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STATUTORY INSTRUMENTS

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**2016 No. 614**

**The Water Supply (Water Quality) Regulations 2016**

**PART 4**

**Monitoring of water supplies**

**Interpretation and application of Part 4**

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 3 or, if a departure has been authorised under Part 7 in relation to that supply, those provisions as read with the terms of that departure;
- (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 purposes referred to in paragraph (3).

(3) The purpose of check monitoring is to determine—

- (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 3 or, if a departure has been authorised under Part 7 in relation to that supply, those provisions as read with the terms of that departure;
- (ii) as regards indicator parameters, whether water supplied for regulation 4(1) purposes meets the specifications for those parameters.

(4) This Part applies to water supplied for regulation 4(1) purposes by a relevant supplier in the performance of its duties under Chapter 3.

(5) Regulations 6 to 10 apply to a combined licensee in relation to samples taken from supply points as they apply to a water undertaker, but only insofar as the combined licensee is introducing water into a water supply zone in which the water undertaker takes samples under this Part (to the extent authorised by or under regulation 8) from supply points.

**Monitoring: general provisions**

6.—(1) Paragraph (2) applies for the purpose of determining whether water to which this Part applies satisfies the provisions of Part 3 or, if a departure has been authorised under Part 7 in relation to that supply, those provisions as read with the terms of that authorisation.

(2) A water undertaker must 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 the water supply zones which it supplies specified in, or in accordance with the provisions of, this Part and Schedule 3.

(3) Except in a case to which paragraph (15) applies, the parameters listed in Tables A and B in Schedule 1 and the indicator parameters must be subject—

- (a) as regards a parameter listed in column 2 of Table 1 in Schedule 3 and 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 of that Table, to check monitoring in the circumstances specified in that column;
- (c) in any other case, to audit monitoring.

(4) In the application of paragraph (3)(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 is deemed to be a supply which consists only of surface water.

(5) The copper, lead and nickel parameters (items 10, 15 and 17 in Table B in Schedule 1) must be monitored in such a manner as the Secretary of State determines from time to time and specifies by notice in writing given to each water undertaker.

(6) Paragraphs (7) to (15) apply to the radioactive parameters.

(7) As regards the indicative dose parameter—

- (a) monitoring must be carried out where an artificial source of radionuclides or elevated natural radioactivity is present and it cannot be shown on the basis of other representative monitoring programmes or other investigations that the level of indicative dose is below the value specified in Schedule 2;
- (b) where monitoring for natural radionuclide levels is required, the Secretary of State must define the frequency of the monitoring of either gross alpha activity, gross beta activity or individual natural radionuclides, depending on the screening strategy adopted in accordance with Schedule 4;
- (c) where the monitoring frequency defined in accordance with sub-paragraph (b) requires one sample per year for naturally occurring radioactivity, a further sample must be taken where any change occurs in relation to the supply that is likely to influence the concentrations of radionuclides in water supplied for regulation 4(1) purposes;
- (d) in the case of naturally occurring radionuclides where the results of the monitoring referred to in sub-paragraph (b) show that the concentration of radionuclides in the supply is stable, the minimum sampling and analysis frequencies are to be decided by the Secretary of State and confirmed by notice to the water undertaker, taking into account the risk to human health;
- (e) a water undertaker may use a screening strategy for gross alpha, gross beta activity or individual radionuclides and, in the event that there is any exceedance of the value specified in Schedule 2, it must carry out an analysis of the specific radionuclides in accordance with Schedule 4.

(8) As regards the radon parameter—

- (a) a water undertaker must ensure that a representative survey is carried out in accordance with paragraph (9) to determine the likelihood of a supply failing the parametric value for radon specified in Schedule 2;
- (b) monitoring must be carried out where there is reason to believe, on the basis of the results of the representative surveys or other reliable information, that the parametric value for radon might be exceeded.

