

NATIONAL HYDROGEN AND FUEL CELLS CODES AND STANDARDS COORDINATING COMMITTEE

Wednesday, August 3, 2011
TIME: 3:00 – 4:30 pm (Eastern Daylight Time)
CALL-IN NUMBER: (641) 594-7000 Passcode: 824011#
WEBINAR: <https://www1.gotomeeting.com/register/217601273>

1 Roll Call

Present on the call:

Linda Fassbender	Robert Wichert	Kathleen O'Malley
Bruce Johnson	Morry Markowitz	Chad Blake
Will James	Andre Tchouvelev	Karen Hall
Kelvin Hecht	Anthony Amato	Anna Stukas
Antonio Ruiz	Jim Ohi	Glenn Scheffler
Juana Williams	Chris Manchester	Gary Nakarado
Greg Chirdon	Bill Collins	Tom Previsch
Norm Newhouse	Bob Boyd	Mike Steele

2 Review of Anti-Trust Guidelines

http://www.fchea.org/members/antitrust_guidelines_rev.pdf

3 Reviewed and approved July Draft Minutes (attached and can be found at www.hydrogenandfuelcellsafety.info/)

4 DOE/HQ Update

Antonio Ruiz

Antonio Ruiz provided an update. The US Federal Budget has been resolved, temporarily. \$7M for this part of the program remains the recommendation for FY 2012. The ICBS hotel in San Francisco (week of September 12th) is running out of space. The ICBS is a great opportunity for learning what is going on all around the world and for networking too.

The GTR process is progressing and should be submitted to the UN in December.

During his trip to China in June, Antonio Ruiz met with several ministries, especially regarding Type IV Tanks. At this time, China does not allow Type IV Tanks to be used. Reconsideration of this decision is being encouraged by the US. Working together to better understand the issues could be helpful. Much effort will be necessary to promulgate the knowledge that we have to the Chinese authorities. Some of the Chinese experts are coming to the ASME conference and the opportunity to discuss this may present itself.

An international round-robin to resolve concerns regarding Type IV Tanks is also being facilitated by DOE.

5 Calendar of C&S Events and Fuel Cell Safety Information

http://www.fuelcellstandards.com/calendar_new.html

Kelvin Hecht

<http://www.hydrogenandfuelcellsafety.info/>

Karen Hall

New addition: October 2-3 ISO TC 197 WG 14 Meeting in Sheffield, UK

<http://www.h2incidents.org/>

Linda Fassbender

Funding issues are delaying work at the present time.

Andre Tchouvelev encouraged posting of the HIAD work. Antonio Ruiz concurred with this.

Continued

- 6 FCHEA News:
Morry Markowitz introduced himself. He is the new Executive Director of the FCHEA. He can be reached at:
202 736 5735, mmarkowitz@fchea.org
- 7 FCHEA Priority Matrix Robert Wichert
<http://www.fchea.org/members/Regulatory-Matrix.June-30-2011-Draft-0.pdf>
- 8 Discussion Topics Discussion Leader
- 8.1 International Issues Robert Wichert
Please see meeting notes.
Comments from
Antonio Ruiz: There are several efforts supporting international collaboration on codes and standards. Antonio can provide more information on these efforts on this call as they are available or as requested.
Bill Collins: Bill does not support including international collaborators on a limited number of calls per year.
Gary Nakarado: Gary supported the concept of international collaboration as a benefit to the industry as a whole.
- 8.2 OSHA Robert Wichert
http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9749
Possibly HIPOC could help to update this regulation.
DOT PHMSA might also help to move things ahead.
NFPA 2 would be better guidance in place of what is there now.
A small task force could bring this to OSHA – Antonio Ruiz, Aaron Harris, Carl Rivkin, Kelvin Hecht, Bill Collins, Bob Boyd, and Bruce Johnson all agreed to help.
The next HIPOC meeting is August 31, 2011, 12:00 Noon EDT. Bob Boyd will invite this Task Force to participate.
boyd.hydrogen@gmail.com
william.collins@utcpower.com
aharris@nuvera.com
kelvinhecht@comcast.net
bejohnson@iccsafe.org
antonio.ruiz@ee.doe.gov
carl.rivkin@nrel.gov
- 8.3 Hydrogen Fuel Quality Jim Ohi
Jim Ohi provided an update. The ISO Standard was approved by ballot; there were 13% negative votes, so the standard passed. There is a meeting this month with the Secretary of the ISO Standard, Tomioka-san, at DOE to discuss the US comments, including the lack of references to industry accepted standards. At the present time, the ASTM standards are the only standards available for some testing methods. The Canadian position was “ACCEPT” but they support the addition of references to the ASTM standards.
- 8.3.1 ASTM Jackie Button
No change to the information given last month.

