



ISO/TC 197
Hydrogen technologies

Email of secretary: jim.ferrero@bnq.qc.ca
Secretariat: SCC (Canada)

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**Secretariat of ISO/TC 58/SC 3
Gas cylinders — Cylinder design**

Direct tel: +44 (0)20 8996 7146
E-mail: stephen.read@bsigroup.com
Web: www.bsigroup.com

ISO/TC 58/SC 3, *Gas Cylinders – Cylinder design*

**Liaison Report for the meeting of ISO/TC 197, *Hydrogen technologies*,
4th & 5th December 2014**

Extract from the draft report of the 2014 meeting of ISO/TC 58/SC 3

14 ISO/TC 197, Hydrogen technologies

14.1 Liaison report (N 1578)

On behalf of the Chairman of ISO/TC 197 Dr Barthélémy presented the liaison report. No issues were raised by the meeting.

14.2 Gaseous hydrogen – Cylinders and tubes for stationary storage

Dr Barthélémy advised the meeting that ISO/TC 197/WG 15, *Gaseous hydrogen – Cylinders and tubes for stationary storage* was scheduled to meet in December (just prior to the meeting of ISO/TC 197) to resolve the comments from the 2nd CD ballot of ISO 19884.

Separately the Chairman of ISO/TC 197 and ISO/TC 58/SC 3 had agreed that ISO 19884 would be limited to hydrogen.

The meeting acknowledged the opportunity presented by ISO/TC 197 to comment on drafts being developed by ISO/TC 197/WG 18 – *Gaseous hydrogen – Land vehicle fuel tanks*

The meeting decided that the most practical way to take up this opportunity was to appoint the secretary as a liaison member of ISO/TC 197/WG 18 with the objective of circulating ballot documents to ISO/TC 58/SC 3 with a request to comment.

The secretary would then submit the comment he had received to ISO/TC 197/WG 18 as *comments received from the national mirror committees of ISO/TC 58/SC 3*.

Resolution 056/2014

Resolution 056/2014

Subject: ISO/TC 197/WG 18

ISO/TC 58/SC 3: *Gas cylinders – Cylinder design*

Acknowledges;

- the opportunity to comment on drafts developed by ISO/TC 197/WG 18

Decides;

- to add the secretary to the membership of ISO/TC 197/WG 18 as a liaison member with the objective of circulating ballot documents to ISO/TC 58/SC 3 with a request to comment.
- the comments received by the secretary will be sent on to ISO/TC 197/WG 18 and entitled '*comments received from the national mirror committees of ISO/TC 58/SC 3*'. A copy will be circulated to ISO/TC 58/SC 3 for information

Voting

For: Austria, Canada, China, France, Germany, Japan, Korea, Italy, Norway, Sweden, UK, USA,

Against: South Africa

Abstain: Nil

Passed by majority

Work programme – Progress in the last 12 months

ISO standards published

ISO 11119-2:2012+A1:2014, Gas cylinders – Refillable composite gas cylinders and tubes – Design, construction and testing – Part 2: Fully-wrapped fibre reinforced composite gas cylinders and tubes up to 450 l with load-sharing metal liners

ISO 9809-4:2014, Gas cylinders – Refillable seamless steel gas cylinders – Design, construction and testing – Part 4: Stainless steel cylinders with Rm value of less than 1 100 MPa

Draft standards progressing to the FDIS stage

ISO 11120, Gas cylinders – Refillable seamless steel tubes for compressed gas transport, of water capacity between 150 l and 3000 l – Design construction and testing

ISO 21172-1, Gas cylinders – Welded steel pressure drums up to 3 000 litre capacity for the transport of gases – Design and construction – Part 1: Capacities up to 1 000 litres

Draft standards progressing to the DIS stage

ISO 11118, Gas cylinders – Non-refillable metallic gas cylinders – Specification and test methods

ISO 11119-4, Gas cylinders – Refillable composite gas cylinders and tubes – Design, construction and testing – Part 4: Fully wrapped fibre reinforced composite gas cylinders and tubes up to 450 l with load-sharing welded metallic liners

Draft standards progressing to the CD stage

ISO 17519, Gas Cylinders – Refillable permanently mounted composite tubes for transportation

**Resolutions passed by ISO/TC 58/SC 3
during the October 2014 meeting**

Resolution 042/2014

Subject: Working groups 21 & 25

ISO/TC 58/SC 3: *Gas cylinders – Cylinder design*

Acknowledges;

- that the following working groups have not been active for several years
 - WG 21; *Refillable welded steel gas cylinders*
 - WG 25; *Welded stainless steel cylinders*

Considers;

- the work assigned to these working groups as complete

Decides;

