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SCOTTISH STATUTORY INSTRUMENTS

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**2001 No. 207**

**The Water Supply (Water Quality) (Scotland) Regulations 2001**

**PART V**

**MONITORING – ADDITIONAL PROVISIONS**

**Collection and analysis of samples**

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

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

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

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

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

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

- (a) the method of analysis specified in column (2) of Table A1 in Schedule 4 shall be used for determining compliance with the parameter specified in relation to that method in column (1);
- (b) the method of analysis used for determining compliance with a parameter specified in column (1) of Table A2 in Schedule 4 must be capable, at the time of use—

- (i) of measuring concentrations and values equal to the parametric value with the trueness and precision specified in relation to that parameter in columns (2) and (3) of that Table; and
    - (ii) of detecting the parameter at the limit of detection specified in relation to that parameter in column (4) of that Table;
  - (c) the method of analysis used for determining compliance with the hydrogen ion parameter must be capable, at the time of use, of measuring concentrations equal to the parametric value with a trueness of 0.2 pH unit and a precision of 0.2 pH unit; and
  - (d) the method of analysis used for the odour and taste parameters must be capable, at the time of use, of measuring values equal to the parametric value with a precision of 1 dilution number at 25°C.
- (6) For the purposes of paragraph (5)–
- “limit of detection” is to be calculated as:
- (a) three times the relative within batch standard deviation of a natural sample containing a low concentration of the parameter; or
  - (b) five times the relative within batch standard deviation of a blank sample;
- “precision” (the random error) is to be calculated as twice the standard deviation (within a batch and between batches) of the spread of result about the mean; and
- “trueness” (the systematic error) is to be calculated as the difference between the mean value of the large number of repeated measurements and the true value.
- (7) Subject to paragraph (9), the Scottish Ministers may, on the application of any person, authorise a method of analysis other than that specified in paragraph (5)(a) (“the prescribed method”).
- (8) An application for the purpose of paragraph (7) shall be made in writing (or in electronic form acceptable to the Scottish Ministers) and shall be accompanied by–
- (a) a description of the method of analysis; and
  - (b) the results of the tests carried out to demonstrate the reliability of that method and its equivalence to the prescribed method.
- (9) The Scottish Ministers shall not authorise the use of the method proposed in the application 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 Scottish Ministers think fit.
- (11) The Scottish Ministers may at any time by notice in writing (or in electronic form) served on the water authority to whom an authorisation under paragraph (7) has been given revoke the authorisation, but no such notice shall be served later than 3 months before the date on which the revocation is stated to take effect.