



ISO/TC 197
Hydrogen technologies

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Background: Please find attached the liaison report for ISO/TC 197

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Liaison Report from ISO/TC 197

2020-03-31

1. Structure of ISO/TC 197 (see Organisation Chart in Clause 7)

Acting on behalf of Standards Council of Canada (SCC), the Committee Manager is **Jonathan Lafontaine** of the BNQ and the Chair is **Dr. Andrei V. Tchouvelev**, who has been appointed for a third 3-year term until the end of 2021.

TC 197 has a Technical Advisory Board (TAB) made up of recognized experts in four key subject areas, from different regions, to act as Technical Program Directors (TPDs) helping to coordinate the liaisons and TC work in their areas of expertise and the work in their regions:

- Hydrogen Production, Storage and Handling – **Hervé Barthélémy**, PhD (Resp. for Europe),
- Built Environment and Safety – **Jay Keller**, PhD (Responsible for the Americas),
- Stationary and Fuel Cell Applications – **Hidenori Tomioka** (Responsible for Asia),
- Hydrogen Components and Vehicular Applications – **Craig Webster**, P.Eng.

Dr. Jinyang Zheng from China is Vice-Chair of TC 197 and a member of TAB, representing developing countries as part of a twinning arrangement between SCC and Standards Administration of China (SAC), with the goal promoting use of TC 197 standards in developing countries, facilitating their participation in working groups and assuring that their needs are being addressed by TC 197.

2. ISO/TC 197 Plenary Meeting

The last TC plenary of TC 197 was hosted by AFNOR and took place on 12-13 December 2019 in Grenoble, France. There were 11 P-Members and 45 participants. There were 3 Working Group meetings held prior to the plenary as well as a Special Plenary Meeting.

The 2020 plenary meeting is scheduled to take place on December 10-11, 2020 in Seoul, Korea. It is anticipated that there will be WG meetings on the 7th and 8th prior to the plenary, and a Strategic Plenary Meeting on the 9th.

3. Status of Technical Work

WG 5 Gaseous hydrogen land vehicle refuelling connection devices:

Convenor is **Livio Gambone** from the United States and the Secretary is **Sara Marxen** from the United States. The third edition of ISO 17268 *Gaseous hydrogen – Land vehicle refuelling connection devices* was published in 2020. The WG will now focus on the development of requirements for HF (high flow) HD (heavy duty) road vehicles.

WG 18 Gaseous hydrogen land vehicle fuel tanks and TRPDs:

Convenor is **Livio Gambone** from the United States and the Secretary is **Sara Marxen** from the United States. ISO 19881 *Gaseous hydrogen – Land vehicle fuel tanks* and ISO 19882 *Gaseous hydrogen – Land vehicle fuel tanks – Thermally activated pressure relief devices* were published in 2018. The WG is currently focused on harmonization with the developments in the UN Global Technical Regulation (GTR) on hydrogen and fuel cell vehicles, GTR 13.

WG 19 Gaseous hydrogen fueling station dispensers:

Convenor is **Shogo Watanabe** from Japan and the Secretary is **Yuko Yasukate** from Japan. ISO/DIS 19880-2 *Gaseous hydrogen – Fueling stations – Part 2: Dispensers*.

WG 19 met in Grenoble. The intent of the WG is to harmonize with 19880-1, and will propose adjustments. The clock will restart after a CIB ballot; the WG proposes to move directly to a FDIS Ballot. The WG will hold a meeting by mid-2020 and late-2020, with the FDIS ballot to be launched by mid-2021.

WG 21 Gaseous hydrogen fueling station compressors:

The Convenor is **Karen Quackenbush** from the United States.

ISO/AWI 19880-4 *Gaseous hydrogen – Fueling stations – Part 4: Compressors*.

Work is progressing now with compressor experts, an expert for electrochemical compression is still needed. A CD for 19880-4 is not anticipated until later in 2020.

WG 22 Gaseous hydrogen fueling station hoses:

The Convenor is **Karen Quackenbush** from the United States.

ISO 19880-5 *Gaseous hydrogen – Fueling stations – Part 5: Hoses* was published in 2019. An amendment (Amd1) is scheduled to be published in 2020.

WG 23 Gaseous hydrogen fueling station hoses:

Convenor is **Karen Quackenbush** from United States.

