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**WATER AND SEWERAGE**

The Water Supply (Water Quality) Regulations (Northern  
Ireland) 2007

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The Department for Regional Development, in exercise of the powers conferred by upon it by Articles 107(1) and (3), 109 and 300(2)(f) of the Water and Sewerage Services (Northern Ireland) Order 2006<sup>(a)</sup> and being a designated<sup>(b)</sup> department for the purpose of section 2(2) of the European Communities Act 1972<sup>(c)</sup> in relation to measures relating to the quality of water intended for domestic purposes or for use in food production undertaking, makes the following Regulations:

PART I  
GENERAL

**Citation and Commencement**

1.—(1) These Regulations may be cited as the Water Supply (Water Quality) Regulations (Northern Ireland) 2007 and shall come into operation on the 1st April 2007.

**Interpretation**

2.—(1) In these Regulations —

“appropriate district council” and “appropriate health and social services board”—

- (a) in relation to a departure authorised under regulation 20 or 21 or an application for any such authorisation, means the district council and the health and social services board, respectively, whose area contains any part of the water supply zone to which the authorisation relates or, in the case of an application, would apply if a departure were authorised in the terms sought;
- (b) in relation to such an event as is mentioned in regulation 34(8), means the district council and the health and social services board, respectively, in whose area the event occurs;

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(a) S.I. No. 3336 (N.I. 21)  
(b) S.I. 1998/2793  
(c) 1972 c.68

“blending point” means a point at which water originating from two or more sources and treated for the purposes of their supply for regulation 4(1) purposes are combined under conditions that are designed to secure that, after such combination, the requirements of paragraph (2) of regulation 4 are met;

“Chapter III” means Chapter III (quality and sufficiency of supply) of part IV (Water Supply) of the Order;

“departure” means a permitted value outside the prescribed concentration or value(s);

““disinfection” means a process of water treatment—

(a) to remove; or

(b) 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;”;

“groundwater” means water contained in underground strata, or in

(a) a well, borehole or other similar work sunk into underground strata, including any adit or passage constructed in connection with the well, borehole or work for facilitating the collection of water in the well, borehole, or work, or,

(b) any excavation into underground strata where the level of water in the excavation depends wholly or mainly on water entering it from the strata;

““regional health and social services care trust” means a trust established under Chapter 1 of the Health and Social Care (Reform) Act (Northern Ireland) 2009;

“indicator parameter” means a parameter listed in Schedule 2;

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

“parameter” means a property, element, organism or substance listed in the second column of Table A or Table B in Schedule 1, or in Schedule 2, as read, where appropriate, with the notes to Schedule 2 and those Tables;

“pesticides and related products” means—

(a) any organic insecticide;

(b) any organic herbicide;

(c) any organic fungicide;

(d) any organic nematocide;

(e) any organic acaricide;

(f) any organic algicide;

(g) any organic rodenticide;

(h) any organic slimicide; and

(i) any product related to any of (a) to (h) (including any growth regulator), and includes their relevant metabolites, degradation and reaction products;

“prescribed concentration or value”, in relation to any parameter, means the maximum or minimum concentration or value specified in relation to that parameter in Table A or Table B in Schedule 1 as measured by reference to the unit of measurement so specified, and as read, where appropriate, with the notes to those Tables;

“regulation 4(1) purposes”, in relation to the supply of water, means a supply—

(a) for such domestic purposes as consist in or include, cooking, drinking, food preparation or washing; or

(b) [for any of those domestic purposes], to premises in which food is produced;

“sampling point” –

(c) in relation to water supplied from a distribution network, means a point, being a consumer’s tap, that is selected for the purposes of Part IV;

(d) in relation to water supplied from a tanker, means the point at which the water emerges from the tanker;

“specification”, in relation to an indicator parameter, means the concentration, value or state, shown as applicable to that parameter in Schedule 2 as measured by reference to the unit of measurement so shown;

“state”, in relation to an indicator parameter, means the state specified in relation to that parameter in Schedule 2 as measured by reference to the unit of measurement so specified;

“supply point” means a blending point, service reservoir, treatment works or other point, not being a sampling point, which the Department authorises for the purposes of regulation 6;

“underground strata” means strata subjacent to the surface of any land, and any reference to water contained in any underground strata is a reference to water so contained otherwise than in a public sewer, pipe, reservoir, tank or underground works contained in any such strata;

“water supply zone”, in relation to a water undertaker and a year, means an area designated for that year by that water undertaker in accordance with regulation 3; and

“year” means calendar year.

(2) Other expressions used both in these Regulations and in Council Directive 98/83/EC (on the quality of water intended for human consumption)(a) have the same meaning in these Regulations as they have in that Directive.

(3) Subject to paragraph (4), references in these Regulations to a service reservoir are references to any structure, other than a structure at a treatment works, in which a reserve of water that has been treated with a view to complying with the requirements of regulation 4 is contained and stored for the purpose of meeting a variable demand for the supply of water.

(4) Where references in these Regulations to a service reservoir would, but for this paragraph, include references to a structure comprising more than one compartment—

- (a) each compartment which has its own water inlet and water outlet and is not connected hydraulically to any other compartment shall be treated as a single service reservoir;
- (b) the compartments that are connected hydraulically shall be treated as a single service reservoir; and
- (c) unless all of the compartments are connected hydraulically, the structure as a whole shall not be treated as a service reservoir.

## PART II

### WATER SUPPLY ZONES

#### Water Supply Zones

3.—(1) Before the beginning of each year in which it intends to supply water for regulation 4(1) purposes, a water undertaker shall designate the names and areas within its area of supply that are to be its water supply zones for that year.

(2) A water supply zone may not comprise an area whose population immediately before the beginning of the year in question is estimated by the water undertaker to exceed 100,000.

“(2A) The water quality within a water supply zone shall be approximately uniform.”.

(3) A water undertaker may not vary a designation under paragraph (1) after the beginning of the year in relation to which the designation has effect.

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(a) O.J. L330, 5.12.98, p. 32

## PART III

### WHOLESOMENESS

#### Wholesomeness

4.—(1) Water supplied by a water undertaker—

(a) for such domestic purposes as consist in or include, cooking, drinking, food preparation or washing;

“(aa) in the case of water supplied in bottles or containers, the point at which the water first emerges from any bottle or container collected from a local distribution point;” or

(b) to premises in which food is produced,

shall, subject to paragraphs (4) and (5), be regarded as wholesome for the purposes of Chapter III, as it applies to the supply of water for those domestic purposes, if the requirements of paragraph (2) are satisfied.

(2) The requirements of this paragraph are—

(a) that the water does not contain—

(i) any micro-organism (other than a parameter listed in Schedule 1) or parasite; or

(ii) any substance (other than a parameter listed in Schedule 1),

at a concentration or value which would constitute a potential danger to human health;

(b) that the water does not contain any substance (whether or not a parameter) at a concentration or value which, in conjunction with any other substance it contains (whether or not a parameter) would constitute a potential danger to human health;

(c) that the water does not contain concentrations or values of the parameters listed in Tables A and B in Schedule 1 in excess of or, as the case may be, less than, the prescribed concentrations or values;

(d) that the water satisfies the formula  $\frac{[\text{nitrate}]}{50} + \frac{[\text{nitrite}]}{3} \leq 1$ , where the square brackets signify the concentrations in mg/l for nitrate (NO<sub>3</sub>) and nitrite (NO<sub>2</sub>).

(3) The point at which the requirements of paragraph (2), in so far as they relate to the parameters set out in Part I of Table A and in Table B in Schedule 1 are to be complied with is—

(a) in the case of water supplied from a tanker, the point at which the water emerges from the tanker;

(b) in any other case, the consumer's tap.

(4) Water supplied for regulation 4(1) purposes shall not be regarded as wholesome for the purposes of Chapter III if, on transfer from a treatment works for supply for those purposes—

(a) it contains a concentration of the coliform bacteria or *E. coli* parameter (items 1 and 2 in Part II of Table A in Schedule 1) in excess of the prescribed concentrations; or

(b) it contain a concentration of nitrite in excess of 0.1mgNO<sub>2</sub>/l.

(5) Subject to paragraph (6), water supplied for regulation 4(1) purposes shall not be regarded as wholesome for the purposes of Chapter III if, on transfer from a service reservoir for supply for those purposes, it contains a concentration of the coliform bacteria or *E. coli* parameter in excess of the prescribed concentrations.

(6) Water transferred from a service reservoir for supply for regulation 4(1) purposes shall not be regarded as unwholesome for the purposes of Chapter III because the maximum concentration for the coliform bacteria parameter is exceeded if, as regards the samples taken in any year in which the reservoir in question is in use, the results of analysis for that parameter establish that in at least 95 per cent of those samples coliforms were absent.

## PART IV

### MONITORING OF WATER SUPPLIES

#### **Interpretation and application of Part IV**

5.—(1) In this Part, “audit monitoring” means monitoring for the purpose of obtaining information from which it may be established—

- (a) as regards the parameters listed in Tables A and B in Schedule 1, whether water supplied for regulation 4(1) purposes satisfies the provisions of Part III or, if a departure has been authorised under Part VI in relation to that supply, those provisions as read with the terms of that departure; and
- (b) as regards indicator parameters, whether water supplied for regulation 4(1) purposes meets the specifications for those parameters.

(2) In this Part, “check monitoring” means monitoring for the purpose of obtaining information at regular intervals—

- (a) as to the organoleptic and microbiological quality of water; and
- (b) where relevant, as to the effectiveness of drinking-water treatment (particularly of disinfection),

for the purpose of determining—

- (i) as regards the parameters listed in Tables A and B in Schedule 1, whether water supplied for regulation 4(1) purposes satisfies the provisions of Part III or, if a departure has been authorised under Part VI in relation to that supply, those provisions as read with the terms of that departure; and
- (ii) as regards indicator parameters, whether water supplied for regulation 4(1) purposes meets the specifications for those parameters.

#### **Monitoring: general provisions**

6.—(1) For the purpose of determining whether water to which this Part applies satisfies the provisions of Part III or, if a departure has been authorised under Part VI in relation to that supply, those provisions as read with the terms of that authorisation, a water undertaker shall take, or cause to be taken, and analyse, or cause to be analysed, not less than the number of samples of the water within each of its water supply zones specified in, or in accordance with provisions of, this Part.

(2) Except in a case to which paragraph (3) applies, the parameters listed in Tables A and B in Schedule 1 and the indicator parameters shall be subject—

- (a) as regards a parameter listed in column (2) of Table 1 in Schedule 3, in relation to which there is no entry in column (3) of that Table, to check monitoring;
- (b) as regards a parameter so listed in relation to which there is an entry in column (3), check monitoring in the circumstances specified in that column;
- (c) in any other case, audit monitoring.

(3) Where—

- (a) the distribution of water in any part of a water supply zone is by tanker; and
- (b) is or is likely to be an intermittent short-term supply,

samples of water from each tanker from which water is distributed shall be taken 48 hours after the commencement of the distribution from that tanker and every 48 hours thereafter until the distribution is discontinued.

(4) Of the samples taken in accordance with paragraph (3) in relation to each distribution, the first shall be analysed for compliance with the parameters *E. coli*, hydrogen ion and conductivity (item 2 in Table A in Schedule 1, item 3 in Part II of Table B in that Schedule and item 6 in Schedule 2, respectively), and the second and any subsequent samples shall be analysed for compliance with those and every other parameter.

(5) For the purposes of the application of paragraph (2)(b) to the aluminium, *Clostridium perfringens*, iron and manganese parameters (items 1, 3, 10 and 11 in Table 1 in Schedule 3), a supply which consists of both groundwater and surface water shall be deemed to be a supply which consists only of surface water.

