

NATIONAL HYDROGEN AND FUEL CELLS CODES AND STANDARDS COORDINATING COMMITTEE

Wednesday, January 5th, 2011
TIME: 3:00 – 4:30 pm (Eastern Daylight Time)
CALL-IN NUMBER: (641) 594-7000 Passcode: 824011#
WEBINAR: <https://www1.gotomeeting.com/register/499113000>

1 Roll Call

Bob Boyd	Nha Nguyen	Tom Joseph	
Amato, Anthony	Androsky, Anthony	Blake, Chad	Button, Jackie
Hall, Karen	Harris, Aaron	Hecht, Kelvin	Ruiz, Antonio
Hewett, Russell	Johnson, Bruce	May, Paul	Veenstra, Mike
McDermitt, Steve	Moncrief, John	Newhouse, Norm	Williams, Juana
Ohi, Jim	Prevish, Thomas	Radley, Chris	
Steele, Mike	Tchouvelev, Andrei	Thompson, Jill	

2 Review of Anti-Trust Guidelines

http://www.usfcc.com/members/antitrust_guidelines_rev.pdf

3 Review of/Corrections to December Draft Minutes (attached and can be found at www.hydrogenandfuelcellsafety.info/)

4 DOE/HQ Update Antonio Ruiz

Antonio Ruiz provided an update.

A fuel cell R&D solicitation has been issued for applications due March 23.

Work continues using a continuing resolution until the 4th of March.

Feb. 7 budget 2012 release is planned.

2011 - \$137M, \$9M for Codes and Standards

Market Transformation -- \$20M

Education -- \$1M

Senate -- \$174M

House -- \$137M

Compressed hydrogen workshop in February in Washington, D.C. February 14th and 15th.

14th – Compressed vessels and cost reductions

15th – Advanced storage methods

International efforts – Asia, India – Proceedings from the New Delhi meeting

PNNL CHP Solicitation has been issued.

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

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

Kelvin Hecht

Abstracts due January 15th for the 4th International Conference on Hydrogen Safety

Hyatt at Fisherman's Wharf San Francisco, CA www.ICHS2011.com

AGENDA

Continued

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

FCHEA Priority Matrix

Karen Hall
Robert Wichert

5 Discussion Topics

Discussion Leader

Hydrogen Fuel Quality

Jim Ohi

Jim Ohi provided an update. The recent focus has been on ASTM issues and laboratory round-robins.

ASTM

Jackie Button

Jackie Button provided an update.

WI 5847 has been published

22378 – total hydrocarbons is being published.

Sulfur will also be published shortly.

Interlab testing is being organized.

Bob Boyd is coordinating this with CGA 5.3

CGA G-5.3 has been revised, final edits in progress. It is harmonized with SAE 2719.

Publication is expected this quarter.

Certified laboratory sample gases are also being developed.

NIST

Juana Williams

Juana Williams provided an update.

Fuel Quality – National conference on weights and measures is meeting this month. The proposals from the US workgroup have been carried forward. The Laws and Regulations Committee has split the proposal into specifications and definitions. The US WG is being relied upon for updates. An e-mail request for updates has been issued. Information on effects is especially important.

Equipment – California is close to finalizing the review of gravimetric equipment. Some questions will need to be resolved, and then this will move forward.

National Institute of Standards and Technology (NIST)

Weights and Measures Division (WMD)

Report on the Development of Commercial Hydrogen Measurement Standards to the

January 5, 2011 – NHFCCSCC

by Juana Williams

(1) U.S. Weights and Measures Standards Development Process

Fuel Quality Regulation

The U. S. National Work Group (USNWG) for the Development of Commercial Hydrogen Measurement Standards has one remaining proposal on the national agenda, a draft hydrogen fuel quality regulation for NIST Handbook 130. In July 2010, the National Conference on Weights and Measures (NCWM) kept the proposal on its agenda, but designated it as an information item in recognition of ongoing U.S. and international committee work to develop a uniform fuel specification and corresponding test procedures.

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The proposal will be discussed at the 2011 NCWM Interim Meeting which will be held in Dallas, Texas on January 22-26, 2011. The proposal was carried over from 2010 to the 2011 NCWM Laws and Regulations (L&R) Committee agenda (Items 237-1 and 237-2 on pages L&-15 through L&R-18) with a slight format change. The agenda is available by clicking on Laws and Regulations Committee Interim Agenda (L&R) DOC | PDF on the NIST WMD web site at: <http://www.nist.gov/pml/wmd/pubs/pub15-11.cfm>.

