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DIRECTORATE-GENERAL  
ENVIRONMENT

Directorate D - Water, Chemicals & Cohesion  
**ENV.D.2 - Water and Marine**

Brussels, 03 April 2007  
**M/424 EN**

## **MANDATE FOR STANDARDISATION ADDRESSED TO CEN**

**FOR**

## **THE DEVELOPMENT OR IMPROVEMENT OF STANDARDS IN SUPPORT OF THE WATER FRAMEWORK DIRECTIVE**

### **I. MOTIVATION**

The objective of this Mandate is to develop European standards in support of the ecological and chemical status monitoring requirements of the Water Framework Directive 2000/60/EC (WFD), following the design of the monitoring programmes carried out and reported by the Member States in March 2007.

The effectiveness of these monitoring programmes, and hence of the overall Directive implementation, will highly depend on the ability of Member States laboratories to measure in a comparable way the chemical and ecological status of Community waters and changes of this status. Measurement data of known quality will, therefore, represent the foundation of the water quality evaluation system (and compliance requirements), on the basis of which decisions will be taken on the programme of measures required to achieve WFD environmental objectives by the end of 2015.

WFD monitoring requirements are established under its Article 8 and detailed in its Annex V. The complexity of the expected tasks has led the Commission to consider developing guidelines with Member States experts and stakeholders (including representatives of CEN and scientific experts) in the framework of the Common Implementation Strategy (CIS). This resulted, in particular, in the endorsement by the EU Water Directors of a general monitoring guidance document in 2003<sup>1</sup> and more specific guidelines on chemical monitoring of groundwater<sup>2</sup> and surface waters<sup>3</sup>. Eco-

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<sup>1</sup> CIS Guidance document N°7, monitoring under the Water Framework Directive, 2003

<sup>2</sup> CIS Guidance document N°15, groundwater monitoring, 2006

logical status monitoring has also been subject to exchanges among Member States experts and the Commission<sup>4</sup>.

Standardisation needs have been highlighted at various occasions over the last three years in the framework of bilateral discussions among the Commission (DG Environment, Water & Marine Unit) and CEN/TC 230. This has led to an agreement on a *modus operandi* including links with *ad hoc* CIS expert groups (on ecological status or ECOSTAT, groundwater and chemical monitoring or CMA) regarding technical exchanges, and consultation of the WFD Regulatory Committee (under Article 21) for confirming that identified needs are indeed recognised by Member States<sup>5</sup>.

In addition, a Commission Decision is currently being developed to set up technical specifications for chemical monitoring and quality of analytical results in accordance with the WFD<sup>6</sup>. This decision establishes minimum performance criteria for methods of analysis to be applied by Member States when monitoring water status, sediment and biota, as well as rules for demonstrating the quality of analytical results.

The legal basis for developing guidance documents and legally-binding texts refers to Article 8, paragraph 3, of the WFD, namely that: "Technical specifications and standardised methods of analysis and monitoring of water status shall be laid down in accordance with the procedure laid down in Article 21"<sup>7</sup>. This is further strengthened by requirements of paragraph 1.3.6 "Standards for monitoring of quality elements" of Annex V.

## II. DESCRIPTION OF THE MANDATED WORK

This Mandate considers different technical developments supporting the above described WFD monitoring requirements, namely:

- Pre- and co-normative research;
- Revision and adoption of existing standards according to the WFD requirements;
- Development of standards not available at this point in time;
- (Re-) Validation of standard methods by laboratory intercomparisons as laid down in ISO 5725 and possible adjustments prior to their adoption;

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<sup>3</sup> CIS Guidance document, surface water monitoring, interim version, 2006

<sup>4</sup> REBECCA project 'Relationships between ecological and chemical status of surface waters', 6<sup>th</sup> Framework Programme, contract no: 502158

<sup>5</sup> WFD Common Implementation Strategy, *modus operandi* on standardisation

<sup>6</sup> Draft Commission decision adopting technical specifications for chemical monitoring and quality of analytical results in accordance with Directive 2000/60/EC of the European Parliament and Council

<sup>7</sup> This article corresponds to the comitology procedure in place in the WFD framework.

Parameters to be considered in this Mandate are selected according to their relevance to WFD monitoring programmes related to ecological and chemical status and according to a gap analysis conducted by CMA, ECOSTAT and CEN/TC 230.