ISO/AWI 19880-6 *Gaseous hydrogen – Fueling stations – Part 6: Fittings*.

The WG is preparing a CD for circulation in early 2020.

WG 24 Gaseous hydrogen fueling stations – General requirements:

Co-Convenors **Guy de Réals**, France and **Glenn Scheffler**, U.S., with **Nick Hart**, U.K. as Secretary.

ISO 19880-1 *Gaseous hydrogen – Fueling stations – Part 1: General Requirements* was published in 2020. WG 24 was officially disbanded, however, for knowledge preservation purposes its number and web space at ISO portal will be inherited by the future WG on fueling protocols. A CIB to rename the working group and establish a new structure will be launched in 2020.

WG 27 Hydrogen fuel quality

The Convenor is **Osamu Tajima** TG 2 (PEMFC stationary appliances), with **Hidenori Tomioka** from Japan as Secretary for TG1 and **Yuko Yasutake** as Secretary for TG 2.

ISO 14687 *Hydrogen fuel – Product specification* was published in 2019.

This document combines and revises Parts 1, 2 & 3 published in 1999, 2012 & 2014. The WG is currently focused on updating the requirements for Grade 1 (for combustion appliance for heating, cooking, etc.), Grade D (for FCEV OEM fuel cells) and Grade E (for stationary PEM fuel cells).

WG 28 Hydrogen quality control:

Convenor is **Hidenori Tomioka**, from Japan and the Secretary is **Spencer Quong** from the U.S.

ISO 19880-8 *Gaseous hydrogen–Fueling stations – Part 8: Hydrogen quality control* was published in 2020. The WG is currently working on a proposal for an amendment (Amd1) to better harmonize with ISO 14687.

4. NWIPs and new WGs

Several PWIs were proposed at the 2019 plenary in Grenoble and TC 197 will welcome the following upcoming proposals in 2020:

Netherlands (NEN) intends to propose a project related to electrolysers based on the QualyGridS document.

United States (ANSI) intends to propose a project related to communication protocols for heavy duty, high flow applications.

Canada (SCC) intends to propose a project on hydrogen vehicle fuel system components.

Japan (JISC) intends to propose a project on O-rings used for hydrogen applications.

United Kingdom (BSI) and Norway (SN) intend to resubmit a previously discussed NWIP (see N 754) on hydrogen sampling.

United States (ANSI) intends to submit documentation relative to restarting the work on Gaseous hydrogen – Cylinders and tubes for stationary storage (WI 19884).

WG 29 Basic considerations for the safety of hydrogen systems:

The convenor is **Jay Keller** from the United States. The work will consist of reviewing ISO/TS 15916 (published in 2015).

5. Liaisons and JWGs

The liaison committees below can access the documents of ISO/TC 197; two-way liaisons are identified in bold:

IEC/TC 31	Equipment for explosive atmospheres
IEC/TC 105	Fuel cell technologies
ISO/TC 20	Aircraft and space vehicles
ISO/TC 20/SC 14	Space systems and operations
ISO/TC 22	Road vehicles
ISO/TC 22/SC 37	Electrically propelled vehicles
ISO/TC 22/SC 41	Specific aspects for gaseous fuels
ISO/TC 45/SC 1	Rubber and plastics hoses and hose assemblies
ISO/TC 58	Gas cylinders
ISO/TC 58/SC 2	Cylinder fittings
ISO/TC 58/SC 3	Cylinder design
ISO/TC 58/SC 4	Operational requirements for gas cylinders
ISO/TC 67	Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries
ISO/TC 70	Internal combustion engines
ISO/TC 158	Analysis of gases
ISO/TC 161	Controls and protective devices for gas and/or oil
ISO/TC 192	Gas turbines
ISO/TC 193	Natural gas
ISO/TC 207	Environmental management
ISO/TC 220	Cryogenic vessels
ISO/TC 291	Domestic gas cooking appliances

Other organizations in liaison with ISO/TC 197:

CEN/CLC/JT6 Hydrogen in energy systems

CEN/TC 234 Gas infrastructure

CEN/TC 268 WG5 Cryogenic vessels and specific hydrogen technologies applications, Specific hydrogen technologies applications

EC European Commission (Category A)

ECMA European Cylinder Makers Association (Category A)

EIGA European Industrial Gases Association (Category A)

HySafe International Association for Hydrogen Safety (Category A)

OIML International Organization of Legal Metrology (Category A)

Joint Working Groups:

JWG 5 with ISO/TC 22/SC 41: Fuel system components and refuelling connector for vehicles propelled by blends of natural gas and hydrogen.

