RESEARCH AND STANDARDISATION

RESPONSE FORM for Standardisation groups To contribute to *EMPIR - the European Metrology Programme for Innovation and Research* *

Objective: to collect standardization needs and suggestions to develop research projects in testing and measurements for the upcoming EMPIR calls in 2020

In the frame of the between CEN, CENELEC and EURAMET, CEN and CENELEC have been invited by the EURAMET Management to put forward their **testing and measurement needs in research** for consideration by metrology institutes for future calls under EMPIR.

Relevant technical groups (sector fora, advisory boards, coordination groups, TCs, WGs...) **are invited to contribute with**

- a short introduction or an overview paper of their unaddressed standardization needs for testing and measurement, and
- a contact person (secretary, chair, convenor, liaison officer, etc.) whom proposers for the Potential Research Topics can contact,

by using this Response Form and send it at :

STAIR EMPIR secretariat, Mr Ortwin Costenoble: empir@nen.nl

Deadline for the consultation: **13 December 2019**.
Proof of need by the TC/SC is highly recommended for a successful submission.

Source of the identified need (identification of TC, WG, etc, incl. title)	☒ CEN/TC 264 Task Force Emissions and WG16, WG15
European entity responsible for submission of the need	CEN/TC 264 'Air Quality'
Person that can be contacted for more detail	Rudolf Neuroth Neuroth@vdi.de +49 211 6214-544 Germany
Unaddressed need (short description)	Developing understanding of the metrological performance of the reference methods used to provide traceability for reported emissions data. The need is to enable the continued cost effective monitoring of emissions as regulations become tighter and abatement best practice is implemented. • Improved understanding of the behaviour of the uncertainty of emission measurement methods as they approach zero concentration and provide evidence-based recommendations for use of fixed absolute uncertainty levels below critical thresholds.

	• Understanding of the potential impact of moving from the use of Limit of Detection and Limit of Quantification based performance assessment to measurement uncertainty based approaches. o Undertake laboratory and uncertainty assessment of the different cases – instrumental methods, sampling and analysis of single species and sampling and analysis of multiple species such as metals and PAHs/dioxins. o Provide common methodology to support move to uncertainty based (GUM) approach • Assessment of uncertainty and development of best practice for the summation of zeros / non-detect values and contribution of other sources of uncertainty such as sampling and provide guidance and common approach on the use of field blank data for low concentration measurements, based on experimental studies and theoretical assessment.
Further explanation of need (TC business plan, road map, formal decision, work item, etc.)	TC 264 has identified through discussions held in its Task Force Emissions, and from external inputs and liaisons with the Best Available Technique development process at JRC Seville that there are issues with the performance of the reference methods as emissions are reduced and regulations tightened. The reference methods provide the calibration mechanism for all reported emissions data within Europe, and it is therefore critical that the metrological performance of these methods is well understood and, if necessary, improved. One of the most significant issues is the problem of measuring extremely low emission levels. Regulations from the main point sources, controlled under the Industrial Emissions Directive (IED) and associated Best Available Technique Reference (BREF) documents are based on the control of concentration levels in emission stacks. As these levels are reduced the challenge is to measure these with acceptable uncertainty in a cost effective way. Industry and regulators need support to establish harmonised reporting of uncertainties under the IED and verification of the Associated Emissions Limits (AELs) that are linked to the techniques given in the BREFs and used for emission permits. It is often assumed that the uncertainty of the measurements reduces linearly with the measured value, however, at low concentrations this has been shown not to be the case [Ineris Study Report DRC-17-168319-02463B]. This is an immediate need as the BREFS are currently being implemented by regulators and industries in member states.
Enclosures	☐ Yes ☒ No

*See **more information at** **EMPIR website**
CEN/CENELEC website "Standards and metrology"