

**National Hydrogen and Fuel Cell Codes and
Standards Coordinating Committee (NHFCCSCC)
DRAFT MNUTES
Wednesday, January 4th, 2012**

1 Welcome and agenda additions

2 Review of or corrections to December draft minutes

3 DOE/HQ Update

Antonio Ruiz

Congress will be funding \$104 Million to the Fuel Cell Technologies Program in the Office of EERE.

Congress is supporting our efforts in these challenging financial times. This is a positive statement on Sunita Satyapal to her efforts.

Antonio has been traveling extensively. We will seek an update on the GTR meeting in the February meeting.

4 C&S Events and Fuel Cell Safety Information

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

Kelvin Hecht

Fuelcellstandards.com is now back to being funded!

January 9 – 11 Oslo, Norway – IEA HIA Task 31/Subtask A (Physical effects and knowledge gaps), hosted by Université of Québec, Trois-Rivières and Telemark University College, Porsgrunn, Norway. The purpose of the meeting is to develop specific work plan for Subtask A.

January 12 Comments to TC 105 US TAG - Single Cell/Stack Performance Test Methods for SOFCs.

January 23 Hearing of the National Conference on Weights and Measures – US Requirements for Commercial Hydrogen Fuel Quality

January 26 Comments on TC 105 US TAG - Stationary Fuel Cells - Installations

February 2 Comments to TC 105 US TAG - Fuel Cell Modules

February 7-10 IEEE SCC21

February 17 Comments to TC 105 US TAG on Amendment 1 to Micro Fuel Cells – Safety

February 23 – 24 IEC TC 105 WG12 – Small Fuel Cell Power Systems with Combined Heat and Power Output

February 27-28 IEC TC 105 WG 11 – Single Cell/Stack Performance for SOFC

February 29 – March 2 FC EXPO 2012

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

Karen Hall

In addition to depicting code and standard development meetings, the Hydrogen and Fuel Cell Safety Report also includes the large international conferences where there are opportunities for side meetings for standards organizations or that those scheduling meetings may wish to be aware of to avoid schedule conflicts.

If there are any stories you would like to see included in the Hydrogen and Fuel Cell Safety Report, please contact Karen Hall at khall@fchea.org.

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

Steve Weiner/Linda Fassbender

The quarterly Lessons Learned Corner was posted; the topic is hydrogen compatibility of materials.

Reflecting on a paper on web-based tools and student participation in a hydrogen conference, HYPOTHESIS IX, in Costa Rica, it was noted that as we think about developing new tools and products intended for specific stakeholders, we need to keep in mind that we can also reach people who are not necessarily working in hydrogen. By providing free and open tools, we can educate others; possibly attracting those that otherwise would not be interested in the industry.

Contact Steve Weiner at sc.weiner@pnnl.gov to be added to the distribution list for safety event and Lessons Learned Corner postings. Anyone interested in distribution will be sent a short synopsis with a direct link for access to the postings and archives.

5 Discussion Topics

Certification of Hydrogen Dispensing Stations

Robert Wichert

California Fire Code - Definitions

Labeled – equipment of materials to which has been attached a label, symbol, or other identifying mark of a nationally recognized testing laboratory, inspection agency or other organization.

Listed – Equipment, materials, products or services included in a list published by an organization acceptable to the fire code official and concerned with evaluation of products or services that maintain periodic inspection.

Even though listing and labeling is required, there is an alternate route called alternative materials and methods. This authorizes the fire code official to approve an alternative method that they find satisfactory, however, it requires a number of reports and data demonstrating that the equipment is safe. To take this route, a request for alternate means of protection is required.

Listed equipment for hydrogen includes hoses, hose connection, compressors, hydrogen generators, etc., all of which shall be listed and labeled for use with hydrogen.

It was pointed out that California is using the 2010 fire code; the current international code for 2012 has been updated and says all the equipment must be listed or labeled, or approved by alternate methods. However, the 2010 fire code is still the law in CA.

To meet the letter of the law, the equipment needs to be listed and labeled or have an approved alternate means of protection. It is Robert's belief that none of the nozzles being used are listed or labeled for use with hydrogen as the law states that they are required. He pointed out that it is still fine to use them, but additional work is required to get this alternative materials and methods approval. It should be the desire of industry to resolve the listing and labeling in advance of wide-scale deployment.

WEH Group

Andreas Willfort

The WEH presentation is available online at www.fchea.org/core/import/NHFCCSCC/WEH_H2_Jan2012.pdf.

Open Discussion

Open to the Committee

Robert Wichert: The branch of TUV which are CE marked are compatible for Europe, but are not necessarily compatible with the USA, but are not a nationally recognized testing lab for CA.

Bob Boyd: There is a TUV organization that is recognized NRTL, it requires communicating with the one that is recognized, and cross-certifying so to speak.

You must be on the nationally recognized testing laboratory to be recognized.