### **III. EXECUTION OF THE MANDATE**

The European Commission entrusts CEN to develop standards as described in the Annex.

CEN will provide the Commission with a detailed work programme and a timetable for the adoption of the standards needed within 3 months of the acceptance of the mandate. The European standards will have to be adopted by the dates in the work programme, but in any case no longer than 3 years from submission of the work programme.

As appropriate, CEN will invite the representative organisations of consumers interests (ANEC<sup>8</sup>), environmental protection (ECOS<sup>9</sup>), workers (ETUI-REHS<sup>10</sup>), small and medium-size enterprises (NORMAPME<sup>11</sup>).

The Commission's Joint Research Centre shall act as technical liaison to CEN. More specifically, the JRC will accompany the standardisation process by providing active support to the various standardisation phases, and advise on the technical execution of the experimental works.

CEN will keep the Commission informed at least twice a year through the ECOSTAT and CMA groups, following the submission of the work programme, of the measures taken to execute this mandate and of any difficulties which arise in the process.

The standards shall be developed in accordance with the requirements as stated in the Annexes. To the extent possible, existing standards should be taken into consideration.

Within the overall framework of this Mandate, the Commission services, with the appropriate consultation of the Committee set up pursuant to Article 5 of Directive 98/34/EC (OJ L 217, 5.8.1998, p. 18) may invite CEN to modify the Annexes in order to ensure that the work to be carried out reflects currently identified standardisation needs as well as technical possibilities determined by research work. These changes to the Annexes shall also be made with respect to the timeliness of the delivery of draft texts in the form of prENs.

Collaborative studies, based on reference materials and/or field trials as appropriate, performed in connection with validation and re-evaluation of the methods contained

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<sup>8</sup> European Association for the Coordination of Consumer Representation in Standardisation

<sup>9</sup> European Environmental Citizens Organisations for Standardisation

<sup>10</sup> European Trade Union Institute – Research, Education, Health and Safety

<sup>11</sup> European Office of Crafts, Trades and Small and Medium-Sized Enterprises for Standardisation

in the draft texts are considered an integrated part of the mandate and shall be carried out before transmission to CEN in the form of prENs.

CEN shall send to the Commission, within three months of their adoption, the standards in three linguistic versions (English, French and German) and the titles of these standards in the other languages of the European Union. This information shall be submitted on paper and electronic support.

The standstill period referred to in Article 7 of Directive 98/34/EC (OJ L 204, 21.7.1998, p. 37) shall commence when CEN accepts this standardisation Mandate.

#### **IV. ANNEX**

The Annex forms an integral part of this Mandate.

## ANNEX

This Mandate considers different technical developments supporting the above described WFD monitoring requirements, namely:

- Development of draft standards not available at this point in time.
- Validation of these draft standard methods including ruggedness testing and precision assessment according to ISO 5725 as well as possible adjustments prior to their adoption;

Parameters to be considered in this Mandate are selected according to their relevance to WFD monitoring programmes related to ecological and chemical status.

Projects	Deliverable	Time estimation / remarks	Revision  Ring tests or in-vivo comparative studies
<p><b><u>Organochlorine pesticides:</u></b> The method should describe a procedure for the analysis of the organochlorine pesticides including alachlor, endosulfan, hexachlorobenzene, hexachlorocyclohexane isomers, pentachlorobenzene, DDT and metabolites, aldrin, dieldrin, endrin, and isodrin in whole water samples using GC-MS. The method should enable the analysis of samples containing up to 0.5 g/L of suspended solids. The method should be developed and tested for ruggedness by an appropriate expert lab prior to validation by international intercomparison according to ISO 5725. <u>Co-normative research</u></p>	<p>European Standard (EN) Method fulfilling performance criteria linked to EQS set up by the PS Directive.</p>	<p>36 months  (including the interlaboratory trial)</p>	<p>12 months</p>
<p><b><u>Pentabromodiphenylethers:</u></b> The method should describe a procedure for the analysis of congeners representative for the technical pentabromodiphenylether formulation including BDE28, BDE47, BDE99, BDE100, BDE153, and BDE154 in whole water samples using GC-MS or GC-ECNI-MS. The method should enable the analysis of samples containing up to 0.5 g/L of suspended solids. It should be developed and tested for ruggedness by an appropriate expert lab prior to validation by international intercomparison according to ISO 5725.</p> <p><u>Prenormative research</u></p>	<p>European Standard (EN) Method fulfilling performance criteria linked to EQS set up by the PS Directive.</p>	<p>36 months  (including the interlaboratory trial)</p>	<p>12 months</p>