- to disband Working Groups 21 & 25

Unanimous

Resolution 043/2014

Subject: Working groups 18

ISO/TC 58/SC 3: *Gas cylinders – Cylinder design*

Acknowledges;

- that working group 18; *Welded aluminum alloy cylinders* has no active work items

Considers;

- the work of working group 18 as completed

Decides;

- to disband working group 18 if the systematic review of ISO 20703:2006, *Gas cylinders – Refillable welded aluminium-alloy cylinders – Design, construction and testing* (closing date 16th December 2014) results in the confirmation of the standard

Unanimous

Resolution 044/2014

Subject: Generic text for SC 3 standards

ISO/TC 58/SC 3: *Gas cylinders – Cylinder design*

Thanks;

- Dr Jubb for his work on the development of generic text for
 - The Introduction
 - Inspection and testing
 - Markingcirculated as document N 1576
- the ad-hoc working group which further developed the text

Decides;

- to instruct convenors to ensure that the following text is adopted in all new projects and future revisions of published design standards

Recommended texts

Introduction

ISO XXXXX is intended to be used under a variety of national and international regulatory regimes.. Where there is any conflict between this International Standard and any applicable regulation, the regulation always takes precedence.

In standards written for referencing in the UN Model Regulations the following sentence shall be added.

This standard has been written so that it is suitable to be referenced in the UN Model Regulations [1].

Inspection and testing

Evaluation of conformity shall be carried out in accordance with the applicable regulations of the countries of use.

To ensure that the [products] conform to this International Standard, they shall be subject to inspection and testing in accordance with Clauses X, Y and Z by an inspection body, hereafter referred to as the “Inspector”, authorized to do so.

Equipment used for measurement, testing and examination during production shall be maintained and calibrated within a documented quality management system.

The following text is applicable to standards that specify marking requirements.

Marking

(Any specific marking requirements to be stipulated here).

Requirements for marking in relevant regulations override the requirements given in this International Standard.

Bibliography

[1] UN Recommendations on the Transport of Dangerous Goods – Model Regulations (as amended)

Note: *Where applicable*

Unanimous

Resolution 045/2014

Subject: Generic scope template for SC 3 standards

ISO/TC 58/SC 3: *Gas cylinders – Cylinder design*

Thanks;

- the ad-hoc working group led by Dr Dörner for its work on the development of a generic scope template for use within ISO/TC 58/SC 3 circulated as document N 1567.

Considers;

- the template well constructed and very comprehensive

Decides;

- to adopt document N 1567 for internal ISO/TC 58/SC 3 use
- instructs convenors and project leaders to ensure that scopes of new projects and future revisions of published standards are drafted in accordance with N 1567

Unanimous

Resolution 046/2014

Subject: Working group 17

ISO/TC 58/SC 3: *Gas cylinders – Cylinder design*

Thanks;

- the members of working group 17 in particular the convenor Mr Webster for their work in the development of ISO 11439:2013, *Gas cylinders – High pressure cylinders for the on-board storage of natural gas as a fuel for automotive vehicles*

Acknowledges;

- that with this publication working group 17 currently has no active work items

Considers;

- that the main function now of working group 17 is to promote the harmonization of ISO 11439:2013 and the ECE R110 regulation

Reminds the convenor;

- to involve the whole membership of working group 17 in the promotion of this harmonization
- that the use of ISO Livelink for all communication with members and for the circulation of all documents is mandatory.

Decides;

- to keep working group 17 open for a further 12 months. This will be reviewed at the 2015 meeting

Unanimous

Resolution 047/2014

Subject: Working group 19

ISO/TC 58/SC 3: *Gas cylinders – Cylinder design*

Acknowledges;

- that working group 19; *Refillable seamless aluminum alloy gas cylinders* has no active work items

Considers;

- the work of working group 19 as completed

Decides;

- to disband working group 19

Unanimous

Resolution 048/2014

Subject: ISO/DTR 13086-2 – Change of development track

ISO/TC 58/SC 3: *Gas cylinders – Cylinder design*

Acknowledges;

- the work being conducted by working group 24 on the development of ISO/TR 13086-2, *Gas cylinders – Guidance for design of composite cylinders – Part 2: Cyclic fatigue of fibers and liners, calculation of stress ratios and bonfire test issues*
- the limit date for the submission of a draft to ISO/CS for approval to publish was 6th September 2014 and has therefore passed

Notes;

- that working group 24 are still actively working on the project

Decides;

- to move the project on to the 4 year (extended) development track

Instructs;

- the convenor to provide a clear statement of progress by the end of March 2015. In the event that the project is not on schedule an alternative way forward (including amended scope and title as necessary) is to be provided for approval by a one month ballot of the SC 3 membership conducted on the ISO Livelink platform.

