

The Chemical Analysis of Water Status (Technical Specifications) Directions 2011

These Directions are given in exercise of the powers conferred by section 40(2)(a) of the Environment Act 1995(a)—

- (a) concurrently in relation to England and Wales, by the Secretary of State and the Welsh Ministers, with the agreement of the Secretary of State to the extent that there is effect in England or those parts of Wales that are within the catchment areas of the rivers Dee, Wye and Severn, having consulted the Environment Agency; and
- (b) by the Secretary of State as regards Scotland,

for the implementation of Commission Directive 2009/90 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(b):

Citation and commencement

1. These Directions—

- (a) may be cited as the Chemical Analysis of Water Status (Technical Specifications) Directions 2011; and
- (b) come into force on 20th August 2011.

Interpretation

2.—(1) In these Directions—

“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;

“the Regulations” means—

- (a) regulation 9 of the Water Environment (Water Framework Directive) (England and Wales) Regulations 2003(c);
- (b) regulation 9 of the Water Environment (Water Framework Directive) (England and Wales) Regulations 2003 as applied by regulation 5 of the Water Environment (Water Framework Directive) (Northumbria River Basin District) Regulations 2003(d); or

(a) 1995 c. 25; by the National Assembly for Wales (Transfer of Functions) Order 1999 (S.I. 1999/672), article 2 and Schedule 1, the functions under section 40 of the Environment Act 1995 are exercisable by the Secretary of State and the National Assembly for Wales concurrently in relation to the Environment Agency as a cross border body. The functions of the National Assembly for Wales are now exercisable by the Welsh Ministers by virtue of section 162 of, and paragraph 30 of Schedule 11 to, the Government of Wales Act 2006 (c. 32). The Welsh Ministers may exercise these functions only with the agreement of the Secretary of State where such exercise would have an effect in England or where the exercise of the functions relates to matters including control of pollution of water resources, water resources management, or rivers or other watercourses, in those parts of Wales which are within the catchment areas of the rivers Dee, Wye or Severn. The powers of the Secretary of State in relation to Scotland are transferred to the Scottish Ministers by section 53 of the Scotland Act 1998 (c. 46), however under section 57 of that Act the Secretary of State retains those powers as regards Scotland for the purposes of implementing EU obligations.

(b) O.J. No. L201, 1.8.2009, p.36.

(c) S.I. 2003/3242.

(d) S.I. 2003/3245.

- (c) in so far as it applies to England, the requirement in regulation 4 of the Water Environment (Water Framework Directive) (Solway Tweed River Basin District) Regulations 2004(a) to establish programmes for monitoring water status and take other necessary action as required by paragraph 5 of Schedule 1 to those regulations; and

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

(2) Words and expressions used in these Directions have the same meaning as they do in 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(b).

Application of these Directions

3. These Directions apply when the Agency(c) is—

- (a) monitoring or arranging for the monitoring of water status in accordance with the Regulations; and
- (b) analysing, or arranging for the analysis of, the information obtained under subparagraph (a).

Methods of Analysis

4. The Agency 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 the Regulations are validated and documented in accordance with EN ISO/IEC-17025 standard(d) or other equivalent standards accepted at international level.

Minimum performance criteria for methods of analysis

5. The Agency 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 subparagraph (a), monitoring is carried out using best available techniques not entailing excessive costs.

Calculation of mean values

6.—(1) The Agency must ensure that—

- (a) subject to subparagraph (2), where the amounts of physico-chemical or chemical measurands in a given sample are below the limit of quantification, the measurement results are set to half of the value of the limit of quantification concerned for the calculation of mean values; and
- (b) where a calculated mean value of the measurement results referred to in subparagraph 1(a) is below the limits of quantification, the value is referred to as “less than limit of quantification”.

(a) S.I. 2004/99.

(b) O.J. No. L327, 22.12.2000, p.1.

(c) The definition of “the Agency” is the same as in section 1 of the Environment Act 1995.

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

(2) Where measurands are total sums of a given group of physico-chemical parameters or chemical measurands (including their relevant metabolites, degradation and reaction products), subparagraph (1) does not apply and results below the limit of quantification of the individual substances must be set by the Agency to zero.

Quality Assurance and Control

7. The Agency must ensure that—

- (a) it and any persons under contract with it applies quality management system practices in accordance with EN ISO/IEC-17025 or other equivalent standards accepted at international level;
- (b) it and any persons under contract with it demonstrate their competence in analysing relevant physico-chemical or chemical measurands by—
 - (i) participation in proficiency testing programmes covering the methods of analysis referred to in paragraph 4 of measurands at levels of concentrations that are representative of chemical monitoring programmes carried out under the Regulations; and
 - (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 paragraph 5(a);
- (c) the proficiency testing programmes referred to in paragraph 7(b)(i) are organised by accredited organisations or internationally or nationally recognised organisations which meet the requirements of ISO/IEC guide 43-1(a) or of other equivalent standards at international level; and
- (d) the results of participation in the proficiency testing programmes referred to in paragraph 7(b)(i) are evaluated on the basis of the scoring systems set out in ISO/IEC guide 43-1 or in the ISO-13528 standard(b) or in other equivalent standards accepted at international level.

Signed by Chris Ryder

A Senior Civil Servant in the Department for Environment, Food and Rural Affairs,
for and on behalf of the Secretary of State for Environment, Food and Rural Affairs

20th July 2011

Signed by Claire Bennett,

Deputy Director: Climate Change and Water

under authority of the Minister for Environment and Sustainable Development,
one of the Welsh Ministers

20th July 2011

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

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

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