(6) The copper, lead and nickel parameters and, subject to paragraph (7), the parameters relevant to radioactivity (total indicative dose and tritium), shall be monitored in such manner as the Department shall determine and shall specify by notice in writing given to a water undertaker.

(7) If, in relation to any water supply zone, the Department is satisfied that water supplied to that zone for regulation 4(1) purposes—

(a) gives rise to a calculated total indicative dose in respect of radioactivity that is well below the specification; or

(b) contains levels of tritium that are well below the specification,

the Department shall notify the water undertaker that the total indicative dose parameter (item 9 in Schedule 2) or, as the case may be, the tritium parameter (item 11 in that Schedule), need not be monitored.

(8) The Department shall, by notice in writing—

(a) withdraw a notice under paragraph (7) given in relation to the total indicative dose parameter if it believes that water supplied to the zone in question for regulation 4(1) purposes gives rise to a calculated total indicative dose in respect of radioactivity that is not well below the specification;

(b) withdraw a notice under paragraph (7) given in relation to the tritium parameter if it believes that water supplied to the zone in question for regulation 4(1) purposes contains levels of tritium that are not well below the specification.

(9) Should a water undertaker receive a notice under paragraph (8) it shall monitor the total indicative dose parameter or, as the case may be, the tritium parameter in accordance with the notice having effect for the time being under paragraph (6).

### **Sampling points**

7. Except in relation to water supplied from a tanker, sampling points in respect of every parameter, other than a parameter for which samples are taken from a supply point authorised by or under regulation 8, shall be selected at random unless, by notice in writing to a water undertaker (whether or not on the application of the water undertaker), the Department otherwise determines.

### **Authorisation of supply points**

8.—(1) The Department, being satisfied that analysis of samples taken from—

(a) any blending point;

(b) the water leaving any service reservoir which receives water from a treatment works before its supply to any consumer; and

(c) the water leaving any treatment works,

shall produce data in respect of the parameters specified as items 7, 8, 9 to 15, and 17 to 25 in column (1) of Table 3 in Schedule 3 which are unlikely to differ in any material respect from the data that would be produced in respect of those parameters from analysis of samples obtained from sampling points, and hereby authorises the use for the purposes of regulation 6 of samples in relation to those parameters taken from a water supply zone from a blending point, a service reservoir of that description or a treatment works.

(2) Subject to paragraph (3), the Department may, in relation to any parameter not covered by the authorisation in paragraph (1), on the written application of a water undertaker, authorise the use for the purposes of regulation 6 of samples taken for a water supply zone otherwise than from a sampling point; and any such authorisation may extend to all samples in relation to that parameter or to such number or proportion of those samples as is specified in the authorisation.

(3) The Department shall not grant an authorisation under paragraph (2) unless it is satisfied that analysis of samples taken from a point other than a sampling point will produce data in respect of the parameter in question which are unlikely to differ in any material respect from the data that would be produced in respect of that parameter from analysis of samples obtained from sampling points.

(4) Subject to paragraph (5), the Department may at any time modify or revoke an authorisation under paragraph (2).

(5) Unless it appears to the Department that the immediate modification or revocation of an authorisation under paragraph (2) is required in the interests of public health, it shall not modify or revoke such an authorisation without giving the water undertaker at least six weeks' notice of the Department's intention to modify or revoke.

(6) A water undertaker shall notify the Department as soon as it has reasonable grounds for believing that an analysis of samples taken for a water supply zone from a point other than a sampling point would produce data in respect of the parameter in question which would differ in a material respect from the data produced by an analysis of samples taken from any of the sampling points within that zone; and the Department shall thereupon, and without the need for prior notice to the water undertaker, revoke the authorisation.

### **Number of samples**

**9.**—(1) Subject to paragraph (2), in each year a water undertaker shall take, or cause to be taken—

(a) from its sampling points; or

(b) to the extent authorised by or under regulation 8, from its supply points,

the standard number of samples for analysis as regards residual disinfectant and each parameter listed in column (1) of Table 2 in Schedule 3 or, as the case may be, Table 3 in that Schedule.

(2) Where, in respect of a parameter subject to check monitoring—

(a) a water undertaker is of the opinion that the quality of water supplied by it to a water supply zone is unlikely to deteriorate; and

(b) in each of two successive years the results of samples taken, subject to paragraph (3), in accordance with these Regulations show no significant variation and—

(i) if the parameter is colony counts, have shown no abnormal change;

(ii) if the parameter is hydrogen ion (item 9 in Table 1), have established a pH value that is not less than 6.5 and not more than 10.0;

(iii) in any other case, have established a concentration or value for that parameter that is significantly lower than the prescribed concentration or value, or specification,

the number of samples to be taken in the following year for that parameter may be the reduced number.

(3) Samples required to be taken by this regulation shall be taken at regular intervals.

(4) In this regulation—

(a) in relation to sampling points, residual disinfectant or a parameter and the supply of water to an estimated population within one of the ranges shown in column (2) of Table 2 in Schedule 3, “the standard number” and “the reduced number” means the number shown in column (4) and column (3), respectively, of that Table as applicable to that substance or parameter by reference to a population within that range;

(b) in relation to supply points, each of the parameters specified as items 7, 8 and 9 to 25 in column (1) of Table 3 in Schedule 3, and the supply of a volume of water within one of the ranges shown in column (3) of that Table, “the standard number” and “the reduced number” means, subject to sub-paragraph (c), the number shown in column (5) and column (4), respectively, of that Table as applicable to that parameter by reference to a volume supplied within that range; and

- (c) where a particular supply point is in use for part only of a year, “the standard number” and “the reduced number” means the number that bears to the number shown in column (5) and column (4), respectively, of Table 3, the same proportion as the number of days in that year in which the supply point has been in use bears to 365.

#### **Sampling: further provisions**

10. As soon as a water undertaker has reasonable grounds for believing that any element, organism or substance, other than residual disinfectant or a parameter, whether alone or in combination with a parameter or any other element, organism or substance, may cause the supply within any of its water supply zones to be a supply which does not satisfy—

- (a) the provisions of Part III or,  
(b) if a departure has been authorised under Part VI, those provisions as read with the terms of that authorisation,

it shall take, or cause to be taken, sufficient samples from water within that zone (whether from a service reservoir, a treatment works or otherwise) in respect of that element, organism or substance, in order to establish whether that water is wholesome.

## **PART V**

### **MONITORING – ADDITIONAL PROVISIONS**

#### **Interpretation of Part V**

11. In this Part, in relation to residual disinfectant or a parameter specified as item 1, 2, 3, 4 or 6 in column (1) of Table 3 in Schedule 3, and the supply of a volume of water within one of the ranges shown in column (3) of that Table, “the standard number” and “the reduced number” means the number shown in column (5) and column (4), respectively, of that Table as applicable to residual disinfectant or the parameter in question by reference to a volume of water within that range.

#### **Sampling for particular substances and parameters**

12. For the purposes of establishing the quality of water to be supplied to any of its water supply zones, a water undertaker shall take, or cause to be taken, and analyse, or cause to be analysed, not less than the number of samples specified in this Part.

#### **Sampling at treatment works**

13.—(1) Subject to paragraphs (2), (4) and (6), in each year a water undertaker shall take, or cause to be taken, from the point at which water leaves each treatment works which serves its water supply zones, the standard number of samples for analysis—

- (a) for determining the concentration of residual disinfectant;  
(b) for determining whether, in relation to the colony counts and turbidity parameters, water leaving treatment works meets the specifications for those parameters set out in Schedule 2; and  
(c) for testing for compliance with the prescribed concentrations or values in respect of the coliform bacteria, *E. coli*, and nitrite parameters for water leaving treatment works.

(2) Where in each of two successive years the results of the analysis of samples taken, subject to paragraph (3), in accordance with these Regulations have established—

- (a) in respect of the coliform bacteria, *E. coli* or nitrite parameter, that the maximum concentration has not been exceeded;  
(b) in respect of the turbidity parameter, that the specification has been met;

(c) in respect of the colony counts parameter, that there has been no significant increase, the number of samples to be taken in respect of that parameter in the next following year from the point at which water leaves that treatment works may, subject to paragraph (4), be the reduced number.

(3) In respect of the coliform bacteria parameter and the *E. coli* parameter, the reduced number of samples may be taken in accordance with paragraph (2) only if the water undertaker is of the opinion—

- (a) that there is no foreseeable risk that the supply will exceed the maximum concentration for that parameter; or
  - (b) that the treatment works is designed to secure that, in the event of a failure of the disinfection process, water that has not been disinfected cannot enter the supply.
- (4) Samples required to be taken by this regulation shall be taken at regular intervals.

(5) Where a particular treatment works is in use for part only of a year, the minimum number of samples to be taken from that works in that year shall bear to the standard number or, as the case may be, the reduced number, the same proportion as the number of days in that year in which the treatment works has been in use bears to 365.

### **Sampling at service reservoirs**

**14.** A water undertaker shall take, or cause to be taken, from each of its service reservoirs in each week in which the reservoir is in use, one sample for analysis—

- (a) for testing for compliance with the prescribed concentrations or values in respect of the parameters *E. coli* and coliform bacteria;
- (b) for determining the concentration of residual disinfectant; and
- (c) for determining whether the specification in relation to the colony counts parameter is met.

### **Sampling: new sources**

**15.—**(1) This regulation applies as respects—

- (a) any source which has not been used for the supply of water by the Department or a water undertaker at any time since 1st January 2004; and
- (b) any source which has been so used but not so used for a period of six months preceding the date on which the water undertaker proposes to supply water from it.

(2) A water undertaker shall—

- (a) before it supplies water from a source mentioned in paragraph (1)(a); and
- (b) as soon as is reasonably practicable after it has begun to supply water from a source mentioned in paragraph (1)(b),

take, or cause to be taken, in accordance with paragraph (3), such samples of that water as will enable it to establish—

- (aa) whether water can be supplied from that source without contravening Article 108(1) of the Order; and
- (bb) the treatment necessary to ensure that Article 108(1) of the Order is complied with in relation to the supply of that water.

(3) Samples shall be taken—

- (a) in the case of a source mentioned in paragraph (1)(a), in respect of—
  - (i) the parameters listed in Schedules 1 and 2; and
  - (ii) any other element, organism or substance which, in the opinion of the water undertaker, may cause the supply to contravene Article 108(1) of the Order;
- (b) in the case of a source mentioned in paragraph (1)(b), in respect of—

- (i) the parameters listed in Table A in Schedule 1;
  - (ii) the conductivity, hydrogen ion and turbidity parameters; and
  - (iii) any other parameter as regards which the water undertaker is of the opinion that its concentration or value is likely to have altered since the last occasion on which water from that source was analysed.
- (4) Unless the conditions in paragraph (5) are satisfied, a water undertaker shall not supply water from a source mentioned in paragraph (1)(a) for regulation 4(1) purposes until three months have passed following the day on which the water undertaker complied with regulation 28(1) with respect to the source.
- (5) The conditions are the water undertaker—
- (a) must supply water from the source as a matter of urgency in order to prevent an unexpected interruption in piped supply to consumers; and
  - (b) before the supply is made, has carried out a risk assessment under regulation 27 specifically with respect to the source.
- (6) For the purposes of paragraph (5)(b), regulation 27 shall apply for supplies made as a matter of urgency as if “treatment works” includes a source from which untreated water is supplied.”.

