

**National Hydrogen and Fuel Cell Codes and Standards Coordinating Committee
(NHFCCSCC)**

Wednesday, July 11th, 2012
TIME: 3:00 – 4:30 pm (Eastern Daylight Time)

Minutes

Attendees

Aaron Harris	Jay Keller	Norm Ingram
Anthony Androsky	Jennifer Hamilton	Robert Davidson
Antonio Ruiz	Jill Thompson	Robert Sale
Bill Collins	Jim Ohi	Robert Wichert
Brian Ladds	Juana Williams	Ron Nies
Bryan Clever	Julie Cairns	Spencer Quong
Chad Blake	Julie Weis	Steve Tucky
David Farese	Karen Hall	Thomas Prevish
Glenn Rambach	Kely Jezierski	Will James
Jacquelyn Birdsall	Nha Nguyen	

1 Welcome and agenda additions

2 Review of or corrections to June draft minutes

June minutes approved and will be posted.

3 DOE/HQ Update

Antonio Ruiz

No updates at this time.

4 C&S Events and Fuel Cell Safety Information

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

Kelvin Hecht

ACTION ITEM: Kelvin Hecht will be contacted regarding the CSA Portable Meeting to be held on August 9th.

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

Karen Hall

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

Steve Weiner

5 Codes and Standards Organization Updates

IEC TC 105

WG#3 (IEC 62282-3-100 – *Stationary Fuel Cells - Safety*)

- CSA FC1 has started the process to adopt (with USA deviations) as ANSI/CSA 62282-3-100

WG#4 (IEC 62282-3-201 Ed.1 – *Stationary Fuel Cells – Performance for small fuel cells*)

- WG met July 2-4 in Frankfurt, Germany

WG#5 (IEC 62282-3-300 Ed.1 – *Stationary Fuel Cells – Installation*)

WG#7 (IEC 62282-5-1 Ed. 2 – *Portable Fuel Cells*)

- FDIS posted June 1.
- Voting terminates August 3.

WG#8 (IEC 62282-6-100 am 1 – *Micro Fuel Cells – Safety*)

- WG met in Quebec City June 12-14.

WG#9 (IEC 62282-6-200 Ed.2) *Micro Fuel Cells – Performance*

- US TAG voted to approve FDIS.

WG#12 (IEC 62282-3-400 – *Small Stationary Fuel Cells with Combined Heat and Power Output*)

- WG held a 3 continent teleconference in June
- WG met in Frankfurt July 5-6

TC105 Plenary

- Kyoto, Japan November 8-9
- Workshop November 12
 - University of Yamanashi (JEMA)
 - Standards, Regulations, Codes and Conformity Assessment Procedures
 - Japan
 - China
 - Korea
 - Europe
 - North America

ISO TC 197

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

Recent ballot

- ISO/FDIS 17268, *Gaseous hydrogen land vehicle refueling connection devices*
TAG votes were due by June 15, and the ISO ballot ends on July 14. The TAG's position was “approve” with an editorial comment submitted regarding three figures in three of the Annexes.

Pending ballot

- ISO/FDIS 14687-3, *Hydrogen fuel — Product specification — Part 3: Proton exchange membrane (PEM) fuel cell applications for stationary applications*
TAG votes are due by August 31, and the ISO ballot ends on October 31.

Karen Hall asked if there was any information from ISO/TC 197 regarding nomination of a new Chair. Jill Thompson replied there has been nothing yet circulated.

NFPA

Robert Wichert asked why the NFPA 853 – *Installation of Stationary Fuel Cells* was discussed in the IEC TC 105 section.

NFPA 853 – Installation of Stationary Fuel Cells
Initial meeting for 2015 edition; Oct.31-Nov.1
NFPA Headquarters – Quincy, MA

ICC

ICC's Group A codes, including the International Building Code (IBC), International Fuel Gas Code (IFGC), and International Mechanical Code (IMC), are up for final action hearings at ICC's annual conference in Portland, this October 21-28.

CSA

The CSA Update is available online at
[http://fchea.org/core/import/PDFs/!CSA%20Group%20Update%20\(2012-06-29\).pdf](http://fchea.org/core/import/PDFs/!CSA%20Group%20Update%20(2012-06-29).pdf).

UL

No update at this time.

SAE

Mike Steele and Bill Collins are looking into the artwork supplied for the nozzles, as it appears incorrect.

ASTM

Jacquelyn Birdsall provided an update on ASTM activities.

First item of business is Tommy Rockward of Los Alamos National Lab has taken over as sub-committee chair. He was voted in at the June meeting.

WK23815 New Standard Estimation of Organic Halides Contained in Hydrogen and other Gaseous Fuels (Technical Contact: Bartel, Daniel)

Dan Bartel will re-write the method as a pass/fail for 50 ppb. This should address all comments from previous ballots. Sub-committee supports moving forward with this method as a pass/fail.

