

**2018 No. 647 (W. 121)**

**WATER, ENGLAND AND WALES**

**The Water Supply (Water Quality) Regulations 2018**

|  |              |
|--|--------------|
| <i>Made</i> - - - -                                | 22 May 2018  |
| <i>Laid before the National Assembly for Wales</i> | 25 May 2018  |
| <i>Laid before Parliament</i>                      | 30 May 2018  |
| <i>Coming into force</i> - -                       | 15 June 2018 |

The Welsh Ministers are designated(1) for the purposes of section 2(2) of the European Communities Act 1972(2) in relation to the quality of water intended for domestic purposes or for use in a food production undertaking.

The Welsh Ministers make these Regulations in exercise of the powers conferred upon them by section 2(2) of the European Communities Act 1972 and sections 67, 69, 77(3) and (4) and 213(2) of the Water Industry Act 1991(3).

---

(1) S.I. 2004/3328, as amended by S.I. 2005/850, S.I. 2007/1349, S.I. 2008/301, S.I. 2012/1759 and S.I. 2014/1362. The functions conferred on the National Assembly for Wales by means of that Order are now exercisable by the Welsh Ministers by virtue of section 162 of and paragraphs 28 and 30 of Schedule 11 to the Government of Wales Act 2006 (c. 32).

(2) 1972 c. 68; section 2(2) was amended by section 27(1)(a) of the Legislative and Regulatory Reform Act 2006 (c. 51) and by Part 1 of the Schedule to the European Union (Amendment) Act 2008 (c.7).

(3) 1991 c. 56. The functions of the Secretary of State under section 67 were transferred to the National Assembly for Wales (“the Assembly”) (a) for the making of regulations concerning water supplied using the supply system of a water undertaker, in relation to the supply system of any water undertaker whose area is wholly or mainly in Wales and (b) for the making of regulations concerning water supplied other than using the supply system of a water undertaker, in relation to Wales, by article 2 of, and Schedule 1 to, the National Assembly for Wales (Transfer of Functions) Order 1999 (S.I. 1999/672) (“the 1999 Order”); the functions of the Secretary of State under section 69 were, in relation to any water undertaker whose area is wholly or mainly in Wales and any licensed water supplier so far as relating to licensed activities using the supply system of any such water undertaker transferred to the Assembly by the same provisions of the Order; the functions of the Secretary of State under section 77 were transferred to the Assembly in relation to Wales by the same provisions of the 1999 Order; the functions of the Secretary of State under section 213 were exercisable by the Assembly to the same extent as the powers to which that section applies were made exercisable by the Assembly by virtue of the same provision of the 1999 Order: see the entry in Schedule 1 to the 1999 Order. References in Schedule 1 to the 1999 Order to specific sections of the Act are treated by section 100(6) of the Water Act 2003 (“the 2003 Act”) as referring to those sections as amended by the 2003 Act. References to “licensed water suppliers” or the singular term in Schedule 1 to the 1999 Order now read “water supply licensees” or the singular term following the amendments in paragraph 127 of Schedule 7 to the Water Act 2014 (“the 2014 Act”); there are other amending instruments but none are relevant. By virtue of section 162 of, and paragraph 30 of Schedule 11 to, the Government of Wales Act 2006, the functions conferred on the Assembly are now exercisable by the Welsh Ministers. Section 69 of the Act was amended by paragraph 19 of Schedule 8, and Part 3 of Schedule 9, to the 2003 Act, and paragraph 68 of Schedule 7 to the 2014 Act. Section 213 of the Act was amended by paragraph 28 of Schedule 1 to the Competition and Service (Utilities) Act 1992 (c. 43) and by section 56 of, and paragraph 119(4) of Schedule 7 to the 2014 Act.

# PART 1

## General

### Title, commencement and application

1.—(1) The title of these Regulations is the Water Supply (Water Quality) Regulations 2018 and they come into force on 15 June 2018.

(2) Parts 1 to 9 and 11 of these Regulations apply in relation to the supply of water by every—

- (a) water undertaker<sup>(1)</sup> whose area is wholly or mainly in Wales; and
- (b) water supply licensee<sup>(2)</sup> so far as relating to licensed activities using the supply system of any water undertaker whose area is wholly or mainly in Wales.

(3) Part 10 of these Regulations applies to local authorities in Wales, as regards the discharge of functions under that Part, in relation to every—

- (a) water undertaker whose area is wholly in Wales;
- (b) water undertaker whose area is partly in Wales and partly in England, but only in respect of the part in Wales; and
- (c) water supply licensee so far as relating to licensed activities using the supply system situated in Wales of any water undertaker.

### Interpretation

2.—(1) In these Regulations—

“the 2010 Regulations” means the Water Supply (Water Quality) Regulations 2010<sup>(3)</sup>;

“the Act” means the Water Industry Act 1991;

“appropriate local authority”, in relation to—

- (a) a departure authorised under regulation 22,
- (b) an application for any such authorisation, or
- (c) an event specified in regulation 35(6),

means a local authority<sup>(4)</sup> whose area contains any part of the water supply zone to which the authorisation relates or, in the case of an application, would relate if a departure were authorised in the terms sought, or whose area is affected or is likely to be affected by the event;

“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 regulation 4(2) are met;

“Chapter III” means Chapter III (quality and sufficiency of supplies) of Part III (water supply) of the Act;

“consumer” means a person to whom water is supplied for regulation 4(1) purposes by a relevant supplier in the discharge of its duties under Chapter III;

“disinfection” means a process of water treatment to remove or 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;

“*E.coli*” means *Escherichia coli*;

---

(1) See section 6 of the Act for the meaning of “water undertaker”.

(2) See sections 17A and 219(1) of the Act for the meaning of “water supply licensee”. Section 17A was substituted by section 1 of the Water Act 2014. Section 219(1) was amended by section 56 of, and paragraph 120(2)(f) of Schedule 7 to, the Water Act 2014; there are other amendments but none are relevant.

(3) S.I. 2010/994 (W. 99); as amended by S.I. 2011/14 (W. 7), S.I. 2013/235, S.I. 2013/1387, S.I. 2016/410 (W. 128), S.I. 2017/506 and S.I. 2017/1041 (W. 270).

(4) See section 219 of the Act (as amended by paragraph 2(2) of Schedule 11 to the Local Government (Wales) Act 1994 (c. 19)) for the meaning of “local authority”.

“groundwater” means water contained in underground strata, and section 221(3) of the Water Resources Act 1991 (general interpretation) (1) will have effect for the purpose of this definition as it has effect for the purpose of construing references in that Act to water contained in underground strata;

“Group A parameter” means a parameter specified in column 2 of Table 1 in Schedule 3;

“Group B parameter” means a parameter specified in column 2 of Table 2 or, as the case may be, Table 3 in Schedule 3;

“indicative dose” means the committed effective dose for 1 year of ingestion resulting from all the radionuclides whose presence has been detected in a supply of water intended for human consumption, of natural and artificial origin, excluding tritium, potassium-40, radon and short-lived radon decay products;

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

“monitoring of a group A parameter” has the meaning given in regulation 5(1);

“monitoring of a group B parameter” has the meaning given in regulation 5(3);

“NTU” means Nephelometric Turbidity Unit;

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

“pesticides and related products” means any of the following, and includes their relevant metabolites, degradation and reaction products—

- (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);

“parametric value” and “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;

“Public Health England” means the executive agency of that name of the Department of Health and Social Care;

“Public Health Wales National Health Service Trust” means a National Health Service Trust within the meaning of the National Health Service (Wales) Act 2006(2) if, and in so far as, it has the function of providing services in relation to public health in Wales(3);

“radioactive parameters” means the following indicator parameters listed in Schedule 2—

- (a) indicative dose (item 8);
- (b) radon (item 9);
- (c) tritium (item 12);

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

---

(1) 1991 c.57.

(2) 2006 c.42.

(3) See S.I. 2009/2058 (W. 177) which established the NHS trust called the Public Health Wales National Health Service Trust or Ymddiriedolaeth Gwasanaeth Iechyd Gwladol Iechyd Cyhoeddus Cymru.

(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<sup>(1)</sup>;

“relevant supplier” means a water undertaker or water supply licensee;

“retail licensee” means a person who is the holder of a water supply licence with a restricted retail authorisation within the meaning of Schedule 2A to the Act<sup>(2)</sup>;

“sampling point”—

(a) 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 4 of these Regulations;

(b) 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;

“suitably accredited body” means the Welsh Ministers or a person acting on behalf of the Welsh Ministers;

“supplementary licensee” means a person who is the holder of a water supply licence with a supplementary authorisation within the meaning of Schedule 2A to the Act;

“supply point” means a blending point, service reservoir, treatment works or other point, not being a sampling point, which the Welsh Ministers authorise under regulation 8 for the purposes of regulation 6;

“supply system” is to be construed in accordance with section 17B(5) of the Act (section 17A: supplementary)<sup>(3)</sup>;

“water of a relevant description” means water supplied by a relevant supplier which uses a supply system for the purposes of supplying water to consumers, being a supply system into which the water undertaker or supplementary licensee introduces water;

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

“year” means a calendar year.

(2) In these Regulations a reference to an application or notice includes a reference to that application or notice in electronic form.

(3) In these Regulations, a “monitoring programme” is the identification and collection of data on any substance or organism identified during a risk assessment to confirm compliance with the prescribed concentrations set out in Schedule 1, and—

(a) must consist of—

(i) collection and analysis of discrete water samples;

(ii) measurements recorded by a continuous monitoring process; or

(iii) a combination of both of the methods described in paragraph (i) and (ii) at the frequency required in Schedule 3 or at a frequency notified to the water undertaker or supplementary licensee; and

(b) may also consist of—

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

---

(1) See section 93(1) of the Act for the meaning of “food production purposes”.

(2) Schedule 2A was inserted by paragraph 1 of Schedule 1 to the Water Act 2014.

(3) Section 17B was inserted by paragraph 2 of Schedule 4 to the Water Act 2003. Section 17B was amended by section 2 of, and paragraph 6 of Schedule 5 and paragraph 10 of Schedule 7 to, the Water Act 2014.

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

(4) Subject to paragraph (4), references in these Regulations to a service reservoir are references to any structure 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 sole purpose of meeting a variable demand for the supply of water.

(5) 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 will be treated as a single service reservoir;
- (b) the compartments that are connected hydraulically will be treated as a single service reservoir; and
- (c) unless all of the compartments are connected hydraulically, the structure as a whole will not be treated as a service reservoir.

## PART 2

### Water Supply Zones

#### Water supply zones

3.—(1) Before the beginning of each year in which it intends to supply water, a water undertaker must 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.

(3) The water quality within a water supply zone must be approximately uniform.

(4) 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.

## PART 3

### Wholesomeness

#### Wholesomeness

4.—(1) Subject to paragraphs (4) and (5), water supplied to premises that is intended for human consumption including—

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

is to be regarded as wholesome for the purposes of Chapter III, as it applies to the supply of water for those 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; and
- (d) that the water satisfies the formula “[nitrate]/50 + [nitrite]/3 < 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 1 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 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;
- (c) in the case of water used in a food production undertaking, the point at which it is used in the undertaking; and
- (d) in any other case, the consumer’s tap.

(4) Water supplied for regulation 4(1) purposes will 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 2 of Table A in Schedule 1) in excess of the prescribed concentrations; or
- (b) it contains a concentration of nitrite in excess of 0.1 mg NO<sub>2</sub>/l.

(5) Subject to paragraph (6), water supplied for regulation 4(1) purposes will 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 is to be regarded as unwholesome if more than 5% of samples taken in a year exceed the prescribed concentration for the coliform bacteria parameter.

## PART 4

### Monitoring of Water Supplies

#### **Interpretation and application of Part 4**

**5.—**(1) In this Part “monitoring of a Group A parameter” means monitoring of a Group A parameter for the purpose of obtaining information at regular intervals—

- (a) as to the organoleptic and microbiological quality of water;
- (b) where relevant, as to the effectiveness of drinking water treatment, particularly for the purposes of disinfection, for the purposes referred to in paragraph (2); and
- (c) as regards indicator parameters, whether water supplied for regulation 4(1) purposes meets the specifications for those parameters.

(2) The purpose of monitoring of a Group A parameter is to determine whether the presence of such a parameter in 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, the provisions of Part 3 as read with the terms of that departure.

(3) In this Part, “monitoring of a Group B parameter” means monitoring of a Group B parameter for the purpose of obtaining information from which it may be established whether water supplied for regulation 4(1) purposes—

- (a) satisfies the provisions of Part 3 or, if a departure has been authorised under Part 7 in relation to that supply, the provisions of Part 3 as read with the terms of that departure;
- (b) meets the specifications for indicator parameters; and

(c) in respect of other parameters identified as relevant by the Welsh Ministers under regulation 9, 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 III.

(5) Regulations 6 to 10 apply to a supplementary licensee in relation to samples taken from supply points as they apply to a water undertaker, but only in so far as the supplementary 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 (4) applies, the parameters listed in Tables A and B in Schedule 1 and the indicator parameters must be subject to—

- (a) monitoring of a Group A parameter if the parameter is one listed in column 2 of Table 1 in Schedule 3, and the circumstances specified in column 3 of that Table apply; and
- (b) monitoring of a Group B parameter in any other case.

(4) 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) at the commencement of the distribution from that tanker; and
- (b) every 48 hours thereafter until the distribution is discontinued.

