



ISO/TC 197
Hydrogen technologies

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Liaison Report TC 158 2015 12

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Liaison report, work programme and list of documents: ISO/TC 158 'Analysis of gases'

by Sui Wan (secretary ISO/TC 158)

Liaison report

The last plenary meeting of ISO/TC 158 took place at BSI, London, in November 2014, combined with a cluster of working group meetings. Other cluster of working group meetings took place at VSL, on 8 and 9 June 2015.

Several standards have been published in 2015:

- ISO 7504 *Gas analysis – Vocabulary* (3rd edition)
- ISO 6142-1 *Gas analysis – Preparation of calibration gas mixtures – Gravimetric methods – Part 1: Gravimetric method for Class I mixtures* (3rd edition)
- ISO 19229 *Gas analysis – Purity analysis and the treatment of purity data* (1st edition)
- ISO 6141 *Gas analysis – Requirements on certificates for calibration gases and gas mixtures* (4th edition)

The following developments can be reported since our 2014 liaison report:

- The proposal to revise ISO/TS 14167 *Gas analysis – General quality aspects in the use of calibration gas mixtures – Guidelines* and publish the new document as ISO 14167 *Gas analysis – General quality aspects and metrological traceability of calibration gas mixtures* is still under development.
- The proposal ISO/NP 21087 *Hydrogen fuel -- Analytical methods -- Proton exchange membrane (PEM) fuel cell applications for road vehicles*, is currently under ballot. The standard is to be developed in a JWG between ISO/TC 158 and ISO/TC 197.
- The revision of ISO 6142 *Gas analysis – Preparation of calibration gas mixtures – Gravimetric methods* will result in two parts. *Part 1: Gravimetric method for Class I mixtures* and *Part 2: Gravimetric method for Class II mixtures*. Part 1 is the real revision of ISO 6142 and part 2 can be considered an extension of the scope. Part 1 is expected to be published in August 2015. Also a third draft of Part 2 is available and will be further worked on.
- The new project ISO 12963 *Gas analysis – Comparison methods for the determination of the composition of gas mixtures based on one- and two-point calibration* was first cancelled and then reactivated via an NWIP ballot. A fourth CD version has been discussed and the results will be taken into account when preparing the version for the DISballot to be submitted by the end of 2015.
- The proposal for a new multipart standard ISO 19230 *Gas analysis – Sampling guidelines* has been further elaborated. A second draft for *Part 1: General* has been discussed and the comments will be considered to prepare a new draft that will be used for the NWIP ballot. A first draft for *Part 2: Compressed gas sampling guidelines* has been discussed and the next step is to check whether ISO 16664 already covers certain aspects intended to be included in part 2.
- The proposal to revise ISO 6145-1 *Gas analysis – Preparation of calibration gas mixtures using dynamic methods – Part 1: Methods of calibration* showed some delay due to priority that is given to ISO 6145-6. An updated draft will be prepared that can be used for the NWIP ballot.
- ISO 6145-6 *Gas analysis – Preparation of calibration gas mixtures using dynamic methods – Part 6: Critical flow orifices* also shows some delay due to discussion concerning the use of 'ideal gas' calculations. A 9 months extension is requested. A CD will be prepared to collect comments from all ISO/TC 158 members.
- It has been agreed to revise ISO 6145-7 *Gas analysis – Preparation of calibration gas mixtures using dynamic volumetric methods – Part 7: Thermal mass-flow controllers*. The main reason for revision is to align this part 7 with ISO 6145-2 and to correct the errors identified in the formulae.

The next cluster of working group meetings will take place at AFNOR, Saint-Denis on 14 and 15 December 2015 and the next plenary meeting of ISO/TC 158 will take place in the second quarter of 2016.

From 10 through 12 June 2015, ISO/TC 158 and NEN organized the eight International Gas Analysis Symposium & Exhibition (GAS2015) in Rotterdam, the Netherlands. This unique gas analysis event on calibration gases, equipment and optimization of industrial processes combined science, standardization and practical analytical techniques, attracted over two hundred experts from thirty countries all over the world. GAS2017 will be organized from 14 through 16 June 2015 and take place at World Trade Centre Rotterdam. ISO/TC 146 members are invited to submit abstracts for lectures and poster presentations once the call is open.

Work programme

WG 1 Terminology

WG 1 has no active work items.

