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WELSH STATUTORY INSTRUMENTS

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**2017 No. 1041 (W. 270)**

**WATER, WALES**

**The Private Water Supplies (Wales) Regulations 2017**

<i>Made</i>	- - - -	<i>25 October 2017</i>
<i>Laid before the National Assembly for Wales</i>	- -	<i>30 October 2017</i>
<i>Coming into force</i>	- -	<i>20 November 2017</i>

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

The Welsh Ministers have carried out the consultation required by Article 9 of Regulation (EC) No. 178/2002 of the European Parliament and of the Council laying down the general principles of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety<sup>(3)</sup>.

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

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- (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) OJ No. L 31, 1.2.2002, p. 1, as last amended by Regulation (EU) No. 652/2014 (OJ No. L 189, 27.6.14, p. 1).
- (4) [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 77 of that Act 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 (as amended by paragraph 28 of Schedule 1 to the Competition and Service (Utilities) Act 1992 (c. 43), by section 36(2) of, and paragraph 49(3) of Schedule 8 to, the Water Act 2003 (c. 37) and by section 56 of, and paragraph 119(4) of Schedule 7 to, the Water Act 2014 (c. 21)) of that Act 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 for the Act as substituted by paragraph (e) of Schedule 3 to the National Assembly for Wales (Transfer of Functions) Order 2000 ([S.I. 2000/253](#)) and amended by section 100(2) of the Water Act 2003 (c. 37); there are other amending instruments but none are relevant. 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 as referring to those sections as amended by the Water Act 2003. See section 219(4A) of the Act as inserted by section 101(1) of, and paragraphs 2 and 50 of Schedule 8 to, the Water Act 2003 for the definition of “supply system”. 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.

## PART 1

### Water standards

#### Title, application and commencement

1. The title of these Regulations is the Private Water Supplies (Wales) Regulations 2017; they apply in relation to Wales and come into force on 20 November 2017.

#### Interpretation

2. In these Regulations—

“the Act” (“*y Ddeddf*”) means the Water Industry Act 1991;

“the 2010 Regulations” (“*Rheoliadau 2010*”) means the Private Water Supplies (Wales) Regulations 2010<sup>(5)</sup>;

“the Chief Inspector of Drinking Water” (“*y Prif Arolygydd Dŵr Yfed*”) means the person designated by the Welsh Ministers under section 86(1B) of the Act (assessors for the enforcement of water quality)<sup>(6)</sup>;

“consumer” (“*defnyddiwr*”) mean a person to whom a private water supply is provided for human consumption purposes;

“disinfection” (“*diheintio*”) 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;

“domestic tenancy” (“*tenantiaeth ddomestig*”) has the same meaning as in section 2 of the Housing (Wales) Act 2014 (meaning of key terms)<sup>(7)</sup>;

“indicative dose” (“*dos dangosol*”) 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;

“monitoring for Group A parameters” (“*monitro ar gyfer paramedrau Grŵp A*”) has the meaning given in paragraph 1 of Schedule 2;

“monitoring for Group B parameters” (“*monitro ar gyfer paramedrau Grŵp B*”) has the meaning given in paragraph 3 of Schedule 2;

“NTU” (“*NTU*”) means Nephelometric Turbidity Unit;

“parameter” (“*paramedr*”) means a property, element, organism or substance listed in the first column of the Tables in the Schedule 1 as read, where appropriate, with the notes to that Schedule and those Tables;

“prescribed concentration or value” (“*crynodiad neu werth rhagnodedig*”) in relation to any parameter, means the maximum or minimum concentration or value specified in relation to that parameter in the Tables in Schedule 1 as measured by reference to the unit of measurement so specified, and as read, where appropriate, with the notes to that Schedule and those Tables;

“private water supply” (“*cyflenwad dŵr preifat*”) means a supply of water other than a supply provided directly by a water undertaker<sup>(8)</sup> or water supply licensee<sup>(9)</sup>, and which is comprised

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(5) S.I. 2010/66 (W. 16), as amended by S.I. 2010/147 (W. 22), S.I. 2010/1384 (W. 123), S.I. 2013/235, S.I. 2015/1867 (W. 274), S.I. 2016/411 (W. 129), and S.I. 2017/506.

(6) Section 86(1B) was inserted by section 57(3) of the Water Act 2003 (c. 37).

(7) 2014 anaw 7.

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

of all physical assets from the point of abstraction to the point of use, including associated pipes, fittings and tanks;

“relevant person” (“*person perthnasol*”) means—

- (a) the owner and occupier (who may be the same or different persons) of premises which are supplied with water for domestic or food production purposes by means of a private water supply;
- (b) the owner and occupier (who may be the same or different persons) of land on which any part of the supply is situated;
- (c) any other person who exercises powers of management or control in relation to that supply;

“risk assessment” (“*asesiad risg*”) means a risk assessment carried out under regulation 6.

### Scope

**3.—**(1) These Regulations apply in relation to private water supplies intended for human consumption; and for these purposes “water intended for human consumption” means—

- (a) all water either in its original state or after treatment, intended for drinking, cooking, food preparation or other domestic purposes, regardless of its origin and whether it is supplied from a distribution network, from a tanker, or in bottles or containers;
- (b) all water used in any food production undertaking for the manufacture, processing, preservation or marketing of products or substances intended for human consumption unless, in accordance with Regulation (EC) No. 852/2004 of the European Parliament and of the Council on the hygiene of foodstuffs<sup>(10)</sup>, the competent authority<sup>(11)</sup> is satisfied that the quality of the water cannot affect the wholesomeness of the foodstuff in its finished form.

(2) These Regulations do not apply in relation to—

- (a) water to which the Natural Mineral Water, Spring Water and Bottled Drinking Water (Wales) Regulations 2015<sup>(12)</sup> apply;
- (b) water that is a medicinal product within the meaning of the Medicines Act 1968<sup>(13)</sup>;
- (c) water used solely for washing a crop after it has been harvested and that does not affect the fitness for human consumption of the crop or of any food or drink derived from the crop.

### Wholesomeness

**4.—**(1) A private water supply is to be regarded as wholesome if all the following conditions are met—

- (a) it does not contain any micro-organism, parasite or substance, alone or in conjunction with any other substance, at a concentration or value that would constitute a potential danger to human health;
- (b) it complies with the prescribed concentration or value for each parameter; and
- (c) 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>).

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(9) See section 17A of the Act for the meaning of “water supply licensee”. Section 17A was substituted by section 1(1) of the Water Act 2014 (c. 21).

(10) OJ No. L 139, 30.4.2004, p. 1 as last amended by Regulation (EC) No. 219/2009 (OJ No. L 87, 31.3.2009, p. 109).

(11) The competent authority for the purpose of this Regulation is the Food Standards Agency; see S.I. 2006/31 (W. 5).

(12) S.I. 2015/1867 (W. 274).

(13) 1968 c. 67.

(2) A reference in these Regulations to water being unwholesome means the requirements in paragraph (1) not being met.

### **Use of products or substances in private water supplies and disinfection arrangements**

**5.—**(1) Any product or substance used in the preparation or distribution of a private water supply, or impurities associated with such products or substances, must not be present in water at the point of use at levels that would make it unwholesome or constitute a potential danger to human health.