(5) Of the samples taken in accordance with paragraph (3) in relation to each distribution—

- (a) the first sample must be analysed for compliance with the following parameters—
  - (i) *E. coli* (item 2 in Part 2 of Table A in Schedule 1); and
  - (ii) conductivity (item 6 in Schedule 2); and
- (b) the second and any subsequent samples must be analysed for compliance with those and every other parameter.

(6) For the purposes of the application of paragraph (3)(b) to the aluminium, iron and manganese parameters (items 1, 9 and 10 in Table 1 in Schedule 3, a supply which consists of both groundwater and surface water will be deemed to be a supply which consists only of surface water.

(7) Compliance samples for chemical parameters, including copper, lead and nickel must take the form of a random daytime sample of one litre volume taken at a consumer's tap without prior flushing.

(8) A water undertaker must monitor each water supply zone within its area of supply for the radioactive parameters contained in Schedule 2 in accordance with paragraphs (9) to (16).

(9) 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 Welsh Ministers 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 Welsh Ministers 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.

(10) As regards the radon parameter—

- (a) a water undertaker must ensure that a representative survey is carried out in accordance with paragraph (11) to determine the likelihood of a supply failing the parametric value for radon specified in Schedule 2; and
- (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.

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

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

(12) 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; and
- (b) if the concentration of tritium exceeds its parametric value, an investigation of the presence of other artificial radionuclides must be carried out.

(13) Where a parametric value is exceeded in a particular sample, the Welsh Ministers 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.

(14) The Welsh Ministers may notify a water undertaker which supplies water to a water supply zone that a radioactive parameter need not be monitored if the Welsh Ministers are 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.

(15) Where paragraph (14) applies, the Welsh Ministers 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).

(16) The Welsh Ministers must by notice in writing withdraw a notice under paragraph (14)—

- (a) given in relation to the indicative dose parameter, if the Welsh Ministers believe 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 Welsh Ministers believe 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 Welsh Ministers believe 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.

(17) A water undertaker which receives a notice under paragraph (16) 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 8 to 13 (as applicable) in Schedule 3.

### **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 water undertaker), the Welsh Ministers otherwise determine.

### **Authorisation of supply points**

8.—(1) For those parameters specified as item 6 in column 1 of Table 1, and items 1 to 11 and 14 to 21 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; and
- (c) the water leaving any treatment works.

(2) If the Welsh Ministers are 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 Welsh Ministers 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 by paragraph (2) where a supplementary 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 Welsh Ministers may, in relation to any parameter not covered by an authorisation under paragraph (2), on the written application of a water undertaker or on the joint written application of a water undertaker and supplementary 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 Welsh Ministers must not grant an authorisation under paragraph (4) unless they are 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) Subject to paragraph (8), the Welsh Ministers may at any time modify or revoke an authorisation under paragraph (4).

(8) Unless it appears to the Welsh Ministers that the immediate modification or revocation of an authorisation under paragraph (4) is required in the interests of public health, they must not modify or revoke such an authorisation without giving to the water undertaker to which the authorisation relates at least 6 weeks' notice of their intention to modify or revoke.

(9) A water undertaker must notify the Welsh Ministers 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 Welsh Ministers must revoke the authorisation.

## Number of samples

9.—(1) In each year a water undertaker must take or cause to be taken from its sampling points, or to the extent authorised under regulation 8, from its supply points, the standard number of samples for analysis of residual disinfectant and each parameter listed in—

- (a) column (2) of Table 1 in Schedule 3 (Group A parameters);
- (b) column (2) of Table 2 in Schedule 3 (Group B1 parameters);
- (c) column (2) of Table 3 in Schedule 3 (Group B2 parameters);
- (d) column (2) of Table 4 in Schedule 3 (Group A1 parameters);
- (e) column (2) of Table 5 in Schedule 3 (Group A2 parameters);
- (f) column (2) of Table 6 in Schedule 3 (Group A3 parameters); and
- (g) column (2) of Table 7 in Schedule 3 (Group A4 parameters).

(2) In respect of any parameter not referred to in paragraph (1), the Welsh Ministers may specify—

- (a) the number of samples which a water undertaker must take or cause to be taken from its sampling points in each year; and
- (b) its prescribed concentration or value.

(3) Samples required to be taken by this regulation must—

- (a) be taken at regular intervals;
- (b) in respect of sampling for chemical parameters in the distribution network other than sampling at a consumer's tap, be taken, and handled in accordance with ISO 5667-5 entitled "*Water quality. Sampling. Guidance on treatment of drinking water from treatment works and piped distribution systems.*"<sup>(1)</sup>; and
- (c) in respect of microbiological parameters in the distribution network and at a consumer's tap, be taken and handled in accordance with European Standard EN ISO 19458, entitled "*Water Quality – Sampling for microbiological analysis*"<sup>(2)</sup>, using sampling purpose A in the distribution network and sampling purpose B at a consumer's tap.

(4) Subject to paragraph (5) the Welsh Ministers may, in respect of any supplies of water by a water undertaker to a water supply zone, treatment works, supply point or a service reservoir, give the water undertaker written notice of any variation of—

- (a) the parameters subject to sampling (by the omission or addition of parameters); and
- (b) the number of samples which the undertaker must take in the period specified in the notice.

(5) Paragraph (4) does not apply in relation to *E.coli*.

(6) The Welsh Ministers may give a notice under paragraph (4)—

- (a) on the Welsh Ministers' own motion; or
- (b) where paragraph (8) applies, upon application by a water undertaker.

(7) A notice under paragraph (4)—

- (a) must specify which parameters are subject to variation;
- (b) must specify the extent of any variation from the standard number of samples required to be taken under paragraph (1) or from the number of samples required to be taken under paragraph (2);
- (c) may require a risk assessment to be undertaken;
- (d) may be revoked or varied by the Welsh Ministers.

(8) This paragraph applies where—

- (a) a risk assessment complying with this regulation has been undertaken;

---

(1) This standard was approved by the International Organization for Standardization (ISO) on 15 April 2006. Under reference BS ISO 5667-5:2006 it is published as a UK standard by the British Standards Institution (ISBN 0 580 47140 3).

(2) This standard was approved by the European Committee for Standardization (CEN) on 1 July 2006. Under reference BS EN ISO 19458:2006, it is published as a UK standard by the British Standards Institution (ISBN 0 5804 49136 6).

- (b) the results of the risk assessment described in sub-paragraph (a) are considered, and that risk assessment indicates that no factor can be reasonably anticipated to be likely to cause deterioration of the quality of the water;
- (c) in the case where the water undertaker seeks to cease monitoring a particular parameter, the results from samples taken in respect of the parameter collected at regular intervals over a period of at least 3 years are all at less than 30% of the parametric value of the parameter; and
- (d) in the case where the water undertaker seeks to reduce the frequency of monitoring in respect of a particular parameter, the results from samples taken in respect of that parameter collected at regular intervals over a period of at least 3 years are all at less than 60% of the parametric value of the parameter.

(9) The Welsh Ministers must by further written notice withdraw a notice under paragraph (4) if the Welsh Ministers believe that any parameter in the water supply to which the notice relates contravenes the prescribed concentration or value or is likely to do so.

(10) A water undertaker given notice under paragraph (4) must institute a monitoring programme which must be kept under annual review.

(11) A risk assessment complies with this regulation where—

- (a) it meets the principles of European standard EN 15975-2 entitled “*Security of drinking water supply - Guidelines for risk and crisis management - Part 2: Risk management*”(1) or of other equivalent standards accepted at international level;
- (b) it is subject to a system of quality control which is checked from time to time by a suitably accredited body; and
- (c) it takes into account the results of monitoring conducted under the second paragraph of Article 7(1) and Article 8 of Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for Community action in the field of water policy(2).

(12) In this regulation “the standard number” means the number of samples specified in Part 2 or Part 3 of Schedule 3 in respect of a parameter specified in Part 1 of that Schedule.

### **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.

---

(1) This standard was approved by the European Committee for Standardization (CEN) on 5 July 2013. Under reference BS EN 15975-2:2013, it is published as a UK standard by the British Standards Institution (ISBN 978 0 580 84737 0).

(2) O.J. No L 327, 22.12.2000, p 1, as last amended by Commission Directive 2014/101/EU (OJ No L 311, 31.10.2014, p 32).

## PART 5

### Monitoring – Additional Provisions

#### Sampling for particular substances and parameters

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

(2) For the purposes of establishing the quality of water to be supplied in any supply system into which a supplementary licensee introduces water, a supplementary licensee must 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

12.—(1) Subject to paragraph (3), in each year every water undertaker or supplementary licensee must take, or cause to be taken, from the point at which water leaves each treatment works which it uses to supply water to 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) Samples required to be taken by this regulation must be taken at regular intervals.

(3) 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 must bear to the standard number or, as the case may be, the number specified in a current notice given by the Welsh Ministers under regulation 9 which departs from the standard number, the same proportion as the number of days in that year in which the treatment works have been in use bears to 365.

(4) In this regulation, “the standard number” has the same meaning as in regulation 9.

#### Sampling at service reservoirs

13.—(1) Every water undertaker or supplementary licensee must take, or cause to be taken, from each of its service reservoirs in each week in which the reservoir is in use or as directed by notification by the Welsh Ministers under regulation 9(4), 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

14.—(1) This regulation applies in relation to—

- (a) any source which has not previously been used for the supply of water by a water undertaker or supplementary licensee; and
- (b) any source which has been so used but not so used for a period of 6 months preceding the date on which the water undertaker or supplementary licensee proposes to supply water from it.

(2) Every water undertaker or supplementary licensee must take, or cause to be taken, in accordance with paragraph (3) and (4), such samples of that water as will enable it to establish —

- (a) whether water can be supplied from that source without contravening section 68(1) of the Act (duties of water undertakers and licensed water suppliers with respect to water quality)<sup>(1)</sup>; and
  - (b) the treatment necessary to ensure that section 68(1) of the Act is complied with in relation to the supply of that water.
- (3) The samples must be taken or caused to be taken—
- (a) before the water undertaker or supplementary licensee supplies water from a source mentioned in paragraph (1)(a);
  - (b) as soon as is reasonably practicable after the water undertaker or supplementary licensee has begun to supply water from a source mentioned in paragraph (1)(b).
- (4) Samples must 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 or supplementary licensee proposing to use the source, may cause the supply to contravene section 68(1) of the Act;
  - (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 or supplementary licensee proposing to use the source 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.
- (5) Unless the conditions in paragraph (6) are satisfied, a water undertaker or supplementary licensee must not supply water from a source mentioned in paragraph (1)(a) for regulation 4(1) purposes until 1 month has passed following the day on which the water undertaker or supplementary licensee complied with regulation 28(1) with respect to that source.
- (6) The conditions are that the water undertaker or supplementary licensee—
- (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.
- (7) For the purposes of paragraph (6)(b), regulation 27 will apply to 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**

**15.—**(1) Every water undertaker or supplementary licensee must secure, so far as reasonably practicable, that when it takes, handles, transports, stores or analyses any sample required to be taken for the purposes of Part 4 or this Part, or causes any such sample to be taken, handled, transported, stored or analysed, it complies with the appropriate requirements.

(2) In this regulation, “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 person taking a sample is subject to a system of quality control to an appropriate standard;
- (c) the sample is not contaminated when being taken;
- (d) the sample is kept at such a temperature and in such conditions as secure that there is no material alteration of the concentration or value for the measurement or observation of which the sample is intended;

---

(1) Section 68(1) was amended by paragraph 18 of Schedule 8 to the Water Act 2003.

- (e) the sample is analysed, whether at the time and place it is taken or as soon as reasonably practicable 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;
  - (f) the collection and transportation of samples, or measurements recorded by continuous monitoring shall be subject to a system of quality control to an appropriate standard checked from time to time by a suitably accredited body.
- (3) Every water undertaker or wholesale licensee must secure that a suitably accredited body from time to time checks its compliance with the appropriate requirements.
- (4) Additionally, any person involved in seeking to discharge the obligation described in paragraph (1) must ensure that—
- (a) the methods of analysis used by that person for the purposes of monitoring and demonstrating compliance with this Part are validated and documented in accordance with European standard EN ISO/IEC 17025 entitled “*General requirements for the competence of testing and calibration laboratories*”(1) or other equivalent standards accepted at international level; and
  - (b) that person applies quality management system practices in accordance with European standard EN ISO/IEC 17025 or other equivalent standards accepted at international level.
- (5) Every water undertaker or supplementary licensee must maintain such records as are sufficient to enable it to establish, in relation to each sample taken for the purposes of Part 4 or this Part, that such of the appropriate requirements as are applicable to that sample have been satisfied.
- (6) 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 5 must be used for the parameter specified in relation to that method in column 1;
  - (b) the method of analysis in respect of the parameters listed in column 1 of Table A3 in Schedule 5 must be capable of measuring concentrations equal to the parametric value with a limit of quantification of 30% or less and an uncertainty of measurement as specified in column 2 of that Table and the result must be expressed—
    - (i) using at least the same number of significant figures as the parametric value; and
    - (ii) in the same units laid down in these Regulations; and
  - (c) the method of analysis used for the odour and taste parameters (items 5 and 7 in Part 2 of Table B in Schedule 1) must be capable, at the time of use, of measuring values equal to the parametric value with a precision or uncertainty of measurement of 1 dilution number at 25°C.
- (7) The Welsh Ministers may, on the application of any person, authorise a method of analysis other than that specified in paragraph (6)(a) (“the prescribed method”).
- (8) An application for the purposes of paragraph (7) must be made in writing and must 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 Welsh Ministers must not authorise the use of the method proposed in an application under paragraph (7) unless they are 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 Welsh Ministers consider appropriate.