Unanimous

Resolution 049/2014

Subject: Gerhard König

ISO/TC 58/SC 3: *Gas cylinders – Cylinder design*

Thanks Gerhard;

- for his excellent convenorship of working groups 26 and 34,
- his tireless work in developing high quality ISO standards and most recently for leading the development of ISO 9809 parts 1, 2 & 3 and of ISO/TR 16115
- his excellent contributions to the development of standards in cylinder design for over 50 years, with over 45 of those years dedicated to ISO activities
- his help, support and guidance to his friends and colleagues

Wishes;

- Gerhard a long and happy retirement

Unanimous

Resolution 050/2014

Subject: French versions of ISO 9809 parts 1, 2 & 3

ISO/TC 58/SC 3: *Gas cylinders – Cylinder design*

Accepts;

- a proposal from France for the following change to be made to clause 11.2.2 of the French versions of ISO 9809 parts 1, 2 & 3 to produce an accurate translation of the published English language version

Current text

- Sub-clause 11.2.2 Essai d'expansion volumétrique in published standards
- La bouteille doit être rejetée si elle présente une expansion volumétrique permanente (c'est-à-dire l'expansion volumétrique après relâchement de la pression) supérieure **de** 10 % **à** l'expansion volumétrique totale mesurée sous application de la pression d'épreuve, p_h .

Proposed text

- Sub-clause 11.2.2 Essais d'expansion volumétrique as follow:
- La bouteille doit être rejetée si elle présente une expansion volumétrique permanente (c'est-à-dire l'expansion volumétrique après relâchement de la pression) supérieure **à** 10 % **de** l'expansion volumétrique totale mesurée sous application de la pression d'épreuve, p_h .

Confirms;

- that the proposed change does not change the current scope or has any impact on the technical content of the published standard

Decides;

- to adopt the *minor revision procedure* to make these changes

Acknowledges;

- this procedure consists of a single 2 month ballot of approval followed by publication.

Unanimous

Resolution 051/2014

Subject: New convenor for Working Group 26

ISO/TC 58/SC 3: *Gas cylinders – Cylinder design*

Welcomes;

- the nomination by ECMA (European Cylinder Manufacturers' Association) of Mr Viviano Ongaro as the new convenor of working group 26, *Refillable seamless steel gas cylinders (except stainless steel)*

Decides;

- to appoint Mr Viviano Ongaro as convenor of working group 26 with immediate effect

Unanimous

Resolution 052/2014

Subject: ISO/DIS 11119-4 – Extension of work programme

ISO/TC 58/SC 3: *Gas cylinders – Cylinder design*

Acknowledges;

- the result of the DIS ballot of ISO 11119-4; *Gas cylinders – Refillable composite gas cylinders and tubes – Design, construction and testing – Part 4: Fully wrapped fibre reinforced composite gas cylinders and tubes up to 450 l with load-sharing welded metallic liners* circulated as N 1547
- that the launch of the 2nd DIS ballot is anticipated for 24th November 2014 closing on 25th January 2015

Confirms;

- that either an additional DIS ballot and/or a FDIS ballot will be required for this project

Decides;

- to ask the secretary to request a 9 month extension of the work programme in accordance with clause 2.1.6.1 of the ISO/IEC Directives, Part 1

Voting

For: Austria, Canada, France, Germany, Korea, Italy, Norway, South Africa, Sweden, UK, USA,

Against: Nil

Abstain: Japan, China

Passed by majority

Resolution 053/2014

Subject: ISO/DIS 11118 – Requirement for a FDIS ballot

ISO/TC 58/SC 3: *Gas cylinders – Cylinder design*

Acknowledges;

- the result of the 3rd DIS ballot of ISO 11118; *Gas cylinders - Non-refillable metallic gas cylinders - Specification and test methods* circulated as N 1584 and that the draft was approved by member bodies
- the work carried out by WG 29 in resolving the comments from the 3rd DIS ballot

Decides;

- that a FDIS ballot is required for this project

Asks;

- the convenor to provide the secretary with a clean copy of the draft and the completed 3rd DIS comments table by 31st December 2014

Unanimous

Resolution 054/2014

Subject: Working group 32

ISO/TC 58/SC 3: *Gas cylinders – Cylinder design*

Thanks;

- the members of working group 32 in particular the convenor Mr Trudgeon for their work in the development of ISO 11515:2013, *Gas cylinders – Refillable composite reinforced tubes of water capacity between 450 l and 3 000 l – Design, construction and testing*

Acknowledges;

- that with this publication working group 32 currently has no active work items

Considers;

- that the working group should remain open to support the adoption of ISO 11515:2013 in to the UN Model Regulations

Decides;

- to keep working group 32 open for a further 12 months. This will be reviewed at the 2015 meeting

