE B

Minimum performance characteristic: “uncertainty of measurement”

(1) Parameter[(1)]	*(2) Uncertainty of measurement (% of parametric value, except pH)*[(2)]
Aluminium	25
Ammonium	40
Antimony	40
Arsenic	30
Benzo(a)pyrene[(3)]	50
Benzene	40
Boron	25
Bromate	40
Cadmium	25
Chloride	15
Chromium	30
Colour	20
Conductivity	20
Copper	25
Cyanide[(4)]	30
1,2-dichloroethane	40
Fluoride	20
Hydrogen ion concentration pH (expressed in pH units)[(5)]	0.2
Iron	30
Lead	25
Manganese	30
Mercury	30

(1) Parameter[(1)]	*(2) Uncertainty of measurement (% of parametric value, except pH)*[(2)]
Nickel	25
Nitrate	15
Nitrite	20
Oxidisability[(6)]	50
Pesticides[(7)]	30
Polycyclic aromatic hydrocarbons[(8)]	50
Selenium	40
Sodium	15
Sulphate	15
Tetrachloroethene[(9)]	30
Tetrachloromethane	30
Trichloroethene[(9)]	40
Trihalomethanes: total[(8)]	40
Total organic carbon[(10)]	30
Turbidity[(11)]	30

(1) Acrylamide, epichlorohydrin and vinyl chloride to be controlled by product specification.

(2) Uncertainty of measurement is a non-negative parameter characterising the dispersion of the quantity values being attributed to a measurand, based on the information used. The performance criterion for measurement uncertainty (k = 2) is the percentage of the parametric value stated in the table or better. Measurement uncertainty must be estimated at the level of the parametric value, unless otherwise specified.

(3) If the value of uncertainty of measurement cannot be met, the best available technique should be selected (up to 60%).

(4) The method determines total cyanide in all forms.

(5) Values for trueness, precision and uncertainty of measurement are expressed in pH units.

(6) Reference method EN ISO 8467.

(7) The performance characteristics for individual pesticides are given as an indication. Values for the uncertainty of measurement as low as 30% can be achieved for several pesticides, higher values up to 80% may be allowed for a number of pesticides.

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

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

(10) The uncertainty of measurement should be estimated at the level of 3 mg/l of the total organic carbon. CEN 1484 Guidelines for the determination of total organic carbon and dissolved organic carbon must be used.

(11) The uncertainty of measurement must be estimated at the level of 1.0 NTU (nephelometric turbidity units) in accordance with EN ISO 7027.

TABLE C

Minimum performance characteristics: trueness, precision and limit of detection- may be used until 31 December 2019

(1) Parameter[1]	*(2) Trueness* *(% of parametric value, except for pH)*[2]	*(3) Precision* *(% of parametric value, except for pH)*[3]	*(4) Limit of detection* *(% of parametric value, except for pH)*[4]
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[5]	10	10	10
1,2-dichloroethane	25	25	10
Fluoride	10	10	10
Hydrogen ion concentration pH (expressed in pH units)[6]	0.2	0.2	
Iron	10	10	10
Lead	10	10	10
Manganese	10	10	10
Mercury	20	10	20
Nickel	10	10	10
Nitrate	10	10	10
Nitrite	10	10	10
Oxidisability[7]	50	25	10

(1) Parameter[(1)]	*(2) Trueness* *(% of parametric value, except for pH)*[(2)]	*(3) Precision* *(% of parametric value, except for pH)*[(3)]	*(4) Limit of detection* *(% of parametric value, except for pH)*[(4)]
Pesticides[(8)]	25	25	25
Polycyclic aromatic hydrocarbons[(9)]	25	25	25
Selenium	10	10	10
Sodium	10	10	10
Sulphate	10	10	10
Tetrachloroethene[(10)]	25	25	10
Tetrachloromethane	20	20	20
Trichloroethene[(10)]	25	25	10
Trihalomethanes: total[(9)]	25	25	10
Turbidity[(11)]	10	10	10
Turbidity[(12)]	25	25	25

(1) Acrylamide, epichlorohydrin and vinyl chloride to be controlled by product specification.

