



ISO/TC 197
Hydrogen technologies

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Draft Minutes of the 24th Plenary California 2015 12

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Background: Here are the draft minutes of the ISO/TC 197 plenary meeting that took place in 2015-12 in Torrance, California.

This document was prepared with the help of Karen (Hall) Quackenbush.

Committee URL: <http://isotc.iso.org/livelink/livelink/open/tc197>

Minutes

of the 24th Plenary meeting of ISO/TC 197 on Dec. 3 & 4, 2015, in Torrance California

1 Opening of the meeting

Andrei Tchouvelev, the Chair of ISO/TC 197, opened the 24th plenary meeting at 9h.

2 Roll call of delegates

There were 13 P-member countries represented at the meeting:

Canada, China, France, Germany, Italy, Japan, Korea, Netherlands, Norway, Russia, Sweden, United Kingdom and USA.

Delegates were asked to sign the attendance list (see ISO/TC 197 doc. **N 745**).

3 Adoption of the agenda

The draft agenda (doc. **N 734**) was approved.

4 Appointment of the drafting committee

A drafting committee was appointed, consisting of Frederic Solbes from France, Karen (Hall) Quackenbush from USA, and Jim Ferrero, the TC Secretary, approved unanimously (**Resolution 392**).

The complete list of the resolutions from the meeting is found in doc. **N 744**.

5 Review of the Minutes of the 23rd Plenary Meeting (N 714)

Jim Ferrero, the TC Secretary, thanked Karen for contributing to the minutes by taking good notes and she agreed to help again.

Resolution 393, the minutes were approved unanimously.

6 Review of the operational progress and performance evaluations

Andrei was recently appointed for a second three year term, up until the end of 2018.

Czech Republic and New Zealand both recently became P-members.

Switzerland has withdrawn from O-member to no member, and it is not known why.

Number of parallel meetings in conjunction with the Plenary should be limited in the future.

It was pointed out that the number of WGs is growing faster than the number of experts. Experts are spread quite thin. The issue is more than just a conflict of parallel meetings.

6.1 Performance evaluations of Chair, TAB and Secretary

Andre provided a PowerPoint (**N 804**). Chair noted only 2 weeks was given this time and more time is needed. Germany was late by one day as the mirror committee members did not get the link through LiveLink due to a glitch with DIN. Scores presented over past 3 years, showing improvement in scores. Andrei walked through each comment provided on the review, and reiterated the openness policy to communicate with the Chair or TAB with any concerns. The US expanded on their comment that there are often decisions or recommendations come out

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where the US or other members may have a different take, setting up the perception of an adversarial situation. Andrei countered that it would be inappropriate to consult with all P-members prior to a vote. This is where the issue of regional representation of the TAB comes in to play. The consultation could occur with the regional TAB (but this is not happening now).

In response to UK comment of cross-over of role of TPD to TAB, Andrei clarified the TPD is a technical program level resource for Convenors to fulfil their roles and address significant technical issues. The TAB has a different function to provide advice to the TC.

Australia Presentation (N 810): Due to schedule restraints, this presentation, which would normally be made on Day 2, under item 12.1 was made here. *A Blueprint for Development Approval of Hydrogen Stations in Australia.*

6.2 Report of Dr. Mao the Vice-Chair for Developing Countries (N 805)

HCNG initiatives, using a variety of pressures up to 350 MPa (some as low as 140 MPa). He was asked about status of Type IV tanks in China. Dr. Mao noted his personal opinion is that Type III tanks are ok, but not type IV. There is still opportunity for discussion.

7 Progress review of technical programs, grouped by TPDs

7.1 Changes to ISO Directives

Jim presented the ISO presentation on what is new in 2015 (N 806).

Directives Main Changes 2015

- Approval of NWIP : by correspondence (CIB Ballot) only
- Clarification for skipping FDIS when technical comments
- Obligation to Member bodies to provide the list of delegates
- Committee performance: based on selected track
- Chairman terms and succession plan
- Forms updated – www.iso.org/forms.

7.2 Components and Vehicular Applications (TPD, Craig Webster)

Active WGs: WG5, WG 18, WG19, WG20, WG22, WG23

Livio Gambone **WG 5** report (N 815) – request clarification that the definition/scope of the nozzle may include communications hardware, which is often integral to the nozzle, but may be added aftermarket. This was approved with **Resolution 394**.

Livio Gambone **WG 18** report(N 813) – request to extend to a 48-month timeline.

Prof. Watanabe-san **WG 19** Dispensers report (N 816) – Harmonization with WG 24 resulted in many changes requiring extension to 48 months.

Prof. Watanabe-san **WG 20** Valves report (N 817) – Results of CD 2 as DIS – US voted No suggesting real-world verification prior to going to DIS. Real-world test data presented.

