

The Chemical Analysis of Water Status (Technical Specifications) (Scotland) (No. 2) Directions 2011

The Scottish Ministers, in exercise of the powers conferred by section 40(1) and (2) of the Environment Act 1995⁽¹⁾, section 2(6) of the Water Environment and Water Services (Scotland) Act 2003⁽²⁾ and of all other powers enabling them to do so, having consulted with SEPA in accordance with section 40(6) of the Environment Act 1995, give the following directions to SEPA.

They do so in connection with the implementation of Commission Directive 2009/90/EC of 31 July 2009 laying down, pursuant to Directive 2000/60/EC of the European Parliament and of the Council, technical specifications for chemical analysis and monitoring of water status.

Citation, commencement and extent

1.–(1) These Directions may be cited as the Chemical Analysis of Water Status (Technical Specifications) (Scotland) (No. 2) Directions 2011 and shall come into force on 24 June 2011.

(2) These Directions extend to Scotland only.

Interpretation

2.–(1) In these Directions, unless the context otherwise requires–

“limit of detection” means the output signal or concentration value above which it can be affirmed, with a stated level of confidence that a sample is different from a blank sample containing no determinand of interest;

“limit of quantification” means a stated multiple of the limit of detection at a concentration of the determinand that can reasonably be determined with an acceptable level of accuracy and precision. The limit of quantification can be calculated using an appropriate standard or sample, and may be obtained from the lowest calibration point on the calibration curve, excluding the blank;

“protected areas” has the same meaning as in section 7(3) of the 2003 Act;

“relevant territorial water” means so much of the territorial sea of the United Kingdom adjacent to Scotland as is not coastal water or transitional water;

“SEPA” means the Scottish Environment Protection Agency;

“the 2003 Act” means the Water Environment and Water Services (Scotland) Act 2003;

“the 2004 Regulations” means the Water Environment (Water Framework Directive) (Solway Tweed River Basin District) Regulations 2004⁽³⁾

(1) 1995 c.25. The functions of the Secretary of State were transferred to the Scottish Ministers by virtue of section 53 of the Scotland Act 1998(C.46).

(2) 2003 asp. 3

(3) S.I. 2004/99

“the Scotland River Basin District” means the river basin district designated under regulation 2(1) of the Water Environment and Water Services (Scotland) Act 2003 (Designation of Scotland River Basin District) Order 2003⁽⁴⁾;

“the Solway Tweed River Basin District” means the river basin district designated under regulation 3(1) of the 2004 Regulations;

“the Water Framework Directive” means Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000, establishing a framework for Community action in the field of water policy⁽⁵⁾; and

“uncertainty of measurement” means a non-negative parameter characterising the dispersion of the quantity values being attributed to a measurand, based on the information used.

(2) Unless otherwise defined in these Directions, words and expressions used in these Directions shall have the same meaning as they do in the 2003 Act and, where undefined in the 2003 Act, they shall have the same meaning in these Directions as they do in the Water Framework Directive.

Application of these Directions

3. These Directions apply when SEPA is-

(a) monitoring or arranging for the monitoring of the status of the water environment in-

(i) the Scotland River Basin District (or relevant territorial water adjacent to that district) in accordance with section 8 of the 2003 Act;

(ii) the Solway Tweed River Basin District (or relevant territorial water adjacent to that district) in accordance with regulation 4 of, and paragraph 5 of Schedule 1 to, the 2004 Regulations; or

(iii) protected areas; or

(b) analysing, or securing the analysis of, the information obtained under paragraph (a).

Methods of Analysis

4. Where these Directions apply, SEPA must ensure that all methods of analysis, including laboratory, field and on-line methods, used for the purposes of chemical monitoring programmes carried out under-

(a) section 8 of the 2003 Act; or

(b) regulation 4 of, and paragraph 5 of Schedule 1 to, the 2004 Regulations;

are validated and documented in accordance with EN ISO/IEC-17025 standard⁽⁶⁾ or other equivalent standards accepted at international level.