Continued

8.3.2 NIST

Juana Williams

**NIST Weights and Measures Division (WMD)
on the Development of Commercial Hydrogen Measurement Standards
NHFCSCC August 3, 2011, by Juana Williams
U.S. Weights and Measures Standards Development Process**

Fuel Quality Regulation

The 96th NCWM Annual Meeting was held July 17-21, 2011 in Missoula, Montana. Two proposals to modify NIST Handbook 130 were considered by the NCWM. As expected Information Item 237-1, a draft proposal for a hydrogen fuel specification, was carried over to the 2012 national agenda to allow sufficient time for its full development. Voting Item 237-2, a proposal for definitions of the terms *fuel cell*, *hydrogen fuel*, and *internal combustion engine* will also become a carryover item appearing on the 2012 agenda. Just prior to the NCWM vote on the definitions an alternate proposal was introduced by a member of the NCWM Fuels and Lubricants Subcommittee. This resulted in the proposal being downgraded to allow more time for input from the USNWG and other parties. The NCWM also received objections to the fuel specification citing a decline in support for hydrogen and recommending that the NCWM consult fuel experts in the hydrogen community.

It is possible that the fuel specification and definitions might move forward for a vote in July 2012, if both proposals are fully developed by that date. The USNWG will focus on addressing concerns in areas that might delay adoption of these requirements and encourage input (letters, testimony, etc.) from all stakeholders on this key weights and measures component of the hydrogen infrastructure. Industry support will be helpful to the successful adoption of the proposals.

Commercial Device Type Evaluation Criteria

The NCWM NTETC-Measuring Sector Subgroup met on July 7th and will meet again on August 11, 2011 to wrap-up its work to develop a draft Hydrogen Gas-Measuring Devices Checklist (general criteria). The group will then prepare a final draft of the checklist by September 2011 for the USNWG to review and provide input. After this review process the final draft checklist will be presented to the Measuring Sector for consideration at the Sector's October 21-22, 2011 meeting in Norfolk, VA.

8.3.3 SAE J2719

Mike Steele

Mike Steele provided an update. J2719 is out of committee and being considered by the Motor Vehicle Council for its 28 day review. It will be publicly available after that time, 60 – 90 days.

8.4 Fuel Cell Forklifts / Indoor Fueling

Aaron Harris

Aaron Harris provided an update. Sandia has indicated to Aaron that they have reached 50,000 cycles (Type 1) and nearly 35,000 on Type 2. The smallest defects have also reached nearly 30,000 cycles. The test program will shut down in a week. Sandia will publish a paper on the test program. Josip Novkovic has indicated that a detailed update from CSA will be forthcoming.

Continued

The modeling and risk assessment work continues. NFPA 2 will be considering this work.

Tank Testing SNL
See above

CSA Josip Novkovic
Josip Novkovic has indicated that a detailed update from CSA will be forthcoming.

- 8.5 Hydrogen Sensors Robert Wichert
<http://www.fchea.org/members/Sensor-Task-Force-Minutes-July-27-2011-Draft-5.pdf>
<http://www.fchea.org/members/wg06members.htm>

Next meeting of the Hydrogen Sensors Task Force

Wednesday, August 17, 2011
12:00 Noon Eastern Time
Call In Number: +1-641-594-7000 PIN: 824011#
Reserve your Webinar Seat Now at:
<https://www1.gotomeeting.com/register/160889625>

- 9 Codes and Standards Organizations
This is the opportunity for CDOs, SDOs, Panels, Committees, etc. to provide updates and issues to the group.

- 9.1 ICC – Bruce Johnson provided an update.
HIPOC will continue to receive the necessary support to work through the next year. Bob Boyd also noted that the new provisions in NFPA 2 will be brought into the fire and building codes through this HIPOC work. Current practice to modularize the station architecture needs to be taken into account. There have been questions regarding ISO containers being habitable and therefore requiring ADD measures, sprinklers, etc. Some discussion in the building code might help to mitigate this issue.