---

(1) This standard was approved by the European Committee for Standardization (CEN) on 10 November 2017. Under reference BS EN ISO/IEC 17025:2017, it is published as a UK standard by the British Standards Institution (ISBN 0 580 46330 3).

(11) The Welsh Ministers may at any time, by notice in writing served on the water undertaker or supplementary licensee to which an authorisation under paragraph (7) has been given, revoke the authorisation, but any such notice must be served no later than 3 months before the date on which the revocation is stated to take effect.

### **Collection and analysis of samples: transitional provision**

**16.**—(1) Before 23:59 on 31 December 2019 a water undertaker or supplementary licensee may, in respect of any parameter specified in column 1 of Table A2 in Schedule 5, apply the method of analysis in paragraph (2) in place of the method of analysis in regulation 15(6)(b).

(2) 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 the method of analysis used for a parameter specified in column 1 of Table A2 in Schedule 5 must be capable, at the time of use—

- (a) 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
- (b) of detecting the parameter at the limit of detection specified in relation to that parameter in column 4 of that Table.

(3) For the purposes of paragraph (3)—

“limit of detection” is to be calculated as—

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

“precision” is to be calculated as a measure of random error and may be expressed as the standard deviation (within and between batches) of the spread of results from the mean. A precision measurement of twice the relative standard deviation is acceptable. The term “precision” is further specified in international standard ISO 5725 entitled “Accuracy (trueness and precision) of measurement methods and results”(1) as amended by the technical corrigendum entitled “Accuracy (trueness and precision) of measurement methods and results - Part 1: General Principles and Definitions TECHNICAL CORRIGENDUM 1”(2);

“trueness” is to be calculated as a measure of systematic error, which is the difference between the mean value of the large number of repeated measurements and the true value. The term “trueness” is further specified in international standard ISO 5725 entitled “Accuracy (trueness and precision) of measurement methods and results”, as amended by the technical corrigendum entitled “Accuracy (trueness and precision) of measurement methods and results - Part 1: General Principles and Definitions TECHNICAL CORRIGENDUM 1”.

## **PART 6**

### **Drinking Water Protected Areas**

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

**17.**—(1) Every water undertaker or supplementary licensee must identify every point from which it abstracts water for supply for regulation 4(1) purposes.

(2) At every abstraction point, the relevant water undertaker or supplementary licensee must 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 comply with regulations 26 to 28.

---

(1) This standard has been approved by the International Organization for Standardization (ISO). Under reference BS ISO 5725-1 to BS ISO 5725-6, these are published as UK standards by the British Standards Institution.

(2) ISO 5725-1:1994/Cor 1:1998 published on 2 May 1998.

- (3) In relation to any abstraction point, the Welsh Ministers may, by notice served on the relevant water undertaker or supplementary licensee, require the relevant water undertaker or supplementary licensee—
- (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, and at such frequencies, as may be specified.
- (4) The Welsh Ministers may, by notice served on the relevant water undertaker or supplementary licensee, revoke or amend a notice served under paragraph (3).
- (5) Every analysis required under—
- (a) paragraph (2), in relation to every body of surface water which provides more than 100 cubic metres of water per day as an average, must 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 10,000 to 30,000 people; and
    - (iii) 12 per year, where the population so served is greater than 30,000 people; and
  - (b) paragraphs (2) and (3) must be in accordance with such relevant standards as may be specified by the Welsh Ministers by notice served on the water undertaker or supplementary licensee.
- (6) For the purposes of—
- (a) paragraphs (2) and (3)—
 

“abstraction point” means an abstraction point identified under paragraph (1); and

“relevant water undertaker or supplementary licensee” means the water undertaker or supplementary licensee which identified the abstraction point;
  - (b) paragraph (3), “specified” means specified in the notice served under that paragraph; and
  - (c) paragraph (5), “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 7

### Investigations, Authorisation of Departures and Remedial Action

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

- 18.**—(1) A water undertaker or supplementary licensee must immediately take such steps as are necessary to identify the matters specified in paragraph (2) where it has reason to believe that water of a relevant description—
- (a) fails, or is likely to fail, to satisfy a requirement of regulation 4(2);
  - (b) is to be regarded as unwholesome by virtue of regulation 4(4); or
  - (c) if regulation 4(6) were ignored, would be regarded as unwholesome by virtue of regulation 4(5).
- (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) will apply only in respect of the Schedule 1 parameters (if any) that are not specified in the authorisation; and
  - (b) every water undertaker or supplementary licensee which has reason to believe that water of a relevant description fails, or is likely to fail, to satisfy the concentration or value required by the authorisation in relation to any Schedule 1 parameter, must 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 possible after the matters specified in paragraph (2) or (4), as the case may be, have been identified, the water undertaker or supplementary licensee must—
- (a) notify the Welsh Ministers—
    - (i) of those matters;
    - (ii) whether it is its opinion that, in relation to each parameter identified in accordance with paragraph (2)(b) or (4)(b), a failure in respect of that parameter is likely to recur;
    - (iii) of the action (if any) taken by it in relation to a failure which is attributable to the domestic distribution system or the maintenance of that system; and
  - (b) send a copy of that notice to any other relevant supplier which uses the supply system for the purposes of supplying water to consumers who are likely to be affected by the failure.
- (6) Where the water undertaker or supplementary licensee has identified a failure attributable to the domestic distribution system or to the maintenance of such a system, it must, at the same time as notification is given under paragraph (5)—
- (a) by notice in writing—
    - (i) to those of its consumers who are likely to be affected by the failure; and
    - (ii) to any other relevant supplier which uses the supply system for the purposes of supplying water to consumers 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 its opinion, 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 Welsh Ministers and to each appropriate local authority.
- (7) A relevant supplier which receives a notice under paragraph (6)(a)(ii) must immediately send or cause to be sent a copy of that notice to those of its consumers who are likely to be affected by the failure.
- (8) A water undertaker or supplementary licensee which has complied with the requirements of paragraphs (5) and (6) need not, in respect of the same failure or apprehended failure, comply with the requirements of regulation 35(6)(a)(iv).
- (9) Where such a failure as is mentioned in paragraph (1) relates to the copper or lead parameter, the relevant supplier must, 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**

**19.**—(1) Where a water undertaker or supplementary licensee has reason to believe that water of a relevant description does not meet the specifications for indicator parameters set out in Schedule 2, it must immediately take such steps as are necessary to identify—

- (a) whether water of a relevant description does or does not meet the specifications;
- (b) the indicator parameters in respect of which the specifications are not met;
- (c) if the specification for the coliform bacteria or colony counts 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;
- (d) if the specification for the tritium parameter is not met, whether the inability to meet the specification is attributable to artificial radionuclides.

(2) As soon as possible after the matters specified in paragraph (1) have been identified, the water undertaker or supplementary licensee must—

- (a) notify the Welsh Ministers—
  - (i) of those matters;
  - (ii) whether it is its opinion that, in relation to each parameter identified in accordance with paragraph (1)(b), a recurrence of the inability to meet the specification in respect of that parameter is likely; and
- (b) send a copy of that notice to any other relevant supplier which uses the supply system for the purposes of supplying water to consumers who are likely to be affected by the failure.

(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 or supplementary licensee must, at the same time as notification is given under paragraph (2)—

- (a) by notice in writing—
  - (i) to those of its consumers who are likely to be affected by the failure; and
  - (ii) to any other relevant supplier which uses the supply system for the purposes of supplying water to consumers 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 its opinion, 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 Welsh Ministers and to each appropriate local authority.

(4) A relevant supplier which receives a notice under paragraph (3)(a)(ii) must immediately send or cause to be sent a copy of that notice to those of its consumers who are likely to be affected by the failure.

## **Action by the Welsh Ministers**

**20.**—(1) Where—

- (a) a notification given in accordance with paragraph (6) of regulation 18 in the circumstances mentioned in paragraph (1) of that regulation (including that paragraph as read with paragraph (4)(a) of that regulation) discloses—
  - (i) a failure in respect of a parameter specified 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 Welsh Ministers that the failure is not trivial and is likely to recur,

the Welsh Ministers may, by notice in writing to any relevant supplier which uses the supply system for the purposes of supplying water to consumers in respect of which the notification was given, require that relevant supplier to seek a departure in accordance with regulation 22.

(2) The exercise by the Welsh Ministers of the power conferred by paragraph (1) will not preclude the exercise by the Welsh Ministers of the power conferred by section 18 of the Act (orders for securing compliance with certain provisions)(1).

(3) Where—

- (a) a notification given in accordance with regulation 18(5) in the circumstances mentioned in regulation 18(3)(b) discloses—
  - (i) a failure in relation to any parameter specified 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 Welsh Ministers that the failure in respect of that parameter is not trivial and is likely to recur,

the Welsh Ministers must consider whether to vary the terms of an authorisation under regulation 22.

(4) Where—

- (a) a notification given in accordance with regulation 19(2) discloses an inability to meet the specification applicable to an indicator parameter, and
- (b) the Welsh Ministers consider that the inability poses a potential danger to human health,

the Welsh Ministers must, by notice in writing to any relevant supplier which uses the supply system for the purposes of supplying water to consumers in respect of which the notification was given, require that relevant supplier to take such steps as may be determined by the Welsh Ministers and specified in the notice.

(5) A relevant supplier to whom a notice under paragraph (4) has been given must take the steps specified in the notice

#### **Failure attributable to domestic distribution system where water is supplied to the public**

**21.**—(1) Paragraph (3) applies where the Welsh Ministers consider that the failure (or, in the case of regulation 18, apprehended failure) disclosed by a notification under regulation 18(5) or regulation 19(2)—

- (a) is attributable to the domestic distribution system, or the maintenance of that system, in premises where water supplied for regulation 4(1) purposes is made available for use by the members of the public, including schools within the meaning of the Education Act 1996(2), hospitals and restaurants;
- (b) is not trivial and is likely to recur; and
- (c) in the case of a notification given under regulation 19(2), poses a potential danger to human health.

(2) References in this regulation to “failure” are references to a failure or apprehended failure of the type referred to in paragraph (1).

(3) Subject to paragraph (7), the Welsh Ministers must as soon as possible, serve a notice in writing on—

- (a) the water undertaker that supplies water to the premises, or
- (b) the water undertaker whose supply system is used for the purpose of a water supply licensee making a supply of water to the premises,

requiring it to exercise the power conferred by section 75(2) of the Act (power to prevent damage and to take steps to prevent contamination, waste etc.)(3) in respect of the failure.

(4) The provisions of section 75(2) to (12) of the Act apply in relation to the exercise of the power in section 75(2) in pursuance of a notice served under paragraph (3), subject to the modifications in paragraph (5).

(5) Those modifications are—

---

(1) Section 18 was amended by sections 36(2) and 49(2) of, and paragraph 4 of Schedule 8 to, the Water Act 2003, and by paragraph 26 of Schedule 7 to the Water Act 2014.

(2) 1996 c.56.

(3) Section 75 was amended by paragraph 24 of Schedule 8 to the Water Act 2003 and paragraph 72 of Schedule 7 to the Water Act 2014.

- (a) subsections (2)(b) and (4) are to be read as if any reference to “damage, contamination, waste, misuse or undue consumption” were a reference to the failure.
- (b) subsection (9) is to be read as if for the words from “the water undertaker shall have power” to the end of paragraph (b) there were substituted—

“the water undertaker—

- (a) must take those steps itself; and
- (b) subject to subsection (10) may recover any expenses reasonably incurred by the undertaker in taking those steps from the person on whom the notice was served.

(6) Where the water undertaker exercises the power in section 75(2) of the Act pursuant to a notice served by the Welsh Ministers under paragraph (3) it must inform by notice in writing any of its other consumers who are likely to be affected, of the steps it has taken, and that notice must include a copy of any notice that it has served.

(7) Where the Welsh Ministers consider that the failure (or any aspect of it) is attributable to factors arising from the further distribution by a person other than a water undertaker or water supply licensee of water supplied by a water undertaker or water supply licensee, the Welsh Ministers—

- (a) must not serve a notice under paragraph (3) in respect of that failure or aspect of it; and
- (b) if the Welsh Ministers consider that the local authority needs information or assistance from the water undertaker or water supply licensee in order to be able to carry out its duties under regulation 17 (provision of information) or 18 (investigation) of the Private Water Supplies (Wales) Regulations 2017(1), the Welsh Ministers must serve a notice on the water undertaker or water supply licensee requiring it to provide such information or assistance to the local authority as is specified in the notice.

(8) The water undertaker or water supply licensee on which a notice under this regulation has been served must take the steps specified in the notice as soon as possible.

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

**22.—**(1) Subject to paragraph (2), the Welsh Ministers may, upon the written application of a relevant supplier, authorise in accordance with regulation 23 a departure from the provisions of Part 3 of these Regulations in so far as they relate to—

- (a) a parameter specified in Table B in Schedule 1; and
- (b) the supply of water by a relevant supplier in any of the water supply zones which it uses for the purposes of supplying water to consumers.