Most recently, the fall 2010 regional U.S. weights and measures associations recommended the proposal be split into two separate agenda items a fuel quality specification and definitions of three relevant terms for gaseous hydrogen refueling applications. The terms recognized in the proposal are fuel cell, hydrogen fuel, and internal combustion engine.

The USNWG's input was requested by January 19th on the status of all committee work and any committee approved modifications to the specification, and any information on the availability of reports on the effects of constituents. Updates will be reported to the January 2011 NCWM L&R Committee and members during the work and open hearing sessions.

Equipment Test Procedures-NCWM National Type Evaluation Program (NTEP)
Dan Reiswig (California Division of Measurement Standards (DMS)) indicated that DMS is close to completing its review of the April 2008 DMS draft of a gravimetric test procedure for type evaluating commercial gaseous hydrogen refueling dispensers. Mr. Reiswig also noted that further input may be needed from equipment manufacturers. DMS's review included updating the draft checklist to reflect the appropriate sections of the 2011 NIST Handbook 44 Section 3.39 Hydrogen Gas-Measuring Devices - Tentative Code.

The next stage will be to prepare the draft checklist for a comprehensive review by the NCWM NTEP Measuring Sector Work Group on Hydrogen Gas-Measuring Devices.

SAE J2719

Mike Steele

Mike Steele provided an update. J2719 is waiting for methods to be published. Once the table is completed, J2719 can go to ballot. The next SAE meeting will be in March.

ISO TC 197 WG 12

Jim Ohi

Jim Ohi provided an update. The Draft International Standard should be released this quarter for five months of balloting. It was recommended that a US TAG meeting be held to discuss the comments.

ISO TC 197 WG 14

Karen Hall

Karen Hall provided an update. The Committee Draft is out for comment. The US Comments are due January 31, 2011. Please get comments to Jill Thompson. If you are interested in this topic, you can join the US TAG to make comments. Karen Hall will also submit comments.

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Sent: Tuesday, January 04, 2011 4:21 PM

Subject: Re: WG 14 Next Meeting

Dear Robert and everyone,

The next meeting of WG#14 is not set now.
The next meeting will be held at France, as we determined at Vancouver last September.
CD has been circulated and comments by 2011-03-10.
So, I expect the next meeting will be in May or April at France.

Shoichi KANEKO
Engineering Advancement Association of Japan
1-4-6 Nishi-Shinbashi, Minato-ku, Tokyo, Japan
Phone +81-3-3502-4444 Fax +81-3-3502-4964
E-mail tdd311@ena.or.jp

Fuel Cell Forklifts

Aaron Harris

Aaron Harris provided an update. A meeting was held in December. The next meeting is on January 18th. Two main issues are refueling and tanks. Indoor refueling and indoor dispensers are especially important at this point.

Tank Testing

SNL

Testing continues. Failures occurred at around 450 cycles with the largest engineered flaws failing first, as expected. No through-wall failures in the tanks have been observed. O-Ring failures, not through-wall failures, were responsible for the leakage and the failure to hold pressure. As-manufactured tanks have not failed, at greater than 15,000 cycles.

CSA

Josip Novkovic

No update.

NFPA 52/55

Paul May

Paul May provided an update. NFPA 2 is being edited for publication. Publication is expected before the middle of the year. Coordination with ICC will be worked through HIPOC. There will be a HIPOC meeting on February 17/18 in D.C. following the FCHEA conference.

NFPA 52 is considering removing hydrogen from the scope in favor of deferral to NFPA 2. This is being balloted now. NFPA 52 is open for public proposals until May 23. NFPA 55 will hold an ROP meeting at Intel in Chandler ARI, Feb. 8 – 10. If you wish to attend, contact Paul May.

6

Codes and Standards Organizations

All

This is the opportunity for CDOs, SDOs, Panels, Committees, etc. to provide updates and issues to the group.

ISO TC 197 – Hydrogen, Jill Thompson

January 2011 Update

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

1. Comments requested

AGENDA

Continued

- **N486**, ISO/CD 14687-3, *Hydrogen Fuel — Product Specification — Part 3: Proton exchange membrane (PEM) fuel cell applications for stationary appliances*

The U.S. TAG has been requested to comment on the draft of ISO/CD 14687-3. Comments are due by January 31, 2011.

3. Results from closed ballots

- Systematic review of **ISO 16110-1:2007**, *Hydrogen generators using fuel processing technologies — Part 1: Safety*

The U.S. TAG voted to *confirm*, and the proposed action by ISO/TC 197 is *confirm*. TAG members were requested to notify the U.S. TAG chair by Tuesday, January 4, 2011, of any concerns regarding this proposed action.