- 9.2 ISO TC 197 Glenn Scheffler

August 2011 Update
ANSI-Accredited U.S. TAG for ISO/TC 197, *Hydrogen technologies*

Pending ballots

- ISO/DIS 20100, *Gaseous hydrogen — Fuelling stations*
The U.S. TAG vote closed on June 17. A TAG webconference was held on July 19 to review the submitted comments and determine the U.S. position. The participants agreed to submit a vote of “Disapprove” and the comments were finalized.
The ISO ballot ends on August 21.
- ISO/DIS 17268.2, *Gaseous hydrogen land vehicle refuelling connection devices*
The U.S. TAG is requested to vote by August 22. The ISO ballot ends on October 6.

Continued

- Systematic review of ISO 22734-1:2008, *Hydrogen generators using water electrolysis process — Part 1: Industrial and commercial applications*
The U.S. TAG is requested to vote by August 26. The ISO ballot ends on September 15.
- ISO/DIS 15869, *Gaseous hydrogen and hydrogen blends — Land vehicle fuel tanks*
The U.S. TAG is requested to vote by October 7. The ISO ballot ends December 7.

Ballot recently closed

- ISO/DIS 14687-2, *Hydrogen fuel — Product specification — Part 2: Proton exchange membrane (PEM) fuel cell applications for road vehicles*
The preliminary report of voting has been distributed. The DIS was approved, and the comments have been forwarded to WG 12 for consideration in preparation of the FDIS. The US TAG voted "**Disapprove.**"

Recent meetings

- WG 15, *Gaseous hydrogen — Cylinders and tubes for stationary storage*
July **20-21** in Paris, France
Norm Newhouse provided an update. The document was worked at the recent meeting and a Committee Draft is expected shortly.
- WG 14 is planning a meeting in Sheffield, UK, to consider comments and resolutions. The US comments were discussed at the June meeting and generally accepted or accepted in principle.

9.3 TC105 – Fuel Cell Technologies Kelvin Hecht

Report to the August 2011 Meeting of the DOE Hydrogen Codes & Standards Coordinating Committee

- WG#2 (IEC 62282-2 Ed. 2– *Fuel Cell Modules*)
 - July 4-5 meeting in Frankfurt, Germany to address comments to CDV
 - FDIS by January 1, 2012
- WG#3 (IEC 62282-3-100 – *Stationary Fuel Cells - Safety*)
 - July 19-20 meeting in Cleveland to address comments to CDV
 - FDIS by January 1, 2012 (September + French edition)
- WG#3 (IEC 62282-3-150 – *Small Stationary Fuel Cells used as Heating Appliances – Safety, Installation, Performance*)
 - July 21-22 1st meeting held in Cleveland
 - Expect to have a CD in June of 2012
- WG#4 (IEC 62282-3-201 – *Stationary Fuel Cells – Performance for Small PEM*)
 - Comments to 2nd CD were posted in July
 - September 19-20 in Frankfurt, Germany to address comments
 - CDV by January 2012
- WG#5 (IEC 62282-3-3 Ed.2 – *Stationary Fuel Cells – Installation*)
 - July 6-7 meeting in Frankfurt, Germany to address comments
 - FDIS by January 1, 2012

Continued

- WG#6 (IEC 62282-4-100 *Fuel cell systems for forklift applications – Safety requirements, environmental aspect and test procedures* and IEC 62282-4-200 *Fuel cell systems for forklift applications – Performance requirements and test procedures*)
 - US experts – Chirdon, Florence, Harris, Milas, Steele, Wichert also Baumgartner, Dunn, Medwin from the trucking industry)
 - July 20-21 1st meeting in Geneva
 - WG#7 (IEC 62282-5-1 – *Portable Fuel cells*)
 - July 15-16 meeting in Chicago to address comments to CDV.
 - Resolved comments on emissions.
 - FDIS before November.
 - WG#8 (IEC 62282-6-100 – *Micro Fuel Cells – Safety*)
 - July 12-14 meeting in Chicago
 - Technical Corrigendum and Amendment are being pursued in parallel.
 - WG#9 (IEC 62282-6-200 Ed.2 – *Micro Fuel Cells – Performance*)
 - CDV posted April 15, 2011. Comments due September 16, 2011.
 - Comments to USTAG by August 12th.
 - WG#11 (IEC 62282-7-2 – *Single Cell/Stack Performance – Solid Oxide Fuel Cells*)
 - Approved
 - Ira Bloom, Argonne Nat'l Labs. to represent the US.

9.4 NFPA
No update

9.5 CSA
No update, planned detailed update in September

10 Open Discussion & Other Issues

Next meeting: September 7, 2011 at 3:00 PM US EDT.