(2) The Welsh Ministers must not authorise a departure under paragraph (1) unless they are 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) Every water undertaker or supplementary licensee must 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;

---

(1) S.I. 2017/1041 (W. 270).

- (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, either alone or together with other relevant suppliers, in order to secure that the supply fully satisfies the requirements of Part 3, 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 Welsh Ministers.

(4) At the same time as it makes an application for an authorisation under paragraph (1), the water undertaker or supplementary licensee must serve a copy of the application and of the statement, scheme and summary referred to in paragraph (3) on—

- (a) every appropriate local authority;
- (b) the Public Health Wales National Health Service Trust;
- (c) where the water supply zone is wholly or partly in England, Public Health England; and
- (d) the Council<sup>(1)</sup>.

(5) A body on whom documents have been served in accordance with paragraph (4) may make representations to the Welsh Ministers in connection with the application; and any such representations must 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**

**23.—**(1) Subject to paragraph (2), a departure may be authorised under regulation 22 for such period as is in the Welsh Ministers’ opinion reasonably required for securing a supply of water for regulation 4(1) purposes that fully satisfies the requirements of Part 3 (“the departure period”).

(2) No departure period may exceed 3 years.

(3) Subject to paragraph (4), an authorisation under regulation 22—

- (a) must 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;

---

(1) See section 219(1) of the Act (as amended by section 56 of, and paragraph 27(7)(b) of Schedule 7 to, the Water Act 2014) which defines “the Council” as the Consumer Council for Water.

- (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;
- (b) must 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 22(3)(b));
  - (c) must 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 3 (whether or not the steps are those proposed in the summary submitted in accordance with regulation 22(3)(c));
  - (d) must 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) must require a relevant supplier to provide to the relevant population advice as to the measures (if any) that it would be advisable for them to take in the interests of their health for the whole or any part of the departure period.

(4) In paragraph (3)(e), “relevant population” means the population within the water supply zones to which the authorisation applies and, in particular, those groups of that population for which the supply of water in accordance with the authorisation could present a special risk.

(5) Where paragraph (6) applies, the particulars to be specified in the authorisation are those required by paragraph (3)(a)(iii) and (ix), and paragraph (3)(b) to (e) does not apply.

(6) This paragraph applies where the Welsh Ministers are of the opinion that—

- (a) the extent of the contravention of the requirements of Part 3 as respects any parameter is trivial; and
- (b) 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.

(7) Where it appears to the Welsh Ministers that a supply of water that fully satisfies the requirements of Part 3 cannot be restored by the end of the departure period, they may authorise a further departure.

(8) Paragraphs (1) to (6) will apply to a further departure authorised under paragraph (7) as they apply to a departure authorised under regulation 22.

(9) Where it appears to the Welsh Ministers that a supply of water that fully satisfies the requirements of Part 3 cannot be restored by the end of the departure period relevant to an authorisation under paragraph (5), they may, in accordance with Article 9(2) of Council Directive 98/83/EEC on the quality of water for human consumption<sup>(1)</sup>, authorise a third departure.

(10) Paragraph (3) applies to a third departure authorised under paragraph (9) as it applies to a departure authorised under regulation 22, but with the substitution for the words “Subject to paragraph (5)” of the words “Subject to any direction of the European Commission”.

---

(1) OJ No L 330, 5.12.1998, p 32, as last amended by Commission Directive (EU) 2015/1787 (OJ No L 260, 7.10.2015, p 6).

- (11) An authorisation under regulation 22 or this regulation 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**

**24.**—(1) As soon as reasonably practicable after a departure has been authorised under regulation 22 or 23, the specified relevant suppliers must—

- (a) separately publish, by making accessible, free of charge, on their websites via a hyperlink maintained on their respective homepages for at least 14 days—
    - (i) except in a case to which paragraph (4) of regulation 23 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 23 applies, a notice containing a statement of the matters specified in paragraph (3)(a)(ii), (iii) and (ix) of that regulation; and
  - (b) jointly give such other public notice of the authorisation and of its terms and conditions as the Welsh Ministers may, by notice served on the specified relevant suppliers, reasonably require.
- (2) In this regulation “specified relevant suppliers” means relevant suppliers—
- (a) who use the same water supply zone for the purposes of supplying water to consumers; and
  - (b) for the purposes of that supply, rely on an authorised departure relating to the same facts.

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

**25.**—(1) Subject to paragraphs (2) and (4), the Welsh Ministers may at any time modify or revoke an authorisation under regulation 22.

(2) Subject to paragraph (3) the Welsh Ministers must not revoke or modify an authorisation under regulation 22 without giving at least 6 months’ notice in writing of their intention to do so to—

- (a) the relevant supplier to which the authorisation relates;
- (b) any other relevant supplier which, for the purposes of supplying water to consumers, uses the water supply zone in respect of which the authorised departure has been given;
- (c) every appropriate local authority;
- (d) the Public Health Wales National Health Service Trust;
- (e) where the authorisation relates to a water supply zone which is wholly or partly in England, Public Health England; and
- (f) the Council.

(3) The Welsh Ministers may revoke or vary an authorisation under regulation 22 without notice if it appears to the Welsh Ministers that immediate revocation or modification is required in the interests of public health.

(4) A relevant supplier on whose application a departure has been authorised under this Part must notify the Welsh Ministers as soon as the circumstances which gave rise to the application cease to exist; and the Welsh Ministers will thereupon revoke the authorisation without the need for prior notice.

## **PART 8**

### **Water Treatment**

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

**26.**—(1) Unless the conditions in paragraph (5) are satisfied, before supplying water for regulation 4(1) purposes, a water undertaker or supplementary licensee must—

- (a) disinfect the water; and

- (b) where necessary, subject the water to sufficient preliminary treatment to prepare it for disinfection.
- (2) A water undertaker or supplementary licensee 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 effectiveness of the disinfection process.
- (3) Paragraph (4) 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.
- (4) Unless the conditions in paragraph (5) are satisfied, before supplying water for regulation 4(1) purposes using water from any source, a water undertaker or supplementary licensee must design and continuously operate an adequate treatment process for water from the source.
- (5) The conditions are that the water undertaker or supplementary licensee—
  - (a) must supply water from the treatment works as a matter of urgency in order to prevent an unexpected interruption in piped supply to customers; and
  - (b) before the supply is made, has taken all necessary steps to inform consumers that the water is not disinfected or adequately treated.
- (6) For the purposes of this regulation—
  - (a) “adequate treatment process” means a process of blending or 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 NTU; and
  - (c) water is supplied for regulation 4(1) purposes when it leaves a treatment works.

### **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) Every water undertaker or supplementary licensee must carry out a risk assessment of each of its treatment works and connected supply system in order to establish whether there is a significant risk of supplying water from those works or supply system that would constitute a potential danger to human health or is likely to be unwholesome.

(3) Every water undertaker or supplementary licensee must keep its risk assessments under continuous review.

(4) The Welsh Ministers may by notice served on a water undertaker or supplementary licensee, require a risk assessment or review to be carried out by a date specified in the notice.

(5) Where a water undertaker or supplementary licensee 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, or that is likely to be unwholesome, it must serve a notice on the Welsh Ministers specifying the relevant factors.

### **Procedure following risk assessment and prohibition of supply**

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

(2) The report must 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 could constitute a potential danger to human health or could be unwholesome, 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 could constitute a potential danger to human health or could be unwholesome—
    - (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 could constitute a potential danger to human health or could be unwholesome, the report must—
- (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 the water undertaker or supplementary licensee—
    - (i) has made operational as at the date of the report; and
    - (ii) intends to make operational, to mitigate the risk.
- (4) Where the Welsh Ministers have received a report which states that there is or has been a significant risk of supplying water that could constitute a potential danger to human health or could be unwholesome, they may, by notice served on the water undertaker or supplementary licensee, require the water undertaker or supplementary licensee—
- (a) to maintain such specified measures for such period of time as the Welsh Ministers consider appropriate to mitigate the risk;
  - (b) to review, revise or make operational such specified measures by such date as the Welsh Ministers consider 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 supply systems, or not to so supply unless specified conditions are satisfied; and
  - (e) to give the Welsh Ministers such information as they 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 Welsh Ministers may, by notice served on the relevant water undertaker or supplementary licensee, revoke or amend a notice served under paragraph (4).

### **Water treatment to minimise contamination from pipes**

**29.**—(1) Paragraph (2) applies where there is a risk (“the prescribed risk”) that water supplied by a relevant supplier would, for the reason mentioned in paragraph (3), after leaving the relevant supplier’s pipes—

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

(2) Every water undertaker or supplementary licensee which introduces water into the supply system used by the relevant supplier must, subject to paragraph (4), treat the water in such a way as will, in its opinion, eliminate the prescribed risk or reduce it to a minimum.

(3) 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 section 68(3)(a)(1) of the Act, or its associated fittings.

(4) Paragraph (1) will not require a water undertaker or supplementary licensee to treat water—

- (a) if the treatment is unlikely to achieve a significant reduction in the concentration of copper or lead; or

---

(1) Section 68(3) was amended by paragraph 18(5) of Schedule 8 to the Water Act 2003.

- (b) if treatment is not reasonably practicable.

### **Replacement of lead pipes**

- 30.**—(1) The relevant supplier must modify or replace its part of a pipe where a relevant supplier—
- (a) 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 relevant supplier replaces the remainder of the pipe; and
  - (b) has reason to believe that water supplied by it for regulation 4(1) purposes from a pipe to which paragraph (2) applies contains, at the consumer’s tap, a concentration of lead which exceeds 10 µg/l.
- (2) This paragraph 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) of which part belongs to a relevant supplier and of which the remainder belongs to the owner of any premises to which the relevant supplier supplies water for regulation 4(1) purposes.

### **Application and introduction of substances and products**

- 31.**—(1) Subject to paragraph (2), a water undertaker or supplementary licensee must 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 one of the requirements of paragraph (4) is satisfied.
- (2) A substance or product which, at the time of its application or introduction—
- (a) bears an appropriate CE marking in accordance with the Constructions Products Regulation, or
  - (b) conforms to an appropriate British Standard or some other appropriate standard of an EEA state or Turkey which provides an equivalent level of protection and performance,
- may be applied or introduced, notwithstanding that none of the requirements of paragraph (4) are satisfied.
- (3) Paragraph (2) applies only if such an application or introduction complies with—
- (a) such 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 Welsh Ministers by an instrument in writing;
  - (b) such other requirements, within the meaning of the Technical Standards Directive, in relation to such substances and products, as have been communicated to the European 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 European Commission.
- (4) The requirements of this paragraph are—
- (a) that the Welsh Ministers have 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 Welsh Ministers are 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 the water undertaker or supplementary licensee has given to the Welsh Ministers not less than 3 months’ notice in writing of its intention so 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 Welsh Ministers decide to issue an approval under paragraph (4)(a), they 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 will be discontinued within 12 months of the date on which they were first applied or introduced or, if the Welsh Ministers by notice given in writing to the water undertaker or supplementary licensee so directs, within such other period (whether longer or shorter) as may be specified in the notice.

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

- (a) paragraphs (1) and (4)(b) or (c); or
- (b) paragraph (2).

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

(10) Subject to paragraph (11) the Welsh Ministers may—

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

(11) Unless the Welsh Ministers are satisfied that it is necessary to do so in the interests of public health without notice, the Welsh Ministers must not do any of those things without giving all such persons as are, in the opinion of the Welsh Ministers, likely to be affected by the revocation or modification of the approval or by the giving of the notice at least 6 months' notice in writing of its intention.

(12) Notwithstanding paragraph (11), the Welsh Ministers must give immediate notice to all persons likely to be affected by the revocation or variation of an instrument mentioned in paragraph (10)(a) or (b).

(13) At least once in each year, the Welsh Ministers must issue a list of all the substances and products, with particulars of the action taken, 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).

(14) The Welsh Ministers may—

- (a) by notice served on the person who makes an application for approval under paragraph (4)(a), require the person to pay the Welsh Ministers a charge which reflects the administrative expenses incurred or likely to be incurred by the Welsh Ministers 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 the Welsh Ministers to be appropriate.

(15) In this regulation—

- (a) “EEA state” means—
  - (i) a Member State of the EU; or
  - (ii) any other State that is a party to the EEA agreement;
- (b) “EEA agreement” means the agreement on the European Economic Area signed at Oporto on 2 May 1992, together with the Protocol adjusting that Agreement signed at Brussels on 17 March 1993, as modified or supplemented from time to time;

- (c) “the Construction Products Regulation” means Regulation (EU) No 305/2011 of the European Parliament and of the Council laying down harmonised conditions for the marketing of construction products<sup>(1)</sup>;
- (d) “the Technical Standards Directive” means Directive (EU) 2015/1535 of the European Parliament and of the Council laying down a procedure for the provision of information in the field of technical regulations and of rules on Information Society services<sup>(2)</sup>.

### Use of processes

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

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

(3) Subject to paragraph (4), unless the Welsh Ministers have given to the water undertaker or supplementary licensee at least 6 months’ notice in writing of the Welsh Ministers’ intention to revoke, vary or prohibit, as the case may be, the Welsh Ministers must 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 a water undertaker or supplementary licensee from using any process.

