

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

**Wednesday, September 4, 2013  
TIME: 3:00 – 4:30 pm (Eastern Daylight Time)**

**Draft Minutes**

**Attendees**

**Aaron Harris  
Carl Rivkin  
Jackie Birdsall  
Jay Keller  
Jesse Schneider  
John Grimes**

**Juana Williams  
Julie Weis  
Karen Hall  
Kelvin Hecht  
Ken Loewenthal  
Mike Steele**

**Norm Newhouse  
Ron Nies  
Steve Tucky  
Will James**

**1 Welcome and Housekeeping Items**

Review of anti-trust guidelines

[http://www.fchea.org/core/import/PDFs/ANTITRUST\\_GUIDELINES.pdf](http://www.fchea.org/core/import/PDFs/ANTITRUST_GUIDELINES.pdf)

Approved meeting agenda.

Reviewed and approved August draft minutes.

Review and modify Committee roster – Updated version available online -  
<http://www.fchea.org/core/import/NHFCCSCC/NHFCCSCC-Roster-9.04.2013.pdf>

**2 DOE/HQ Update**

Will James

Quiet – preparing for ICHS next week in Brussels. Hosting a webinar – USA and EC to outline some safety databases and lessons learned- start of a series of webinars – Sept 10<sup>th</sup>, 10am ET. E-mails for registration went out today.

Oct 30 webinar as follow-up to Berlin workshop in June.

GTR - FCEV approved at UN WP 29 at the end of June. Will serve as input to the FMVSS. US has up to 2 years to adopt it.

**3 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/meetings.asp>

Karen Hall

Connor to add ISO/TC 197 meetings in December.

## 4 Codes and Standards Organization Updates

### IEC TC 105

Kelvin Hecht

- WG#1 (IEC 62282-1 Ed.3 – *Terminology*)
  - Draft Technical Specification posted for vote. USTAG voted to accept without comment.
- WG#4 (IEC 62282-3-201 Ed.1 – *Stationary Fuel Cells – Performance for small fuel cells*)
  - Final Draft International Standard has been approved.
- WG#4 (IEC 62282-3-200 Ed.2 – *Stationary Fuel Cells – Performance*)
  - 2<sup>nd</sup> edition in progress.
  - Next meeting scheduled for November 4-5 in Frankfurt, Germany.
- WG#6 (IEC 62282-4-101 – *Fuel Cell Systems for Forklift Applications – Safety*)
  - Committee Draft for vote (CDV) posted for comments and vote in July. Comments to USTAG by September 16<sup>th</sup>.
  - Next meeting scheduled for November 5-6 in Frankfurt, Germany.
- WG#8 (IEC 62282-6-101 – *Micro Fuel Cells – Safety*)
  - 2<sup>nd</sup> edition in progress
  - Next meeting scheduled for November 4-6 in Frankfurt, Germany.
- WG#9 (IEC 62282-6-200 Ed.2 – *Micro Fuel Cells – Performance*)
  - FDIS approved. Publication expected by March 2013.
  - Next meeting scheduled for November 6 in Frankfurt, Germany.
- WG#10 (IEC 62282-6-400 - *Micro Fuel Cells – Power & Data Interchangeability*)
  - Comments to CD posted in July. CDV will be posted by September.
  - Next meeting scheduled for November 5-6 in Frankfurt, Germany.
- WG#11 (IEC TS 62282-7-2 *Single Cell – Test Methods For Solid Oxide Fuel Cells*)
  - USTAG voted to accept Draft Technical Specification.
- WG#12 (IEC 62282-3-400 – *Small Stationary Fuel Cells with Combined Heat and Power Output*)
  - CD in progress.
  - Next meeting scheduled for November 5-6 in Frankfurt, Germany.

### ISO TC 197

Jill Thompson

Jay Keller provided a brief update. Things are moving forward. Jay is a Technical Program Director and member of the Technical Advisory Board for ISO/TC 197. NWIPs presented at the last plenary are all moving forward to vote. Plenary scheduled for December 5-6. WG meetings may be scheduled for Dec 3-4. Official announcements are due soon.

### NFPA 2

Martin Gresho

No report.

### NFPA 853

Karen Hall

NFPA 853 First Draft TC FINAL Ballot Results (F2014). All ballot items received the necessary affirmative votes to pass ballot.

Next steps:

- Second Draft (previously Report on Comments (ROC))
- Public Comment Closing Date for Online Submission: 11/15/2013
- Public Comment Closing Date for Paper<sup>†</sup> Submittal: 10/11/2013
- Paper Submittals are considered any submission other than the online submission system
- Second Draft Report Posting Date: 7/18/2014

**ICC**

**Robert Sale**

No report

**CSA**

**Julie Weis**

CSA presentation available online at

<http://www.fchea.org/core/import/NHFCCSCC/CSA-September-2013.pdf>.

**Hydrogen Dispensing Testing Apparatus (HDTA)  
Status Update**

**Ken Loewenthal**

Progressing – not much new to report – no date to announce yet – perhaps in the next few weeks.