(2) Trueness is a measure of systematic error, i.e. the difference between the mean value of the large number of repeated measurements and the true value. Further specifications are those set out in ISO 5725.

(3) Precision is a measure of random error and is usually expressed as the standard deviation (within and between batches) of the spread of results from the mean. Acceptable precision is twice the relative standard deviation. This term is further specified in ISO 5725.

(4) Limit of detection is either three times the standard deviation within a batch of a natural sample containing a low concentration of the parameter; or five times the standard deviation of a blank sample (within a batch).

(5) The method determines total cyanide in all forms.

(6) Values for trueness, precision and uncertainty of measurement are expressed in pH units.

(7) Reference method EN ISO 8467.

(8) The performance characteristics for individual pesticides are given as an indication. Values for the uncertainty of measurement as low as 30% can be achieved for several pesticides, higher values up to 80 % may be allowed for a number of pesticides.

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

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

(11) The performance characteristics apply to prescribed value 4 NTU.

(12) The performance characteristics apply to prescribed value 1 NTU for water leaving surface water treatment works.

PART 3

Monitoring for Indicative Dose and Analytical Performance Characteristics

Monitoring for Compliance with the ID

6. Screening strategy for gross alpha activity and gross beta activity (**20**) may be used to monitor for the parametric indicator value for indicative dose.

If the gross alpha activity is less than 0.1 Bq/l and the gross beta activity is less than 1.0 Bq/l, it may be assumed that the total indicative dose is less than 0.1 mSv and radiological investigation is not needed unless it is known from other sources of information that specific radionuclides are present in water that are liable to cause an excess of 0.1 mSv.

If the gross alpha activity exceeds 0.1Bq/l or the gross beta activity exceeds 1.0Bq/l, analysis for specific radionuclides is required.

The radionuclides to be measured must be based on all relevant information about likely sources of radioactivity.

Calculation of the ID

7. The ID must be calculated from the measured radionuclide concentrations and the dose coefficients laid down in Annex III, Table A of Directive 96/29/Euratom(**21**) or more recent information recognised by the Department, on the basis of the annual intake of water (730l for adults).

Where the following formula is satisfied, it can be assumed that the ID is less than the parametric value of 0.1mSv and no further investigation is required.

$$\sum_{i=1}^{n} \frac{C_i(obs)}{C_i(der)} \leq 1$$

where

$C_i(obs)$ = observed concentration of radionuclide *i*

$C_i(der)$ = derived concentration of radionuclide *i* (see Table D)

n = number of radionuclides detected.

TABLE D

Derived concentrations for radioactivity in water intended for human consumption

Origin	*Radionuclide*[(1)]	*Derived concentration (Bq/l)*
Natural	U-238[(2)]	3.0
	U-234[(2)]	2.8

(1) This table includes values for the most common natural and artificial radionuclides; these are precise values, calculated for a dose of 0.1mSV, an annual intake of 730 litres and using the dose coefficients laid down in Annex III, Table A of Directive 96/29/Euratom; derived concentration for other radionuclides can be calculated on the same basis, and values can be updated on the basis of more recent information recognised by the Department.

(2) This allows only for the radiological properties of uranium, not for its chemical toxicity.

(**20**) Where appropriate gross beta activity may be replaced by residual beta activity after subtraction of the K-40 activity concentration.

(**21**) O.J. No. L159, 29.6.96, P. 27

Origin	*Radionuclide*[1]	*Derived concentration (Bq/l)*
	Ra-226	0.5
	Ra-228	0.2
	Pb-210	0.2
	Po-210	0.1
Artificial	C-14	240
	Sr-90	4.9
	Pu-239 / Pu-240	0.6
	Am-241	0.7
	Co-60	40
	Cs-134	7.2
	Cs-137	11
	I-131	6.2

(1) This table includes values for the most common natural and artificial radionuclides; these are precise values, calculated for a dose of 0.1mSV, an annual intake of 730 litres and using the dose coefficients laid down in Annex III, Table A of Directive 96/29/Euratom; derived concentration for other radionuclides can be calculated on the same basis, and values can be updated on the basis of more recent information recognised by the Department.