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Clarification in scope to harmonize pressure rating designation with Pressure Task Force – WG 24 document ISO 19880-1 uses table 8.1 Pressure Levels and Dispensing System Components – H70. The Scope was modified with **Resolution 395** to indicate up to H70 designation.

Karen (Hall) Quackenbush **WG 22** Hoses report (**N 818**) – request to extend to a 48-month timeline. Look into recent document from TC 58. Check with Hervé Barthélémy.

Karen (Hall) Quackenbush **WG 23** Fittings report (**N 818**) – request to extend to a 48-month timeline. Need to take into account accelerated testing. Check with Hervé Barthélémy.

7.3 Built Environment and Safety (TPD, Jay Keller)

Active WGs: **WG24**

Report **N 819**. Jesse and Guy Dang-Nhu reported the myriad activities to gather data, perform testing, develop the DIS, and the issue about publishing a TR versus TS. A CIB ballot is to be launched to consider publication as TS. Closure January 15th is too short with holidays, even though having the results by a January 19th meeting in Europe would be desirable. January 31st is the due date, but earlier voting will be encouraged for support to be expressed at Jan 19 meeting. TC passed a resolution to withdraw ISO TS 20100:2008 effective immediately and inform CEN and EN (**N 820**).

This decision was approved with **Resolution 396**.

7.4 Production, Storage and Handling (TPD, Hervé Barthélémy)

Active WGs: WG15, WG17, WG21, WG25, WG 26 (Revision of ISO 22734)

Hervé Barthélémy **WG 15** – CD to come out in a few weeks.

Gao Yuchuan **WG 17 (N 814)** requesting publishing the PSA document as a TS, with a plan to then begin work toward an IS under a 36-month development schedule – CD ballot target January 2016. This request was approved with **Resolution 397**.

Karen (Hall) Quackenbush **WG 21 (N 818)** Compressors ISO 19880-4 – request extension to 48 month timescale.

Dominique Perreux - **WG 25** ISO 16111 revision (**N 821**). CD in Feb/Mar 2015. 24 month schedule requesting extension to 36 months. Possible future technologies include fork lift trucks as weight is welcome.

Larry Moulthrop **WG 26**: electrolyzers (**N 822**) – TG 1: harmonizing ISO 22734 parts 1 and 2. TG 2: Updating normative standards, directives; TG 3 Update design, documentation and test requirements.

7.5 Stationary and Fuel Cell Applications (TPD, Kazuo Koseki)

Active WGs: WG27 (Fuel quality ISO 14687), WG 28 (Fuel quality control 19880-8)

Koseki-san **WG 27** ISO 14687 Fuel Quality(**N 823**) – NWIP approved. On a 36-month publication schedule.

Takagi-san WG 27 TG 1: ISO 14687-2/3 background (**N 824**).

Tajima-san WG 27 TG 2 (**N 825**): WD mid-April 2016, CD mid-October 2016.

Discussion on need to avoid duplication of requirements as much as possible

Tomioka-san **WG 28** ISO 19880-8 (**N 826**) DIS to be registered by Oct 2016, although the WG is aiming for June.

Note that the extensions of project timelines were approved with **Resolution 398**.

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At the end of Day One there was a presentation on hydrogen sampling apparatus. There was a concern voiced that this effort should be led by TC 158 rather than as a TG in TC 197 WG 24.

8 Documents Published: ISO/TR 15916 (to be published 2015-12-15)

ISO/TR 15916:2015 *Basic considerations for the safety of hydrogen systems* was revised by WG 16 with Convenor **Ulrich Schmidtchen** from Germany.

Note that there were delays due to editing issues. It was learned that definitions must be short phrases that could replace the word in the text. In the future, we will try to do more editing work up front to avoid delays at publication.

9 Systematic Reviews

TC 197 discussed results of Systematic Reviews, noting very few countries reported using the documents. At least one is incorporated into European requirements.

ISO 13984:1999 LH2 Interface (TPD, Craig Webster) (**N 718**) Due to cross-references with ISO 13985:2006 LH2 Tanks, Reconfirm, with review in another 5 years (**Resolution 400**).

ISO 13985:2006 LH2 Tanks (TPD, Craig Webster) (**N 715**) Reconfirm, with review in another 5 years (**Resolution 400**).

ISO 16110-2:2010 Reformers Tests (TPD, Hervé Barthélémy) (**N 716**) Reconfirm, with review in another 5 years (**Resolution 401**).

ISO 16110-1:2007 Reformers Safety (SR vote closes 2016-03-15) (TPD, Hervé Barthélémy).

