

# **DRAFT MINUTES of the NHFCCSCC Webinar**

## **Monday Nov. 1, 2010**

1 Roll Call

Robert Wichert welcomed participants and called the roll. See Appendix A contains the list of participants.

2 Review of Anti-Trust Guidelines

Robert Wichert reminded members of the USFCC to be mindful of the antitrust guidelines.

[http://www.usfcc.com/members/antitrust\\_guidelines\\_rev.pdf](http://www.usfcc.com/members/antitrust_guidelines_rev.pdf)

3 Review of/Corrections to October Draft Minutes

The October draft minutes were reviewed and approved without comment.

4 DOE/HQ Update

Antonio Ruiz

No report.

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

[http://www.fuelcellstandards.com/calendar\\_new.html](http://www.fuelcellstandards.com/calendar_new.html)

Kelvin Hecht

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

Karen Hall

Kelvin Hecht noted several meetings for November 2010 on the calendars:

- ASME November 3 in Vancouver, British Columbia, Canada
- SAE Power Systems Conference November 2-4 in Ft. Worth, Texas and Detroit, Michigan.
- TG #1 of ISO/TC 197 WG #11 on November 4 by webinar
- SAE FC Vehicles standards November 9-11 in Troy, Michigan, and
- A workshop in support of ISO 17268 – 70 MPa connectors Nov 22-23 in Mainz Kastel, Germany.
- In addition, on December 7-8 there is an ISO/TC 197 WG 15 meeting scheduled in Paris, France.

6 Discussion Issues

Discussion Leader

NHFCCSCC Mission Statement & Meeting Format

Robert Wichert

Nobody offered any comments on the NHFCCSCC Mission Statement this month.

Fuel Cell Forklifts

Aaron Harris

No report was provided.

Tank Testing

SNL

Daniel Dedrick provided an update. The compressor repairs are being completed. Testing should resume shortly. The projected end date is now March 1, 2011.

Workshop at Sandia

SNL

Daniel Dedrick provided an update. Three events:

- November 2 – CHMC-1 Kickoff meeting in the morning. PM open brainstorming session to look at research work to support the CSA effort.
- November 3 – H2 Materials workshop. US Vehicle Manufacturers, Japanese Vehicle Manufacturers. European Vehicle Manufacturers. Gap analysis.
- November 4 – Fuel cell systems qualifications workshop: Manufacturers, Certifying agencies.

Workshop for 70 MPa Fueling Connector

Karen Hall

Karen Hall sent an invitation to a workshop that was recently announced to address 70 MPa refueling connectors for the ISO/TC 197 effort on 22-23 November. The workshop is open to all stakeholders worldwide. The question is whether anyone is going to attend, given the short notice.

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7 Codes and Standards Organizations

All

ISO/TC 197

Jill Thompson

1. Ballots closed – awaiting results

- N472, proposal to revise ISO/TR 15916:2004, Basic considerations for the safety of hydrogen systems

The U.S. TAG voted to approve the update as a TR. The ISO ballot terminated on July 19; results of the vote have not been circulated.

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

The U.S. TAG voted to confirm. The ISO ballot terminated on June 15; results of the vote have not been circulated.

2. Upcoming meetings

- WG 11, Gaseous hydrogen - Fuelling stations, TG 1  
Proposed teleconference for either November 4 or November 5
- WG 15, Gaseous hydrogen — Cylinders and tubes for stationary storage  
December 7-8 in Paris, France

3. Chair advisory group (CAG) on hydrogen storage

- The following individuals, who were nominated by the U.S. TAG to participate on this CAG, were selected:

Norm Newhouse, Lincoln Composites;  
Mark Toughiry, U.S. Department of Transportation; and  
Mike Veenstra, Ford Motor Company.

The first meeting of the CAG is scheduled for November 25 in Paris, France.