(9) A representative survey must be designed in such a way—

- (i) as to be capable of determining the scale and nature of likely exposures to radon in water intended for human consumption originating from different types of groundwater sources and wells in different geological areas;
  - (ii) that the underlying parameters, in particular the geology and hydrology of the area, radioactivity of rock or soil, and well type, can be identified and used to direct further action to areas of likely high exposure.
- (10) As regards the tritium parameter—
- (a) monitoring must be carried out where an anthropogenic source of tritium or other artificial radionuclides is present within the catchment area and it cannot be shown on the basis of other surveillance programmes or investigations that the level of tritium is below the parametric value specified in Schedule 2;
  - (b) if the concentration of tritium exceeds its parametric value, an investigation of the presence of other artificial radionuclides must be carried out.
- (11) Where a parametric value is exceeded in a particular sample, the Secretary of State must define the extent of re-sampling necessary to ensure that the measured values are representative of an average activity concentration for a full year.
- (12) The Secretary of State may notify a water undertaker which supplies water to a water supply zone that a radioactive parameter need not be monitored if the Secretary of State is satisfied that, for the period specified in the notice, the water supplied to that zone for regulation 4(1) purposes—
- (a) gives rise to a calculated indicative dose that is below the parametric value specified in Schedule 2,
  - (b) contains levels of radon that are below the parametric value specified in Schedule 2,
  - (c) contains levels of tritium that are below the parametric value specified in Schedule 2.
- (13) Where paragraph (12) applies, the Secretary of State must communicate the grounds for the notification to the European Commission with the necessary documentation supporting the decision (including the findings of any surveys, monitoring or investigations carried out).
- (14) The Secretary of State must by notice in writing withdraw a notice under paragraph (12)—
- (a) given in relation to the indicative dose parameter, if the Secretary of State believes that water supplied to the zone in question for regulation 4(1) purposes gives rise to a calculated indicative dose that is likely to exceed the parametric value specified in Schedule 2;
  - (b) given in relation to the radon parameter, if the Secretary of State believes that water supplied to the zone in question for regulation 4(1) purposes contains levels of radon that are likely to exceed the parametric value specified in Schedule 2;
  - (c) given in relation to the tritium parameter, if the Secretary of State believes that water supplied to the zone in question for regulation 4(1) purposes contains levels of tritium that are likely to exceed the parametric value specified in Schedule 2.
- (15) A water undertaker which receives a notice under paragraph (14) must monitor or cause to be monitored the indicative dose parameter or, as the case may be, the radon or tritium parameter, in accordance with Tables 2 and 3 in Schedule 3.
- (16) Where the distribution of water in any part of a water supply zone is by tanker and is (or is likely to be) an intermittent short-term supply, samples of water from each tanker from which the water is distributed must be taken—
- (a) 48 hours after the commencement of the distribution from that tanker, and
  - (b) every 48 hours thereafter until the distribution is discontinued.
- (17) The first sample taken in relation to each distribution must be analysed for compliance with the following parameters—

- (a) *E. coli* (item 2 in Part II of Table A in Schedule 1), and
- (b) conductivity (item 6 in Schedule 2).

(18) The second and any subsequent samples must be analysed for compliance with those and every other parameter.

(19) On the coming into force of these Regulations, a notification under regulation 6(7) of the 2000 Regulations which had effect immediately before the coming into force of these Regulations is taken to be a notification under paragraph (12) of this regulation.

### **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, must be selected at random unless, by notice in writing to a water undertaker (whether or not on the application of the undertaker), the Secretary of State otherwise determines.

### **Authorisation of supply points**

8.—(1) For those parameters specified as items 7 to 16 and 19 to 28 in column 1 of Table 3 in Schedule 3, samples may be 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;
- (c) the water leaving any treatment works.

(2) If the Secretary of State is satisfied that analysis of those samples will produce data which are unlikely to differ in any material respect from the data that would be produced from analysis within the sampling points, the Secretary of State may authorise the use for the purposes of regulation 6 of those samples taken for a water supply zone from a blending point, a service reservoir of that description or a treatment works.