(2) Where disinfection forms part of the preparation or distribution of water, the relevant person 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 process;
- (b) ensure that the effectiveness of the disinfection process is maintained;
- (c) keep records of the maintenance and monitoring which have been undertaken in order to verify the effectiveness of the disinfection process; and
- (d) keep copies of those records available for inspection by the local authority, for a period of 5 years.

### **Requirement to carry out a risk assessment**

**6.—**(1) A local authority(**14**) must carry out a risk assessment for every private water supply in its area and review and update that risk assessment every 5 years (or earlier if it considers that the existing risk assessment is inadequate).

(2) In the case of a supply provided to a single dwelling, the duty in paragraph (1) applies only where that supply is provided as part of a commercial or public activity or as part of a domestic tenancy.

(3) In the case of a supply provided to a single dwelling not falling within paragraph (2), a local authority must carry out a risk assessment if requested to do so by the owner or occupier of that dwelling.

(4) A risk assessment must—

- (a) establish whether there is a significant risk of supplying water that would constitute a potential danger to human health;
- (b) satisfy the requirements of the Security of Drinking Water Supply Guidelines for Risk and Crisis Management(**15**); and
- (c) take into account the results from the monitoring programmes established by the second paragraph of Article 7(1) of [Directive 2000/60/EC](#) of the European Parliament and of the Council(**16**).

(5) A local authority must within 12 months of having carried out a risk assessment provide the Welsh Ministers with a summary of the results of that assessment.

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**(14)** 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”.

**(15)** EN 15975-2.

**(16)** OJ 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 2

### Monitoring

#### **Monitoring**

7.—(1) A local authority must monitor all private water supplies in its area in accordance with this Part when carrying out its duties under section 77(1) of the Act (general functions of local authorities in relation to water quality).

(2) The local authority must discharge the obligation in paragraph (1) by establishing a monitoring programme which consists of either—

- (a) the collection and analysis of discrete water samples;
- (b) measurement recorded by a continuous monitoring process; or
- (c) a combination of the methods in sub-paragraphs (a) and (b).

(3) Monitoring programmes may include either or both of—

- (a) inspections of records of the functionality and maintenance status of equipment;
- (b) inspections of the catchment area, water abstraction, treatment, storage and distribution infrastructure.

#### **Further distribution of supplies from water undertakers or water supply licensees**

8. Where water is supplied by a water undertaker or a water supply licensee and is then further distributed by a person other than a water undertaker or a water supply licensee, the local authority must carry out any monitoring which the risk assessment shows to be necessary.

#### **Large supplies and supplies as part of a commercial or public activity**

9.—(1) This regulation applies to a private water supply, other than that specified in regulation 8, that—

- (a) supplies an average daily volume of water of 10m<sup>3</sup> or more; or
- (b) supplies water as part of a commercial or public activity.

(2) The local authority must monitor a private water supply falling within this regulation in accordance with Schedule 2 and carry out any additional monitoring that the risk assessment shows to be necessary.

#### **Supplies to a single dwelling**

10.—(1) This regulation applies to a private water supply to a single dwelling not used as part of a commercial or public activity (in which case regulation 9 applies) or as part of a domestic tenancy (in which case regulation 11 applies).

(2) Where this regulation applies, the local authority—

- (a) may monitor the supply in accordance with the requirements in regulation 11(1); and
- (b) must do so if requested to do so by the owner or occupier of that dwelling.

#### **Other private supplies including supplies as part of a domestic tenancy**

11.—(1) In the case of a private water supply not covered by regulation 8, 9 or 10, the local authority must monitor for—

- (a) conductivity;

- (b) enterococci;
- (c) *Escherichia coli* (*E. coli*);
- (d) hydrogen ion concentration;
- (e) turbidity;
- (f) any parameter in Part 1 or 2 of Schedule 1 identified in the risk assessment as being at risk of not complying with the concentrations or values in those Parts of that Schedule; and
- (g) anything else identified in the risk assessment as a potential danger to human health.

(2) The local authority must carry out the monitoring required by this regulation at least every 5 years and more frequently if the risk assessment shows this to be necessary.

### **Monitoring of radioactive substances: general**

**12.**—(1) A local authority must monitor each private water supply in its area (other than a supply to which regulation 13 applies) for the parameters contained in the radioactive substances parameters table in accordance with this regulation and Schedule 3.

(2) In this regulation and Schedule 3, “the radioactive substances parameters table” means Table D in Part 3 of Schedule 1.

(3) Where a local authority is satisfied that a parameter in the radioactive substances parameters table is not likely to be present in a private water supply in its area in concentrations which could exceed the prescribed concentration or value for the relevant parameter in that table, the local authority may, for such a time as it sees appropriate, decide to exclude the parameter in question from the monitoring duty in paragraph (1).

(4) A decision under paragraph (3) must be made—

- (a) on the basis of representative surveys, monitoring data or other reliable information (including any risk assessment carried out in accordance with regulation 6); and
- (b) taking into account any guidance issued by the Welsh Ministers.

(5) The local authority must provide the Welsh Ministers with the grounds for its decision under paragraph (3) and the necessary documentation supporting the decision (including the findings of any surveys, monitoring or assessments carried out in accordance with paragraph (4)(a)).

(6) The Welsh Ministers must communicate the grounds for a decision under paragraph (3) to the European Commission with the documentation provided under paragraph (5) supporting the decision.

(7) Where—

- (a) a decision has previously been made under paragraph (3), and
- (b) the local authority is no longer satisfied that the basis for the decision exists,

the exclusion from monitoring under paragraph (3) will no longer apply and the local authority must inform the Welsh Ministers in writing accordingly.

(8) In case of naturally occurring radionuclides, where previous results (including representative surveys, monitoring data or other reliable information) show that the concentration of radionuclides in a supply within a local authority’s area is stable, the minimum sampling and analysis frequencies are to be decided by the local authority, and confirmed by notice in writing to the Welsh Ministers, taking into consideration the risk to human health.

### **Monitoring of radioactive substances: supplies to specified single dwellings**

**13.**—(1) This regulation applies to a private water supply to a single dwelling not provided as part of a commercial or public activity or as part of a domestic tenancy.

(2) A local authority may monitor a supply falling within paragraph (1) for the parameters contained in Table D in Part 3 of Schedule 1 in accordance with Schedule 3 and Part 3 of Schedule 4, and must do so if requested to do so by the owner or occupier.

### **Sampling and analysis**

**14.**—(1) When a local authority monitors a private water supply it must take a sample—

- (a) if the water is supplied for domestic purposes, from a tap normally used to supply water for human consumption, and which, if there is more than one tap, is representative of the water supplied to the premises;
- (b) if the water is used in a food production undertaking, at the point at which it is used in the undertaking;
- (c) if the water is supplied from a tanker, at the point at which it emerges from the tanker;
- (d) in any other case at a suitable point.

(2) A random daytime sample of one litre volume must be taken from a consumer's tap without prior flushing for the purpose of sampling for the copper, lead and nickel parameters.