<p><b><u>Tributyltin compounds:</u></b> The method should describe a procedure for the analysis of TBT in whole water samples using GC-MS or GC-AED. The method should enable the analysis of samples containing up to 0.5 g/L of suspended solids. High-volume water sampling to enhance sensitivity of the method should be considered.</p> <p><u>Prenormative research</u></p>	<p>European Standard (EN) Method fulfilling performance criteria linked to EQS set up by the PS Directive.</p>	<p>36 months (including the interlaboratory trial)</p>	<p>12 months</p>
<p><b><u>Chloroalkanes:</u></b> The various options for the analysis of SCCPs including several clean-up and detection techniques as well as calibration protocols should be thoroughly compared and evaluated. On the basis of the outcome of this work a proposal should be made on how to proceed to come to a standardised method for the analysis of SCCPs in whole water samples. The option to develop an operationally defined parameter as a surrogate for SCCP should be considered. The method should enable the analysis of samples containing up to 0.5 g/L of suspended solids.</p> <p><u>Prenormative research</u></p>	<p>European Standard (EN) Method fulfilling performance criteria linked to EQS set up by the PS Directive.</p>	<p>36 months (including the interlaboratory trial)</p>	<p>12 months</p>
<p><b><u>Polycyclic Aromatic Hydrocarbons:</u></b> The method should describe a procedure for the analysis of PAHs including anthracene, fluoranthene, benzo(a)pyrene, benzo(k)fluoranthene, benzo(b)fluoranthene, indeno(1,2,3-cd)pyrene and benzo(ghi)perylene in whole water samples using GC-MS. The method should enable the analysis of samples containing up to 0.5 g/L of suspended solids. The method should be developed and tested for ruggedness by an appropriate expert lab prior to validation by international intercomparison according to ISO 5725. The ISO/CD 28540 might be a vantage point for further method development</p> <p><u>Co-normative research</u></p>	<p>European Standard (EN) Method fulfilling performance criteria linked to EQS set up by the PS Directive.</p>	<p>36 months (including the interlaboratory trial)</p>	<p>12 months</p>
<p><b><u>Phytoplankton sampling (inland waters):</u></b> These methods should describe the procedures for sampling phytoplankton for the purpose of water quality assessment and determination of ecological status as it is required by the WFD. Both need to take into account water category</p>	<p>European Standard (ENs) Methods</p>	<p>36 months (including the interlaboratory trial)</p>	<p>24 months</p>

<p>type specific features; it should enable the estimation of taxonomic composition, abundance and biomass with the Directive's requirements for precision and comparability of the Member States biological monitoring results. They should include description of sampling strategy, selection of sampling sites (numbers and location), sampling depth, time and frequency of sampling, size of samples and type of sampling gear, recommendation for sampling techniques for qualitative and quantitative sampling and preservation of samples. <u>Co-normative research</u></p>			
<p><b><u>Guidance on the estimation of algal biovolume:</u></b> The methods should describe the microscopic technique for measurement of algae cell dimensions for the estimation of phytoplankton biovolume. The method should be applicable to freshwaters and marine phytoplankton and should describe the microscopy technique for measurement of cell biovolume of different phytoplankton taxa including single cells, complex cells shapes and colonies, calculation of biovolume and quality assurance procedure. <u>Co-normative research</u></p>	<p>European Standard (ENs) Methods</p>	<p>36 months (including the interlaboratory trial)</p>	<p>24 months</p>
<p><b><u>Fish sampling:</u></b> In 2006 consultations, it was identified the need for fish method(s). Some member states demonstrated some reservation regarding the existing CEN methods mainly because of problems related to fish kill and application in only specific types, hence a hydroacoustic approach</p> <p><u>Co-normative research</u></p>	<p>European Standard (ENs) Methods</p>	<p>36 months (including the interlaboratory trial)</p>	<p>24 months</p>