WG 2 Quality assurance of gas analysis

Project **ISO/PWI 14167**
Title **Gas analysis – General quality aspects and metrological traceability of calibration gas mixtures**
Status Revision of ISO/TS 14167:2003, *NWIP under ballot*

WG 3 Gravimetric methods

Project **ISO/PWI 6142-2**
Title **Gas analysis – Preparation of calibration gas mixtures – Part 2: Gravimetric method for Class II mixtures**
Status New standard, *Proposal for new project received*

Project **ISO/NP 21087**
Title **Hydrogen fuel -- Analytical methods -- Proton exchange membrane (PEM) fuel cell applications for road vehicles**
Status New standard, *New project ballot initiated*

WG 4 Comparison methods and certificates

Number **ISO/CD 12963.4**
Title **Gas analysis – Comparison methods for the determination of the composition of gas mixtures based on one- and two-point calibration**
Status New standard; *Project reactivated; DIS document under preparation*

Number **ISO/PWI 13280**
Title **Gas analysis – Specification of performance characteristics of gas analyzers**
Status New standard; *PWI automatically cancelled by ISO/CS; DIN standard under translation to be used as starting document; project might be added to work programme again*

Number **ISO/PWI 14912**
Title **Gas analysis – Conversion of gas mixture composition data**
Status Revision of ISO 14912:2003; *NWIP under preparation*

Number **ISO/PWI 16664**
Title **Gas analysis – Handling of calibration gases and gas mixtures – Guidelines**
Status Minor revision of ISO 16664:2004; *the revision is approved*

Number **ISO/PWI 19230**
Title **Gas analysis – Sampling guidelines**

Status New multipart standard; *NWIPs for Part 1: General and Part 2: Compressed gas sampling guidelines under preparation*

WG 5 Static and dynamic methods

Number **ISO/PWI 6145-1**
Title **Gas analysis – Preparation of calibration gas mixtures using dynamic methods – Part 1: Methods of calibration**
Status Revision of ISO 6145-1:2003; *NWIP under preparation*

Number **ISO/WD 6145-6**
Title **Gas analysis – Preparation of calibration gas mixtures using dynamic methods – Part 6: Critical flow orifices**
Status Revision of ISO 6145-6:2003; *committee draft under preparation; A 9 months extension is requested.*

Number **ISO/PWI 6145-7**
Title **Gas analysis – Preparation of calibration gas mixtures using dynamic methods – Part 7: Thermal mass-flow controllers**
Status Revision of ISO 6145-7:2009; *NWIP under preparation*

List of documents

N649 Announcement GAS2015
N650 Editorial mistakes ISO 6145-7 2009
N651 Table of comments ISO/DIS 19229 Ballot
N652 Table of comments ISO/DIS 6142-1
N653 Secretariat report ISO/TC 158
N654 WG 5 report Meeting
N655 WG 3 report Meeting
N656 Liaison report ISO TC 146 SC1
N657 WG 4 report Meeting
N658 Liaison report EIGA
N659 Liaison report ISO TC 146 SC 6
N660 Liaison report ISO TC 28
N661 Liaison report ISO TC 193
N662 Draft agenda meeting ISO/TC 158 meeting 2014 (replaces N 648)
N663 WG 2 report
N664 Liaison report ISO REMKO
N665 Result of voting ISO/FDIS 6141
N666 Resolutions meeting ISO/TC 158 meeting 2014
N667 Liaison report ISO TC 197
N668 Resolutions meeting ISO/TC 158 meeting 2014 -Version française
N669 CD JCGM 100 and JCGM 110 committee drafts
N670 Minutes meeting ISO/TC 158 meeting 2014
N671 Calling notice WG meetings 8-9 June 2015
N672 ISO/CD 12963.4
N673 Call for experts revision ISO 6145-7
N674 Input for rev ISO 14912 Ballot
N675 Result of voting ISO/FDIS 6142-1
N676 Result of voting ISO/CD 12963.4
N677 Result of voting Input for revision ISO 14912
N678 Reports ISOTC193 and TC193SC1 Milan2015
N679 Result of Call for experts revision ISO 6145-7
N680 Resolution by correspondence revision of ISO 16664
N681 New Work Item Proposal 14167
N682 New Work Item Proposal Hydrogen
N683 Calling notice CEN/TC 158 WG meeting December 2015

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Result systematic review ISO/TS 29041
Liaison report ISO/REMCO
Result of vote revision ISO 16664