### Collection and analysis of samples

16.—(1) A water undertaker shall secure, so far as is reasonably practicable, that in taking, handling, transporting, storing and analysing any sample required to be taken for the purposes of Part IV or this Part, or causing any such sample to be taken, handled, transported, stored and analysed, the appropriate requirements are satisfied.

(2) In paragraph (1) “the appropriate requirements” means such of the following requirements as are applicable—

- (a) the sample is representative of the quality of the water at the time of sampling;
- (b) the sample is not contaminated when being taken;
- (c) the sample is kept at such temperature and in such conditions as will secure that there is no material alteration of the concentration or value for the measurement or observation of which the sample is intended;
- (d) the sample is analysed as soon as may be after it has been taken—
  - (i) by or under the supervision of a person who is competent to perform that task; and
  - (ii) with the use of such equipment as is suitable for the purpose;
- (e) 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—
  - (i) not under the control of either the laboratory or the water undertaker; and
  - (ii) approved by the Department for that purpose.

(3) For the purposes of paragraph (2)(e), “laboratory” means a person who undertakes the analysis of samples for the purposes of this Part, whether at the time and place at which the samples are taken or otherwise.

(4) A water undertaker shall maintain such records as are sufficient to enable it to establish, in relation to each sample taken for the purposes of Part IV or this Part, that such of the appropriate requirements as are applicable to that sample have been satisfied.

(5) Subject to paragraph (7), for the purpose of establishing, within acceptable limits of deviation and detection, whether the sample contains concentrations or values which contravene the prescribed concentrations or values, or exceed the specifications for indicator parameters—

- (a) the method of analysis specified in column (2) of Table A1 in Schedule 4 shall be used for the parameter specified in relation to that method in column (1);

- (b) the method of analysis used for a parameter specified in column (1) of Table A2 in that Schedule must be capable, at the time of use—
    - (i) of measuring concentrations and values equal to the parametric value with the trueness and precision specified in relation to that parameter in columns (2) and (3) of that Table; and
    - (ii) of detecting the parameter at the limit of detection specified in relation to that parameter in column (4) of that Table;
  - (c) the method of analysis used for determining compliance with the hydrogen ion parameter must be capable, at the time of use, of measuring concentrations equal to the parametric value with a trueness of 0.2 pH unit and a precision of 0.2 pH unit; and
  - (d) the method of analysis used for the odour and taste parameters must be capable, at the time of use, of measuring values equal to the parametric value with a precision of 1 dilution number at 25°C.
- (6) For the purposes of paragraph (5)—  
 “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) Subject to paragraph (9), the Department may, on the application of any person, authorise a method of analysis other than that specified in paragraph (5)(a) (“the prescribed method”).
- (8) An application for the purposes of paragraph (7) shall be made in writing and shall be accompanied by—
- (a) a description of the method of analysis; and
  - (b) the results of the tests carried out to demonstrate the reliability of that method and its equivalence to the prescribed method.
- (9) The Department shall not authorise the use of the method proposed in the application unless it is satisfied that the results obtained by the use of that method are at least as reliable as those produced by the use of the prescribed method.
- (10) An authorisation under paragraph (7) may be subject to such conditions as the Department thinks fit.
- (11) The Department may at any time, by notice in writing served on the water undertaker to which an authorisation under paragraph (7) has been given, revoke the authorisation, but no such notice shall be served later than three months before the date on which the revocation is stated to take effect.

## PART VA

### DRINKING WATER PROTECTED AREAS

#### **Drinking water abstraction points: monitoring sites**

**16A.—**(1) A water undertaker shall identify every point from which it abstracts water for supply for regulation 4(1) purposes.

(2) At every abstraction point, a water undertaker shall take, or cause to be taken, such samples, and analyse, or cause to be analysed, those samples for such properties, organisms and substances as it considers necessary in order to satisfy the requirements of regulations 26 to 28.

(3) In relation to any abstraction point, the Department may, by notice served on a water undertaker, require it—

- (a) to take, or cause to be taken, such numbers of samples of water per year as may be specified; and
- (b) to analyse, or cause to be analysed, those samples for such concentrations or values of such properties, organisms and substances as may be specified and at such frequencies as may be specified; and
- (c) to provide the information collected to the Department of the Environment.

(4) The Department may, by notice served on a water undertaker, revoke or amend a notice served under paragraph (3).

(5) Paragraphs (2) and (3) shall be in accordance with such relevant standards as may be specified by the Department by notice served on a water undertaker.

(6) For the purposes of—

- (a) paragraphs (2) and (3) “abstraction point” means an abstraction point identified under paragraph (1);
- (b) paragraph (3), “specified” means specified in the notice served under that paragraph.

### **Additional Monitoring requirements for EC Directive 2000/60/EC Annex X purposes**

**16B.**—(1) This regulation applies to every body of surface water which provides more than 100 cubic metres of water per day as an average.

(2) Any analysis carried out under regulations 26 to 28, in order to satisfy the requirements of EC Directive 2000/60/EC Annex X, shall be carried out at no less than the following frequencies—

- (i) 4 per year, where the population served by the body of surface water is less than 10,000 people;
- (ii) 8 per year, where the population so served is from 10,000 to 30,000 people;
- (iii) 12 per year, where the population so served is greater than 30,000 people.

(3) In paragraph (1), “body of surface water” has the meaning given in Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for Community action in the field of water policy”.

## **PART VI**

### **INVESTIGATIONS, AUTHORISATION OF DEPARTURES AND REMEDIAL ACTION**

#### **Investigations: Schedule 1 parameters**

**17.**—(1) Subject to paragraph (3), where a water undertaker has reason to believe that water supplied by it for regulation 4(1) purposes—

- (a) fails, or is likely to fail, to satisfy a requirement of paragraph (2) of regulation 4; or
- (b) is to be regarded as unwholesome by virtue of paragraph (4) of that regulation; or
- (c) if paragraph (6) of that regulation were ignored, would be regarded as unwholesome by virtue of paragraph (5) of that regulation,

the water undertaker shall immediately take such steps as are necessary to identify the matters specified in paragraph (2).

(2) The matters referred to in paragraph (1) are—

- (a) the cause and extent of the failure or, as the case may be, the apprehended failure;

- (b) the Schedule 1 parameters in respect of which the prescribed concentration or value has not been, or is unlikely to be, achieved; and
  - (c) in relation to each parameter so identified, whether the failure, or apprehended failure, to achieve the prescribed concentration or value is attributable—
    - (i) to the domestic distribution system;
    - (ii) to the maintenance of that system; or
    - (iii) to neither of those matters.
- (3) Where a departure has been authorised under this part—
- (a) paragraph (1) shall apply only in respect of the Schedule 1 parameters (if any) that are not specified in the authorisation; and
  - (b) if a water undertaker has reason to believe that water supplied by it for regulation 4(1) purposes fails, or is likely to fail, to satisfy the concentration or value required by the authorisation in relation to any Schedule 1 parameter, a water undertaker shall immediately take such steps as are necessary to identify the matters specified in paragraph (4).
- (4) The matters referred to in paragraph (3) are—
- (a) the cause and extent of the failure or, as the case may be, the apprehended failure;
  - (b) the Schedule 1 parameters in respect of which the required concentration or value has not been, or is unlikely to be, achieved; and
  - (c) in relation to each parameter so identified, whether the failure, or apprehended failure, to achieve that concentration or value is attributable—
    - (i) to the domestic distribution system;
    - (ii) to the maintenance of that system; or
    - (iii) to neither of those matters.
- (5) As soon as may be after the matters specified in paragraph (2) or (4), as the case may be, have been identified, the water undertaker shall notify the Department—
- (a) of those matters;
  - (b) in relation to each parameter identified in accordance with paragraph (2)(b) or (4)(b), whether it is the opinion of the water undertaker that a failure in respect of that parameter is likely to recur; and
  - (c) of the action (if any) taken by the water undertaker in relation to a failure which is attributable to the domestic distribution system or the maintenance of that system.
- (6) Where the water undertaker has identified a failure attributable to the domestic distribution system or to the maintenance of that system, it shall, at the same time as notification is given under paragraph (5)—
- (a) by notice in writing to those of its consumers—
    - (i) to whom it supplies water for regulation 4(1) purposes; and
    - (ii) who are likely to be affected by the failure,
 inform them of the nature of the failure and provide details of the steps (if any) that, in the opinion of the water undertaker, it is necessary or desirable for those consumers to take in the interests of their health; and
  - (b) send a copy of that notice to the Department and to each appropriate district council.
- (7) If the water undertaker has complied with the requirements of paragraphs (5) and (6) it need not, in respect of the same failure or apprehended failure, comply with the requirements of regulation 33(9).
- (8) Where such a failure as is mentioned in paragraph (6) affects the supply of water to the public in premises in which water is so supplied, the water undertaker shall, as soon as may be,

notify such persons as the Department may determine for the purposes of this paragraph of the matters of which notice is given to consumers in accordance with paragraph (6)(a).

(9) Where such a failure as is mentioned in paragraph (1) relates to the copper or lead parameter, the water undertaker shall, as soon as reasonably practicable after the occurrence, modify or replace such of its pipes and their associated fittings as it knows or has reason to believe have the potential for contributing to copper or lead in the water supplied to the premises, so as to eliminate that potential (whether or not the presence of copper or lead in those pipes contributed to the failure).

### **Investigations: indicator parameters**

**18.**—(1) Where the water undertaker has reason to believe that water supplied by it for regulation 4(1) purposes does not meet the specifications for indicator parameters set out in Schedule 2, it shall **immediately** take such steps as are necessary to identify—

- (a) the reason why the specifications are not met;
- (b) the indicator parameters in respect of which the specifications are not met; and
- (c) if the specification for the coliform bacteria or colony count parameter (items 4 and 5 in Schedule 2) is not met, whether the inability to meet that specification is attributable—
  - (i) to the domestic distribution system;
  - (ii) to the maintenance of that system; or
  - (iii) to neither of those matters.

(2) As soon as may be after the matters specified in paragraph (1) have been identified, the water undertaker shall notify the Department—

- (a) of those matters; and
- (b) in relation to each parameter identified in accordance with paragraph (1)(b), whether it is the opinion of the water undertaker that a recurrence of the inability to meet the specification in respect of that parameter is likely.

(3) Where, in a case to which paragraph (1)(c) applies, the inability to meet the specification has been identified as attributable to the domestic distribution system or to the maintenance of that system, the water undertaker shall, at the same time as notification is given under paragraph (2)—

- (a) by notice in writing to those of its consumers—
  - (i) to whom it supplies water for regulation 4(1) purposes; and
  - (ii) who are likely to be affected,

inform them of the nature of the problem and provide details of the steps (if any) that, in the opinion of the water undertaker, it is necessary or desirable for those consumers to take in the interests of their health; and

- (b) send a copy of that notice to the Department and to each appropriate district council.

(4) Where such an inability as is mentioned in paragraph (3) is, in the opinion of the water undertaker, likely to affect the supply of water to the public in premises in which water is so supplied, it shall, at the same time as notice is given under paragraph (2), notify such persons as the Department may determine for the purposes of this paragraph of the matters of which notice is given to consumers in accordance with paragraph (3)(a).

### **Action by the Department**

**19.**—(1) Where—

- (a) a notification given in accordance with paragraph (5) of regulation 17 in the circumstances mentioned in paragraph (1) of that regulation (including that paragraph as read with paragraph (3)(a)) discloses—

- (i) a failure in respect of a parameter specified in Part II of Table A or in Table B in Schedule 1; and
- (ii) that the failure is not attributable to the domestic distribution system of the maintenance of that system; and”.

(b) it appears to the Department that the failure is not trivial and is likely to recur, the Department may, by notice in writing to the water undertaker, require the undertaker to seek a departure in accordance with regulation 20.