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

(5) Regulation 31(13) applies for the purposes of this regulation as if—

- (a) for the reference to a substance or product there were substituted a reference to a process; and
- (b) for the reference to paragraph (4)(a) and paragraph (8) there were substituted a reference to this regulation and paragraph (1) of this regulation respectively.

### Offences

**33.—**(1) A water undertaker or supplementary licensee which contravenes regulation 26(1) or (4) or the terms of a notice served under regulation 28(4)(d) will be guilty of an offence and liable on summary conviction, or on conviction on indictment, to a fine.

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

(3) A water undertaker or supplementary licensee which—

- (a) applies or introduces any substance or product in contravention of regulation 31(1) or a notice given under regulation 31(8), or
- (b) uses any process in contravention of a prohibition imposed under regulation 32(1) or without complying with a condition imposed by virtue of regulation 32(2),

will be guilty of an offence and liable on summary conviction, or on conviction on indictment, to a fine.

(4) If any person, in furnishing any information or making any application under regulation 31 or 32, makes any statement which he or she knows to be false in a material particular, or recklessly makes any

---

(1) OJ No L 88, 4.4.2011, p 5, as last amended by Commission Delegated Regulation (EU) No 574/2014 (OJ No L 159, 28.5.2014, p 41).

(2) OJ No L 241, 17.9.2015, p 1.

statement which is false in a material particular, that person is guilty of an offence and liable on summary conviction, or on conviction on indictment, to a fine.

(5) Proceedings for an offence under paragraph (4) will not be instituted except by or with the consent of the Welsh Ministers or the Director of Public Prosecutions.

## PART 9

### Records and Information

#### Maintenance of records

**34.**—(1) Every water undertaker or supplementary licensee must, in respect of each of the water supply zones which it uses for the purposes of supplying water to consumers, prepare and maintain 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 7 of these Regulations which applies to water supplied in the zone;
- (e) particulars of the action taken or required to be taken by the water undertaker or supplementary licensee to comply with—
  - (i) any enforcement order made under section 18 of the Act;
  - (ii) any departure authorised under Part 7; and
  - (iii) any notice under regulation 20(4);
- (f) particulars of the result of any analysis of samples taken in accordance with Part 4 of these Regulations or any of regulations 11 to 13, 17 and 28;
- (g) the results of any electronic monitoring where this is carried out in accordance with these Regulations;
- (h) particulars of all consumer contacts in relation to the discharge of duties under these Regulations; and
- (i) such other particulars as the water undertaker or supplementary licensee may determine.

(2) A retail licensee must, in respect of each of the water supply zones which it uses for the purposes of supplying water to consumers, prepare and maintain a record containing—

- (a) the name of the water supply zone;
- (b) particulars of any departure authorised under Part 7 of these Regulations which applies to water supplied in the zone;
- (c) particulars of the action taken or required to be taken by the retail licensee to comply with—
  - (i) any enforcement order made under section 18 of the Act;
  - (ii) any departure authorised under Part 7; and
  - (iii) any notice under regulation 20(4);
- (d) particulars of all consumer contacts in relation to the discharge of duties under these Regulations; and
- (e) such other particulars as the retail licensee may determine.

(3) A water undertaker or supplementary licensee must make entries in the record—

- (a) in respect of the matters mentioned in paragraph (1)(a) to (d) and (e)(ii) as soon as reasonably practicable and no later than 3 months after the day on which it first introduces water into a supply system for the purposes of supplying water to consumers;

- (b) in respect of the matters mentioned in paragraph (1)(e)(i) and (iii) within 28 days of the date of the order and notice respectively; and
  - (c) 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 or supplementary licensee.
- (4) A retail licensee must make—
- (a) initial entries in the record in respect of the matters mentioned in paragraph (2)(a), (b) and (c)(ii) no later than 3 months after the day on which it first uses a supply system for the purposes of supplying water to consumers; and
  - (b) entries in respect of the matters mentioned in paragraph (2)(c)(i) and (iii) within 28 days of the date of the order and notice respectively.
- (5) Without prejudice to paragraph (3), the relevant supplier must at least once in each year review and bring up to date the record required to be kept by paragraph (1) or paragraph (2) (as the case may be).
- (6) Nothing in this regulation will require a relevant supplier to retain a record—
- (a) of information mentioned in any of sub-paragraphs (a), (b) and (f) of paragraph (1) or in paragraph (2)(a) 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 paragraph (1) or paragraph (2) at any time more than 5 years after the date on which the information was first entered in the record.

### **Provision of information**

**35.—**(1) Any person may request a relevant supplier to send to the person making the request a copy of any record maintained by the relevant supplier under regulation 34 and the relevant supplier must, within 7 days of the receipt of the request, send a copy of the record requested to the person who requested it.

(2) A relevant supplier must 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 the relevant supplier may determine.

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

(4) Where a relevant supplier 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 must include in, or append to, at least one of the accounts sent to each customer in any year a statement informing customers 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 relevant supplier, gives rise or is likely to give rise to a significant risk to human health the relevant supplier must notify—

- (a) in every case—
  - (i) every appropriate local authority;
  - (ii) the Public Health Wales National Health Service Trust;
  - (iii) the Council; and
  - (iv) the Welsh Ministers; and
- (b) in any case where the event gives rise or is likely to give rise to a significant risk to human health in England—
  - (i) Public Health England; and
  - (ii) the Secretary of State.

(7) Where a person has received a notification under paragraph (6), that person may require the relevant supplier to provide such further information relating to the event and its consequences as that person may reasonably require.

## PART 10

### Functions of Local Authorities in Relation to Water Quality

#### Application and interpretation of this Part

**36.**—(1) This Part applies to the performance by a local authority of their duty under section 77(1) of the Act (general functions of local authorities in relation to water quality) insofar as that duty relates to water supplies which are not private supplies.

(2) In this Part “specified relevant supplier”, in relation to a local authority, means—

- (a) a water undertaker any of whose water supply zones include an area which is situated within the area of that authority; or
- (b) a water supply licensee which uses any such water supply zones for the purposes of supplying water to consumers.

#### Duties of local authorities: supplementary provision

**37.**—(1) In performing their duty under section 77(1) of the Act, a local authority—

- (a) must make such arrangements with the specified relevant supplier as will secure that the authority is notified as mentioned in regulation 35(6)(a)(i); and
- (b) may take, or cause to be taken, and analyse, or cause to be analysed, by a person designated by them in writing, such samples of the water supplied to premises in their area as they may reasonably require.

(2) Regulation 15 applies to samples taken by virtue of paragraph (1) as it applies to samples taken for the purposes of Parts 4 and 5 of these Regulations, but regulation 15(1) is to be read as if for the words “water undertaker or supplementary licensee” there were to be substituted “local authority”.

## PART 11

### Enforcement

#### Contraventions by relevant suppliers

**38.** Any duty or requirement imposed by Parts 4 to 9 of these Regulations on a relevant supplier will be enforceable under section 18 of the Act by the Welsh Ministers or the Authority<sup>(1)</sup>, whether or not the duty or requirement constitutes an offence.

## PART 12

### Miscellaneous

#### Transitional provisions

**39.**—(1) On the coming into force of these Regulations—

---

(1) See section 219(1) of the Act (as amended by section 101 of, and paragraph 27 of Schedule 7 to, the Water Act 2003) which defines “the Authority” as the Water Services Regulation Authority.

- (a) a notice given under regulation 6A(3) of the 2010 Regulations which had effect immediately before the coming into force of these Regulations is taken to be a notice given under regulation 6(13) of these Regulations;
- (b) an authorisation under regulation 8(1) or (3) of the 2010 Regulations is taken to be an authorisation given under regulation 8(2) or (4) respectively of these Regulations;
- (c) an authorisation given under regulation 16(7) of the 2010 Regulations which had effect immediately before the coming into force of these Regulations is taken to be an authorisation under regulation 15(7) of these Regulations;
- (d) a notice given under regulation 17(3), (4) or (5)(b) of the 2010 Regulations which had effect immediately before the coming into force of these Regulations is taken to be a notice given under regulation 17(3), (4) or (5)(b) respectively of these Regulations;
- (e) a notice given under regulation 20(1) or (4) of the 2010 Regulations which had effect immediately before the coming into force of these Regulations is taken to be a notice given under regulation 20(1) or (4) respectively of these Regulations;
- (f) a notice given under regulation 21(3) of the 2010 Regulations which had effect immediately before the coming into force of these Regulations is taken to be a notice given under regulation 21(3) of these Regulations;
- (g) an authorisation given under regulation 22(1) of the 2010 Regulations which had effect immediately before the coming into force of these Regulations is taken to be an authorisation given under regulation 22(1) of these Regulations;
- (h) any further authorisations given under regulation 23(5) and (7) of the 2010 Regulations which had effect immediately before the coming into force of these Regulations are taken to be further authorisations given under regulation 23(7) and (9) respectively of these Regulations;
- (i) a notice given under regulation 28(5) of the 2010 Regulations which had effect immediately before the coming into force of these Regulations is taken to be a notice given under regulation 27(4) of these Regulations;
- (j) a notice given under regulation 29(4) of the 2010 Regulations which had effect immediately before the coming into force of these Regulations is taken to be a notice given under regulation 28(4) of these Regulations;
- (k) an approval given under regulation 31(4)(a) of the 2010 Regulations which had effect immediately before the coming into force of these Regulations is taken to be an approval given under regulation 31(4)(a) of these Regulations;
- (l) a notice given under regulation 31(7) or (8) of the 2010 Regulations which had effect immediately before the coming into force of these Regulations is taken to be a notice given under regulation 31(7) or (8) respectively of these Regulations;
- (m) a notice given under regulation 32(1) of the 2010 Regulations which had effect immediately before the coming into force of these Regulations is taken to be a notice given under regulation 32(1) of these Regulations; and
- (n) an approval or notice given under regulation 32(2) of the 2010 Regulations which had effect immediately before the coming into force of these Regulations is taken to be an approval or notice respectively given under regulation 32(2) of these Regulations.

(2) Any variation from the standard number under the 2010 Regulations, as defined in regulation 9 of those Regulations, as in force immediately before the coming into force of these Regulations is to cease upon the coming into force of these Regulations.

(3) Table A2 in Schedule 5 remains in force until 23:59 on 31 December 2019 following which it is revoked for all purposes.

(4) Regulation 16 remains in force until 23:59 on 31 December 2019 following which it is revoked for all purposes.

#### **Amendments and revocations**

**40.—**(1) The Regulations specified in Table 1 in Schedule 6 are amended in accordance with the provisions of that Table.



(2) The Regulations specified in Table 2 in Schedule 6 are revoked to the extent specified in that Table.

Lesley Griffiths

Cabinet Secretary for Energy, Planning and Rural Affairs,  
one of the Welsh Ministers

22 May 2018

**SCHEDULE 1** Regulations 2, 4, 6, 14, 15, 18, 20 and 22  
**PRESCRIBED CONCENTRATIONS AND VALUES**

**Table A Microbiological Parameters**

*Part 1: Directive requirements*

| Item                                 | Parameters        | Concentration or Value (maximum) | Units of Measurement | Point of compliance                            |
|--------------------------------------|-------------------|----------------------------------|----------------------|--|
| 1                                    | Enterococci       | 0                                | number/100 ml        | Consumers' taps                                |
| 2                                    | <i>E.coli</i>     | 0                                | number/100 ml        | Consumers' taps                                |
| <b>Part 2: National requirements</b> |                   |                                  |                      |  |
| 1                                    | Coliform bacteria | 0                                | number/100 ml        | Service reservoirs 1 and water treatment works |
| 2                                    | <i>E. coli</i>    | 0                                | number/100 ml        | Service reservoirs and water treatment works   |

Note:

(1) Compliance required as to 95% of samples from each service reservoir (regulation 4(6)).

**Table B Chemical Parameters**

**Part 1: National requirements**

| Item | Parameters          | Concentration or Value (maximum) | Units of Measurement | Point of compliance |
|------|---------------------|----------------------------------|----------------------|---------------------|
| 1    | Acrylamide          | 0.10                             | µg/l                 | 1                   |
| 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                               | µBrO3/l              | Consumers' taps     |
| 8    | Cadmium             | 5.0                              | µgCd/l               | Consumers' taps     |
| 9    | Chromium            | 50                               | µgCr/l               | Consumers' taps     |
| 10   | Copper              | 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                 | 1                   |
| 14   | Fluoride            | 1.5                              | mgF/l                | Consumers' taps     |
| 15   | Lead                | 10                               | µgPb/l               | Consumers' taps     |
| 16   | Mercury             | 1.0                              | µgPb/l               | Consumers' taps     |
| 17   | Nickel              | 20                               | µgNi/l               | Consumers' taps     |
| 18   | Nitrate 2           | 50                               | mgNO3/l              | Consumers' taps     |
| 19   | Nitrite 2           | 0.50                             | mgNO2/l              | Consumers' taps     |

|    |   |       |        |                 |
|----|---|-------|--------|-----------------|
| 20 | Pesticides 3, 4                         | 0.10  |        | Treatment Works |
|    | Aldrin                                  | 0.030 | µg/l   | Consumers' taps |
|    | Diieldrin                               |       |        |                 |
|    | Heptachlor                              |       |        |                 |
|    | Heptachlor epoxide                      |       |        |                 |
|    | other pesticides                        | 0.10  | µg/l   | Consumers' taps |
| 21 | Pesticides: Total 5                     | 0.50  | µg/l   | Consumers' taps |
| 22 | Polycyclic aromatic hydrocarbons 6      | 0.10  | µg/l   | Consumers' taps |
| 23 | Selenium                                | 10    | µgSe/l | Consumers' taps |
| 24 | Tetrachloroethene and Trichloroethene 7 | 10    | µg/l   | Consumers' taps |
| 25 | Trihalomethanes: Total 8                | 100   | µg/l   | Consumers' taps |
| 26 | Vinyl chloride                          | 0.50  | µg/l   | 1               |

Notes:

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

(2) See also regulation 4(2)(d).