(3) Sampling under this regulation—

- (a) for chemical parameters in the distribution network must be undertaken in accordance with ISO 5667-5, other than where the sample is taken from a consumer's tap;
- (b) for microbiological parameters must be undertaken in accordance with—
  - (i) EN ISO 19458 sampling purpose A in the distribution network; and
  - (ii) EN ISO 19458 sampling purpose B at the consumer's tap.

(4) The local authority must ensure that the sample is analysed in accordance with Schedule 4.

### **New supplies**

**15.**—(1) Where a local authority becomes aware of a private water supply that is to be, or is being, used for the first time (or for the first time after being out of use for a period of 12 months or more), the requirements of regulation 6 to 14 and 16 to 19 must be complied with as soon as reasonably practicable.

(2) A private water supply must not be brought into use or used until the local authority is satisfied that the supply does not constitute a potential danger to human health.

### **Records**

**16.**—(1) A local authority must make and keep records in respect of every private water supply in its area in accordance with Schedule 5.

(2) By 31 January of every year, a local authority must—

- (a) send the Chief Inspector of Drinking Water a copy of the records referred to in paragraph (1); and
- (b) upon request, send the Welsh Ministers a copy of those records.

## PART 3

### Action in the event of failure

#### Provision of information

17. If a local authority considers that a private water supply in its area is a potential danger to human health it must promptly take appropriate steps to ensure that people likely to consume water from it—

- (a) are informed that the supply constitutes a potential danger to human health;
- (b) where possible, are informed of the nature and degree of the potential danger; and
- (c) are given advice to allow them to minimise any such potential danger.

#### Investigation

18.—(1) Where a local authority suspects that a private water supply fails to comply with—

- (a) the requirements of regulation 4, or
- (b) the concentrations or values in Part 2 or Part 3 of Schedule 1 for an indicator parameter,

it must carry out an investigation to establish the cause of the failure.

(2) Once a local authority has carried out an investigation and established the cause of the failure, it must act in accordance with paragraphs (3) to (5).

(3) If the cause of the failure is due to the distribution system within a domestic premises (whether or not the water is made available to the public in those premises) the local authority must promptly inform the people likely to be affected and offer them advice on measures necessary for the protection of human health.

(4) In addition to the duty in paragraph (3) (where it applies), the local authority must act in accordance with paragraph (5) if the cause of the failure is due to—

- (a) the distribution system within domestic premises where water is made available to the public; or
- (b) a distribution system not within domestic premises.

(5) Where this paragraph applies, the local authority must—

- (a) if the water is a potential danger to human health and the conditions in regulation 20 are fulfilled, serve a notice under that regulation; or
- (b) within 28 days of establishing the cause of the failure, and if appropriate remedial action has not been taken, serve a notice in accordance with section 80 of the Act (remedial powers of local authorities in relation to private supplies) unless the local authority grants an authorisation in accordance with regulation 19(2).

(6) Where this regulation applies and a local authority's monitoring obligations in respect of the supply have previously been reduced (or otherwise varied) under Schedule 2 to these Regulations, such variation is to cease immediately and the standard frequencies outlined in Tables 2 and 3 in Schedule 2 must be reinstated.

#### Authorisations of different standards

19.—(1) Any relevant person may apply to a local authority for the grant of an authorisation under this regulation.

(2) A local authority may grant an authorisation of different standards under this regulation if—



- (a) the only cause of the water being unwholesome is that a parameter in Table B of Part 1 of Schedule 1 (chemical parameters) is not complied with;
  - (b) the local authority has consulted all water users who will be affected by the authorisation and the Public Health Wales National Health Service Trust and has taken their views into account;
  - (c) granting the authorisation does not cause a potential danger to human health; and
  - (d) the private water supply cannot be maintained by any other reasonable means.
- (3) An authorisation must require the applicant to take action over a period of time to ensure that the necessary parameters are complied with, and must specify—
- (a) the person to whom the authorisation is granted;
  - (b) the private water supply concerned;
  - (c) the grounds for granting the authorisation;
  - (d) the parameters concerned, previous relevant monitoring results, and the maximum permissible values under the authorisation;
  - (e) the geographical area, the estimated quantity of water supplied each day, the number of persons supplied and whether or not any food production undertaking is affected;
  - (f) an appropriate monitoring scheme, with an increased monitoring frequency where necessary;
  - (g) a summary of the plan for the necessary remedial action, including a timetable for the work and an estimate of the cost and provisions for reviewing progress; and
  - (h) the duration of the authorisation.
- (4) If a local authority grants an authorisation, and the person to whom it is granted takes action in accordance with the timetable specified in the authorisation, the local authority may not serve a notice under section 80 of the Act concerning the matters specified in the authorisation without first amending or revoking the authorisation.
- (5) The duration of the authorisation must be as short as possible and in any event may not exceed 3 years.
- (6) The local authority must ensure that people supplied are promptly informed of the authorisation and its conditions and, where necessary, ensure that advice is given to particular groups for which the authorisation could present a special risk.
- (7) If the private water supply exceeds 1,000 m<sup>3</sup> a day as an average or serves more than 5,000 persons the local authority must send a copy of the authorisation to the Chief Inspector of Drinking Water and the Welsh Ministers within 1 month.
- (8) The local authority must keep the progress of the remedial action under review.
- (9) If necessary, the local authority may grant a second authorisation for up to a further 3 years with the prior consent of the Welsh Ministers, but if it does so it must, as soon as is reasonably practicable, send a copy of the authorisation together with the grounds for its decision to the Chief Inspector of Drinking Water and the Welsh Ministers.
- (10) The local authority may revoke or amend the authorisation at any time, and in particular may revoke or amend it if the timetable for remedial action has not been adhered to.

## PART 4

### Notice procedure

#### Notices

**20.**—(1) If any private water supply constitutes a potential danger to human health, a local authority must serve a notice under this regulation on the relevant person instead of a notice under section 80 of the Act.

(2) The notice must—

- (a) identify the private water supply to which it relates;
- (b) specify the grounds for serving the notice;
- (c) prohibit or restrict the use of that supply;
- (d) specify what other action is necessary to—
  - (i) protect human health;
  - (ii) restore the wholesomeness of the private water supply;
  - (iii) maintain the continued wholesomeness of the private water supply following its restoration; and
- (e) specify the date by which the action required must be taken.

(3) The local authority must promptly inform consumers of the private water supply to which the notice relates and provide any necessary advice.

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

(5) The local authority must revoke the notice as soon as it becomes aware that there is no longer a potential danger to human health.

(6) It is an offence for a relevant person on whom a notice is served under this regulation to fail to comply with it.

(7) Where a relevant person (“P”) fails to take the action required by the date specified in a notice served under paragraph (1), the local authority which served the notice may take such action themselves.

(8) Where any action is taken by a local authority under paragraph (7) in relation to any premises

- (a) the local authority may recover from P any expenses reasonably incurred by it in taking that action; and
- (b) where a person, other than the local authority, is liable to make payments to P, sums paid by virtue of sub-paragraph (a) are to be deemed to be expenses incurred in the taking of action by P.

#### Appeals

**21.**—(1) Any person who is aggrieved by a notice served under regulation 20 may appeal to a magistrates’ court within 28 days of service of the notice.