(2) Where—

(a) a notification given in accordance with paragraph (5) of regulation 17 in the circumstances mentioned in paragraph (3)(b) of that regulation discloses —

- (i) a failure in relation to any parameter specified in Part II of Table A or in Table B in Schedule 1; and
- (ii) that the failure is not attributable to the domestic distribution system or the maintenance of that system; and

(b) it appears to the Department that the failure in respect of that parameter is not trivial and is likely to recur,

the Department shall consider whether the terms of the authorisation under regulation 20 should be modified.

(3) Where—

(a) a notification given in accordance with regulation 18(2) discloses an inability to meet the specification applicable to an indicator parameter; and

(b) the Department considers that the inability poses a risk to human health potential danger to human health,

the Department may shall, by notice in writing, require a water undertaker to take such steps as may be determined by the Department and specified in the notice.

(4) Should a notice be given under paragraph (3) it shall be the duty of the water undertaker to take the steps specified in the notice.

### **Authorisation of temporary supply of water that is not wholesome**

**20.**—(1) Subject to paragraph (2), the Department may, upon the written application of the water undertaker, authorise in accordance with regulation 21 a departure from the provisions of Part III in so far as they relate to—

- (a) a parameter specified in Part II of Table A or in Table B in Schedule 1; and
- (b) the supply of water by the water undertaker in any of its water supply zones.

(2) The Department shall not authorise a departure under paragraph (1) unless it is satisfied—

- (a) that the authorisation is necessary to maintain in that zone a supply of water for regulation 4(1) purposes;
- (b) that a supply of water for those purposes cannot be maintained in that zone by any other reasonable means; and
- (c) that the supply of water in accordance with the authorisation does not constitute a potential danger to human health.

(3) The water undertaker shall provide with its application—

- (a) a statement—
  - (i) of the grounds on which the authorisation is sought;
  - (ii) of the water supply zone in respect of which the authorisation is sought;
  - (iii) of the parameters in respect of which the prescribed concentration or value cannot be met;

- (iv) in respect of each parameter to which paragraph (iii) applies, of the results of the analysis of the samples taken in the water supply zone in question during the 12 months immediately preceding the first day on which the prescribed concentration or value could not be met;
  - (v) in respect of each parameter to which paragraph (iii) applies, of the results of the analysis of the samples (if any) taken in the water supply zone in question between the first day on which the prescribed concentration or value could not be met and the date of the application;
  - (vi) of the average daily quantity of water supplied to that zone or, if that quantity cannot readily be ascertained, of the average daily quantity of water supplied from the treatment works that supplies water to that zone;
  - (vii) of the estimated population of that zone;
  - (viii) as to whether, if a departure were authorised in the terms sought, any relevant food-production undertaking would be affected;
  - (ix) of the period for which the authorisation is sought; and
  - (x) of the reasons why the supply cannot be maintained by other reasonable means;
- (b) a scheme for monitoring the quality of water supplied in the zone during the period for which the authorisation is sought; and
- (c) a summary of the steps that it proposes to take in order to secure that the supply fully satisfies the requirements of Part III, including—
- (i) a timetable for the work;
  - (ii) an estimate of the cost of the work; and
  - (iii) provisions for reviewing the progress of the work and for reporting the result of the review to the Department.
- (4) At the same time as it makes an application for an authorisation under paragraph (1), the water undertaker shall serve on—
- (a) every appropriate district council;
  - (b) every appropriate health and social services board,
- a copy of the application and of the statement, scheme and summary referred to in paragraph (3).
- (5) A body on whom documents have been served in accordance with paragraph (4) may make representations to the Department in connection with the application; and any such representations shall be made not later than the end of the period of 30 days beginning with the date on which the application for the authorisation is made.

#### **Authorisations: terms and conditions**

**21.—**(1) Subject to paragraph (2), a departure may be authorised under regulation 20 for such period as is in the Department’s opinion reasonably required for securing a supply of water for regulation 4(1) purposes that fully satisfies the requirements of Part III (“the departure period”).

(2) No departure period may exceed three years.

(3) Subject to paragraph (4), an authorisation under regulation 20—

- (a) shall specify—
  - (i) the grounds on which it is granted;
  - (ii) every water supply zone in respect of which it is granted;
  - (iii) the extent to which a departure from the prescribed concentration or value of any parameter is authorised;
  - (iv) in respect of each parameter to which paragraph (iii) applies, the results of the analysis of the samples taken in each water supply zone in question during the 12

months immediately preceding the first day on which the prescribed concentration or value could not be met;

- (v) in respect of each parameter to which paragraph (iii) applies, the results of the analysis of the samples (if any) taken in each water supply zone in question between the first day on which the prescribed concentration or value could not be met and the date of the application;
  - (vi) the average daily quantity of water supplied from each of those zones or, if that quantity cannot readily be ascertained, the average daily quantity of water supplied from the treatment works that supplies water to that zone;
  - (vii) the estimated population of each of those zones;
  - (viii) whether or not any relevant food-production undertaking would be affected; and
  - (ix) the departure period; and
- (b) shall require the implementation of a scheme for monitoring the quality of water supplied in each of those zones during the departure period (which may be, but need not be, the scheme submitted in accordance with regulation 20(3)(b)); and
- (c) shall require the carrying out of the steps which, in its opinion, are reasonably required in order to secure that the supply fully satisfies the requirements of Part III (whether or not the steps are those proposed in the summary submitted in accordance with regulation 20(3)(c)); and
- (d) shall specify, in relation to those steps—
- (i) the timetable for the work;
  - (ii) an estimate of the cost of the work; and
  - (iii) provisions for reviewing the progress of the work and for reporting to it the result of the review; and
- (e) shall require the taking of such steps as may be specified to give to the population within the water supply zones to which the authorisation applies and, in particular, to those groups of that population for which the supply of water in accordance with the authorisation could present a special risk, advice as to the measures (if any) that it would be advisable in the interests of their health for persons within that population or those groups to take for the whole or any part of the departure period.

(4) Where the Department is of the opinion—

- (a) that the extent of the contravention of requirements of Part III as respects any parameter is trivial; and
- (b) that the prescribed concentration or value as respects that parameter is likely to be achieved within the period of 30 days beginning with the day on which the prescribed concentration or value in respect of that parameter was contravened,

the particulars to be specified in the authorisation shall be those required by paragraph (3)(a) (iii) and (ix), and sub-paragraphs (b) to (e) of that paragraph shall not apply.

(5) Where it appears to the Department that a supply of water that fully satisfies the requirements of Part III cannot be restored by the end of the departure period, it may authorise a further departure.

(6) Paragraphs (1) to (4) shall apply to a further departure as they apply to a departure authorised under regulation 20.

(7) Where it appears to the Department that a supply of water that fully satisfies the requirements of Part III cannot be restored by the end of the departure period relevant to an authorisation under paragraph (5), it may, in accordance with Article 9(2) of Council Directive 98/83/EEC, authorise a third departure.

(8) Paragraph (3) shall apply to a departure authorised under paragraph (7) as it applies to a departure authorised under regulation 20, but with the substitution for the words “Subject to paragraph (4)” of the words “Subject to any direction of the Commission”.

### **Authorisations: other limitations**

**22.** An authorisation under regulation 20 or regulation 21 may be limited to water supplied—

- (a) from particular sources or classes of source;
- (b) to particular water supply zones or to zones of particular descriptions.

### **Publicity for authorisations**

**23.—**(1) As soon as reasonably practicable after a departure has been authorised, the water undertaker shall—

- (a) publish in a newspaper circulating in the area in which the supply zone to which the authorisation relates is situated—
  - (i) except in a case to which paragraph (4) of regulation 21 applies, a notice containing a statement of the matters specified in paragraph (3)(a)(ii), (iii), (viii) and (ix) of that regulation;
  - (ii) in a case to which paragraph (4) of regulation 21 applies, and if the Department so requires, a notice containing a statement of the matters specified in paragraph (3)(a)(ii), (iii) and (ix) of that regulation;
- (b) give such other public notice of the authorisation and of its terms and conditions as the Department may, by notice in writing to the water undertaker, reasonably require.

“(2) As soon as reasonably practicable after a departure has been authorised, a water undertaker shall—

- (a) separately publish, by making accessible, free of charge, on its websites via a hyperlink maintained on its respective homepage for at least 14 days—
  - (i) except in a case to which paragraph (4) of regulation 21 applies, a notice containing a statement of the matters specified in paragraph (3)(a)(ii), (iii), (viii), and (ix) of that regulation; and
  - (ii) in a case to which paragraph (4) of regulation 21 applies, a notice containing a statement of the matter specified in paragraph (3)(a)(ii), (iii), and (ix) of that regulation; and
- (b) give such other public notice of the authorisation and of its terms and conditions as the Department may, by notice served on a water undertaker, reasonably require.”.

### **Revocation and modification of authorisations**

**24.—**(1) Subject to paragraphs (2) and (3), the Department may at any time modify or revoke an authorisation under regulation 20.

(2) The Department shall not revoke or modify an authorisation under regulation 20 without giving at least six months’ notice in writing of its intention to do so to—

- (a) the water undertaker;
- (b) the appropriate district council; and
- (c) the appropriate health and social services board,

but it may revoke or modify an authorisation without notice if it appears to it that immediate revocation or modification is required in the interests of public health.

(3) A water undertaker on whose application a departure has been authorised under this Part shall notify the Department as soon as the circumstances which gave rise to the application cease to exist; and the Department shall thereupon revoke the authorisation without the need for prior notice.

## PART VII

### WATER TREATMENT

#### Interpretation of Part VII

25. In this Part—

“the Guidance for *Cryptosporidium*” means ‘the Guidance for the Monitoring of *Cryptosporidium* in Treated Water in Northern Ireland’ issued by the Department of the Environment (published May 2002, First Edition, Revised February 2003);

““risk assessment”, in relation to a treatment works, means an assessment for that treatment works, to establish whether there is, or continues to be, a significant risk from any pathogenic micro-organism and pathogenic parasite, or any other substance, that would otherwise be present in the water.” and

“surface water” does not include water from a spring.

#### Treatment of raw water

26.—(1) In carrying out such of its functions under Part IV of the Order as comprise the supply of water for regulation 4(1) purposes, the water undertaker shall not, subject to paragraph (2), supply water from any source which consists of or includes raw water unless the water has been disinfected and, in the case of surface water, subjected to at least such further treatment as is specified in paragraph (3).

(2) Nothing in paragraph (1) shall require the water undertaker to disinfect such groundwaters as are specified in an authorisation given by the Department for the purposes of this paragraph.

(3) The further treatment mentioned in paragraph (1) is such treatment as is required to secure compliance with Council Directive 75/440/EC (quality required of surface water intended for the abstraction of drinking water)(a); and for the purposes of this regulation, surface water shall be treated as falling within category A1 or A2 or A3 set out in Annex I to that Directive if it is abstracted from waters for which the classification to be currently satisfied in accordance with Article 5(1) of the Water (Northern Ireland) Order 1999(b) is, as appropriate, DW1 or DW2 or DW3, as set out in the Surface Waters (Abstraction for Drinking Water) (Classification) Regulations (Northern Ireland) 1996(c).

(4) Except with the consent of the Department, water shall not be abstracted for supply for domestic purposes which include drinking except from waters to be treated as falling within category A1 or A2 or A3 in the Annex mentioned in paragraph (3).

#### Risk assessment for *Cryptosporidium*

27.—(1) It shall be the duty of the water undertaker to carry out an annual risk assessment for *Cryptosporidium* at all its water treatment works.