Unanimous

Resolution 055/2014

Subject: ISO/CD 17519 change of scope and timetable for submission to DIS ballot

ISO/TC 58/SC 3: *Gas cylinders – Cylinder design*

Acknowledges;

- the result of the 2nd CD ballot of ISO/CD 17519; *Gas cylinders – refillable permanently mounted composite tubes for transportation* circulated as N 1554
- the request from the convenor of WG 35 to amend the scope of ISO/CD 17519 for a second time (reference document N 1583)

Considers;

- that the further change to the scope should be approved by a CIB (committee internal ballot) conducted on the Livelink platform involving all the members of ISO/TC 58/SC 3 and not just those attending this meeting

Decides to instruct;

- the secretary to launch a CIB ballot lasting 1 month for the approval of the amended scope
- the convenor to provide the secretary with a draft which has been approved by the membership of working group 35 for submission to DIS ballot by the end of 2014

Voting

For: Austria, Canada, France, Germany, Korea, Italy, Norway, South Africa, Sweden, UK, USA,

Against: Nil

Abstain: Japan, China

Passed by majority

Resolution 056/2014

Subject: ISO/TC 197/WG 18

ISO/TC 58/SC 3: *Gas cylinders – Cylinder design*

Acknowledges;

- the opportunity to comment on drafts developed by ISO/TC 197/WG 18

Decides;

- to add the secretary to the membership of ISO/TC 197/WG 18 as a liaison member with the objective of circulating ballot documents to ISO/TC 58/SC 3 with a request to comment.
- the comments received by the secretary will be sent on to ISO/TC 197/WG 18 and entitled '*comments received from the national mirror committees of ISO/TC 58/SC 3*'. A copy will be circulated to ISO/TC 58/SC 3 for information

Voting

For: Austria, Canada, China, France, Germany, Japan, Korea, Italy, Norway, Sweden, UK, USA,

Against: South Africa

Abstain: Nil

Passed by majority

Resolution 057/2014

Subject: First point of contact

ISO/TC 58/SC 3: *Gas cylinders – Cylinder design*

Recognises;

- that as working groups complete their assigned work and become disbanded it is unclear where subsequent technical queries should initially be directed

Decides;

- to establish a list of 'first contact points' for technical queries
- the list would be reviewed annually at future meetings of ISO/TC 58/SC 3

Confirms;

- the following contact points for matters concerning the published projects of:
 - WG 18 Dr Hervé Barthélémy (subject to the decision described in resolution 043/2014)
 - WG 21 Mr Steve Gentry
 - WG 25 Dr Hervé Barthélémy
 - WG 19 Mr Simon Nicholson

Unanimous

Resolution 058/2014

Subject: Re-appointment of working group convenors

ISO/TC 58/SC 3: *Gas cylinders – Cylinder design*

Acknowledges;

- clause 1.12.1 of part 1 of the ISO Directives and the requirement to re-appoint convenors every 3 years

Decides to;

- re-appoint the following convenors for a further period of three years:
 - Mr Philippe Brillaud as convenor of WG 23
 - Mr Norman Newhouse as convenor of WG 24
 - Mr Mark Trudgeon as convenor of WG 27
 - Mr Gianluca Bassanini as convenor of WG 28
 - Mr Steve Gentry as convenor of WG 29
 - Dr Hervé Barthélémy as convenor of WG 33
 - Mr Per-Sigurd Heggem as convenor of WG 35
- all appointments start from 23rd October 2014

Unanimous

Resolution 059/2014 – Subsequent meeting

ISO/TC 58/SC 3;

Accepts;

- an invitation from the standards body of Norway, SN (standards Norway) to host the 2015 meeting of ISO/TC 58/SC 3.
- the SC3 meeting and working group meetings will be held in Oslo and run from Tuesday 20th to Friday 23rd October 2015

Confirmation will follow in due course from the Secretary

Agrees;

- to hold the meeting 2016 in conjunction with the meeting of the parent committee, ISO/TC 58 – in week commencing 17th October 2016.

Voting

For: Austria, Canada, China, Germany, Japan, Korea, Italy, Norway, South Africa
Sweden, UK, USA,

Against: Nil

Abstain: France,

Passed by majority

Resolution 060/2014 – Appreciation of the host

ISO/TC 58/SC 3 wishes to thank;

- the national standards body of Korea, Korean Agency for Technology and Standards, (KATS) for hosting the meeting
- the Korea Gas Safety Corporation (KGS)
 - in particular Ms H K Lim for her assistance
 - for providing lunch for delegates for each day of the meeting
- Faber and Chalybs for refreshments and for the reception dinner to be held on Thursday evening 23rd October 2014

Unanimous