(2) The procedure on an appeal to a magistrates’ court under paragraph (1) is by way of complaint, and the Magistrates’ Courts Act 1980(17) applies to the proceedings.

(3) A notice remains in force unless suspended by the court.

(4) On an appeal, the court may either cancel the notice or confirm it, with or without modification.

### Penalties

**22.**—(1) A person who commits an offence under regulation 20 is liable—

- (a) on summary conviction, to a fine not exceeding the statutory maximum or to a term of imprisonment not exceeding 3 months or both; or
- (b) on conviction on indictment, to a fine or to imprisonment for a term not exceeding 2 years or both.

(2) Where a body corporate is guilty of an offence under these Regulations, and that offence is proved to have been committed with the consent or connivance of, or to have been attributable to any neglect on the part of—

- (a) any director, manager, secretary or other similar person of the body corporate, or
- (b) any person who was purporting to act in any such capacity,

that person is guilty of the offence as well as the body corporate.

(3) In paragraph (2), “director”, in relation to a body corporate whose affairs are managed by its members, means a member of the body corporate.

## PART 5

### Miscellaneous

#### Fees

**23.** Schedule 6 makes provision for fees.

#### Revocations

**24.**—(1) The following instruments are revoked—

- (a) the 2010 Regulations;
- (b) the Private Water Supplies (Wales) (Amendment) Regulations 2010(**18**);
- (c) the Private Water Supplies (Wales) (Amendment) (No. 2) Regulations 2010(**19**); and
- (d) the Private Water Supplies (Wales) (Amendment) Regulations 2016(**20**).

(2) Paragraph 142 of Schedule 2 to the National Treatment Agency (Abolition) and the Health and Social Care Act 2012 (Consequential, Transitional and Savings Provisions) Order 2013(**21**) is revoked.

#### Consequential amendment

**25.** In regulation 21(7)(b) of the Water Supply (Water Quality) Regulations 2010(**22**), for “regulation 15 or 16 of the Private Water Supplies (Wales) Regulations 2010” substitute “regulation 18 of the Private Water Supplies (Wales) Regulations 2017”.

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(18) S.I. 2010/147 (W. 22).

(19) S.I. 2010/1384 (W. 123).

(20) S.I. 2016/411 (W. 129).

(21) S.I. 2013/235.

(22) 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) and S.I. 2017/506.

## **Transitional provisions**

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

- (a) an authorisation granted under regulation 17(2) of the 2010 Regulations which is in force immediately before the coming into force of these Regulations is taken to be an authorisation granted under regulation 19(2) of these Regulations;
- (b) a second authorisation granted under regulation 17(9) of the 2010 Regulations which is in force immediately before the coming into force of these Regulations is taken to be a second authorisation granted under regulation 19(9) of these Regulations;
- (c) a notice served under regulation 18 of the 2010 Regulations which is in force immediately before the coming into force of these Regulations (“an existing notice”) is taken to be a notice served under regulation 20 of these Regulations.

(2) An appeal may be made under regulation 21(1) of these Regulations against an existing notice if, on the date these Regulations come into force, the time for making an appeal under regulation 19(1) of the 2010 Regulations had not expired.

(3) A local authority which has—

- (a) reduced the frequency of sampling for a parameter under paragraph 2(2) in Part 1 of Schedule 2 (monitoring) to the 2010 Regulations, or
- (b) excluded a parameter from audit monitoring under paragraph 3(3) in Part 2 of Schedule 2 to the 2010 Regulations,

must upon the coming into force of these Regulations bring any such reduction or exclusion to an end, and instead begin to monitor in accordance with the provision made in Schedule 2 to these Regulations.

(4) A local authority may rely upon any data collected in the 36 month period ending with the day on which these Regulations come into force to justify any variation in monitoring under Part 4 of Schedule 2.

(5) Table 2 (prescribed performance characteristics for methods of analysis) in Schedule 4 remains in force until 23:59 on 31 December 2019 following which it is revoked for all purposes.

25 October 2017

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Affairs, one of the Welsh Ministers

## SCHEDULE 1

Regulations 2, 11, 12, 13, 18 and 19

## Concentrations or Values

## PART 1

## Wholesomeness

TABLE A:

## MICROBIOLOGICAL PARAMETERS

Prescribed concentrations or values Parameters	Maximum concentration or value	Units of Measurement
<i>Escherichia coli</i> ( <i>E. coli</i> )	0	Number/100ml
Enterococci	0	Number/100ml
<b>In the case of water in bottles or containers:</b>		
<i>Escherichia coli</i> ( <i>E.coli</i> )	0	Number/250ml
Enterococci		Number/250ml
<i>Pseudomonas aeruginosa</i>	0	Number/250ml
Colony count 22°C	100	Number/ml

TABLE B:

## CHEMICAL PARAMETERS

Prescribed concentrations or values Parameters	Maximum concentration or value	Units of Measurement
Acrylamide <sup>(1)</sup>	0.10	µg/l
Antimony	5.0	µg/l
Arsenic	10	µg/l
Benzene	1.0	µg/l
Benzo(a)pyrene	0.010	µg/l
Boron	1.0	mg/l
Bromate	10	µg/l
Cadmium	5.0	µg/l
Chromium	50	µg/l
Copper	2.0	mg/l

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Prescribed concentrations or values		Maximum concentration or value	Units of Measurement
Parameters			
Cyanide		50	µg/l
1,2 dichloroethane		3.0	µg/l
Epichlorohydrin <sup>(1)</sup>		0.10	µg/l
Fluoride		1.5	mg/l
Lead		10	µg/l
			µg/l
Mercury		1.0	µg/l
Nickel		20	µg/l
Nitrate <sup>(2)</sup>		50	mg/l
Nitrite <sup>(2)</sup>		0.5 (or 0.1 in the case of treatment works)	mg/l
Pesticides <sup>(3)</sup> —	Aldrin	0.030	µg/l
	Dieldrin	0.030	µg/l
	Heptachlor	0.030	µg/l
	Heptachlor epoxide	0.030	µg/l
	Other pesticides	0.10	µg/l
	Pesticides total <sup>(4)</sup>	0.50	µg/l
Polycyclic aromatic hydrocarbons <sup>(5)</sup>		0.10	µg/l
Selenium		10	µg/l
Tetrachloroethene and Trichloroethene <sup>(6)</sup>		10	µg/l
Trihalomethanes: Total <sup>(7)</sup>		100	µg/l
Vinyl chloride <sup>(1)</sup>		0.50	µg/l

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

(2) See also the nitrate-nitrite formula in regulation 4(1)(c).

(3) For these purposes “Pesticides” means:  
organic insecticides

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organic herbicides  
 organic fungicides  
 organic nematocides  
 organic acaricides  
 organic algicides  
 organic rodenticides  
 organic slimicides  
 related products (inter alia, growth regulators) and their relevant metabolites,  
 degradation and reaction products. Only those pesticides likely to be present in a given  
 supply need be monitored.

(4) “Pesticides total” means the sum of the concentrations of the individual pesticides detected and quantified in the monitoring process.

(5) 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.

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

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

(7) 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.