(2) This allows only for the radiological properties of uranium, not for its chemical toxicity.

Performance characteristics and method of analysis.

8. For the following parameters and radionuclides, the method of analysis used must, as a minimum be capable of measuring activity concentrations with a limit of detection specified below in Table E:

TABLE E

Parameters and radiouclides	*Limit of detection*[1][2]
Tritium	10 Bg/l[3]
Radon	10 Bg/l[3]
gross alpha activity	0.04 Bg/l[4]
gross beta activity	0.4 Bg/l[4]
U-238	0.02 Bg/l
U-234	0.02 Bg/l
Ra-226	0.04 Bg/l
Ra-228	0.02 Bg/l[5]
Pb-210	0.02 Bg/l
Po-210	0.01 Bg/l
C-14	20 Bg/l

Parameters and radiouclides	*Limit of detection*[(1)(2)]
Sr-90	0.4 Bg/l
Pu-239/Pu-240	0.04 Bg/l
Am-241	0.06 Bg/l
Co-60	0.5 Bg/l
Cs-134	0.5 Bg/l
Cs-137	0.5 Bg/l
I-131	0.5 Bg/l

(1) The limit of detection must be calculated according to the ISO standard 11929:2010 entitled "Determination of the characteristic limits (decision threshold, detection limit and limits of the confidence interval) for measurements of ionising radiation - Fundamentals and application", with probabilities of errors of 1st and 2nd kind of 0.05 each.

(2) Measurement uncertainties must be calculated and reported as complete standard uncertainties, or as expanded standard uncertainties with an expansion factor of 1.96, according to the ISO IEC Guide 98-3:2008 entitled "Guide to the expression of uncertainty in measurement".

(3) The limit of detection for tritium and for radon is 10% of the corresponding parametric value of 100 Bg/l.

(4) The limit of detection for gross alpha activity and gross beta activities is 40% of the screening values of 0.1 Bq/l and 1.0 Bq/l respectively.

(5) This limit of detection applies only to initial screening for indicative dose for a new water source. If initial checking indicates that it is unlikely that Ra-228 exceeds 20% of the derived concentration, the limit of detection may be increased to 0.08 Bq/l for routine Ra-228 nuclide specific measurements, until a subsequent re-check is required.

SCHEDULE 5

Regulation 13

Records

1.—(1) The Department must compile records to include—

(a) the name and address of every relevant 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;

(l) the details contained within each risk assessment carried out under regulation 7, including a summary of its results.

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

(3) The Department must keep the record for at least thirty years.

2.—(1) For each private supply the Department must 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, 8 and 9 and Schedules 2, 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 served under Article 119 of the Water and Sewerage Services (Northern Ireland) Order 2006(**22**);

(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 must keep the records of sampling and analysis for at least 30 years, and all other records under this paragraph for at least 10 years.

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) as amended by Commission Directive (EU) 2015/1787 and they also implement Council Directive 2013/51/EURATOM laying down requirements for the protection of the health of the general public with regard to radioactive substances in water intended for human consumption (O.J. No. L296, 7.11.2013 P.12) in relation to private water supplies specified in regulation 3. They revoke and replace the Private Water Supplies Regulations 2009 (S.R. 2009 No.413) (as amended) (the 2009 Regulations).

Part 2 of the Regulations deals with water standards, risk assessments and surveys. Regulation 5 and Schedule 1 define wholesomeness. Regulation 7 places a duty on the Department of Agriculture, Environment and Rural Affairs ("the Department") to carry out a risk assessment of a private water supply and Regulation 8 requires the Department to carry out Radon Representative Surveys.

Part 3 Schedule 2 and Schedule 3 deal with monitoring of private water supplies. Regulation 9 requires the Department to monitor private water supplies and establish monitoring programmes 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 must publish information annually.

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

Part 4 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 must serve a notice on potential risk to health. 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 has shown there will be no additional impact to these sectors in comparison to the impact imposed by the 2009 Regulations.