(4) S.S.I. 2003/610

(5) O.J. No. L 327, 22/12/2000, p.1

(6) ISO/IEC 17025:2005 General requirements for the competence of testing and calibration laboratories. Published by the International Organization for Standardization (www.iso.org).

Minimum performance criteria for methods of analysis

5. Where these Directions apply, SEPA must ensure that-

(a) the minimum performance criteria for all methods of analysis applied are based on an uncertainty of measurement of 50% or below ($k = 2$) estimated at the level of relevant environmental quality standards and a limit of quantification equal or below a value of 30% of the relevant environmental quality standards; and

(b) in the absence of a relevant environmental quality standard for a given parameter, or in the absence of a method of analysis meeting the minimum performance criteria set out in paragraph (a), monitoring is carried out using best available techniques not entailing excessive costs.

Calculation of mean values

6. Where these Directions apply, SEPA must ensure that-

(a) subject to paragraph (c), where the amounts of physico-chemical measurands in a given sample are below the limit of quantification, the measurement results shall be set to half of the value of the limit of quantification concerned for the calculation of mean values;

(b) where a calculated mean value of the measurement results referred to in paragraph (a) is below the limits of quantification, the value shall be referred to as "less than the limit of quantification";

(c) where measurands are total sums of a given group of physico-chemical parameters or chemical measurands (including their relevant metabolites, degradation and reaction products), paragraph (a) shall not apply and results below the limit of quantification of the individual substances shall be set to zero.

Quality Assurance and Control

7. Where these Directions apply, SEPA must ensure that-

(a) it and any parties contracted by it apply quality management system practices in accordance with EN ISO/IEC-17025⁽⁷⁾ or other equivalent standards accepted at international level;

(b) it and any parties contracted by it demonstrate their competences in analysing relevant physico-chemical or chemical measurands by:

(i) participation in proficiency testing programmes covering the methods of analysis referred to in Direction 4 of measurands at levels of concentrations that are representative of chemical monitoring programmes carried out under the 2003 Act,

(7) ISO/IEC 17025:2005 General requirements for the competence of testing and calibration laboratories. Published by the International Organization for Standardization (www.iso.org).

(ii) analysis of available reference materials that are representative of collected samples which contain appropriate levels of concentrations in relation to relevant environmental quality standards referred to in Direction 5(a);

(c) the proficiency testing programmes referred to in paragraph 7(b)(i) shall be organised by accredited organisations or internationally or nationally recognised organisations which meet the requirements of ISO/IEC guide 43-1⁽⁸⁾ or of other equivalent standards accepted at international level;

(d) the results of participation in the proficiency testing programmes referred to in paragraph 7(b)(i) shall be evaluated on the basis of the scoring systems set out in ISO/IEC guide 43-1⁽⁹⁾ or in the ISO-13528 standard⁽¹⁰⁾ or in other equivalent standards accepted at international level.

Revocation

8. The Chemical Analysis of Water Status (Technical Specifications) (Scotland) Directions 2011 are revoked.

These Directions are subscribed as follows:

They are signed by Ian Mitchell)

Head of Environmental Quality Division

Rural and Environment Directorate

At Edinburgh on 17 June 2011

Before this witness:

Derek Wilson (signature of witness)

Derek Wilson (full name of witness)

Scottish Government, Rural Environment Directorate

Victoria Quay

Edinburgh EH6 6QQ

(address of witness)

(8) ISO/IEC Guide 43-1 Proficiency testing by interlaboratory comparison Part 1: Development and operation of proficiency testing schemes. Published by the International Organization for Standardization (www.iso.org).

(9) ISO/IEC Guide 43-1 Proficiency testing by interlaboratory comparison Part 1: Development and operation of proficiency testing schemes. Published by the International Organization for Standardization (www.iso.org).

(10) ISO 13528:2005. Statistical methods for use in proficiency testing by interlaboratory comparisons. Published by the International Organization for Standardization (www.iso.org).