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

### National requirements – Prescribed concentrations or values

Parameters	Maximum concentration or value	Units of Measurement
Aluminium	200	µg/l
Colour	20	mg/l Pt/Co
Iron	200	µg/l
Manganese	50	µg/l
Odour	Acceptable to consumers and no abnormal change	
Sodium	200	mg/l
Taste	Acceptable to consumers and no abnormal change	
Tetrachloromethane	3	µg/l
Turbidity	4	NTU

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## PART 2

### Indicator Parameters

**TABLE C:**

**Prescribed concentrations, values or states**

<b>Parameters</b>	<b>Maximum concentration or value</b>	<b>Units of Measurement</b>
Ammonium	0.50	mg/l
Chloride <sup>(1)</sup>	250	mg/l
<i>Clostridium perfringens</i> (including spores)	0	Number/100ml
Coliform bacteria	0	Number/100ml (Number/250ml in the case of water put into bottles or containers)
Colony counts	No abnormal change	Number/ml at 22°C
Conductivity <sup>(1)</sup>	2500	µS/cm at 20°C
Hydrogen ion	9.5 (maximum) 6.5 (minimum) (in the case of still water put into bottles or containers the minimum is 4.5)	pH value pH value
Sulphate <sup>(1)</sup>	250	mg/l
Total organic carbon (TOC)	No abnormal change	mgC/l
Turbidity <sup>(2)</sup>	1	NTU

(1) The water should not be aggressive.

(2) Only in the case of surface water or groundwater that has been influenced by surface water.

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## PART 3

### Radioactive substances parameters

**TABLE D:**

**Prescribed values for radon, tritium and indicative dose of water intended for human consumption**

<b>Parameters</b>	<b>Maximum concentration or value</b>	<b>Units of Measurement</b>
Indicative dose (for radioactivity)	0.10	mSv
Radon <sup>(1)</sup>	100	Bq/l
Tritium (for radioactivity) <sup>(2)</sup>	100	Bq/l

- (1) Enforcement action by the local authority is deemed justified on radiological protection grounds without further consideration where radon concentrations exceed 1,000 Bq/l.
- (2) If tritium concentration exceeds its parametric value, an investigation (which may include analysis) of the presence of artificial radionuclides must be carried out.

#### SCHEDULE 2

Regulations 2, 9, 18 and 26

#### Monitoring

## PART 1

### Monitoring for Group A parameters

#### Sampling

1.—(1) A local authority must undertake monitoring for Group A parameters in accordance with this Part.

(2) “Monitoring for Group A parameters” means sampling for each parameter listed in column 1 of Table 1 in the circumstances listed in the corresponding entry for that parameter in column 2 of that Table, in order to—

- determine whether or not water complies with the concentrations or values in Schedule 1;
- provide information on the organoleptic and microbiological quality of the water; and
- establish the effectiveness of the treatment of the water, including disinfection.

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**Table 1****Group A parameters**

<b>Parameter</b>	<b>Circumstances</b>
Aluminium	If used as a water treatment chemical
Ammonium	If chloramination is used
<i>Clostridium perfringens</i> (including spores)	Where the water originates from, or is influenced by, surface waters
Coliform bacteria	In all supplies
Colony counts	In all supplies
Colour	In all supplies
Conductivity	In all supplies
<i>Escherichia coli</i> ( <i>E. coli</i> )	In all supplies
Hydrogen ion concentration	In all supplies
Iron	If used as a water treatment chemical
Manganese	Where the water originates from, or is influenced by, surface waters
Nitrate	If chloramination is used
Nitrite	If chloramination is used
Odour	In all supplies
<i>Pseudomonas aeruginosa</i>	Only in the case of water in bottles or containers
Taste	In all supplies
Turbidity	In all supplies

**Frequency of sampling**

2. Sampling for Group A parameters must be carried out at frequencies specified in Table 2.

**Table 2****Sampling frequency for Group A parameters**

<b>Volume m<sup>3</sup>/day</b>	<b>Sampling frequency per year</b>
≤10	1
# 10 ≤ 100	2
# 100 ≤ 1,000	4
# 1,000 ≤ 2,000	10
# 2,000 ≤ 3,000	13

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<i>Volume m<sup>3</sup>/day</i>	<i>Sampling frequency per year</i>
# 3,000 ≤ 4,000	16
# 4,000 ≤ 5,000	19
# 5,000 ≤ 6,000	22
# 6,000 ≤ 7,000	25
# 7,000 ≤ 8,000	28
# 8,000 ≤ 9,000	31
# 9,000 ≤ 10,000	34
# 10,000	4 + 3 for each 1,000 m <sup>3</sup> /day of the total volume (rounding up to the nearest multiple of 1,000 m <sup>3</sup> /day)

## PART 2

### Monitoring for Group B parameters

#### Sampling

3.—(1) A local authority must undertake monitoring for Group B parameters in accordance with this Part.

(2) “Monitoring for Group B parameters” means sampling for each parameter listed in Part 1 or 2 of Schedule 1 (other than Group A parameters already being sampled under Part 1 of this Schedule)

- (a) in order to provide information necessary to determine whether or not the private water supply satisfies each concentration, value or state specified in either of those Parts of that Schedule; and
- (b) if disinfection is used, to check that disinfection by-products are kept as low as possible without compromising the effectiveness of disinfection.

#### Frequency of sampling

4. Sampling for Group B parameters must be carried out at the frequencies specified in Table 3.

**Table 3**

**Sampling frequency for Group B parameters**

<i>Volume m<sup>3</sup>/day</i>	<i>Sampling frequency per year</i>
≤10	1
# 10 ≤ 3,300	2
# 3,300 ≤ 6,600	3
# 6,600 ≤ 100,00	4

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<i>Volume m<sup>3</sup>/day</i>	<i>Sampling frequency per year</i>
# 10,000 ≤ 100,000	3 + 1 for each 10,000 m <sup>3</sup> /day of the total volume (rounding up to the nearest multiple of 10,000 m <sup>3</sup> /day)
# 100,000	10 + 1 for each 25,000 m <sup>3</sup> /day of the total volume (rounding up to the nearest multiple of 25,000 m <sup>3</sup> /day)

### PART 3

Minimum frequency for both monitoring for Group A parameters and monitoring for Group B parameters for water put into bottles or containers

<i>Volume<sup>a</sup> of water produced in bottles or containers each day (m<sup>3</sup>)</i>	<i>Monitoring for Group A parameters: number of samples per year</i>	<i>Monitoring for Group B parameters: number of samples per year</i>
≤10	1	1
# 10 ≤ 60	12	1
# 60	1 for each 5 m <sup>3</sup> /day of the total volume (rounding up to the nearest multiple of 5 m <sup>3</sup> /day)	1 for each 100 m <sup>3</sup> /day of the total volume (rounding up to the nearest multiple of 100 m <sup>3</sup> /day)

<sup>a</sup> The volumes are calculated as averages taken over a calendar year.

### PART 4

Variation of monitoring requirements for Group A and Group B parameters

#### Variation of sampling frequency

5.—(1) A local authority may reduce the sampling frequencies required for a parameter (other than for *Escherichia coli* (*E. coli*)) under Part 1 or 2 of this Schedule provided that—

- (a) the results from samples taken in respect of that parameter collected at regular intervals over the preceding 3 years are all at less than 60% of the parametric value;
- (b) the results of a risk assessment 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 for human consumption;
- (c) data collected in the course of discharging its monitoring obligations under this Part are taken into account; and
- (d) at least one sample is taken per year.