Jeff of Walter Precision: Is the OSHA listing of nationally recognized labs compatible to the CA fire code?

Robert Wichert: Yes, this is a good start.

The OSHA list is appropriate for 99.999% of the country. Some locales in CA will take that list and say yes you are on the list, but we only recognize you for certain testing means.

There is a UL facility in Germany; it is possible to get a UL listing.

Walter Precision: Are we looking for just the nozzle, the breakaway, or the assembly?

Robert Wichert: The fire code says that the equipment needs to be approved. The only thing that needs to be listed and labeled is the connection; this would mean the nozzle specifically.

Walter: From a safety standpoint, you would probably want all pieces labeled.

This will be brought up at the next SAE meeting to ensure that both the car and nozzle use the same labels, etc.

Robert Wichert: I have found that the dispenser in Emeryville is now listed and labeled, but not the nozzle.

Walter: The holdup is that this is a financial commitment for each procedure of listing and labeling, and it may be too early for designs that may be used commercially.

Robert Wichert: Since there is a dispenser that is listed and labeled currently, to get the nozzle listed and labeled, it is up to the manufacturer.

We can lay out a plan at the next meeting.

Robert Wichert: The purpose of this is to have nozzles listed and labeled so that this will become routine and not require additional studies or approval.

Julie Cairn: This was a gap, but now the gap is closing. CSA is continuing work on this.

CSA Hydrogen Certification

Bob Boyd

The CSA presentation is available online at www.fchea.org/core/import/NHFCCSCC/CSA_H2_Station_Certification_Jan2012.pdf.

Hydrogen Fuel Quality and Measurement

ASTM D.03-14

Jackie Birdsall

The ASTM D.03-14 minutes are available online at www.fchea.org/core/import/NHFCCSCC/ASTM_Minutes2011-12-12.pdf.

NIST

Juana Williams & Marc Buttler

The National Conference on Weights and Measures meeting is on the 22nd. Please see the notice from Chad Blake for more information. The information is also posted on the www.fuelcellstandards.com and www.hydrogenfuelcellsafety.info websites.

California DMS

John Mough/John Roach

No updates at present.

6 Codes and Standards Organization Updates

IEC TC 105

- WG#2 (IEC 62282-2 Ed.2 – *Fuel Cell Modules*)
 - FDIS posted. Vote preference to USTAG by February 2, 2012.
- WG#3 (IEC 62282-3-100 – *Stationary Fuel Cells - Safety*)
 - USTAG voted to approve FDIS with editorial comments.
- WG#5 (IEC 62282-3-300 Ed.1 – *Stationary Fuel Cells – Installation*)
 - FDIS posted. Vote preference to USTAG by January 26, 2012.
- WG#6 (IEC 62282-4-100/200) – *Fuel Cells Systems for Forklift Applications*
 - Steve Medwin, Raymond Corporation, has agreed to be nominated should a new convener be required.
- WG#8 (IEC 62282-6-100 am 1 – *Micro Fuel Cells – Safety*)
 - CD for amendment 1 has been posted. Comments to USTAG by February 17, 2012.
- WG#10 (IEC 62282-6-300 Ed. 2 – *Micro Fuel Cells – Interchangeability*)
 - CDV posted. Comments to USTAG by March 23, 2012.
- WG#11 (IEC 62282-7-2 – *Single Cell Performance Test Methods for Solid Oxide Fuel Cells*)
 - CD posted. Comments to USTAG by January 12, 2012.

ISO TC 197

The ISO 197 Plenary and WG 16 meetings were held since the last NHFCCSCC meeting.

The ISO TC 197 WG 16 draft document was submitted on December 30th.

Jay Keller provided an update on the hydrogen tanks issue. He and Antonio Ruiz met with Professor Chang, the foremost authority in China on high pressure tanks. The Ministry of Science and Technology of China has put on the table three significant initiatives going forward, all hydrogen related, and amounting to about \$5 million USD. One is basic science, one is international activity, and one is applied in the hydrogen materials work. Professor Chang was approached to contribute on work relating to hydrogen high pressure storage. This is very significant as 1. He seems to have turned tail and is now supporting hydrogen in these initiatives. 2. China reached out to the US DOE to partner and team on this issue.

A more in depth update on ISO TC 197 will be provided in the Hydrogen and Fuel Cell Safety Report at the end of the month.

NFPA

No updates at present.

ICC

The HIPOC committee submitted proposals to ICC on 2015 edition of the I-Codes by the January 3 deadline. The NHFCCSCC will need to continue following the codes development process.

The ICC code development schedule is available here:

<http://www.iccsafe.org/cs/codes/Documents/2012-13cycle/CodeDevSchedule.pdf>

CSA

No updates at present.

Others

No further updates.

7 Open Discussion & Other Issues

No additional agenda items were submitted to add to next month's meeting.

The next meeting will be held Wednesday, February 1st, 2012 3:00 PM EST. We will continue the webinar format and keep the discussion of listing and certification on the agenda.