(2) Where the water undertaker carries out a risk assessment under paragraph (1) it shall submit to the Department a report of the assessment which shall set out the results of the assessment and a statement that the assessment has established—

- (a) that there is a significant risk from *Cryptosporidium*; or
- (b) that there is no such risk.

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(a) O.J. No. L194, 16.6.75, p. 26  
(b) S.I. 1999/662 (N.I. 6)  
(c) S.R. 1996 No. 603

(3) Where the risk assessment carried out by the water undertaker under paragraph (1) establishes that there is a significant risk at a water treatment works for *Cryptosporidium* then the undertaker shall—

- (a) introduce at the treatment works a continuous monitoring programme; and
- (b) take measures, as agreed with the Department, to reduce the risk of *Cryptosporidium* to low as identified by the risk assessment carried out in accordance with paragraph 3.7 of the Guidance for *Cryptosporidium*.

#### **Procedure following risk assessment**

28. Where the Department considers that the assessment that is the subject of a report submitted to it in accordance with paragraph (2) of regulation 27 has not been carried out satisfactorily, it shall send a notification to the water undertaker which—

- (a) sets out the Department’s reasons for considering that the assessment has not been carried out satisfactorily; and
  - (b) requires the water undertaker, by a date specified in the notice, to carry out a further risk assessment and submit to it a report of that assessment,
- and the water undertaker shall comply with the requirement by the date specified.

#### **Disinfection and other treatment arrangements**

26.—(1) Unless the conditions in paragraph (4) are satisfied, before supplying water for regulation 4(1) purposes, a water undertaker shall—

- (a) disinfect the water; and
- (b) where necessary, subject the water to sufficient preliminary treatment to prepare it for disinfection.

(1A) A water undertaker must—

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

(2) Paragraph (3) applies when any property, organism, or substance is present in a water source at a level that may constitute a potential danger to human health.

(3) Unless the conditions in paragraph (4) are satisfied, before supplying water for regulation 4(1) purposes using water from any source, a water undertaker shall design and continuously operate an adequate treatment process for water from the source.

(4) The conditions are that a water undertaker—

- (a) must supply water from the treatment works as a matter of urgency in order to prevent an unexpected interruption in piped supply to consumers; and
- (b) before the supply is made, has taken all necessary steps to inform consumers that the water is not disinfected or adequately treated.

(5) For the purposes of this regulation—

- (a) “adequate treatment process” means a process of blending of purification treatment which—
  - (i) removes, or
  - (ii) renders harmless the value or concentration of,any property of, organism or substance in, water, so that supplies do not constitute a potential danger to human health;
- (b) “sufficient preliminary treatment” means the treatment necessary—

- (i) to remove, or to reduce the value or concentration of, any property or substance which would interfere with disinfection; and
  - (ii) to reduce turbidity to less than one Nephelometric Turbidity Unit; and
  - (c) water is supplied for regulation 4(1) purposes when it leaves a treatment works.
- (6) Article 30 of the 2006 Order applies to the enforcement by the Department of the duties under regulation 26 in the same way as it applies to the enforcement by the enforcement authority of the duties to which that Article applies”.

### **Risk assessment**

**27.—**(1) This regulation applies to every treatment works and supply system from which water is supplied for regulation 4(1) purposes.

(2) A water undertaker shall carry out a risk assessment of each of its treatment works in order to establish whether there is a significant risk of supplying water from those works that would constitute a potential danger to human health.

(3) Pursuant to paragraph (2), a water undertaker shall carry out a risk assessment in respect of—

- (a) each of its treatment works and connected supply system which—
  - (i) was in use on 1st December 2008, and
  - (ii) it expects to use after 1st December 2010, before 1st December 2010, and
- (b) any other treatment works and connected supply system before supplying water from them.

(4) A water undertaker shall keep its risk assessments under review.

(5) The Department may by notice served on a water undertaker require a risk assessment or review to be carried out by a date specified in the notice.

(6) Where a water undertaker becomes aware of any factors which make it likely that a risk assessment under this regulation would establish that there is a significant risk of supplying water that would constitute a potential danger to human health it shall serve a notice on the Department specifying the relevant factors.”.

(7) In carrying out a risk assessment under regulation 27(2), a water undertaker shall incorporate risk assessment of the associated catchment area,—

- (a) on a priority basis, and;
- (b) following completion of risk assessments for treatment works and connected supply system.

### **Procedure following risk assessment**

**28.—**(1) As soon as reasonably practicable after a water undertaker has carried out a risk assessment or review of such assessment under regulation 27, it shall submit to the Department a report of the assessment or review.

(2) The report shall contain—

- (a) a description of the methods used to carry out the assessment or review;
- (b) where the assessment or review establishes that there is no significant risk of supplying water that would constitute a potential danger to human health, a statement confirming this; and
- (c) where the assessment or review establishes that measures have been taken to remove a significant risk of supplying water that would constitute a potential danger to human health—
  - (i) monitoring data which verifies this; and

(ii) details of those measures.

(3) Where the assessment or review establishes that there is a significant risk of supplying water that would constitute a potential danger to human health, the report shall—

- (a) contain a full explanation including details of every property, organism, or substance that has been identified as contributing to the risk; and
- (b) specify the measures that a water undertaker—
  - (i) has made operational as at the date of the report, and
  - (ii) intends to make operational, to mitigate the risk.

(4) Where the Department has received a report which states that there is or has been a significant risk of supplying water that would constitute a potential danger to human health, it may, by notice served on a water undertaker, require it—

- (a) to maintain such specified measures for such period of time as it considers appropriate to mitigate the risk;
- (b) to review, revise, or make operational such specified measures by such date as it considers appropriate to mitigate the risk;
- (c) to audit whether the measures have been effective by such means as may be specified;
- (d) not to supply water for regulation 4(1) purposes from specified treatment works, or not to so supply unless specified conditions are satisfied; and
- (e) to give it such information as it may require to monitor progress towards mitigation of that risk.

(5) In paragraph (4), “specified” means specified in the notice served under that paragraph.

(6) The Department may, by notice served on a water undertaker, revoke or amend a notice served under paragraph (4).

(7) Article 30 of the 2006 Order applies to the enforcement by the Department of the duties under regulation 26 in the same way as it applies to the enforcement by the enforcement authority of the duties to which that Article applies.”.

### **Contamination from pipes**

**29.—**(1) Where there is a risk (“the prescribed risk”) that water supplied by the water undertaker would, for the reason mentioned in paragraph (2), after leaving that undertaker’s pipes—

- (a) contain a concentration of copper in excess of 2mg/litre; or
- (b) contain a concentration of lead in excess of 10µg/litre,

the water undertaker shall, subject to paragraph (3), treat the water in such a way as will, in its opinion, eliminate the prescribed risk or reduce it to a minimum.

(2) The reason referred to in paragraph (1) is the presence in the water of a concentration of copper or lead which is attributable to the fact that copper or lead is the major component of such a pipe as is mentioned in Article 108(3)(a) of the Order, or its associated fittings.

(3) Paragraph (1) shall not require the water undertaker to treat water—

- (a) if the treatment is unlikely to achieve a significant reduction in the concentration of copper or lead; or
- (b) if treatment is not reasonably practicable.

(4) Where at any time before 25th December 2013, the water undertaker—

- (a) has reason to believe that water supplied by it for regulation 4(1) purposes from a pipe to which paragraph (5) applies contains, at the consumer’s tap, a concentration of lead which exceeds 10µg/l but does not exceed 25µg/l; and

- (b) has received from the owner of premises to which water is so supplied notice in writing
  - (i) of the owner's intention to replace so much of the pipe as belongs to him; and
  - (ii) of his desire that the water undertaker replaces the remainder of the pipe,
 the water undertaker shall modify or replace its part of the pipe.
- (5) This regulation applies to a pipe—
  - (a) of which the major component is lead;
  - (b) which is subject to water pressure from a water main or would be so subject but for the closing of some valve; and
  - (c) which belongs, as to part, to the water undertaker and, as to the remainder, to the owner of any premises to which the water undertaker supplies water for regulation 4(1) purposes.

### Application and introduction of substances and products

30.—(1) In this regulation—

“the Directive” means Council Directive 89/106/EEC on the approximation of laws, regulations and administrative provisions of the Member States relating to construction products<sup>(a)</sup>;

“EEA State” means a State which is a contracting party to the agreement on the European Economic Area signed at Oporto on 2nd May 1992<sup>(b)</sup> as adjusted by the Protocol signed at Brussels on 17th March 1993<sup>(c)</sup>;

“European technical approval” means a favourable technical assessment of the fitness for use of a construction product for an intended use, issued for the purposes of the Directive by a body authorised by an EEA State to issue European technical approvals for those purposes and notified by that body to the European Commission; and

“harmonised standard” means a standard established as mentioned in the Directive by the European standards organisation on the basis of a mandate given by the European Commission and published by the Commission in the Official Journal of the European Communities.

(2) Subject to paragraph (3), the water undertaker shall not apply any substance or product to, or introduce any substance or product into, water which is to be supplied for regulation 4(1) purposes unless it has been approved by the Secretary of State under regulation 31(4) of the Water Supply (Water Quality) Regulations 2000<sup>(d)</sup>.

(3) A substance or product which, at the time of its application or introduction, bears an appropriate CE marking in accordance with the Directive, or conforms to—

- (a) an appropriate harmonised standard or European technical approval; or
- (b) an appropriate British Standard or some other national standard of an EEA State which provides an equivalent level of protection and performance,

may be applied or introduced, notwithstanding that it has not been approved by the Secretary of State under regulation 31(4) of the Water Supply (Water Quality) Regulations 2000, but any such application or introduction shall be subject to—

- (i) such national conditions of use restricting the dosing concentration as are for the time being in force in relation to such substances and products pursuant to a determination of the Secretary of State by an instrument in writing; and

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(a) O.J. No. L40, 11.2.89, p. 12  
 (b) Cmnd 2073  
 (c) Cmnd 2183  
 (d) S.I. 2000/3184

- (ii) such other requirements, within the meaning of Council Directive 98/34/EC, as amended<sup>(a)</sup> (which lays down a procedure for the provision of information in the field of technical standards and regulations and of rules on information society services), in relation to such substances and products, as have been communicated to the Commission in the form of a draft technical regulation in accordance with Article 8 of that Directive, and whose adoption by a Member State has also been communicated to the Commission.

### Application and introduction of substances and products

#### 30.—(1) In this regulation—

“the Directive” means Council Directive 89/106/EEC on the approximation of laws, regulations, and administrative provisions of the Member States relating to construction products, as amended from time to time;

“EEA State” means a State which is a contracting party to the agreement on the European Economic Area signed at Oporto on 2<sup>nd</sup> May 1992 as adjusted by the Protocol signed at Brussels on 17<sup>th</sup> March 1993;

“European technical approval” means a favourable technical assessment of the fitness for use of a construction product for an intended use, issues for the purposes of the Directive by a body authorised by a relevant State to issue European technical approvals for those purposes and notified by that body to the European Commission;

“harmonised standard” means a standard established as mentioned in the Directive by the European standards organisation on the bases of a mandate given by the European Commission and published by the Commission on the Official Journal of the European Communities; and

“relevant State” means a State which is a Member State or any other State which is an EEA State.”;

(2) Subject to paragraph (3), a water undertaker shall not apply any substance or product to, or introduce any substance or product into, water which is to be supplied for regulation 4(1) purposes unless it has been approved by the Department under regulation 30(4).

