

Third IMPRESS newsletter

Introduction

This is the third newsletter of the EMRP project “Metrology to underpin future regulation of industrial emissions” (IMPRESS), which aims to improve the technical possibilities to monitor emissions of pollutants to air to ensure compliance with EU directives and national legislation. This is key to enforcing emission limits and thereby enabling their reduction and control.

Industry needs to measure and report emissions for regulatory purposes including assessing stack emissions against concentration limit values, reporting annual mass emissions, and determining emissions of GHGs from area sources. In June 2014 a 3 Mio € project started within the European Metrology Research Programme for a three year period to investigate industrial emission measurements. It encompasses a multitude of national metrology institutes (NMI), universities and other stakeholders. Collaborators are welcome to link themselves to the project.

Project news

IMPRESS project partners NPL and Chalmers joined recent field measurement campaigns. One field trial was carried out at the Centre for Dairy Research (CEDAR) at University of Reading, UK, where NPL participated and a further trial in California, USA, where both partners have taken part. The later involved an intercomparison of two DIALS, two OP-FTIR, and a Chalmers SOF facility.

Research highlights

“Testing equivalency of an alternative method based on portable FTIR to the European Standard Reference Methods for monitoring emissions to air of CO, NO_x, SO₂, HCl and H₂O”

Journal of the Air & Waste Management Association, 65:8 (2015) 1011-1019.

A paper was recently published in the Journal of the Air and Waste Management Association summarising work comparing the equivalency of FTIR to the European Standard Reference Methods for monitoring emissions to air of CO, NO_x, SO₂, HCl and H₂O. This paper has provided national regulators with the necessary evidence base to permit the use of portable FTIR for regulatory monitoring of emissions to air enforcing increasingly stringent emission limits under the Industrial Emissions Directive (EU/2010/75). Before a technology can be used for regulatory monitoring a method must be written in order to provide QA/QC of the operation of the technology. It must then be demonstrated that the proposed new technique / method can produce data equivalent to the applicable Standard Reference Method(s) in accordance with CEN / TS 14793. If all requirements are satisfied the national regulatory authority is then in a position to permit the use of the proposed technique / method for enforcement of national legislation compliant with directives such as EU/2010/75. This work was carried out at NPL utilizing the Stack Simulator Facility and involved accredited UK stack testing organisations, instrument manufacturers and a national regulator.

Standardisation activities

Recently the IMPRESS project has contributed to the following CEN working group activities by providing funding for convenorship and / or leadership of various sub-tasks:

- CEN / TC264 / WG16 Reference measurement methods for NO_x, SO₂, O₂, CO and water vapour emissions. 12th & 13th Nov 2015, AFNOR, Paris
- CEN / TC264 / WG16 Reference measurement methods for NO_x, SO₂, O₂, CO and water vapour emissions, 11th / 12th Sep 2014, ISPRA, Rome

Dissemination activities

Recently work under IMPRESS has been disseminated at the following fora:

PEFTEC 2015, International Conference, Exhibition and Workshop on Petroleum, Refining and Environmental Monitoring Technologies, Antwerp, Belgium, 18th - 19th November 2015,

- *The Development of Methods for the Measurement of Fugitive Emissions in the Petrochemical Industry*
- *The Application of Differential Absorption Lidar (DIAL) for Pollutant Emissions Monitoring*

CIM 2015 Conference Proceedings paper, *Metrology to underpin future regulation of industrial emissions*.

http://cfmetrologie.edpsciences.org/articles/metrology/abs/2015/01/metrology_metr2015_07008/metrology_metr2015_07008.html

Contact and further information

Every 6 months a newsletter of the project will be distributed. Please forward this newsletter to your colleagues. They can send an email to any of the project's representatives with subject "register IMPRESS newsletter" to register for this 6-monthly newsletter.

Additional information on IMPRESS and the partners can be found on the project homepage <http://projects.npl.co.uk/impres/>.

The IMPRESS project is carried out by the following partners / institutions:

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VSL B.V. (**VSL**), The Netherlands / Contact: evuelban/at/vsl.nl

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Český metrologický institut Brno (**CMI**), Czech Republic / Contact: jgersl/at/cmi.cz

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