ISO 26142:2010 H2 Detection (TPDs, Jay Keller and Kazuo Koseki) (**N 717**) Report from Koseki-san that IEC work now covers same scope. Due to need to look into this and in light of high TC workload, Reconfirm, with review in another 5 years (**Resolution 402**).

10 New work item proposals

There was a presentation on a possible NWIP for Sampling H2 Gas for Quality Control (ref. Norway and WG 24).

Day Two (Friday Dec. 4th, 2015) 09 h to 14 h

11 Liaisons and report of liaisons

- 11.1 Existing liaisons** (ex. ISO TC 58/SC 2 (**N 729**) & SC 3 (**N 719**), CEN TC 268 (**N 730**) ISO TC 220 (**N731**), TC 22 SC 21 & 25, IEC TC 105, etc.)

The existing liaisons were reviewed by the chair using a chart.

Resolution 387 approved unanimously that liaisons with TC 20, TC 20/SC 14 (space vehicles) and TC 207 Environmental Management Standards were no longer needed and thus should be cancelled.

- 11.2 Proposals for new liaisons and/or cancelling existing liaisons**

Andrei presented a chart for discussion purposes, but the exploration of some of the issues was not completed.

The following Liaison reports were presented:

Hervé Barthélémy presented TC 58 liaison report (**N729**)

N730 report of TC 220 Cryogenic Vessels

Hervé Barthélémy noted desire to refer to published standards and address only unique issues or requirements.

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HYSAFE: Hervé Barthélémy reported on ICHS2015 Oct 19-21, 2015 in Yokohama, Japan (**N 811**).
<http://www.ichs2015.com/>.

Next ICHS2017 Sept in Hamburg, Germany.

Craig Webster – no liaison report from TC 22, however they are interested in the work of TC 197.

Koseki-san – liaison report with IEC/TC 105

Martine Carne – TC 158 liaison report. NWIP: ISO NP 21087 validation of analytical methods for fuel quality determination. **Resolution 403** was approved to form a Joint working group with TC 158, if they approve their NWIP for NP 21087 *Hydrogen fuel analytical methods*.

Jay Keller addressed a possible liaison with FCHEA. Provided an update on activities of FCHEA and H2USA, but no request for a liaison has been made.

TC 197 members asked about any work on Xyloxanes. As a poison for catalysts. To raise in fuel quality WG. Also may need to address under fuel processing (reformer) standards. Noted they are hard to detect. WG 27 to consider for WG 27 TG 2. This may necessitate a new liaison request.

12 Business Plan for TC 197

Andrei made a presentation (**N 670**) dealing with the revision of TC 197's Business Plan.

Karen noted in the years since the last Business Plan was published, many country presentations were provided which may be useful in updating the Business Plan.

12.1 Marketplace/Members Updates on H2 Programs and experience (max. 10 min./presentation)

Guest presentation on the Toyota Mirai (**N 812**).

Frederic Solbes provided a presentation of hydrogen activities in France (**N 809**).

CSA Group presented on their activities (**N 807 & 808**).

12.2 Plan for the revision of the Business Plan

Andrei discussed the various interests/blends, gas to power, etc. Asked members for expressions of what we should consider adding to our activities. Noted there will be more to report at the next plenary.

13 Permanent editing committee

Resolution 404 confirmed unanimously the composition of its Permanent Editing Committee. The members are comprised of:

Ms. Karen (Hall) Quackenbush, United States;

Mr. Jim Ferrero, TC 197 Secretary

The permanent editing committee is responsible for:

Updating and editing enquiry drafts (DIS) and Final Draft International Standards (FDIS) considered at meetings or circulated between meetings;

Ensuring their conformity with Part 2 of the ISO/IEC Directives.

14 Future ISO/TC 197 Meetings (possible locations and approximate dates)

Resolution 405 unanimously accepts Marc Steen's offer to host the Dec. 2016 plenary at JRC in Petten.

For fall 2017, the plenary meeting will probably be in China.

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15 Other business:

Resolution 406 unanimously thanked Toyota for hosting the WG meetings and the Plenary as well as for their generous contributions as sponsors for lunches and social events. As well, Air Liquide and Hexagon Lincoln were thanked for their generous co-sponsorship of the plenary dinner. The TC also extended sincere appreciation for the work of the planning committee made up of Glenn Scheffler, Jacquelyn Birdsall, Jennifer Hamilton, Juan Contreras and Spencer Quong.

The Secretary specially thanked Karen for once again preparing the resolutions.

16 Approval of resolutions

Resolutions were approved one by one with the topic of discussion, allowing for abstentions and disapprovals of individual items.

17 Closure of the meeting The meeting ended at 14 h.

NOTE: After the meeting, from 14:00 to 16:00, there was a Mirai Ride and Drive Event organized by Toyota.