WK34574 New Standard Test Method for Determination of Trace Hydrogen Bromide, Hydrogen Chloride, Chlorine and Organic Halides in Hydrogen Fuel by Gas Chromatography (GC) with Electrolytic Conductivity Detector Cell (Technical Contact: Hsu, J P)

The method was divided into two with input from the committee: GCMS and ECD. GCMS is complete with levels lower than SAE – waiting on edits. New column purchased to move forward second part.

WK36929 D7650-2010 Test Method for Sampling of Particulate Matter in High Pressure Hydrogen used as a Gaseous Fuel with an In-Stream Filter (Technical Contact: Greisel, Manfred)

One year in the works - same methodology with the 35MPa device but at 1200 bar MWP (proven). Submitted to ballot for July 25.

WK37092 D7675-2011 Test Method for the Determination of Total Hydrocarbons in Hydrogen by FID Based Total Hydrocarbon (THC) Analyzer (Technical Contact: Frisch, Richard F)

Issue with when it was published originally - changes that were made and it has been submitted for concurrent ballot in April.

Others

6 Discussion Topics

Regulatory Matrix Review and Comment

Karen Hall

<http://www.fchea.org/members/NHFCCSCC/Regulatory-Matrix-6-29-2012.pdf>

ACTION ITEM: The NHFCCSCC members are asked to review the updated Regulatory Matrix and provide any comment at the next meeting.

Permitting and Installation of Hydrogen Fueling Stations

Connection Devices and Sensors

Robert Wichert

No report at this time.

CaFCP Station Implementation Team

Jennifer Hamilton

The Energy Commission has been holding a series of workshop. CaFCP has submitted to that docket. This lays out where we need to be by 2015. A series of white papers have been assigned by the CaFCP Steering Committee. A kickoff meeting on the white paper will be held tomorrow.

A discussion is on-going with station performance certification. CSA is coming in for that discussion on July 19th.

Ca DMS Metrology

Norm Ingram

NREL has purchased two tanks for the standard. One about 58 liters (holds approximately 2 kg) and an 87 liter (approximately 3.5 kg). Their timeline has a completed prototype projection of July 31.

Ca DMS Fuel Quality

Ron Nies

DMS continues to work on different methods for analysis and will likely start talking to other laboratories to compare notes.

SAE TIR J-2601 Compliance

Bob Boyd

There are two aspects of SAE J-2601 compliance: Performance and Functional Compliance:

SAE J-2610 “A” -Station “Performance Compliance” refers to pre-cooler temperature: The “A” Station -40 cooling window provides 4 to 5 minute fills and is preferred by OEMs over the “B”- Station cooling window (-20) which requires fill times of 10 to 20 minutes.

SAE “Functional Compliance” can be measured by compliance with CSA HGV-4.3 using the HDTA (Hydrogen Dispenser Testing Apparatus) as defined within HGV-4.3. Dispenser Functional Compliance with HGV-4.3 includes tests of communication protocols , fuel temperature “windows“ and fueling speed limits and targets. H70 Dispensers can be Certified or Listed to HGV-4.3 as a SAE J-2601 “A” or “B” station.

Hydrogen Fuel Quality and Measurement

ASTM D03.14

Jennifer Hamilton

See above update by Jacquelyn Birdsall.

NIST

Juana Williams & Marc Buttler

U.S. Weights and Measures Standards Development Process

National Forum Update

The National Conference on Weights and Measures (NCWM) meets July 15-19, 2012 and will vote on Laws and Regulations (L&R) Committee Agenda Items 232-7 (a proposal to modify the definition of hydrogen fuel), 237-9 (a proposal to recognize SAE 2719 as the hydrogen fuel quality standard), and 237-10 (a proposal for definitions of the terms hydrogen fuel, ICE, and fuel cell vehicle). These proposals will become requirements for a hydrogen fuel specification and related definitions in NIST Handbook 130. To date members of the NCWM have submitted

comments in support of the proposals. Stakeholders are encouraged to contact NCWM L&R Committee Chair Judy Cardin (judy.cardin@wisconsin.gov) to provide input on these latest proposed new requirements for hydrogen.

International Hydrogen Device Standards

OIML R 81 "Dynamic measuring devices and systems for cryogenic liquids"

A first committee draft (1 CD) of R 81 Part 1: Metrological and technical requirements and Part 2: Metrological controls and performance tests are still under internal review at NIST. The 1 CD is now scheduled for distribution in early August 2012 to national stakeholders and OIML Technical Committee (TC) 8/Subcommittee (SC) 6 for their review and comment.

OIML R 139 "Compressed gaseous fuel measuring systems for vehicles"

NIST OWM distributed the first committee draft of OIML R 139 on June 14, 2012 for input from national stakeholders so that a U.S. position could be developed on the draft document. The comment period closed on July 9, 2012. Comments will be forwarded before the comment period closes on August 6th to the Secretariat (the Netherlands) for consideration along with input from other members of OIML TC 8/SC 7.

Please contact Juana Williams by email at: juana.williams@nist.gov for additional information or to be added to the distribution list for the draft documents.

7 Open Discussion & Other Issues

The next meeting of the NHFCCSCC will be held on August 1, 2012 at 3:00 PM EDT.