**UL**

**Laurie Florence**

No report

**SAE**

**Mike Steele  
Jesse Schneider**

Mike Steele – SAE face to face Sept 10-11. Interface WG J2601, J2799 issues. J2601-3 heavy duty may have something. J1766 Safety and GTR, J2579. J2990-1 may hold over till Thursday morning.

Jesse Schneider – J2799 (Communications IRDA for fueling) has been frozen. Expected to ballot in September. Moving from TIR to standard. Has additional capability for more characters than the original TIR.

J2601 – Final Draft has been distributed internally with significant feedback and comments. 69 pages of comments are to be reviewed in the September meeting. Also a call today. Tables are complete. Details on text now under discussion. May be October when balloting starts.

**ASTM**

**Tommy Rockward**

No report

## 5 Discussion Topics

### Regulatory Matrix Review and Comment

**Karen Hall**

Karen highlighted changes since last version – addition of detail for ISO/TC 22/SC23 vehicle standards, ASTM test methods, and IEEE Interconnect Standards. Participants asked to review the matrix. Comments can be submitted to Karen Hall at [khall@fchea.org](mailto:khall@fchea.org).

### Permitting and Installation of Hydrogen Fueling Stations

#### CAFCP Station Implementation Team

**Jennifer Hamilton**

No report. Need to consult with Jennifer on title of this group now.

#### Ca DMS Metrology

**Norman Ingram**

CEC hosted recent workshop for dispenser. Considering creating 3 classes. 3%, 5%, 10%. 45-day comment period on regulatory package – to go out soon.

#### Ca DMS Fuel Quality

**Ron Nies**

CDFD/DMS is adopting SAE Fuel Quality document by reference. Likely to be adopted end of next quarter.

Held workshop with ASTM. Getting conversations started – inter-laboratory studies going. To get methods finalized. Will be meeting monthly. Based on CEC-funded project work.

#### SAE TIR J2601 Compliance

**Jesse Schneider**

Workshop at NOW with DOE and NEDO. Workshop results will be released by webinar as described above in DOE report. The 3 geographical areas represented at the meeting (Europe, Asia, North America) agreed to use J2601 as a basis for the 1<sup>st</sup> generation hydrogen infrastructure. There is a need to build a regional-specific hydrogen dispenser test device.

### Hydrogen Fuel Quality and Measurement

#### NIST

**Juana Williams**

(1) International Hydrogen Device Standards

*OIML Recommendation 81 (R 81) "Dynamic measuring devices and systems for cryogenic liquids"*

This is a reminder to both the hydrogen and weights and measures communities that comments are due by the **September 30, 2013** deadline on the first working draft (1WD)

of R 81 that was distributed on May 20, 2013. This draft model regulation includes the metrological and technical requirements and metrological controls and performance tests that apply to measuring devices and systems used for the dynamic measurement of cryogenic liquids in stationary, vehicle mounted, and vehicle refueling applications.

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

The NIST Fluid Metrology Group (FMG) and the Office of Weights and Measures (OWM) will work together to further refine hydrogen gas dispenser field test methods. The purpose of this work is to evaluate the practicality and uncertainty of the three field test methods: (1) gravimetric, (2) PVT, and (3) master meter that are recognized in NIST Handbook 44 for hydrogen gas dispenser field testing. This work will be done in two phases: (1) a laboratory test phase and (2) a field test phase. Phase I began August 1, 2013 and will run through December 31, 2013 in NIST's Transient Flow Facility. Phase II is planned for January 1, 2014 through September 30, 2014.

(3) Change in NIST OWM Staff

Marc Buttler, who has been the NIST Co-Technical Advisor to the DOE/NIST sponsored USNWG on the Development of Commercial Hydrogen Measurement Standards, has accepted a position with industry. His last day at NIST was July 19, 2013 and he will be missed.

If you have questions or comments regarding the USNWG or NIST OWM's work on hydrogen projects in the areas of device standards, test procedures, or hydrogen fuel specifications, please contact Juana Williams by email at: [juana.williams@nist.gov](mailto:juana.williams@nist.gov) or by telephone at (301) 975-3989.

## 6 Open Discussion & Other Issues

### Roster

Reviewed roster. Update to be provided to NREL.

### H2USA

H2USA held a kick-off meeting August 8<sup>th</sup>.

H2USA has established four Working Groups to support the overall H2USA Mission:

*To promote the commercial introduction and widespread adoption of FCEVs across America through creation of a public-private partnership to overcome the hurdle of establishing hydrogen infrastructure.*

The four Working Groups are listed below. The names of the Working Groups are subject to change as a result of the H2USA Launch Meeting held on August 8<sup>th</sup>.

- Hydrogen Fueling Station Working Group
- Market Support and Acceleration Working Group

- Financial Infrastructure Working Group
- Locations Roadmap Working Group

Details will be provided when available.

**Next Meeting** Wednesday October 2, 2013.