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STATUTORY RULES OF NORTHERN IRELAND

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**2007 No. 147**

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

**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.

### **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.