(3) See the definition of "pesticides and related products" in regulation 2.

(4) The parametric value applies to each individual pesticide.

(5) "Pesticides: Total" means the sum of the concentrations of the individual pesticides detected and quantified in the monitoring procedure.

(6) 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.

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

(8) 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 2: National requirements

| Item | Parameters | Concentration or Value (maximum | Units of Measurement | Point of compliance |
|------|------------|---------------------------------|----------------------|---------------------|
|------|------------|---------------------------------|----------------------|---------------------|

| <b>unless otherwise stated)</b> |                    |  |            |                 |
|---------------------------------|--------------------|--|------------|-----------------|
| 1                               | Aluminium          | 200  | µgAl/l     | Consumers' taps |
| 2                               | Colour             | 20   | mg/l Pt/Co | Consumers' taps |
| 3                               | Iron               | 200  | µgFe/l     | Consumers' taps |
| 4                               | Manganese          | 50   | µgMn/l     | Consumers' taps |
| 5                               | Odour              | Acceptable to consumers and no abnormal change |            | Consumers' taps |
| 6                               | Sodium             | 200  | mgNa/l     | Consumers' taps |
| 7                               | Taste              | Acceptable to consumers and no abnormal change | ...        | Consumers' taps |
| 8                               | Tetrachloromethane | 3  | µg/l       | Consumers' taps |
| 9                               | Turbidity          | 4  | NTU        | Consumers' taps |

## SCHEDULE 2 Regulations 2, 6, 12, 15 and 19

### INDICATOR PARAMETERS

| <b>Item Parameters</b> | <b>Specification</b>                       | <b>Concentration or Value (maximum unless otherwise stated) or State</b> | <b>Units of Measurement</b> | <b>Point of compliance</b>                              |
|------------------------|--|--|-----------------------------|---|
| 1                      | Ammonium                                   | 0.50   | µgAl/l                      | Consumers' taps   |
| 2                      | Chloride <sup>1</sup>                      | 250  | mgCl/l                      | Supply point <sup>5</sup>                               |
| 3                      | Clostridium perfringens (including spores) | 0  | Number/100 ml               | Supply point <sup>5</sup>                               |
| 4                      | Coliform bacteria                          | 0  | Number/100 ml               | Consumers' taps   |
| 5                      | Colony counts                              | No abnormal change   | Number/1 ml at 22°C         | Consumers' taps, service reservoirs and treatment works |
| 6                      | Conductivity <sup>1</sup>                  | 2500   | µS/cm at 20°C               | Supply point <sup>5</sup>                               |
| 7                      | Hydrogen ion                               | 9.5<br>6.5 (minimum)   | pHvalue                     | Consumers' taps   |
| 8                      | Indicative dose <sup>2</sup>               | 0.10   | mSv                         | Supply point <sup>5</sup>                               |
|                        | (a) gross alpha                            | 0.1  | Bq/l                        | Supply point <sup>5</sup>                               |
|                        | (b) gross beta                             | 1  | Bq/l                        | Supply point <sup>5</sup>                               |
| 9                      | Radon <sup>c</sup>                         | 100  | Bq/l                        | Supply point  |
| 10                     | Sulphate <sup>1</sup>                      | 250  | mgSO <sub>4</sub> /l        | Supply point <sup>5</sup>                               |
| 11                     | Total organic carbon (TOC)                 | No abnormal change   | mgC/l                       | Supply point  |
| 12                     | Tritium (for radioactivity) <sup>4</sup>   | 100  | Bq/l                        | Supply point  |
| 13                     | Turbidity                                  | 1  | NTU                         | Treatment works   |

Notes:

- (1) The water should not be aggressive.
- (2) Where treatment to reduce the level of radionuclides in water intended for human consumption has been taken, monitoring must be carried out to ensure the continued efficacy of the treatment.
- (3) Remedial action may be taken by the Welsh Ministers on radiological protection grounds without further consideration and deemed to be justified where radon concentrates exceed 1,000 Bq/l.
- (4) If tritium concentration exceeds its parametric value, an investigation (which may include analysis) of the presence of artificial radionuclides is required.
- (5) May be monitored from samples of water leaving treatment works or other supply point, as no significant change during distribution.

## SCHEDULE 3 Regulations 2, 6, 8 and 9

### MONITORING

#### Part 1

#### Group A and Group B Parameters

**Table 1**

**Group A parameters and circumstances for monitoring**

| <i>Item number (1)</i> | <i>Parameter (2)</i>  | <i>Circumstances (3)</i>   |
|------------------------|-----------------------|--|
| 1                      | Aluminium             | Where used as a water treatment chemical or where the water originates from, or is influenced by, surface waters |
| 2                      | Ammonium              | Where chloramination is practised  |
| 3                      | Coliform bacteria     | In all circumstances   |
| 4                      | Colony counts 22 ° C  | In all circumstances   |
| 5                      | Colour                | In all circumstances   |
| 6                      | Conductivity(1)       | In all circumstances   |
| 7                      | <i>E. coli</i>        | In all circumstances   |
| 8                      | Hydrogen ion          | In all circumstances   |
| 9                      | Iron                  | Where used as a water treatment chemical or where the water originates from, or is influenced by, surface waters |
| 10                     | Manganese             | Where the water originates from, or is influenced by, surface waters   |
| 11                     | Nitrate               | Where chloramination is practised  |
| 12                     | Nitrite               | Where chloramination is practised  |
| 13                     | Odour                 | In all circumstances   |
| 14                     | Residual disinfectant | In all circumstances   |
| 15                     | Taste                 | In all circumstances   |
| 16                     | Turbidity             | In all circumstances   |

Note:

(1) Sampling for this parameter in water supply zones may be substituted by sampling at supply points.

**Table 2**

**Group B1 parameters and circumstances for monitoring to be used for sampling in water supply zones (or supply points)**

| <i>Item number</i> | <i>Parameter (2)</i>                              | <i>Circumstances</i>  |
|--------------------|---|---|
| 1                  | Aluminium   | Where—<br>(i) not used as a water treatment chemical; or<br>(ii) the water neither originates from, nor is influenced by, surface waters. |
| 2                  | Ammonium  | Where chloramination is not practised   |
| 3                  | Antimony  | In all circumstances  |
| 4                  | Arsenic   | In all circumstances  |
| 5                  | Benzene (1)                                       | In all circumstances  |
| 6                  | Benzo(a)pyrene                                    | In all circumstances  |
| 7                  | Boron (1)   | In all circumstances  |
| 8                  | Bromate (2)                                       | In all circumstances  |
| 9                  | Cadmium   | In all circumstances  |
| 10                 | Chloride (1)                                      | In all circumstances  |
| 11                 | Chromium  | In all circumstances  |
| 12                 | <i>Clostridium perfringens</i> (including spores) | In all circumstances  |
| 13                 | Copper  | In all circumstances  |
| 14                 | Cyanide (1)                                       | In all circumstances  |
| 15                 | 1, 2 dichloroethane (1)                           | In all circumstances  |
| 16                 | Enterococci                                       | In all circumstances  |
| 17                 | Fluoride (1)                                      | In all circumstances  |
| 18                 | Gross alpha (1) (3) (4)                           | In all circumstances  |
| 19                 | Gross beta (1) (3) (4)                            | In all circumstances  |
| 20                 | Iron  | Where—<br>(i) not used as a flocculant; or<br>(ii) the water neither originates from, nor is influenced by, surface waters.               |
| 21                 | Lead  | In all circumstances  |
| 22                 | Manganese   | Where the water neither originates from, nor is influenced by, surface waters.  |
| 23                 | Mercury (1)                                       | In all circumstances  |
| 24                 | Nickel  | In all circumstances  |
| 25                 | Nitrate   | Where chloramination is not practised.  |
| 26                 | Nitrite   | Where chloramination is not practised.  |
| 27                 | Pesticides and related products (1)               | In all circumstances  |
| 28                 | Polycyclic aromatic hydrocarbon                   | In all circumstances  |
| 29                 | Radon (1) (4)                                     | In all circumstances  |
| 30                 | Selenium  | In all circumstances  |
| 31                 | Sodium  | In all circumstances  |
| 32                 | Sulphate (1)                                      | In all circumstances  |
| 33                 | Tetrachloroethene (1)                             | In all circumstances  |
| 34                 | Tetrachloromethane (1)                            | In all circumstances  |

|    |   |                      |
|----|---|----------------------|
| 35 | Total organic carbon (1)<br>Trichloroethene<br>Trihalomethanes: Total | In all circumstances |
| 36 | Tritium (1) (4)   | In all circumstances |

Notes:

(1) Sampling for these parameters may be within water supply zones (Group B1) or at supply points (Group B2).

(2) Monitoring of this parameter in water supply zones is required only where sodium hypochlorite is added after water has left the treatment works. In other circumstances, monitoring is required at supply points, see Group B2.

(3) To monitor for indicative dose.

(4) In the event that a single sample is taken in a year, a further sample must be taken if there is any change in relation to that supply that could affect the concentration of radionuclides in the water supply.

**Table 3**

**Group B2 parameters and circumstances for monitoring to be used for sampling at works or supply points**

| <i>Item number</i> | <i>Parameter (2)</i>                              | <i>Circumstances</i>                  |
|--------------------|---|---------------------------------------|
| 1                  | Benzene (1)                                       | In all circumstances                  |
| 2                  | Boron (1)   | In all circumstances                  |
| 3                  | Bromate (2)                                       | In all circumstances                  |
| 4                  | Chloride (1)                                      | In all circumstances                  |
| 5                  | <i>Clostridium perfringens</i> (including spores) | In all circumstances                  |
| 6                  | Cyanide (1)                                       | In all circumstances                  |
| 7                  | 1, 2 dichloroethane (1)                           | In all circumstances                  |
| 8                  | Fluoride (1)                                      | In all circumstances                  |
| 9                  | Gross alpha (1) (3) (4)                           | In all circumstances                  |
| 10                 | Gross beta (1) (3) (4)                            | In all circumstances                  |
| 11                 | Indicative dose                                   | In all circumstances                  |
| 12                 | Mercury (1)                                       | In all circumstances                  |
| 13                 | Nitrite   | When chloramination is not practised. |
| 14                 | Pesticides and related products (1)               | In all circumstances                  |
| 15                 | Radon (1) (4)                                     | In all circumstances                  |
| 16                 | Sulphate (1)                                      | In all circumstances                  |
| 17                 | Tetrachloroethene (1)                             | In all circumstances                  |
| 18                 | Tetrachloromethane (1)                            | In all circumstances                  |
| 19                 | Total organic carbon (1)                          |                                       |
| 20                 | Trichloroethene                                   | In all circumstances                  |
| 21                 | Tritium (1) (4)                                   | In all circumstances                  |

Notes:

(1) Sampling for these parameters may be within water supply zones (Group B1) or at supply points (Group B2).

(2) Monitoring is required at supply points where sodium hypochlorite is not added after water has left the treatment works. In other circumstances, see Group B1.

(3) To monitor for indicative dose.

(4) In the event that a single sample is taken in a year, a further sample must be taken if there is any change in relation to that supply that could affect the concentration of radionuclides in the water supply.

**Table 4**

**Group A1 parameters**

| <i>Item number</i> | <i>Parameter</i>      |
|--------------------|-----------------------|
| 1                  | Coliform bacteria     |
| 2                  | <i>E. coli</i>        |
| 3                  | Residual disinfectant |

**Table 5**

**Group A2 parameters**

| <i>Item number</i> | <i>Parameter</i>      |
|--------------------|-----------------------|
| 1                  | Coliform bacteria     |
| 2                  | Colony counts 22° C   |
| 3                  | <i>E.coli</i>         |
| 4                  | Nitrite               |
| 5                  | Residual disinfectant |
| 6                  | Turbidity             |

**Table 6**

**Group A3 parameters**

| <i>Item number</i> | <i>Parameter</i> |
|--------------------|------------------|
| 1                  | Conductivity     |

**Table 7**

**Group A4 parameters**

| <i>Item number</i> | <i>Parameter</i>    |
|--------------------|---------------------|
| 1                  | Aluminium           |
| 2                  | Ammonium            |
| 3                  | Colony counts 22° C |
| 4                  | Colour              |
| 5                  | Conductivity        |
| 6                  | Hydrogen ion        |
| 7                  | Iron                |
| 8                  | Manganese           |
| 9                  | Nitrate             |
| 10                 | Nitrite             |
| 11                 | Odour               |
| 12                 | Taste               |
| 13                 | Turbidity           |

**PART 2**

Annual sampling frequencies: water supply zones

**Table 8**



### Annual sampling frequencies for Group A4 parameters: water supply zones

Note:

This table and each table which follows it in this Part set out the annual sampling frequencies for all the substances and parameters comprising each of the groups to which they correspond, those groups having been outlined in Part 1 of this Schedule. These are determined for each water supply zone according to its estimated population (as specified in column one of each table in this Part). The number of samples to be taken is the standard number specified in column 2, unless a notice varying this number has been given under regulation 9.

| <i>Estimated population of water supply zone</i> | <i>Standard sampling frequency per year</i> |
|--|---|
| <100   | 2   |
| 100-4,999  | 4   |
| 5,000—9,999                                      | 12  |
| 10,000-29,999                                    | 24  |
| 30,000-49,999                                    | 36  |
| 50,000-79,999                                    | 52  |
| 80,000-100,000                                   | 76  |

**Table 9**

### Annual sampling frequencies for Group B1 parameters: water supply zones

| <i>Estimated population of water supply zone</i> | <i>Standard sampling frequency per year</i> |
|--|---|
| <100   | 1   |
| 100-4,999  | 4   |
| 5,000-100,000                                    | 8   |

**Table 10**

### Annual sampling frequencies for Group A1: water supply zones

| <i>Estimated population of water supply zone</i> | <i>Standard sampling frequency per year</i> |
|--|---|
| <100   | 4   |
| ≥100   | 12 per 5,000 population                     |

Note:

For the purposes of this Table, where the population is not an exact multiple of 5,000, the population figure must be rounded up to the nearest multiple of 5,000.