(3) A substance or product which, at the time of this application or introduction, bears an appropriate CE marking in accordance with the Directive, or conforms to—

- (a) an appropriate harmonised standard or European technical approval; or
- (b) an appropriate British Standard or some other national standard of a relevant State, which provides an equivalent level of protection and performance,

may be applied or introduced, notwithstanding that it has not been approved by the Department under regulation 30(4), but any such application or introduction shall be subject to—

- (iii) such national conditions of use restricting the dosing concentration as are for the time being in force in relation to such substances and products pursuant to a determination by the Department by an instrument in writing; and
- (iv) such other requirements, within the meaning of Council Directive 98/34/EC of the European Parliament and of the Council<sup>(b)</sup> laying down a procedure for the provision of information in the field of technical standards and regulations and of rules on Information Society Services, as amended from time to time.

(4) The requirements of this paragraph are—

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<sup>(a)</sup> O.J. No. L204, 21.7.98, p. 37, amended by Council Directives 98/48/EC (O.J. No. 217, 5.8.98, p. 18)  
<sup>(b)</sup> OJ No L204, 21.7.1998, p. 37, as amended

- (a) that the Department has for the time being approved the application or introduction of that substance or product and it is applied or introduced in accordance with any conditions attaching to that approval;
- (b) that the Department is satisfied that the substance or product either alone or in combination with any other substance or product in the water is unlikely to affect adversely the quality of the water supplied; and
- (c) that the substance or product is to be applied or introduced solely for the purposes of testing or research, and a water undertaker has given to the Department not less than three months notice in writing of its intention to apply or introduce the substance or product.

(5) An application for such an approval as is mentioned in paragraph (4)(a) may be made by any person.

(6) if the Department decides to issue an approval under paragraph (4)(a), it may include in the approval such conditions as it considers appropriate and, subject to paragraph (10), may at any time revoke or vary any approval it has previously given.

(7) Where substances or products are applied or introduced in any case in which the requirement mentioned in paragraph (4)(c) is satisfied, their application or introduction shall be discontinued within 12 months of the date on which they were first applied or introduced or, if the Department by notice given in writing to a water undertaker so directs, within such other period (whether longer or shorter) as may be specified in the notice.

(8) The Department may, by notice given in writing to any water undertaker, prohibit it from applying to, or introducing into, water intended to be supplied for regulation 4(1) purposes, any substance or product which a water undertaker would otherwise be authorised to apply or introduce by virtue of—

- (a) paragraph (2) and sub-paragraph (b) or (c) of paragraph (4); or
- (b) paragraph (3).

(9) A prohibition under paragraph (8) may be without limitation as to time or for such period as specified in the notice.

(10) The Department may—

- (a) revoke by an notice in writing any approval it has given under paragraph (4)(a);
- (b) modify any such approval by an notice in writing by including conditions or varying existing conditions;
- (c) give any such notice as in mentioned in paragraph (8),

but, unless it is satisfied that it is necessary to do so in the interests of public health without notice, shall not do any of those things without giving all such persons as are, in its opinion, likely to be affected by the revocation or modification of the approval or by the giving of the notice at least six months notice in writing of its intention.

(11) Notice shall be given forthwith by the Department to all persons likely to be affected by the making of such an instrument as is mentioned in paragraph (10)(a) or (b).

(12) At least once in each year, the Department shall issue a list of all the substances and products in relation to which—

- (a) an approval under paragraph (4)(a) has been granted or refused;
- (b) such an approval has been revoked or modified; and
- (c) a notice has been given under paragraph (8),

with particulars of the action taken.

(13) The Department may—

- (a) by notice served on the person who makes an application for approval under paragraph (4)(a), require the person to pay it a charge which reflects the

administrative expenses incurred or likely to be incurred by the Department in connection with the application; and

(b) in determining the amount of any such charge, adopt such methods and principles for its calculation as appear to him to be appropriate.”.

(4) After regulation 31 insert—

### **Use of processes**

**31.**—(1) The Department may at any time by notice in writing given to the water undertaker require it to make an application to the Department for approval of the use of any process; and may prohibit it for such period as may be specified in the notice from using any such process in connection with the supply by it of water for regulation 4(1) purposes.

(2) The Department may refuse the application or impose on any approval given for the purposes of this regulation such conditions as it thinks fit and, subject to paragraph (3), may at any time by notice in writing to the water undertaker revoke an approval so given or modify or revoke any condition imposed by virtue of this paragraph.

(3) Subject to paragraph (4), the Department shall not—

- (a) revoke any approval given for the purposes of this regulation;
- (b) modify any condition imposed by virtue of paragraph (2); or
- (c) prohibit the water undertaker from using any process, unless it has given to the undertaker at least six months’ notice in writing of its intention to revoke, modify or prohibit, as the case may be.

(4) Paragraph (3) shall not apply in any case in which the Department is of the opinion that the immediate revocation, modification or prohibition is necessary in the interests of public health.

**31A.**—(1) A water undertaker which applies or introduces, any substance or product in contravention of regulation 30(2) or a notice given under regulation 30(8), or uses any process in contravention of a prohibition imposed under regulation 31(1) or without complying with a condition imposed by virtue of regulation 31(2) shall be guilty of an offence and liable—

- (a) on summary conviction, to a fine not exceeding the statutory maximum;
- (b) on conviction on indictment, to a fine.

(2) In any proceedings against a water undertaker for an offence under paragraph (1), it shall be a defence for that water undertaker to show that it took all reasonable steps and exercised all due diligence to avoid the commission of the offence.

## **PART VIII**

### **RECORDS AND INFORMATION**

#### **Maintenance of records**

**32.**—(1) The water undertaker shall prepare and maintain, in respect of each of its water supply zones, a record containing—

- (a) the name of the zone;
- (b) the name of every water treatment works, service reservoir and other supply point from which water is supplied to premises within the zone;
- (c) an estimate of the population of the zone;

- (d) particulars of any departure authorised under Part VI which applies to water supplied in the zone;
  - (e) particulars of the action taken or required to be taken by the water undertaker to comply with -
    - (i) any departure authorised under Part VI; and
    - (ii) any notice under regulation 19(3);
  - (f) particulars of the result of any analysis of samples taken in accordance with Part IV or any of regulations 12 to 14 and 27(3)(a) 16A and 28; and
  - (g) such other particulars as the water undertaker may determine.
- (2) The water undertaker shall make—
- (a) entries in respect of the matters mentioned in paragraph (1)(e)(i), where relevant, and (1)(e)(ii) within 28 days of the date of the authorisation and notice respectively; and
  - (b) entries relating to the results of the analysis of samples within 28 days of the day on which the result is first known to the water undertaker.
- (3) Without prejudice to paragraph (2) the water undertaker shall at least once in each year review and bring up to date the record required to be kept by paragraph (1).
- (4) Nothing in this regulation shall require the water undertaker to retain a record—
- (a) of information mentioned in any of sub-paragraphs (a), (b) and (f) of paragraph (1) at any time more than 30 years after the date on which the information was first entered in the record;
  - (b) of information mentioned in any other sub-paragraph of that paragraph at any time more than five years after the date on which the information was first entered in the record.

### **Provision of information**

**33.**—(1) Subject to paragraphs (2), (3), and (4), any person may request a water undertaker to send him a copy of any record maintained by a water undertaker under regulation 32, and a water undertaker shall, within ten working days of the receipt of the request, send a copy of the record requested to the person.

(2) A water undertaker shall comply with a request under paragraph (1)—

- (a) in the case of a request relating to a water supply zone, free of charge if the person receives a supply of water in the zone; or
- (b) in any other case, on payment of such reasonable charge as a water undertaker may determine.

(3) Paragraph (1) does not oblige a water undertaker to comply with a request which is vexatious.

(4) Where a water undertaker has previously complied with a request which was made by any person, paragraph (1) does not oblige it to comply with a subsequent identical or substantially similar request from that person unless a reasonable interval has elapsed between compliance with the previous request and the making of the subsequent request.

(5) A water undertaker shall include in, or append to, at least one of the accounts sent to each customer in any year a statement informing the customer of their rights under paragraph (1).

(6) As soon as possible after an event which, by reason of its effect or likely effect on the water supplied by a water undertaker, gives rise or is likely to give rise to a significant risk to human health, a water undertaker shall notify—

- (a) in every case—
  - (i) every appropriate district council;
  - (ii) the Regional Health and Social Services Care Trust the Regional Agency for Public Health and Social Well-being (established by section 12 of the Health and Social Care (Reform) Act (Northern Ireland) 2009); and

(iii) the Department.

(7) Where a person has received a notification under paragraph (6), he may require a water undertaker to provide him with such further information relating to the event and its consequences as he may reasonable require.

### **Publication of Information**

34.—(1) The water undertaker shall, not later than 30<sup>th</sup> June in each year, publish a report relating to the preceding year containing—

- (a) a statement of the number of treatment works, service reservoirs and other supply points from which it supplied water during any part of that year;
- (b) a statement of the number of its water supply zones for the year;
- (c) a summary of appropriate information of samples taken and any associated departures authorised under Part VI;
- (d) a statement of the action taken by the water undertaker during the year to comply with—
  - (i) any departure authorised under Part VI; and
  - (ii) any notice served under regulation 19(3)
- (e) a statement of the overall drinking water quality, to include information on microbiological and chemical testing and samples taken;
- (f) a statement of events and incidents affecting drinking water quality;

(2) A report under paragraph (1) may include such other information as the water undertaker thinks fit.

(3) At the same times as it publishes a report in accordance with paragraph (1), the water undertaker shall send a copy of it to every district council within whose area it supplied water in the preceding year.

(4) In addition to the report provided under paragraph (3), the water undertaker shall provide appropriate information on drinking water quality specific to every district council.”.

## **PART IX**

### **TRANSITIONAL PROVISIONS**

#### **Transitional Provisions**

33. Any authorisation given to the Department under regulation 20 or 21 of the Water Supply (Water Quality) Regulations (Northern Ireland) 2002 and which has not been revoked or expired by 31st March 2007 shall have effect as if given to a water undertaker under regulation 20 or 21.

Sealed with the Official Seal of the Department for Regional Development on 8th March 2007



*John Mills*  
A senior officer of the  
Department for Regional Development

**Additional: Amendments to the Water and Sewerage Services (Northern Ireland) Order 2006**

3. For Article 31 (3)(b) of the 2006 Order substitute –

- “(b) publish in such manner as the enforcement authority considers appropriate for the purpose of bringing the matters to which the notice relates to the attention of persons likely to be affected by them-
  - (i) a copy of the notice, and
  - (ii) where the enforcement authority is satisfied as mentioned in sub-paragraph (b) of paragraph (1) above, a summary of the undertaking describing the steps to be taken in it; and”

SCHEDULE 1

Regulations 2 and 4

PRESCRIBED CONCENTRATIONS AND VALUES

**TABLE A: MICROBIOLOGICAL PARAMETERS**

**Part I: Directive requirements**

<i>Item</i>	<i>Parameters</i>	<i>Concentration or Value (maximum)</i>	<i>Units of measurement</i>	<i>Point of Compliance*</i>
1.	Enterococci	0	number/100ml	Consumers' taps
2.	<i>Escherichia coli (E. coli)</i>	0	number/100ml	Consumers' taps

(\*) Where water is supplied from a tanker see regulation 4(3)(a)

**Part II: National requirements**

<i>Item</i>	<i>Parameters</i>	<i>Concentration or Value (maximum)</i>	<i>Units of measurement</i>	<i>Point of Compliance</i>
1.	Coliform bacteria	0	number/100ml	Service reservoirs** and water treatment works
2.	<i>Escherichia coli (E. coli)</i>	0	number/100ml	Service reservoirs and water treatment works

(\*\*) Compliance required as to 95% of samples taken for coliform bacteria from each service reservoir (regulation 4(6)).