(2) A local authority may set a higher frequency for any parameter if it considers it appropriate taking into account the findings of any risk assessment.

## Variation of parameters

6.—(1) A local authority may cease to monitor a parameter (other than *Escherichia coli* (*E. coli*)) otherwise required to be monitored under Part 1 or 2 of this Schedule provided that—

- (a) the results from samples taken in respect of that parameter collected at regular intervals over the preceding 3 years are all at less than 30% of the parametric value;
- (b) the results of a risk assessment 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 for human consumption; and
- (c) data collected in the course of discharging its monitoring obligations under this Part are taken into account.

(2) A local authority may monitor for other properties, elements, organisms or substances not included as a parameter if it considers it appropriate taking into account the findings of any risk assessment.

## SCHEDULE 3

Regulations 12 and 13

### Monitoring of radioactive substances

#### Radon

1.—(1) In relation to the radon parameter in the radioactive substances parameters table, a local authority—

- (a) must ensure that a representative survey is carried out in accordance with subparagraph (2) to determine the likelihood of a private water supply failing to comply with the relevant parametric concentration or value specified in the radioactive substances parameters table; and
- (b) must carry out monitoring where there is reason to believe, on the basis of the results of the representative surveys or other reliable information, including any risk assessment carried out in accordance with regulation 6, that the parametric value for the radon parameter laid down in the radioactive substances parameters table might be exceeded.

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

- (a) as to be capable of determining the scale and nature of likely exposure to radon in water intended for human consumption originating from different types of groundwater sources and wells in different geological areas; and
- (b) that underlying parameters, especially the geology and hydrology of the area, radioactivity of rock or soil, and well type, can be identified and used to direct further action to areas of likely high exposure to radon.

#### Tritium

2.—(1) In relation to the tritium parameter in the radioactive substances parameters table, a local authority—

- (a) must carry out monitoring 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, including any risk assessment carried out in accordance with regulation 6, that the level of tritium is below the parametric value listed in the radioactive substances parameters table; and

- (b) must carry out an investigation of the presence of other artificial radionuclides if the concentration of tritium exceeds the parametric value listed in the radioactive substances parameters table.
- (2) Where monitoring is required by sub-paragraph (1)—
  - (a) it must be carried out at the frequencies as set out for monitoring for Group B parameters in Table 3 in Part 2 of Schedule 2; or
  - (b) it must (in the case of a private water supply falling within the scope of regulation 11(1)) be carried out at least every 5 years or more frequently if the risk assessment referred to under sub-paragraph (1)(a) shows this to be necessary.

### **Indicative Dose**

**3.—**(1) In relation to the indicative dose parameter in the radioactive substances parameters table, a local authority must carry out monitoring where a source of artificial radioactivity or elevated natural radioactivity is present and it cannot be shown on the basis of other surveillance programmes or investigations, including any risk assessment carried out in accordance with regulation 6, that the level of indicative dose is below the parametric value listed in the radioactive substances parameters table.

- (2) Where monitoring is required by sub-paragraph (1) in relation to artificial radionuclides—
  - (a) it must be carried out at the frequencies as set out for monitoring for Group B parameters in Table 3 in Part 2 of Schedule 2; or
  - (b) it must (in the case of a private water supply falling within the scope of regulation 11(1)) be carried out at least every 5 years or more frequently if the risk assessment shows this to be necessary.
- (3) Where monitoring is required by sub-paragraph (1) in relation to a source of elevated natural radioactivity—
  - (a) the local authority—
    - (i) may decide the frequency of monitoring in its area depending on the screening strategy adopted by the authority; and
    - (ii) must notify the Welsh Ministers in writing of its decision under sub-paragraph (i); and
  - (b) the frequency of monitoring decided under paragraph (a)(i) may vary from a single check measurement to the frequencies as set out for monitoring for Group B parameters in Table 3 in Part 2 of Schedule 2.
- (4) Where a local authority decides under sub-paragraph (3) that a single check measurement for natural radioactivity is appropriate, the local authority must carry out a further check if any change occurs in relation to the private water supply which is likely to influence the concentrations of radionuclides in the supply.

### **Water treatment**

**4.** Where treatment to reduce the level of radionuclides in a private water supply has been undertaken, the local authority must monitor the supply for total indicative dose, radon and tritium in accordance with the provisions of this Part and the frequencies as set out for monitoring for Group B parameters in Table 3 in Part 2 of Schedule 2 to verify the continued efficacy of that treatment.

## **Averaging**

5. Where a parametric value in the radioactive substances parameters table is exceeded in relation to a particular sample taken by a local authority, the Welsh Ministers must specify, by notice in writing to the local authority, the extent of resampling necessary to ensure that the measured values are representative of an average activity concentration for a full year.

## SCHEDULE 4

Regulations 13 and 14

### Sampling and analysis

## PART 1

### General

#### **Samples: general**

1.—(1) The local authority must ensure, so far as reasonably practicable, that the appropriate requirements are satisfied when—

- (a) taking, handling, transporting and storing a sample required to be taken in accordance with this Schedule;
- (b) analysing such a sample; or
- (c) causing any such sample to be taken, handled, transported, stored or analysed.

(2) In this paragraph, “the appropriate requirements” means such of the following 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 checked from time to time by a suitably accredited body;
- (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;
- (e) the sample is analysed 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 must be subject to a system of quality control to an appropriate standard checked from time to time by a suitably accredited body.

(3) When undertaking the activity described in—

- (a) sub-paragraph (1)(a), the local authority must demonstrate compliance with any of EN ISO/IEC 17024, EN ISO/EIC 17025, or another equivalent standard accepted at international level;
- (b) sub-paragraph (1)(b), the local authority must demonstrate compliance with EN ISO/EIC 17025 or another equivalent standard accepted at international level.

(4) Implementation of the requirement in sub-paragraph (3)(a) may be delayed for a period of no more than 24 months beginning on the day on which these Regulations come into force.

(5) In this paragraph, “suitably accredited body” means any person accredited by the United Kingdom Accreditation Service<sup>(23)</sup>.

#### **Analysing samples: microbiological parameters**

2. For each parameter specified in the first column of Table 1 in Part 2 of this Schedule the method of analysis is specified in the second column of that table.

#### **Analysing samples: chemical and indicator parameters**

3.—(1) On or before 31 December 2019, the local authority may apply the method of analysis for chemical and indicator parameters in either sub-paragraph (3) or sub-paragraph (4).

(2) After 31 December 2019, the local authority must apply the method of analysis for chemical and indicator parameters in sub-paragraph (4).

(3) For each parameter specified in the first column of Table 2 in Part 2 of this Schedule the method is one that is capable of—

- (a) measuring concentrations and values with the trueness and precision specified in the second and third columns of that table, and
- (b) detecting the parameter at the limit of detection specified in the fourth column of that table.

(4) For each parameter specified in the first column of Table 3 in Part 2 of this Schedule the method is one that is capable of measuring concentrations equal to—

- (a) the parametric value with a limit of quantification of 30% or less of the relevant parametric value (as contained in Schedule 1), and
- (b) the uncertainty of measurement in the second column of that table.