## PART 3

### Annual sampling frequencies: treatment works and supply points

**Table 11**

### Annual sampling frequencies for Group A2 parameters: treatment works or supply points

Note: This table and each table which follows it in this Part set out the annual sampling frequencies for all the substances and parameters comprising each of the groups to which they correspond at treatment works or supply points, those groups having been outlined in Part 1 of this Schedule. The frequencies are determined according to the volume of water supplied at each

treatment works or supply point. The number of samples to be taken is the standard number specified in column 2, unless a notice varying this number has been issued under regulation 9.

| <i>Volume of water supplied m<sup>3</sup>/day</i> | <i>Standard sampling frequency per year</i> |
|---|---|
| <20   | 4   |
| 20-1,999  | 52  |
| 2,000-5,999                                       | 104   |
| 6,000-11,999                                      | 208   |
| ≥12,000   | 365   |

**Table 12**

**Annual sampling frequencies for Group A3 parameters: treatment works or supply points**

| <i>Volume of water supplied m<sup>3</sup>/day</i> | <i>Standard sampling frequency per year</i> |
|---|---|
| <20   | 2   |
| 20-999  | 4   |
| 1,000-1999  | 12  |
| 2,000-5,999                                       | 24  |
| 6,000-9,999                                       | 36  |
| 10,000-15,999                                     | 52  |
| 16,000-32,999                                     | 104   |
| 33,000-49,999                                     | 156   |
| 50,000-67,999                                     | 208   |
| 68,000-84,999                                     | 260   |
| 85,000-101,999                                    | 312   |
| 102,000-119,999                                   | 365   |
| 120,000-241,999                                   | 730   |
| 242,000-484,999                                   | 1,460                                       |
| 485,000-728,999                                   | 2,190                                       |

**Table 13**

**Annual sampling frequencies for Group B2 parameters: treatment works or supply points**

| <i>Volume of water supplied m<sup>3</sup>/day</i> | <i>Standard sampling frequency per year</i> |
|---|---|
| <20   | 1   |
| 20-999  | 4   |
| 1,000-49,999                                      | 8   |
| 50,000-89,999                                     | 12  |
| 90,000-299,999                                    | 24  |
| 300,000-649,999                                   | 36  |
| ≥650,000  | 48  |

## SCHEDULE 4 Regulation 6

### Monitoring for indicative dose and analytical performance characteristics

**Monitoring for compliance with the indicative dose**

1.—(1) A water undertaker may use reliable screening strategies to indicate the presence of radioactivity in water intended for human consumption.

- (2) The strategies may include screening for—
- (a) certain radionuclides or individual radionuclide; or
  - (b) gross alpha activity or gross beta activity (where appropriate gross beta activity may be replaced by residual beta activity after subtraction of the K-40 activity concentration).

**Screening for certain radionuclides, or screening for an individual radionuclide**

2.—(1) If one of the activity concentrations exceeds 20% of the corresponding derived value or the tritium concentration exceeds its parametric value listed in Schedule 2 an analysis of additional radionuclides is required.

(2) In deciding which radionuclides are required to be measured for each supply, a water undertaker must take into account all relevant information about likely sources of radioactivity.

**Screening strategies for gross alpha activity and gross beta activity**

3.—(1) A water undertaker may use a screening strategy for gross alpha and gross beta to monitor for the parametric indicator value for indicative dose.

(2) Subject to sub-paragraph (3) the recommended screening values are—

- (a) 0,1Bq/l for gross alpha activity; and
- (b) 1,0Bq/l for gross beta activity(1).

(3) If the gross alpha activity exceeds 0,1Bq/l or the gross beta activity exceeds 1,0Bq/l, analysis for specific radionuclides is required.

(4) The Welsh Ministers may set alternative screening levels for gross alpha activity and gross beta activity where it can be demonstrated by the water undertaker that the alternative levels are in compliance with an indicative dose of 0,1 mSv.

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

**Calculation of the indicative dose**

4.—(1) The indicative dose must be calculated from—

- (a) the measured radionuclide concentrations and the dose coefficients referred to as “standard values and relationships” in Article 13, and recommended for the estimation of doses from internal exposure in the definition of “standard values and relationships” in Article 4(96), of Council Directive 2013/59/Euratom laying down basic safety standards for protection against the dangers arising from exposure to ionising radiation(2);or
- (b) more recent information recognised by the Welsh Ministers, on the basis of the annual intake of water (730 l for adults).

(2) Where the following formula is satisfied, it can be assumed that the indicative dose is less than the parametric value of 0,1 mSv and no further investigation is required—

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

where—

“*C<sub>i</sub>(obs)*” means observed concentration of radionuclide I;

“*C<sub>i</sub>(der)*” means derived concentration of radionuclide i;

---

(1) Where appropriate, gross beta activity may be replaced by residual beta activity after subtraction of the K-40 activity concentration.  
 (2) OJ No L 13, 17.1.2014, p.1. For the estimation of doses from internal exposure, Article 4(96) refers to chapter 1 of ICRP (International Commission on Radiological Protection) Publication 119. See Table F.1 in Annex F. A copy of ICRP Publication 119 can be obtained from the ICRP website ([www.icrp.org](http://www.icrp.org)) or from the Welsh Government Water Branch, Welsh Government, Cathays Park, Cardiff, CF10 3NQ.

“n” means number of radionuclides detected.

**Table 1**

**Derived concentrations for radioactivity in water intended for human consumption**

This table includes values for the most common natural and artificial radionuclides: these are precise values, calculated for a dose of 0.1 mSv, an annual intake of 730 litres and using the dose coefficients referred to as “standard values and relationships” in Article 13, and recommended for the estimation of doses from internal exposure in the definition of “standard values and relationships” in Article 4(96), of Council Directive 2013/59/Euratom. Derived concentrations for other radionuclides can be calculated on the same basis, and values can be updated on the basis of more recent information recognised by the Welsh Ministers.

| <b>Origin</b> | <b>Nuclide</b>     | <b>Derived concentration</b> |
|---------------|--------------------|------------------------------|
| Natural       | U-238 <sup>a</sup> | 3,0 Bq/l                     |
|               | U-234 <sup>a</sup> | 2,8 Bq/l                     |
|               | Ra-226             | 0,5 Bq/l                     |
|               | Ra-228             | Ra-228                       |
|               | Pb-210             | 0,2 Bq/l                     |
|               | Po-210             | 0,1 Bq/l                     |
|               | Artificial         | C-14                         |
| Sr-90         |                    | 4,9 Bq/l                     |
| Pu-239/Pu-240 |                    | 0,6 Bq/l                     |
| Am-241        |                    | 0,7 Bq/l                     |
| Co-60         |                    | 40 Bq/l                      |
| Cs-134        |                    | 7,2 Bq/l                     |
| Cs-137        |                    | 11 Bq/l                      |
| I-131         |                    | 6,2 Bq/l                     |

<sup>a</sup> This table allows only for the radiological properties of uranium, not for its chemical toxicity.

**Performance characteristics and methods of analysis**

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

| <b>Parameters and radionuclides</b> | <b>Limit of detection (Notes 1,2)</b> | <b>Notes</b> |
|-------------------------------------|---------------------------------------|--------------|
| Tritium                             | 10 Bq/l                               | Note 3       |
| Radon                               | 10 Bq/l                               | Note 3       |
| gross alpha                         | 0,04 Bq/l                             | Note 4       |
| gross beta                          | 0,4 Bq/l                              | Note 4       |
| U-238                               | 0,02 Bq/l                             |              |
| U-234                               | 0,02 Bq/l                             |              |
| Ra-226                              | 0,04 Bq/l                             |              |
| Ra-228                              | 0,02 Bq/l                             | Note 5       |
| Pb-210                              | 0,02 Bq/l                             |              |
| Po-210                              | 0,01 Bq/l                             |              |
| C-14                                | 20 Bq/l                               |              |
| Sr-90                               | 0,4 Bq/l                              |              |
| Pu-239/Pu-240                       | 0,04 Bq/l                             |              |
| Am-241                              | 0,06 Bq/l                             |              |
| Co-60                               | 0,5 Bq/l                              |              |
| Cs-134                              | 0,5 Bq/l                              |              |
| Cs-137                              | 0,5 Bq/l                              |              |
| I-131                               | 0,5 Bq/l                              |              |

Notes:

(3) The limit of detection must be calculated according to the ISO standard 11929: Determination of the characteristic limits (decision threshold, detection limit, and limits of confidence interval) for measurements of ionising radiation – Fundamentals and application, with probabilities of errors of 1st and 2nd kind of 0,05 each.

(4) Measurement uncertainties must be calculated and reported as complete standard uncertainties, or as expanded uncertainties with an expansion factor of 1,96 according the ISO Guide for the Expression of Uncertainty in Measurement.

(5) The limit of detection for tritium and for radon is 10% of its parametric value of 100 Bq/l.

(6) The limit of detection for gross alpha activity and gross beta activities are 40% of the screening values of 0,1 and 1,0 Bq/l respectively.

(7) This limit of detection applies only to initial screening for indicative dose for a new water source; if initial checking indicates that it is not plausible that Ra-228 exceeds 20% of the derived concentration, the limit of detection may be increased to 0,08 Bq/l for routine Ra-228 nuclide specific measurements, until a subsequent re-check is required.

## SCHEDULE 5 Regulations 15 and 16

### ANALYTICAL METHODOLOGY

**Table A1**

**Parameters for which, subject to Regulation 15(7), methods of analysis are specified**

| <i>(1)</i><br><b>Parameter</b>                                  | <i>(2)</i><br><b>Method of analysis</b> |
|---|---|
| E. coli and coliform bacteria                                   | EN ISO 9308-1(1) or EN ISO 9308-2(2)    |
| Enterococci   | EN ISO 7899-2(3)                        |
| <i>Pseudomonas aeruginosa</i>                                   | EN ISO 16266(4)                         |
| Enumeration of culturable microorganisms<br>– colony count 22°C | EN ISO 6222(5)                          |
| Enumeration of culturable microorganisms<br>– colony count 36°C | EN ISO 6222                             |
| <i>Clostridium perfringens</i> including spores                 | EN ISO 14189(6)                         |

**Table A2**

- (1) This standard entitled “*Water quality - Enumeration of Escherichia coli and coliform bacteria - Part 1: Membrane filtration method for waters with low bacterial background flora (ISO 9308-1:2014)*” was approved by the European Committee for Standardization (CEN) on 18 January 2017. Under reference BS EN ISO 9308-1:2014+A1:2017, it is published as a UK standard by the British Standards Institution (ISBN 978 0 580 92379 1).
- (2) This standard entitled “*Water quality - Enumeration of Escherichia coli and coliform bacteria - Part 2: Most probable number method (ISO 9308-2:2012)*” was approved by the European Committee for Standardization (CEN) on 11 April 2014. Under reference BS EN ISO 9308-2:2014, it is published as a UK standard by the British Standards Institution (ISBN 978 0 580 84023 4).
- (3) This standard entitled “*Water quality - Detection and enumeration of intestinal enterococci - Part 2: Membrane filtration method (ISO 7899-2:2000)*” was approved by the European Committee for Standardization (CEN) on 11 April 2014. Under reference BS EN ISO 7899-2:2000, it is published as a UK standard by the British Standards Institution (ISBN 0 580 34953 5).
- (4) This standard entitled “*Water quality - Detection and enumeration of Pseudomonas aeruginosa - Method by membrane filtration (ISO 16266:2006)*” was approved by the European Committee for Standardization (CEN) on 11 January 2008. Under reference BS EN ISO 16266:2008, it is published as a UK standard by the British Standards Institution (ISBN 978 0 580 59736 7).
- (5) This standard entitled “*Water quality - Enumeration of culturable micro-organisms - Colony count by inoculation in a nutrient agar culture medium (ISO 6222:1999)*” was approved by the European Committee for Standardization (CEN) on 16 March 1999. Under reference BS EN ISO 6222:1999, it is published as a UK standard by the British Standards Institution (ISBN 0 580 32495 8).
- (6) This standard entitled “*Water quality - Enumeration of Clostridium perfringens - Method using membrane filtration (ISO 14189:2013)*” was approved by the European Committee for Standardization (CEN) on 15 July 2016. Under reference BS EN ISO 14189:2016, it is published as a UK standard by the British Standards Institution (ISBN 978 0 580 92184 1).