**TABLE B: CHEMICAL PARAMETERS**

**Part I: Directive requirements**

<i>Item</i>	<i>Parameters</i>	<i>Concentration or Value (maximum)</i>	<i>Units of Measurement</i>	<i>Point of compliance</i>
1.	Acrylamide	0.10	µg/l	(i)
2.	Antimony	5.0	µgSb/l	Consumers' taps
3.	Arsenic	10	µgAs/l	Consumers' taps
4.	Benzene	1.0	µg/l	Consumers' taps
5.	Benzo(a)pyrene	0.010	µg/l	Consumers' taps
6.	Boron	1.0	mgB/l	Consumers' taps
7.	Bromate	10	µgBrO <sub>3</sub> /l	Consumers' taps
8.	Cadmium	5.0	µgCd/l	Consumers' taps
9.	Chromium	50	µgCr/l	Consumers' taps
10.	Copper (ii)	2.0	mgCu/l	Consumers' taps
11.	Cyanide	50	µgCN/l	Consumers' taps
12.	1, 2 dichloroethane	3.0	µg/l	Consumers' taps
13.	Epichlorohydrin	0.10	µg/l	(i)
14.	Fluoride	1.5	mgF/l	Consumers' taps
15.	Lead (ii)	(a) 25, from 25th December 2003 until immediately before 25th December 2013	µgPb/l	Consumers' taps
		(b) 10, on and after	µgPb/l	Consumers' taps

<i>Item</i>	<i>Parameters</i>	<i>Concentration or Value (maximum)</i>	<i>Units of Measurement</i>	<i>Point of compliance</i>
25th December 2013				
16	Mercury	1.0	µgHg/l	Consumers' taps
17	Nickel <b>(ii)</b>	20	µgNi/l	Consumers' taps
18	Nitrate <b>(iii)</b>	50	mgNO <sub>3</sub> /l	Consumers' taps
19	Nitrite <b>(iii)</b>	0.50	mgNO <sub>2</sub> /l	Consumers' taps
		0.10		Treatment works
20	<b>Pesticides (iv) (v)</b>			
	Aldrin			
	Dieldrin	0.030	µg/l	Consumers' taps
	Heptachlor			
	Heptachlor epoxide			
	other pesticides	0.10	µg/l	Consumers' taps
21	<b>Pesticides: Total (vi)</b>	0.50	µg/l	Consumers' taps
22	<b>Polycyclic aromatic hydrocarbons (vii)</b>	0.10	µg/l	Consumers' taps
23	Selenium	10	µgSe/l	Consumers' taps
24	Tetrachloroethene and Trichloroethene <b>(viii)</b>	10	µg/l	Consumers' taps
25	<b>Trihalomethanes: Total (ix)</b>	100	µg/l	Consumers' taps
26	Vinyl chloride	0.50	µg/l	(i)

Notes:

- (i) 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.
- (ii) See also regulation 6(6).
- (iii) See also regulation 4(2)(d).
- (iv) See the definition of "pesticides and related products" in regulation 2.
- (v) The parametric value applies to each individual pesticide.
- (vi) "Pesticides: Total" means the sum of the concentrations of the individual pesticides detected and quantified in the monitoring procedure.
- (vii) The specified compounds are:
  - benzo(b)fluoranthene
  - benzo(k)fluoranthene
  - benzo(ghi)perylene
  - 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.
- (viii) The parametric value applies to the sum of the concentrations of the individual compounds detected and quantified in the monitoring process.
- (ix) The specified compounds are:
  - chloroform
  - bromoform
  - dibromochloromethane
  - bromodichloromethane.

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

<i>Item</i>	<i>Parameters</i>	<i>Concentration or Value (maximum unless otherwise state)</i>	<i>Units of measurement</i>	<i>Point of compliance</i>
1.	Aluminium	200	µgAl/l	Consumers' taps
2.	Colour	20	mg/l Pt/Co	Consumers' taps
3.	Hydrogen ion	10.0 6.5 (minimum)	pH value pH value	Consumers' taps
4.	Iron	200	µgFe/l	Consumers' taps
5.	Manganese	50	µgMn/l	Consumers' taps
6.	Odour	Acceptable to consumers and no abnormal change	Dilution number	Consumers' taps
7.	Sodium	200	mgNa/l	Consumers' taps
8.	Taste	Acceptable to consumers and no abnormal change	Dilution number	Consumers' taps
9.	Tetrachloromethane	3	µg/l	Consumers' taps
10.	Turbidity	4	NTU	Consumers' taps

## SCHEDULE 2

Regulations 2 and 4

### INDICATOR PARAMETERS

<i>Item</i>	<i>Parameters</i>	<i>Specification Concentration or Value (maximum unless otherwise stated) or State</i>	<i>Units of Measurement</i>	<i>Point of monitoring</i>
1	Ammonium	0.50	mgNH <sub>4</sub> /l	Consumers' taps
2	Chloride <b>(i)</b>	250	mgCl/l	Supply point*
3	<i>Clostridium perfringens</i> (including spores)	0	Number/100ml	Supply point*
4	Coliform bacteria	0	Number/100ml	Consumers' taps
5	Colony counts	No abnormal change	Number/1 ml at 22°C Number/1 ml at 37°C	Consumers' taps, service reservoirs and treatment works
6	Conductivity <b>(i)</b>	2500	µS/cm at 20°C	Supply point*
7	Hydrogen ion	9.5 6.5 (minimum)	pH value pH value	Consumers' taps
8	Sulphate <b>(i)</b>	250	mgSO <sub>4</sub> /l	Supply point*
9	Total indicative dose (for radioactivity) <b>(ii)</b>	0.10	mSv/year	Supply point*
10	Total organic carbon (TOC)	No abnormal change	mgC/l	Supply point*
11	Tritium (for radioactivity)	100	Bq/l	Supply point*
12	Turbidity	1	NTU	Treatment works

(\*) May be monitored from samples of water leaving treatment works or other supply point, as no significant change during distribution

Notes:

- (i) The water should not be aggressive.
- (ii) Excluding tritium, potassium-40, radon and radon decay products.

## SCHEDULE 3

### MONITORING

**TABLE 1: PARAMETERS AND CIRCUMSTANCES FOR CHECK MONITORING**

<i>(1)</i>	<i>(2)</i>	<i>(3)</i>
<i>Item</i>	<i>Parameter</i>	<i>Circumstances</i>
1	Aluminium	When used as flocculant or where the water originates from, or is influenced by, surface waters
2	Ammonium	
3	<i>Clostridium perfringens</i> (including spores)	Where the water originates from, or is influenced by, surface waters
4	Coliform bacteria	
5	Colony Counts	
6	Colour	
7	Conductivity	
8	<i>Escherichia coli</i> ( <i>E. coli</i> )	
9	Hydrogen ion	
10	Iron	When used as flocculant or where the water originates from, or is influenced by, surface waters
11	Manganese	Where the water originates from, or is influenced by, surface waters
12	Nitrate	When chloramination is practised
13	Nitrite	When chloramination is practised
14	Odour	
15	Taste	
16	Turbidity	

**TABLE 2**

### Annual Sampling Frequencies: Water Supply Zones

Note: This table sets out the annual sampling frequencies for all the substances and parameters in column 1. These are determined for each water supply zone according to its estimated population (column 2). The number of samples is either the standard number in column 4 or the reduced number in column 3 (if one is given). Regulation 9 provides for the circumstances in which the reduced number of samples may be taken.

<i>(1)</i> <i>Substances and parameters subject to monitoring</i>	<i>(2)</i> <i>Estimated population of water supply zone</i>	<i>(3)</i> <i>Reduced</i>	<i>(4)</i> <i>Standard</i>
<i>Subject to check monitoring</i>			
<i>E. coli</i>	< 100		4
Coliform bacteria	≥ 100		12 per 5,000 population <sup>(i)</sup>
Residual disinfectant			

<i>(1) Substances and parameters subject to monitoring</i>	<i>(2) Estimated population of water supply zone</i>	<i>(3) Reduced</i>	<i>(4) Standard</i>
Aluminium Ammonium <i>Clostridium perfringens</i> (including spores) <sup>(*)</sup> Colony counts Colour Conductivity <sup>(*)</sup> Hydrogen ion Iron Manganese Nitrate <sup>(ii)</sup> Nitrite <sup>(ii)</sup> Odour Taste Turbidity	<100 100–4,999 5,000–9,999 10,000–29,999 30,000–49,999 50,000–79,999 80,000–100,000	1 2 6 12 18 26 38	2 4 12 24 36 52 76
<i>Subject to audit monitoring</i>			
Aluminium Antimony Arsenic Benzene <sup>(*)</sup> Benzo(a)pyrene Boron <sup>(*)</sup> Bromate <sup>(iii)</sup> Cadmium Chromium <i>Clostridium perfringens</i> (including spores) Copper Cyanide <sup>(*)</sup> 1,2 dichloroethane <sup>(*)</sup> Enterococci Fluoride <sup>(*)</sup> Iron Lead Manganese Mercury <sup>(*)</sup> Nickel Nitrate <sup>(ii)</sup>	<100 100–4,999 5,000–100,000		1 4 8

<i>(1) Substances and parameters subject to monitoring</i>	<i>(2) Estimated population of water supply zone</i>	<i>(3) Reduced</i>	<i>(4) Standard</i>
Nitrite <sup>(ii)</sup> Pesticides and related products <sup>(*)</sup> Polycyclic aromatic hydrocarbons Selenium Sodium Trichloroethene/ Tetrachloroethene <sup>(*)</sup> Tetrachloromethane <sup>(*)</sup> Trihalomethanes Chloride <sup>(*)</sup> Sulphate <sup>(*)</sup> Total organic carbon <sup>(*)</sup> Tritium <sup>(*)</sup> Gross alpha <sup>(*) (iv)</sup> Gross beta <sup>(*) (iv)</sup>			

(\*) Sampling for these parameters may be within water supply zones or at supply points as specified in Table 3, subject to notes (ii) and (iii) below.

(i) Where the population is not an exact multiple of 5,000, the population figure should be rounded up to the nearest multiple of 5,000.

(ii) Check monitoring in water supply zones is required only where chloramination is practised. In other circumstances audit monitoring is required.

(iii) Audit monitoring in water supply zones is required only where sodium hypochlorite is added after water has left the treatment works. In other circumstances, audit monitoring is required at supply points.

(iv) To monitor for total indicative dose (for radioactivity).

Table 3

### Annual Sampling Frequencies: Treatment Works or Supply Points

Note 1: Sampling is at treatment works for the substances and parameters shown in column (1) of the Table as items (1) to (6) and at supply points for the other substances and parameters, except nitrite subject to footnotes (ii) and (ii)(a) to the Table below.

Note 2: This table sets out the annual sampling frequencies for all the substances and parameters in column 2 at treatment works or supply points. The frequencies are determined according to the volume of water supplied at each treatment works or supply point (column 3). The number of samples is either the standard number in column 5 or the reduced number in column 4 (if one is given). Regulation 9 provides for the circumstances in which the reduced number of samples may be taken.