IEC/TC 105

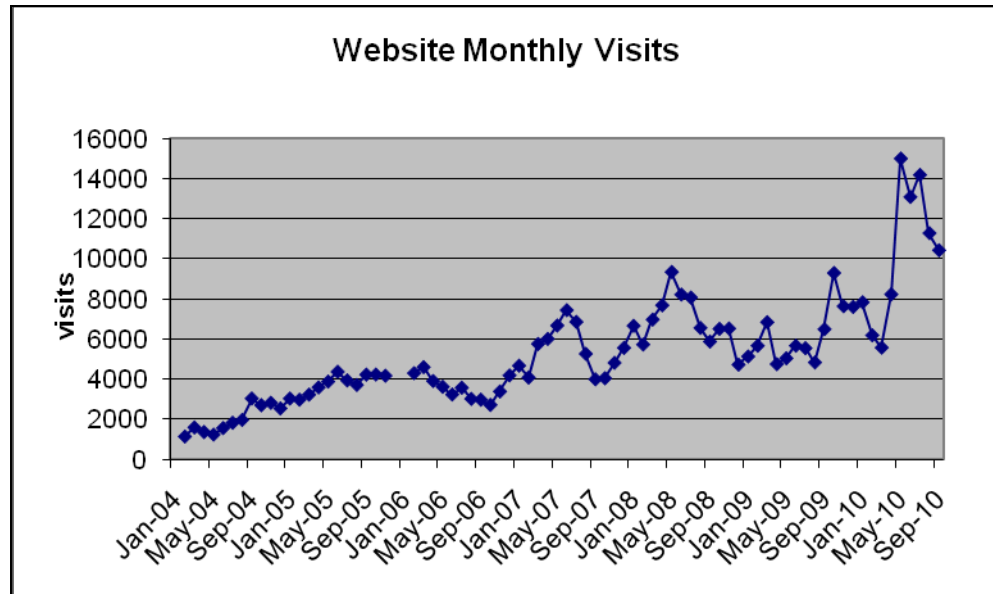
Kelvin Hecht

- WG#3 (IEC 62282-3-1 Ed.2, Stationary Fuel Cells-Safety)
  - CDV for 2nd edition was submitted today.
  - All comments submitted by FC1 were accepted.
- The International Standard has little value by itself. It needs to be adopted by nations before it has any weight. US, Japan, Korea, and EU are all committed to making this draft the basis for their safety standards. We're on our way in stationary power plant fields.
- WG#4 (IEC 62282-3-2 Ed.2, Stationary Fuel Cells-Performance)
  - Vote on CDV by March 25, 2011
- WG#5 (IEC 62282-3-3 Ed.2, Stationary Fuel Cells – Installation)
  - Comments on CD by January 14, 2011
- WG#7 (IEC 62282-5-1 Ed.2, Portable Fuel Cells –Safety)
  - Vote on CDV by February 4, 2011
- A new activity to address forklifts was proposed at the October Plenary meeting, and well received.
  - Jim Lyle was invited to represent the ITA (International Truck Association)
  - A working group will be organized in the 4th quarter of 2010.
  - The activity will include liaison with ISO TC 110, Industrial Trucks

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- September visitors - 10,434
- Visitor's home country
  - United States - 66%
  - China - 11%
  - Russia - 5%
  - Unknown - 4%
  - Germany - 2%
  - France - 1%
  - United Kingdom - 1%
  - Japan - 1%

There is going to be a meeting in Frankfurt, Germany on December 13-14 to discuss incorporation of heat and power and develop single standard to address safety and standards and be consistent with us standards FC1 and EN50465.

## 8 Open Discussion & Other Issues

Juana Williams provided an update:

(1) U.S. Weights and Measures Standards Development Process-National Type Evaluation Program (NTEP)

On October 1, 2010, the Measuring Sector for the National Conference on Weights and Measures, National Type Evaluation Technical Committee formed a subcommittee to develop a checklist of test procedures for commercial dispensers used to refuel hydrogen vehicles. In early December, it is anticipated that the subcommittee will begin work to refine the draft checklist. The California Division of Measurement Standards developed the first draft of the checklist in April 2008 and is currently updating the document. The basis for the checklist will be the 2011 NIST Handbook 44 Section 3.39 Hydrogen Gas-Measuring Devices - Tentative Code. A particular model(s) of a device

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is tested to an NTEP checklist to demonstrate its conformance to requirements. Type evaluation takes place prior to a device type being approved for commercial use.

### (2) Education and Outreach Event

On October 5, 2010, 35 participants in the 65th Southern Weights and Measures Association Annual Conference from both the public and private sectors of the weights and measures community attended a hydrogen training session. The session included a presentation on Commercial Hydrogen Measurement, followed by a ride on a hydrogen hybrid bus, and then a tour of the Columbia Hydrogen Fueling Station in South Carolina. This was the first opportunity for weights and measures officials representing 18 southern U.S. states to observe firsthand the latest operation, performance, and safety features in hydrogen refueling and related transportation technologies and to learn about the most recently adopted weights and measures requirements for this equipment. Participating official's agencies will be responsible for field inspection and test of hydrogen dispensers when they are used in commercial operations.

Robert Wichert noted that at the recent NFPA 52 pre-ROP meeting there was a discussion about taking hydrogen out of the scope of NFPA 52 and asked if anyone wanted to discuss it. Nobody offered any comments.

Tom Joseph announced a H<sub>2</sub>/CNG Workshop in India December 16-17, 2010. The program is being finalized by sponsors in India. Tom provided the following draft information for the minutes:

#### Draft program

Inauguration of Hydrogen Association of India (HAI)

Venue: Claridges Hotel (to be booked)

Date: 16th December 2010

Registration for Hydrogen Safety Workshop: 5.00 – 6.00 P.M.