**Parameters in relation to which methods of analysis must satisfy prescribed characteristics**

| <i>(1)</i><br><i>Parameters</i>                       | <i>(2)</i><br><i>Trueness % of prescribed concentration or value or specification</i> | <i>(3)</i><br><i>Precision % of prescribed concentration or value or specification</i> | <i>(4)</i><br><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 <sup>1</sup>                                  | 10  | 10   | 10  |
| 1,2-dichloroethane                                    | 25  | 25   | 10  |
| Fluoride  | 10  | 10   | 10  |
| Hydrogen ion concentration pH (expressed in pH units) | 0.2   | 0.2  |   |
| Iron  | 10  | 10   | 10  |
| Lead  | 10  | 10   | 10  |
| Manganese   | 10  | 10   | 10  |
| Mercury   | 20  | 10   | 20  |
| Nickel  | 10  | 10   | 10  |
| Nitrate   | 10  | 10   | 10  |
| Nitrite   | 10  | 10   | 10  |
| Pesticides and related products <sup>2</sup>          | 25  | 25   | 25  |
| Polycyclic aromatic hydrocarbons <sup>3</sup>         | 25  | 25   | 25  |
| Selenium  | 10  | 10   | 10  |
| Sodium  | 10  | 10   | 10  |
| Sulphate  | 10  | 10   | 10  |
| Tetrachloromethane                                    | 20  | 25   | 10  |
| Trichloroethene <sup>4</sup>                          | 25  | 25   | 10  |
| Trihalomethanes:                                      | 25  | 25   | 10  |
| Total <sup>3</sup>                                    |   |  |   |
| Turbidity <sup>5</sup>                                | 10  | 10   | 10  |
| Turbidity <sup>6</sup>                                | 25  | 25   | 25  |

Notes:

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

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

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

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

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

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

**Table A3**

**Minimum performance characteristic “uncertainty of measurement”**

The uncertainty of measurement laid down in this table must not be used as an additional tolerance to the parametric values set out in Schedules 1 and 2.

| <i>(1)</i><br><i>Parameter</i>                        | <i>(2)</i><br><i>Uncertainty of measurement % of the parametric value (except for pH) <sup>1</sup></i> |
|---|--|
| Aluminium   | 25   |
| Ammonium  | 40   |
| Antimony  | 40   |
| Arsenic   | 30   |
| Benzene   | 40   |
| Benzo(a)pyrene <sup>2</sup>                           | 50   |
| Boron   | 25   |
| Bromate   | 40   |
| Cadmium   | 25   |
| Chloride  | 15   |
| Chromium  | 30   |
| Colour  | 20   |
| Conductivity  | 20   |
| Copper  | 25   |
| Cyanide <sup>3</sup>                                  | 30   |
| 1,2-dichloroethane                                    | 40   |
| Fluoride  | 20   |
| Hydrogen ion concentration pH (expressed in pH units) | 0.2  |
| Iron  | 30   |
| Lead  | 25   |
| Manganese   | 30   |
| Mercury   | 30   |
| Nickel  | 25   |
| Nitrate   | 15   |
| Nitrite   | 20   |
| Oxidisability <sup>4</sup>                            | 50   |
| Pesticides <sup>5</sup>                               | 30   |
| Polycyclic aromatic hydrocarbons <sup>6</sup>         | 50   |
| Selenium  | 40   |
| Sodium  | 15   |
| Sulphate  | 15   |
| Tetrachloroethene <sup>6</sup>                        | 30   |
| Tetrachloromethane                                    | 30   |
| Trichloroethene <sup>7</sup>                          | 40   |
| Trihalomethanes: total <sup>6</sup>                   | 40   |

|                                   |    |
|-----------------------------------|----|
| Total organic carbon <sup>8</sup> | 30 |
| Turbidity <sup>9</sup>            | 30 |

Notes:

(1) “Uncertainty of measurement” is a non-negative parameter characterising the dispersion of the quantity values being attributed to a measurement, based on the information used. The performance criterion for measurement uncertainty ( $k = 2$ ) is at least the percentage of the parametric value stated in the table. If the value of uncertainty of measurement cannot be met, the best available technique must be selected (up to 60 % of the parametric value).

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

(3) Reference method: European standard EN ISO 8467 entitled “*Water quality - Determination of permanganate index (ISO 8467)*”(1).

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

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

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

(7) The uncertainty of measurement must be estimated at the level of 3 mg/l of the total organic carbon (TOC) in accordance with European standard EN 1484 entitled “*Water analysis - Guidelines for the determination of total organic carbon and dissolved organic carbon*”(2) and dissolved organic carbon (DOC) shall be used.

(8) The uncertainty of measurement must be estimated at the level of 1,0 NTU in accordance with European standard EN ISO 7027-1 entitled “*Water quality - Determination of turbidity - Part 1: Quantitative methods (ISO 7027-1)*”(3).

## SCHEDULE 6 Regulation 40

### Amendments and revocations

**Table 1**

| <b>(1)</b><br><b>Regulations to be amended</b>   | <b>(2)</b><br><b>Reference</b> | <b>(3)</b><br><b>Provision to be amended</b> | <b>(4)</b><br><b>Amendments</b>  |
|--|--------------------------------|--|--|
| The Water Quality and Supply (Fees) (Undertakers Wholly or Mainly in Wales) Order 2016 | S.I. 2016/843 (W. 213)         | The Schedule                                 | In the English language text, in each place it occurs, for “Water Supply (Water Quality) Regulations 2010” substitute “Water Supply (Water Quality) Regulations 2018”<br>In the Welsh language text, in each place it occurs for “Rheoliadau |

(1) This standard was approved by the European Committee for Standardization (CEN) on 3 November 1994. Under reference EN ISO 8467:1995, it is published as a UK standard by the British Standards Institution (ISBN 0 580 23435 5).

(2) This standard was approved by the European Committee for Standardization (CEN) on 6 April 1997. Under reference BS EN 1484:1997, it is published as a UK standard by the British Standards Institution (ISBN 0 580 28372 0).

(3) This standard was approved by the European Committee for Standardization (CEN) on 15 April 2016. Under reference BS EN ISO 7027-1:2016, it is published as a UK standard by the British Standards Institution (ISBN 978 0 580 81961 2).



**Table 2**

| <i>(1) Regulations revoked</i>   | <i>(2) Reference</i>    | <i>(3) Extent of revocation</i> |
|--|-------------------------|---------------------------------|
| The 2010 Regulations   | S.I. 2010/994 (W. 99)   | The whole Regulations           |
| The National Treatment Agency (Abolition) and the Health and Social Care Act 2012 (Consequential, Transitional and Savings Provisions) Order 2013 <sup>(1)</sup> | S.I. 2013/235           | Paragraph 152 of Schedule 2     |
| The Construction Products Regulations 2013   | S.I. 2013/1387          | Paragraph 7 of Schedule 5       |
| The Private Water Supplies (Wales) Regulations 2017  | S.I. 2017/1041 (W. 270) | Regulation 25                   |
| The Water Act 2014 (Consequential Amendments etc.) Order 2017  | S.I. 2017/506           | Article 28                      |

<sup>(1)</sup> There are amendments not relevant to these Regulations.

## EXPLANATORY NOTE

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

These Regulations supplement Chapter III (Water Supply) of the Water Industry Act 1991 (“the 1991 Act”) and revoke and replace the Water Supply (Water Quality) Regulations 2010. They are primarily concerned with the quality of water supplied by water undertakers whose areas are wholly or mainly in Wales (and water supply licensees using the supply systems of such undertakers) for drinking, washing, cooking and food preparation, and for food production, and with arrangements for the publication of information about water quality.

The Regulations implement Council Directive 98/83/EC (OJ No L 330, 5.12.98, p. 32) (“the 1998 Directive”), on the quality of water intended for human consumption and their purpose is 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. They also transpose the requirements of Council Directive 2013/51/Euratom laying down requirements for the protection of the health of the general public with regard to radioactive substances in water intended for human consumption (OJ No L 296, 7.11.2013, p 12).

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

Part 2 (regulation 3) requires water undertakers 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. Water undertakers may not alter the boundaries of water supply zones during the year.

Part 3 (regulation 4) prescribes standards of wholesomeness in respect of water that is supplied for human consumption by water undertakers, including for domestic purposes including cooking, drinking food preparation or washing, or 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.

Part 4 (regulations 5 to 10) provides for the monitoring of water supplies. Regulation 5 defines two monitoring regimes; “monitoring of a Group A parameter” and “monitoring of a Group B parameter”. Regulation 6 sets out general monitoring provisions relating to the parameters set out in Schedules 1 (prescribed concentrations and values) and 2 (indicator parameters). Regulation 6 imposes requirements for the monitoring of indicative dose, radon and tritium (“radioactive parameters”) and introduces the additional monitoring provisions for the indicative dose parameter in Schedule 4 (Monitoring for indicative doses and analytical performance characteristics). Regulation 6 also makes provision for monitoring supplies from tankers. Regulation 7 requires water undertakers to select at random the points at which samples are to be taken for the purposes of monitoring (referred to as “sampling points”). Regulation 8 provides that the Welsh Ministers may authorise the taking of samples from points other than sampling points. Regulation 9 deals with the number of samples to be taken. These are specified in Schedule 3 (Monitoring). Regulation 10 requires samples to be taken where water undertakers 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 5 (regulations 11 to 16) contains additional provisions relating to sampling. Regulations 12 and 13 require samples to be taken in respect of particular organisms and substances, at treatment works and at reservoirs which store treated water. Regulation 14 requires samples to be taken before water is supplied from new sources and from sources which have not recently been used. Regulation 15 prescribes requirements relating to the taking, handling, storage, transport and analysis of samples. Regulation 16 provides an alternative method of analysis to that in regulation 15(6)(b) that may be used by a water undertaker or supplementary licensee before 23:59 on 31 December 2019.

Part 6 (regulation 17) requires water undertakers and supplementary licensees to identify every point from which they abstract water for supply for regulation 4(1) purposes and to take samples from those points to comply with regulations 26 to 28. This implements Article 8(1) and (2) of Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for Community action in the field of water policy (OJ No L 327, 22.12.2000, p 1).

Part 7 (regulations 18 to 25) requires water undertakers and supplementary licensees to investigate the cause of any failure, or apprehended failure, of any parameters set out in Schedule 1 or any indicator parameters set out in Schedule 2 and to notify the Welsh Ministers. Where the failure is attributable to a domestic distribution system or the maintenance of that system, notification must be provided to the consumers of the affected water supply and to any other relevant supplier. Regulation 20 provides for actions that may be taken by the Welsh Ministers upon receipt of a notification under regulation 18 or 19. Where a failure relates to a parameter in Table B in Schedule 1, and certain other conditions are met, the Welsh Ministers may require the supplier to apply for an authorisation for a departure from the requirements of Part 3 of the Regulations. The circumstances in which authorisations may be granted and the conditions to which they are subject are set out in regulations 22 and 23. Provision is made in regulation 24 for publicising authorisations. Regulation 25 provides for the revocation and variation of authorisations.

Part 8 (regulations 26 to 33) deals with the treatment of water and regulates the substances, processes and products that may be used by water undertakers 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. Regulation 27 provides for the carrying out of risk assessments and subsequent reviews. Regulation 28 requires water undertakers and supplementary licensees to submit reports of risk assessments and reviews to the Welsh Ministers. Paragraph (4) of regulation 28 sets out the steps that the Welsh Ministers may take on receipt of a report which states there is or has been a significant risk of supplying water that could constitute a potential danger to human health or could be unwholesome. Regulation 29 requires water undertakers and supplementary licensees to treat water to minimise the risk of copper and lead contamination from pipes. Regulation 30 sets out provisions relating to the replacement or modification of lead pipes. Regulation 31 specifies the circumstances in which water undertakers and supplementary licensees may apply or introduce substances or products into water supplied for regulation 4(1) purposes. Regulation 32 enables the Welsh Ministers to require that its approval be obtained to the use of processes in connection with the supply of water for regulation 4(1) purposes. Under regulation 33, contravention of specified requirements of regulations 26, 28, 31 and 32 are criminal offences, as is the making of false statements.

Part 9 (regulations 34 and 35) deals with the provision of information by water undertakers, supplementary licensees and retail licensees.

Part 10 (regulations 36 and 37) imposes requirements on local authorities in the performance of their duties in relation to the quality of water supplied by water undertakers or water supply licensees.

Part 11 (regulation 38) provides that contraventions by any relevant supplier of duties or requirements imposed by Parts 4 to 9 of the Regulations are to be enforceable under section 18 of the 1991 Act by the Welsh Ministers. This provision is additional to the criminal sanctions provided by regulation 33.

Part 12 (regulations 39 and 40) provides for transitional provisions, amendments and revocations (as set out in Schedule 6 (Amendments and revocations)).

The Welsh Ministers' Code of Practice on the carrying out of Regulatory Impact Assessments was considered in relation to these Regulations. As a result, a regulatory impact assessment has been prepared as to the likely costs and benefits of complying with these Regulations. A copy can be obtained from the Welsh Government, Cathays Park, Cardiff, CF10 3NQ.