(5) The method of analysis used for odour and taste parameters must be capable of measuring values equal to the parametric value with a precision of 1 dilution number at 25°C.

(6) For these purposes—

- (a) “limit of detection” is—
  - (i) three times the relative within-batch standard deviation of a natural sample containing a low concentration of the parameter; or
  - (ii) five times the relative within-batch standard deviation of a blank sample;
- (b) “precision” (the random error) is twice the standard deviation (within a batch and between batches) of the spread of results about the mean. Acceptable precision is twice the relative standard deviation. Further specifications are set out in ISO 17025;
- (c) “trueness” (the systematic error) is the difference between the mean value of the large number of repeated measurements and the true value. Further specifications are set out in ISO 17025;
- (d) “uncertainty of measurement” is a non-negative parameter characterising the dispersion of the quantity values being measured, based on the information used.

#### **Authorisation of alternative methods of analysis**

4.—(1) The Welsh Ministers may authorise a method different from those set out in paragraph 3(2) or 3(3) if satisfied that it is at least as reliable.

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(23) See S.I. 2009/3155 for the appointment of the United Kingdom Accreditation Service as the national accreditation body.



- (2) An authorisation may be time-limited and may be revoked at any time.

### **Sampling and analysis by persons other than local authorities**

5.—(1) A local authority may enter into an arrangement for any person to take and analyse samples on its behalf.

- (2) A local authority must not enter into an arrangement under sub-paragraph (1) unless—
- (a) it is satisfied that the task will be carried out promptly by a person competent to perform it, and
  - (b) it has made arrangements that ensure that any breach of these Regulations is communicated to it immediately, and any other result is communicated to it within 28 days.

## **PART 2**

### **Analytical methods**

**Table 1**

#### **Prescribed methods of analysis for microbiological parameters**

<i><b>Parameter</b></i>	<i><b>Method</b></i>
Escherichia coli (E. coli)	EN ISO 9308-1 or EN ISO 9308-2
Enterococci	EN ISO 7899-2
Pseudomonas aeruginosa	EN-ISO 16266
Colony count 22°C — enumeration of culturable microorganisms	EN ISO 6222
Colony count 36°C — enumeration of culturable microorganisms	EN ISO 6222
Clostridium perfringens (including spores)	EN ISO 14189

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Table 2

**Prescribed performance characteristics for methods of analysis for chemical and indicator parameters: trueness, precision and limit of detection (on or before 31 December 2019)**

<i>Parameter</i>	<i>Trueness % of prescribed concentration or value or specification (except for pH)</i>	<i>Precision % of prescribed concentration or value or specification (except for pH)</i>	<i>Limit of detection % of prescribed concentration or value or specification (except for pH)</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

- (1) The method of analysis should determine total cyanide in all forms.
- (2) EN ISO 8476.
- (3) The performance characteristics apply to each individual pesticide and will depend on the pesticide concerned. 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.
- (4) The performance characteristics apply to the individual substances specified at 25% of the parametric value in Table B of Part 1 of Schedule 1.
- (5) The performance characteristics apply to the individual substances specified at 50% of the parametric value in Table B of Part 1 of Schedule 1.
- (6) The performance characteristics apply to the prescribed value of 4 NTU.
- (7) The performance characteristics apply to the specification of 1 NTU for surface waters or ground waters influenced by surface water.

<b>Parameter</b>	<b>Trueness % of prescribed concentration or value or specification (except for pH)</b>	<b>Precision % of prescribed concentration or value or specification (except for pH)</b>	<b>Limit of detection % of prescribed concentration or value or specification (except for pH)</b>
Cyanide <sup>(1)</sup>	10	10	10
1,2-dichloroethane	25	25	10
Fluoride	10	10	10
Hydrogen ion concentration (expressed in pH units)	0.2 pH	0.2	
Iron	10	10	10
Lead	10	10	10
Manganese	10	10	10
Mercury	20	10	20
Nickel	10	10	10
Nitrate	10	10	10
Nitrite	10	10	10
Oxidisability <sup>(2)</sup>			
Pesticides and related products <sup>(3)</sup>	25	25	25

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

(2) EN ISO 8476.

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

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

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

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

(7) The performance characteristics apply to the specification of 1 NTU for surface waters or ground waters influenced by surface water.

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<i>Parameter</i>	<i>Trueness % of prescribed concentration or value or specification (except for pH)</i>	<i>Precision % of prescribed concentration or value or specification (except for pH)</i>	<i>Limit of detection % of prescribed concentration or value or specification (except for pH)</i>
Polycyclic aromatic hydrocarbons <sup>(4)</sup>	25	25	25
Selenium	10	10	10
Sodium	10	10	10
Sulphate	10	10	10
Tetrachloroethene <sup>(5)</sup>	25	25	10
Tetrachloromethane	20	20	20
Trichloroethene <sup>(5)</sup>	25	25	10
Trihalomethanes:			
Total <sup>(4)</sup>	25	25	10
Turbidity <sup>(6)</sup>	10	10	10
Turbidity <sup>(7)</sup>	25	25	25

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

(2) EN ISO 8476.

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

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

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

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

(7) The performance characteristics apply to the specification of 1 NTU for surface waters or ground waters influenced by surface water.

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**Table 3****Method of analysis for chemical and indicator parameters: uncertainty of measurement(1)**

<i>Parameter</i>	<i>Uncertainty of measurement</i>
	<i>% of parametric value</i>
	<i>(except for pH)</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
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
Oxiedisability <sup>(4)</sup>	50

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<i>Parameter</i>	<i>Uncertainty of measurement</i>
	<i>% of parametric value</i>
	<i>(except for pH)</i>
Pesticides <sup>(5)</sup>	30
Polycyclic aromatic hydrocarbons <sup>(6)</sup>	50
Selenium	40
Sodium	15
Sulphate	15
Tetrachloroethene <sup>(7)</sup>	30
Trichloroethene <sup>(7)</sup>	40
Trihalomethanes: total <sup>(6)</sup>	40
Total organic carbon (TOC) <sup>(8)</sup>	30
Turbidity <sup>(9)</sup>	30

- (1) The uncertainty of measurement must not be used as an additional tolerance to the parametric values set out in Schedule 1.
- (2) If the value of uncertainty of measurement cannot be met, the best available technique should be selected (up to 60%).
- (3) The method of analysis should determine total cyanide in all forms.
- (4) EN ISO 8476.
- (5) The performance characteristics apply to each individual pesticide and will depend on the pesticide concerned. 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.
- (6) The performance characteristics apply to the individual substances specified at 25% of the parametric value in Table B of Part 1 of Schedule 1.
- (7) The performance characteristics apply to the individual substances specified at 50% of the parametric value in Table B of Part 1 of Schedule 1.
- (8) The uncertainty of measurement must be estimated at the level of 3mg/l of TOC. CEN 1484 Guidelines for the determination of TOC and dissolved organic carbon must be used.
- (9) The uncertainty of measurement must be estimated at the level of 1,0 NTU in accordance with EN ISO 7027.