(1) <i>Item</i>	(2) <i>Substances and parameters</i>	(3) <i>Volume of water supplied m<sup>3</sup>/d</i>	(4) <i>Reduced</i>	(5) <i>Standard</i>
1.	<i>E. coli</i>	<20	-	4
2.	Coliform bacteria	20–1,999	12	52
3.	Colony counts	2,000–5,999	52	104
4.	Nitrite <sup>(ii)</sup>	6,000–11,999	104	208
5.	Residual disinfectant	≥12,000	104	365
6.	Turbidity			
<i>Subject to check monitoring</i>				
7.	<i>Clostridium perfringens</i> <sup>(i)</sup>	<20	-	2
8.	Conductivity	20–999	2	4
		1,000–1,999	6	12
		2,000–5,999	12	24
		6,000–9,999	18	36
		10,000–15,999	26	52
		16,000–32,999	52	104
		33,000–49,999	78	156
		50,000–67,999	104	208
		68,000–84,999	130	260
		85,000–101,999	156	312
		102,000–119,999	183	365
		120,000–241,999	365	730
		242,000–484,999	730	1,460
		485,000–728,999	1,095	2,190
<i>Subject to audit monitoring</i>				
9.	Benzene	<20		1
10.	Boron	20–999		4
11.	Bromate <sup>(iii)</sup>	1,000–49,999		8
11A.	<i>Clostridium</i>	50,000–89,999		12
	<i>Perfringens</i> (including spores)	90,000–299,999		24
		300,000–649,999		36
12.	Cyanide	≥650,000		48
13.	1,2 dichloroethane			
14.	Fluoride			
15.	Mercury			
16.	Nitrite <sup>(iia)</sup>			
17.	Pesticides and related products			
18.	Trichloroethene/ Tetrachloroethene			
19.	Tetrachloromethane			
20.	Chloride			
21.	Sulphate			
22.	Total organic carbon			
23.	Tritium			
24.	Gross alpha <sup>(iv)</sup>			
25.	Gross beta <sup>(iv)</sup>			

<sup>(i)</sup> Check monitoring is required only in respect of surface waters (see regulation 6(2) and Table 1 in Schedule 3).

<sup>(ii)</sup> Sampling at treatment works when chloramination is practised.

<sup>(iia)</sup> Sampling at treatment works when chloramination is not practised.

- (iii) Audit monitoring at supply points is required only where sodium hypochlorite is not added after water has left the treatment works. In other circumstances, audit monitoring is required in water supply zones.
- (iv) To monitor for total indicative dose (for radioactivity).

## SCHEDULE 4

### ANALYTICAL METHODOLOGY

**TABLE A1: PARAMETERS FOR WHICH, SUBJECT TO REGULATION 16(7), METHODS OF ANALYSIS ARE PRESCRIBED**

(1) <i>Parameter</i>	(2) <i>Method</i>
<i>Clostridium perfringens</i> (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	ISO 9308-1
Colony count 22°C-enumeration of culturable microorganisms	PrEN ISO 6222
Colony count 37°C-enumeration of culturable microorganisms	prEN ISO 6222
Enterococci	ISO 7899-2
<i>Escherichia coli</i> ( <i>E. coli</i> )	ISO 9308-1
*The composition of m-CP agar is:	
Basal medium	
Tryptose	30.0g
Yeast extract	20.0g
Sucrose	5.0g
L-cysteine hydrochloride	1.0g
MgSO <sub>4</sub> .7H <sub>2</sub> O	0.1g
Bromocresol purple	40.0mg
Agar	15.0g
Water	1,000.0ml
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 and add:	
D-cycloserine	400.0mg
Polymyxine-B sulphate	25.0mg
Indoxyl-[beta]-D-glucoside	60.0mg
to be dissolved in 8ml sterile water before addition	
Filter-sterilised 0.5% phenolphthalein diphosphate solution	20.0ml
Filter-sterilised 4.5% FeCl <sub>3</sub> .6H <sub>2</sub> O	2.0ml

**TABLE A2: PARAMETERS IN RELATION TO WHICH METHODS OF ANALYSIS MUST SATISFY PRESCRIBED CHARACTERISTICS**

<i>(1)</i>	<i>(2)</i>	<i>(3)</i>	<i>(4)</i>
<i>Parameters</i>	<i>Trueness % of prescribed concentration or value or specification</i>	<i>Precision % of prescribed concentration or value or specification</i>	<i>Limit of detection % of prescribed concentration or value or specification</i>
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 <b>(i)</b>	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
Nitrate	10	10	10
Nitrite	10	10	10
Pesticides and related products <b>(ii)</b>	25	25	25
Polycyclic aromatic hydrocarbons <b>(iii)</b>	25	25	25
Selenium	10	10	10
Sodium	10	10	10
Sulphate	10	10	10
Tetrachloroethene <b>(iv)</b>	25	25	10
Tetrachloromethane	20	20	20
Trichloroethene <b>(iv)</b>	25	25	10
Trihalomethanes:	25	25	10
<b>Total (iii)</b>			
Turbidity <b>(v)</b>	10	10	10
Turbidity <b>(vi)</b>	25	25	25

Notes:

- (i) The method of analysis should determine total cyanide in all forms.
- (ii) The performance characteristics apply to each individual pesticide and will depend on the pesticide concerned.

- (iii) The performance characteristics apply to the individual substances specified at 25% of the parametric value in Part I of Table B in Schedule 1.
- (iv) The performance characteristics apply to the individual substances specified at 50% of the parametric value in Part I of Table B in Schedule 1.
- (v) The performance characteristics apply to the prescribed value of 4 NTU.
- (vi) The performance characteristics apply to the specification of 1 NTU for water leaving treatment works.

## EXPLANATORY NOTE

*(This note is not part of the Regulations)*

These Regulations supplement the Water and Sewerage Services (Northern Ireland) Order 2006 (the Order), and, on 1st April 2007, replace the Water Supply Quality (Northern Ireland) Regulations 2002 and the Water Supply (Water Quality) (Amendment) Regulations (Northern Ireland) 2003 to reflect the change in delivery of water services from the Department for Regional Development to a water undertaker

The Regulations are primarily concerned with the quality of water supplied in Northern Ireland for drinking, washing, cooking and food preparation, and for food production, and with arrangements for the publication of information about water quality.

The Regulations are directed at the achievement of the objective set out in Article 2 of Council Directive 98/83/EC (O.J. No. L 330, 5.12.98, p. 32) (“the 1998 Directive”), namely, to protect human health from the adverse effects of any contamination of water intended for human consumption by ensuring that it is wholesome and clean. In particular, effect is given in Part III of the Regulations to Articles 4 and 5 of the 1998 Directive which relate to the quality of water intended for human consumption and, in Part V, to Article 7 (monitoring) of that Directive.

Part I of the Regulations (regulations 1 and 2) defines terms that are used in the Regulations.

Part II (regulation 3) requires the water undertaker to identify annually the areas (“water supply zones”) that are to be relevant for a particular year for the purposes of the application of provisions of the Regulations. A water supply zone may not comprise an area in which the estimated population exceeds 100,000. The water undertaker may not alter the boundaries of water supply zones during the year.

Part III (regulation 4) prescribes standards of wholesomeness in respect of water that is supplied by the water undertaker for cooking, drinking, food preparation and washing and other domestic purposes and to premises for food production purposes. These various purposes are referred to in the Regulations as “regulation 4(1) purposes”. In particular, regulation 4 provides that water is to be regarded as wholesome if it contains concentrations or values in respect of various properties, elements, organisms and substances that do not contravene prescribed maximum and, in some cases, minimum concentrations or values. Some of the prescribed maximum and minimum concentrations and values are specified in regulation 4, but most are included in Tables A and B which appear in Schedule 1 to the Regulations. They include the values specified in Parts A and B of Annex 1 to the 1998 Directive. There are also specifications for indicator parameters in Schedule 2.

Part IV (regulations 5 to 10) provides for the monitoring of water supplies by reference to the analysis of samples. Regulation 5 defines two monitoring regimes; “audit” monitoring and “check” monitoring. Regulation 6 requires the water undertaker to take a minimum number of samples each year in respect of a variety of properties, elements, organisms and substances. It also makes special provision for monitoring supplies from tankers. Regulation 7 requires the water undertaker to select at random the consumers’ taps from which samples are to be taken. Regulation 8 authorises the taking of samples from points other than consumers’ taps (“supply points”) and allows the Department to authorise other supply points. Regulation 9 deals with the number of samples to be taken. These are specified in Tables 1 and 2 in Schedule 3 to the Regulations, and are not less than those specified in Annex II to the 1998 Directive. Regulation 10 requires samples to be taken where the water undertaker’s have reason to believe that the quality of the water within their water supply zone has been adversely affected by the presence of certain elements, organisms or substances.

Part V (regulations 11 to 16) contains additional provisions relating to sampling. Regulations 13 and 14 require samples to be taken in respect of particular organisms and substances, at treatment works and at reservoirs which store treated water. Regulation 15 requires samples to be taken before water is supplied from new sources and from sources which have not recently been used.

Regulation 16 prescribes requirements relating to the taking, handling, storage, transport and analysis of samples.

Part VI (regulations 17 to 24) provides for the investigation of every failure to satisfy a concentration, value or state prescribed by regulation 4 and for a report to be made to the Department. Where a failure relates to a Table B parameter, and certain other conditions are met, the Department may require the water undertaker to apply to it for an authorisation allowing a departure from the requirements of Part III, as regards that parameter. The circumstances in which such authorisations may be issued, and the conditions to which they are subject are contained in regulations 21 and 22, respectively. (Article 9 of the 1998 Directive permits derogations from the parametric values). Provision is made in regulation 23 for publicising authorisations. Regulation 24 provides for the modification and withdrawal of authorisations.

Part VII (regulations 25 to 32) deals with the treatment of water and regulates the substances, processes and products that may be used by the water undertaker in connection with the supply of water. Regulation 26 imposes requirements relating to the disinfection of water and imposes additional requirements for the treatment of surface water. It prohibits the abstraction for the supply of drinking water of waters below category A3, as required by Council Directive 75/440/EEC (quality required of surface water intended for the abstraction of drinking water). Regulations 27 and 28 relate specifically to *Cryptosporidium*. Regulation 27 provides for the carrying out of risk assessments. Regulation 28 provides the procedures following risk assessments. Regulation 29 makes provision for securing the elimination or reduction to a minimum of the risk that water will be contaminated after supply by excessive concentrations of copper or lead. Regulation 30 specifies the circumstances in which the water undertaker may apply or introduce substances or products into water supplied for drinking, washing or cooking. Regulation 31 enables the Department to require that its approval be obtained to the use of processes. Part VIII deals with the provision of information by the water undertaker. Regulation 32 requires the water undertaker to prepare and maintain records containing information about the quality of water supplied in their water supply zones. Regulation 33 requires the water undertaker to make available for public inspection, and to supply the Department and district councils with, information about the quality of water within its water supply zones, the extent to which Part IV of the Regulations has been complied with, details of any departures authorised under Part VI of the Regulations. It also requires the water undertaker to provide district councils and health authorities with information relating to matters that could affect the health of persons residing in the district councils' areas. Regulation 34 requires the water undertaker to publish an annual report containing information about the quality of water. Regulation 35 sets out transitional provisions regarding authorisations given to the Department under article 20 or 21 of the Water Supply (Water Quality) Regulations (Northern Ireland) 2002.

Copies of the "Guidance for the Monitoring of *Cryptosporidium* in Treated Water in Northern Ireland" may be obtained from the Department's Environment and Heritage Service, Klondyke Building, Cromac Avenue, Gasworks Business Park, Lower Ormeau Road, Belfast BT7 2JA or by accessing their website at [www.ehsni.gov.uk/crypto\\_guidance\\_april05/pdf](http://www.ehsni.gov.uk/crypto_guidance_april05/pdf).

Copies of the ISO standards referred to in Table A1 in Schedule 4 may be obtained from BSI, 389 Chiswick High Road, London W4 4AL.