4. Recent meetings

- WG 15, *Gaseous hydrogen — Cylinders and tubes for stationary storage*
December 7-8 in Paris, France

Norm Newhouse provided an update. Issues were discussed relating to the document. An initial draft is being developed. Next meeting in March.

- WG 6, *Gaseous hydrogen and hydrogen blends — Land vehicle fuel tanks*
(joint with ISO/TC 22 and ISO/TC 58/SC 3)

December 16-17 in Vancouver, British Columbia

Norm Newhouse provided an update. All comments on the prior DIS were addressed. The primary document is intended to apply to heavy duty applications, not light duty vehicles. A draft is expected shortly.

IEC TC 105 – Fuel Cells, Kelvin Hecht

**January 2011 Meeting
of the
DOE Hydrogen
Codes & Standards Coordinating Committees
(DOE/FCHEA)**

Kelvin Hecht

TC105 – Fuel Cell Technologies

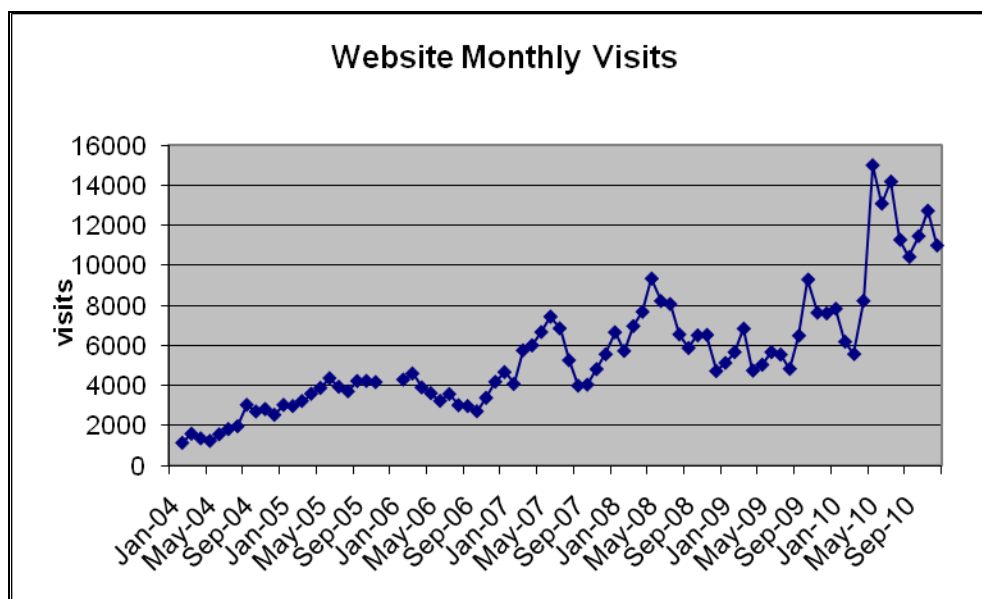
- **WG#3 (IEC 62282-3-1 Ed.2, *Stationary Fuel Cells-Safety*)**
 - **Vote on CDV by April 15, 2011.**
 - **US manufacturers are asked to comment.**
- **WG#4 (IEC 62282-3-2 Ed.2, *Stationary Fuel Cells-Performance*)**
 - **Vote on CDV by March 25, 2011.**

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- USTAG plans to approve.
- **WG#5 (IEC 62282-3-3 Ed.2, *Stationary Fuel Cells – Installation*)**
 - USTAG voted to approve.
- **WG#6 (IEC 62282-4-100 Ed.1, *Forklifts*)**
 - Vote on NWIP by March 4, 2011 – USTAG by February 4th
 - USTAG plans to support with Harris, Wichert & Chirdon as experts. Others?
- **WG#7 (IEC 62282-5-1 Ed.2, *Portable Fuel Cells –Safety*)**
 - Vote on CDV by February 4, 2011
- **WG#8 (IEC/DPAS 62282-6-150, *Micro Fuel Cells – Safety – Water reactive compounds in indirect PEM fuel cells*)**
 - Vote on NWIP by February 4, 2011.
 - USTAG plans to approve.
- **Meeting December 13-14; Frankfurt, Germany; NWIP –EN50465 (*Heating Appliance*)**
 - Ad hoc group will submit an NWIP
- **Questionnaire: To include “Flow Battery Systems” into TC105?**

www.fuelcellstandards.com



7 Open Discussion & Other Issues

Grounding during refueling question – This is covered in NFPA 52. There is a test for pad conductivity. Also see International Fire Code reference to EN 1081: 2004, Construction of Refueling Pads

Next meeting February 2, 2011.

AGENDA

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