JWG 7 with ISO/TC 158: Hydrogen fuel analytical methods.

6. Recently Published Documents (past 12 months)

ISO 22734:2019 (ed.1) Hydrogen generators using water electrolysis — Industrial, commercial, and residential applications (2019-09-29)

ISO 19880-8:2019 (ed.1) Gaseous hydrogen — Fuelling stations — Part 8: Fuel quality control (2019-10-21)

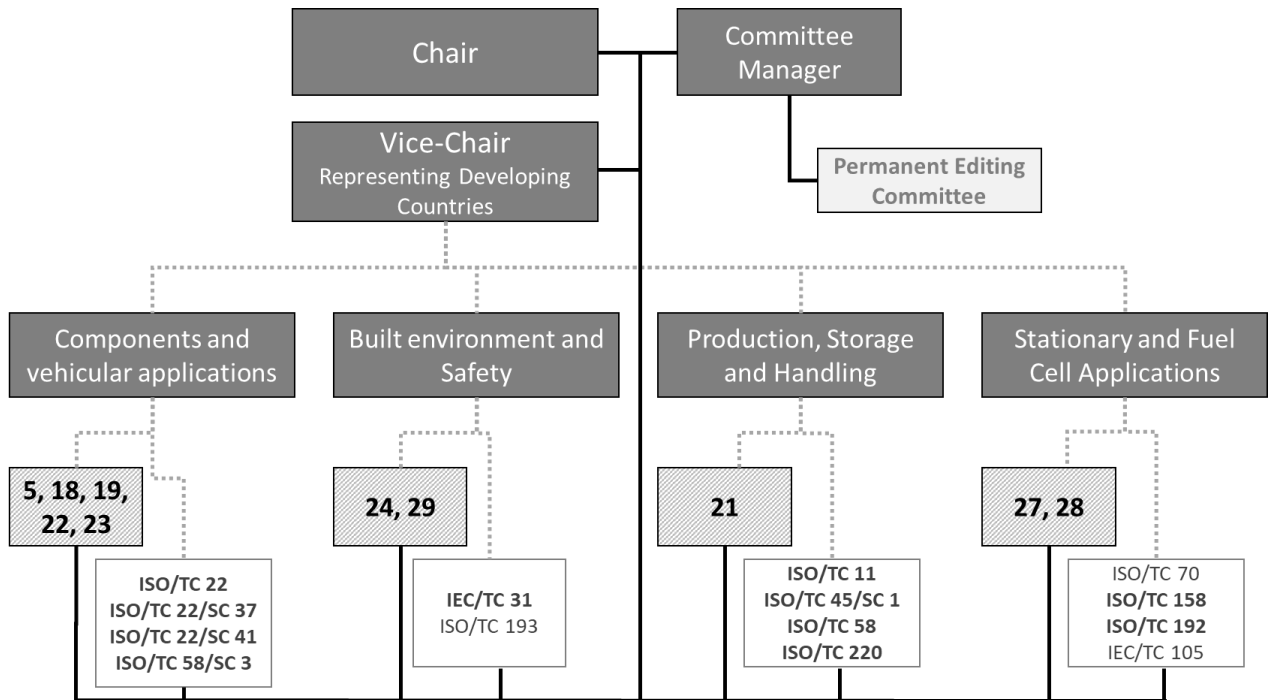
ISO 19880-5:2019 (ed.1) Gaseous hydrogen — Fuelling stations — Part 5: Dispenser hoses and hose assemblies (2019-11-17)

ISO 14687:2019 (ed.1) Hydrogen fuel quality — Product specification (2019-11-26)

ISO 17268:2020 (ed.3) Gaseous hydrogen land vehicle refuelling connection devices (2020-02-06)

ISO 19880-1:2020 (ed.1) Gaseous hydrogen — Fuelling stations — Part 1: General requirements (2020-03-03)

7. ISO/TC 197 Organizational Chart



Legend:

- Member of the Technical Advisory Board
- Working Groups
- Liaisons (ISO & IEC)
- Administrative Reporting
- Technical input, coordination, collaboration

Address enquiries to:

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