Inauguration of HAI: 6.00 PM onwards

#### Program

1. Presentation of Bouquet
2. Lamp Lighting
3. Welcome by Director (R&D) – Hydrogen and HCNG Safety Workshop
4. Inauguration of Hydrogen Safety Seminar
5. Lecture by the Chief Guest on “Current Status of Hydrogen Application & Related Issues”
6. Success Story of WHTC by Director(R&D)/Prof. L.M. Das
7. Remarks by Ministry Representative
8. Inauguration of HAI
  - About HAI by the Secretary, HAI
  - Release of Logo by Chairman IOCL
  - 5 Minutes Laser Show depicting Logo of HAI and Hydrogen Energy
  - Release of HAI Constitution by NHA/WHA representative
  - Release of HAI Souvenir by Ministry representative

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9. Vote of Thanks

10. Ghazal & Dinner including thanksgiving to WHTC Lead Sponsors, Major Contributors, HAI Members etc. : 8.30 p.m. onwards

\*\*Approx. 125 PAX

Workshop on Hydrogen & HCNG Safety (Indian Oil R&D, Faridabad on 17th December 2010)

Registration –( 8.30 – 11.00 AM)

Registration fee: Rs. 6500/-  
Approx 150 pax

Technical Session – I (0930-1130 hrs.)

Chairman: to be decided

1. Update from Washington & Beijing workshop (US DoE Delegate)
2. NFPA 52, major revisions (for HCNG) from 2006 edition to 2010 edition (US DoE Delegate)
3. Metallic cylinders in hydrogen and HCNG applications, R&D report from one of the national labs (US DoE Delegate)

1130-1200 hrs.            Tea

Technical Session – II (1200-0130 hrs.)

Chairman: to be decided

4. Delhi Hydrogen three wheeler project and its pilot deployment from Nov.14, 2010 (UNIDO Project Team)
5. Use of type 3 tanks for on-board storage for the three wheeler project (UNIDO Project Team)
6. Technical, safety and regulatory review process for the use of type 2 tanks for on-board storage (UNIDO Project Team)

0130-0230 hrs.            Lunch

Technical Session – III (0230-0500 hrs.)

Chairman: to be decided

- Research on Hydrogen and HCNG ICEs (Prof. L.M. Das)
- HCNG Viability for Indian Market (Air Products)
- Hydrogen/HCNG kit testing and regulations (ARAI)
- ISO WG update from November meeting (ARAI)
- HCNG applications in India (IOC R&D)

Vote of Thanks & High Tea (5.00 PM onwards)

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Mike Veenstra asked if we could reduce the MB size of the agenda. Staff agreed to find ways to send the agenda without very large files. For example, the embedded reports could be made available as downloads on the committee webpage instead of imbedded in the e-mail version of the agenda.

**Next meeting – Wednesday, December 1**

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APPENDIX A

## ATTENDANCE

NATIONAL HYDROGEN AND FUEL CELLS CODES AND STANDARDS COORDINATING COMMITTEE  
(November 1, 2010)

<b>LAST NAME</b>	<b>FIRST NAME</b>	<b>ORGANIZATION</b>
<b>Button</b>	<b>Jackie</b>	<b>California Fuel Cell Partnership (CaFCP)</b>
<b>Collins</b>	<b>William</b>	<b>UTC Power</b>
<b>Dedrick</b>	<b>Daniel</b>	<b>Sandia National Laboratory</b>
<b>Hecht</b>	<b>Kelvin</b>	<b>ANSI, IEC and Consultant to NREL</b>
<b>Hewett</b>	<b>Russ</b>	<b>NREL Consultant</b>
<b>Jezierski</b>	<b>Kelly</b>	<b>Next Energy</b>
<b>Joseph</b>	<b>Tom</b>	<b>Bethlehem Hydrogen</b>
<b>Manchester</b>	<b>Christine</b>	<b>Regulatory Logic</b>
<b>Mough</b>	<b>John</b>	<b>State of California, Division of Measurement Standards</b>
<b>Moulthrop</b>	<b>Larry</b>	<b>Proton Energy Systems</b>
<b>Nakarado</b>	<b>Gary</b>	<b>Regulatory Logic</b>
<b>Novkovic</b>	<b>Josip</b>	<b>CSA America</b>
<b>Ohi</b>	<b>Jim</b>	<b>Consultant to DOE</b>
<b>Radley</b>	<b>Chris</b>	<b>Altery Systems</b>
<b>Richards</b>	<b>Mark</b>	<b>Versa Power Systems</b>
<b>Tchouvelev</b>	<b>Andrei</b>	<b>A. V. Tchouvelev &amp; Associates, Inc.</b>
<b>Thompson</b>	<b>Jill</b>	<b>Compressed Gas Association</b>
<b>Veenstra</b>	<b>Mike</b>	<b>Ford Motor Company</b>
<b>Weiner</b>	<b>Steve</b>	<b>PNNL</b>
<b>Wichert</b>	<b>Robert</b>	<b>US Fuel Cell Council (USFCC)</b>
<b>Williams</b>	<b>Juana</b>	<b>NIST Weights and Measures Division</b>
<b>Zajac</b>	<b>Andrea</b>	<b>Michigan Dept. of Environmental Quality/Storage Tank Unit</b>

Guests:

Steve Tucky, CSA Standards

Brian Schorr, Technology Transition Corporation