## PART 3

### Monitoring for indicative dose and analytical performance characteristics

6. A local authority may use reliable screening strategies to indicate the presence of radioactivity in water intended for human consumption.

7. The strategies referred to in paragraph 6 may include screening for—

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- (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**

8. If one of the activity concentrations exceeds 20% of the corresponding derived value or the tritium concentration exceeds its parametric value listed in Part 3 of Schedule 1 an analysis of additional radionuclides is required.

9. A local authority must, in deciding which radionuclides require to be measured for each supply, take into account all relevant information about likely sources of radioactivity.

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

10. Subject to paragraph 11 the recommended screening levels are—

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

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

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

#### **Calculation of the indicative dose**

13. The indicative dose must be calculated from—

- (a) the measured radionuclide concentrations and the dose coefficients laid down in Annex III, Table A of Directive 96/29/Euratom(24) ; or
- (b) more recent information recognised by the Welsh Ministers, on the basis of the annual intake of water (730 l for adults).

14. 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—

#### **Derived concentrations for radioactivity in water intended for human consumption (1)**

<b>Origin</b>	<b>Nuclide</b>	<b>Derived concentration</b>
Natural	U-238 <sup>3</sup>	3,0 Bq/l
	U-234 <sup>3</sup>	2,8 Bq/l
	Ra-226	0,5 Bq/l
	Ra-228	0,2 Bq/l
	Pb-210	0,2 Bq/l

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

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(24) OJ No. L 159, 29.6.1996, p. 1, prospectively repealed and replaced by Directive 2013/59 Euratom (OJ L 13, 17.1.2014, p. 1) with effect from 6 February 2018.

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Origin	Nuclide	Derived concentration
Artificial	Po-210	0,1 Bq/l
	C-14	240 Bq/l
	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

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

### Performance characteristics and methods of analysis

15. 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:

Parameters and radionuclides	Limit of detection (Notes 1,2)	Notes
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	

Note 1: 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.

Note 2: 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.

Note 3: The limit of detection for tritium and for radon is 10% of its parametric value of 100 Bq/l.

Note 4: 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.

Note 5: This limit of detection applies only to initial screening for indicative dose for a new water source; if initial checking indicates that it is 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

Regulation 16

### Records

#### Initial records

1.—(1) A local authority must record the number of private water supplies in its area, and for each supply must record—

- (a) the name of the supply, together with a unique identifier;
  - (b) the type of source;
  - (c) the geographical location using a grid reference;
  - (d) an estimate of the number of people supplied;
  - (e) an estimate of the average daily volume of water supplied in cubic metres;
  - (f) the type of premises supplied;
  - (g) detail of any treatment process, together with its location
- (2) It must review and update the record at least once a year.
- (3) It must keep the record for at least 30 years.

#### Additional records

2.—(1) For each supply referred to in paragraph 1(1), the local authority must record, within 28 days of each of the following taking place—

- (a) a plan and description of the supply;
- (b) the monitoring programme for the supply;
- (c) the risk assessment;
- (d) a summary of the results of the risk assessment;
- (e) a summary of the reasons for a decision to reduce or exempt altogether the monitoring of a particular parameter under Part 4 of Schedule 2;
- (f) the date, results and location of any sampling and analysis relating to that supply, and the reason for taking the sample;
- (g) the results of any investigation undertaken in accordance with these Regulations;

- (h) any authorisation;
  - (i) any notices served under section 80 of the Act, or regulation 20;
  - (j) any action agreed to be taken by any person under these Regulations;
  - (k) any request for the local authority to carry out sampling and analysis, undertake a risk assessment or give advice;
  - (l) a summary of any advice given in relation to the supply.
- (2) It must keep the risk assessment and records of sampling and analysis for at least 30 years, and all other records under this paragraph for at least 5 years.

## SCHEDULE 6

Regulation 23

### Fees

#### Fee

1. The local authority may charge a fee, payable on invoice, for the activities in the following table, and the fee is the reasonable cost of providing the service subject to the following maximum amounts.

Service	Maximum fee (£)
Risk assessment (each assessment):	
regulation 9 supply	700
regulation 10 and 11 supplies	300
Sampling (each visit) <sup>(1)</sup>	100
Investigation (each investigation):	250
Granting an authorisation (each authorisation):	100
Analysing a sample—	
taken under regulation 10 or 11:	25
taken during monitoring for Group A parameters:	110
taken during monitoring for Group B parameters:	600

(1) No fee is payable where a sample is taken and analysed solely to confirm or clarify the results of the analysis of a previous sample.

#### Persons liable to pay

- 2.—(1) Any person requesting anything under these Regulations is liable for the cost.
- (2) Except where sub-paragraph (1) applies, fees are payable, as specified in the invoice, by the relevant person.

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(3) Where more than one person is liable, in determining who is required to make payment the local authority—

- (a) may apportion the charge between them; and
- (b) must have regard to any agreement or other document produced to the local authority relating to the terms on which water is supplied.

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## EXPLANATORY NOTE

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

These Regulations implement Council [Directive 98/83/EC](#) on the quality of water intended for human consumption (OJ No. L 330, 5.12.1998, p. 32) in relation to private water supplies and 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). These Regulations revoke and replace the Private Water Supplies (Wales) Regulations 2010 ([S.I. 2010/66 \(W. 16\)](#)).

These Regulations apply to private water supplies (as defined in regulation 2) intended for human consumption. Part 1 of the Regulations makes miscellaneous provision in relation to water standards for private water supplies. It defines the circumstances in which water is to be regarded as “wholesome” (regulation 4 and Part 1 of Schedule 1). It also sets out the requirements which apply where water is disinfected (regulation 5) and imposes a duty on each local authority to carry out a risk assessment of every private water supply in its area (regulation 6).

Part 2 of the Regulations places a duty on local authorities to monitor private water supplies (regulations 7 to 13 and Schedule 2) and to ensure that each sample taken is analysed in the ways set out in Schedule 4 (regulation 14). It sets out the specific monitoring requirements for radioactive substances (indicative dose, radon and tritium) (regulation 12 and 13 and Schedule 3). The indicator parameters for radioactive substances are set out in Table D in Part 3 of Schedule 1. It also requires the local authority to make and keep records for every private water supply in its area (regulation 16 and Schedule 5) and to send a copy of the records to the Drinking Water Inspectorate and upon request, to the Welsh Ministers (regulation 16).

Part 3 of the Regulations sets out the procedures to be followed if the water is not wholesome, or it constitutes a potential danger to human health. It requires local authorities to provide information to those people likely to consume the water (regulation 17) and to carry out an investigation (regulation 18). If the cause of the unwholesome water is in the pipework within a domestic premises, local authorities must offer advice on measures necessary for the protection of human health. Local authorities may, in defined circumstances, grant a time-limited authorisation of different standards (regulation 19).

Part 4 of the Regulations requires a notice to be served on the “relevant person” (as defined in regulation 2) if any supply constitutes a potential danger to human health (regulation 20) and makes provision for appeals and penalties in connection with such notices (regulations 21 and 22).

Part 5 of the Regulations makes provision for the payment of fees (regulation 23 and Schedule 6), revocations (regulation 24) and consequential amendments (regulation 25). It also contains transitional provisions (regulation 26).

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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.