(3) In respect of any water supply zone, the taking of samples from a supply point is not authorised under paragraph (2) where a combined licensee introduces water into the water supply zone, unless the water quality within the water supply zone remains approximately uniform.

(4) Subject to paragraph (6), the Secretary of State may, in relation to any parameter not covered by an authorisation given under paragraph (2), on the written application of a water undertaker or on the joint written application of a water undertaker and combined licensee, authorise the use for the purposes of regulation 6 of samples taken for a water supply zone otherwise than from a sampling point.

(5) An authorisation under paragraph (4) 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.

(6) The Secretary of State must not grant an authorisation under paragraph (4) unless the Secretary of State 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.

(7) The Secretary of State may at any time vary or revoke an authorisation under paragraph (2) or (4).

(8) But, unless it appears to the Secretary of State that the immediate modification or revocation of an authorisation under paragraph (4) is required in the interests of public health, the Secretary of State must give the water undertaker to which the authorisation relates at least 6 weeks' notice of the Secretary of State's intention to modify or revoke before making such modification or revocation.

(9) A water undertaker must notify the Secretary of State 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.

(10) On being notified under paragraph (9) and without the need for prior notice to the water undertaker, the Secretary of State must revoke the authorisation under paragraph (4).

(11) On the coming into force of these Regulations—

- (a) an authorisation under regulation 8(1) of the 2000 Regulations is taken to be an authorisation given under paragraph 8(2) of this regulation;
- (b) an authorisation under regulation 8(2) of the 2000 Regulation which had effect immediately before the coming into force of these Regulation is taken to be an authorisation under paragraph 8(4) of this regulation.

### **Numbers of samples**

9.—(1) Subject to paragraph (2), in each year a water undertaker must take or cause to be taken from its sampling points or, 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—

- (a) column 1 of Table 2 in Schedule 3;
- (b) column 2 of Table 3 in Schedule 3.

(2) In respect of a parameter subject to check monitoring and where paragraph (3) applies, the number of samples to be taken in the following year for that parameter may be the reduced number.

(3) This paragraph applies where—

- (a) a water undertaker is of the opinion that the quality of water supplied to a water supply zone which it supplies is unlikely to deteriorate, and
- (b) in each of the two preceding years the results of the samples taken in accordance with these Regulations or the 2000 Regulations show no significant variation and—
  - (i) if the parameter is colony counts, they have shown no abnormal change;
  - (ii) if the parameter is hydrogen ion (item 9 in Table 1 of Schedule 3), the water undertaker has established a pH value that is not less than 6.5 and not more than 9.5;
  - (iii) in any other case, the water undertaker has established a concentration or value for that parameter that is significantly lower than the prescribed concentration or value, or specification.

(4) Samples required to be taken by this regulation must be taken at regular intervals.

(5) In this regulation—

- (a) in relation to sampling points, residual disinfectant or a parameter and the supply of water within one of the ranges shown in column 2 of Table 2 in Schedule 3, “the standard number” and the “reduced number” mean the numbers 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 28 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” mean, subject to sub-paragraph (c), the numbers 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;

- (c) where a particular supply point is in use for only part of a year, “the standard number” and “the reduced number” mean the numbers that bear to the numbers shown in columns 5 and 4 respectively of Table 3 of Schedule 3, in 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.**—(1) Paragraph (2) applies as soon as a relevant supplier has reasonable grounds for believing that any element, organism or substance, other than a residual disinfectant or a parameter (whether alone or in combination with any parameter or any other element, organism or substance) may cause the supply within any of the water supply zones which it supplies to be a supply which does not satisfy—

- (a) the provisions of Part 3, or
- (b) if a departure has been authorised under Part 7, those provisions as read with the terms of that authorisation.

(2) Where this paragraph applies, the relevant supplier must 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 any element, organism or substances, in order to establish whether that water is wholesome.