



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

**Wednesday, February 1, 2017
TIME: 3:00 – 4:30 pm (Eastern Standard Time)**

Minutes

Attendees

**Bob Boyd
Carl Rivkin
Connor Dolan
Douglas Olenick
Eric Nelson
Ernst Baumgartner**

**Jay Keller
Jennifer Hamilton
Juana Williams
Karen Quackenbush
Kelvin Hecht
Laura Hill**

**Nick Barilo
Norm Newhouse
Sara Marxen
Susan Bershad
Ralph Richter
Rob Neal**

I. Welcome and Housekeeping Items

FCHEA's anti-trust guidelines - Available on FCHEA's members only website and a copy can be provided to you on request

Review meeting agenda - Approved

Approve January minutes - Approved

II. DOE/HQ Update

Will James

Laura Hill – Under continuing resolution. Waiting to get some resolution as to Rick Perry's confirmation.

III. C&S Events and Fuel Cell Safety Information

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

Kelvin Hecht

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

Karen Quackenbush

Request: technical resource updates for the Hydrogen and Fuel Cell Safety website. Any committee members who have materials they would like hosted on the website can send them to Karen Quackenbush (khall@fchea.org) or Connor Dolan (cdolan@fchea.org).

Request: Please notify Karen or Connor of any meetings / events to add to the calendar.

To add -- NFPA 2 - April 4-6 at Toyota facility in Torrance

IV. Global Technical Regulations

Nha Nguyen

Karen Quackenbush - Meeting in December on the GTR. Will determine when the next technical work will be moving forward.

V. Codes and Standards Organization Updates

IEC TC 105

Kelvin Hecht

Active Working Groups Requiring Attention

- WG 2 Modules
 - Issued notice of intent to produce an updated revision
 - CD expected in March 2017
- WG 3 Stationary Fuel Cell Power Systems
 - CD for next edition posted
 - Comments due to US TAG by March 1
- WG 4 Forklifts
 - Final Draft for *Forklifts-Performance* posted
 - Vote due to US TAG by February 22
- WG 5 Portables
 - CD for next edition posted
 - Comments due to US TAG by March 1

New Activities

- Proposed New Work Item
 - Life-cycle environmental aspect of Stationary Fuel Cells
 - Raw materials
 - Operation
 - Disposal
 - Seeking US participants
 - February 10

ISO/TC 197

Glenn Scheffler / Jay Keller

No significant activities since last meeting.

NFPA 2

Susan Bershad

First draft continuation meeting planned at Toyota facility in Torrance in April 4th, 5th, and 6th. A number of task groups preparing materials for this continuation meeting. Please ensure you provide your RSVP.

An agenda will be circulated ~2 weeks in advance of the meeting.

ICC

Bob Davidson

No report at this time.

CSA**Sara Marxen**

CSA HGV 4.3 Technical Subcommittee held a kickoff meeting to discuss the next edition of HGV 4.3 to update as necessary, and include the MC-Formula Based Protocol that is in the current edition of SAE J2601. The next meeting of the TSC is being planned for early March and will include a review of any TSC member comments on the published Standard.

CSA is looking at facilitating a Hydrogen Stakeholder Forum in Ottawa, Canada in late March 2017 to update the US National Template, create a Canadian National Template, develop a collaborative strategy for North America (US & Canada) and develop a roadmap (Research & Development, Codes & Standards and Training) for each industry segment (Vehicle, Dispensing, Storage & Infrastructure). Logistics on this Forum are still pending.

SAE**Mike Steele**

No report at this time.

ASTM**Tommy Rockward**

No report at this time.

ASME**John Grimes**

No report at this time.

VI. Discussion Topics**Facilitating Deployment****Carl Rivkin**

Utilizing information at NREL to work with organizations doing alternative fuels training, primarily community colleges and others, to work with them to take hydrogen station maintenance lessons learned and get into larger alternative fuels curriculum. Utilizing both onsite data at NREL, as well as data from deployed stations.

http://www.nrel.gov/hydrogen/proj_tech_validation.html

H₂USA Activities**Karen Quackenbush**

RCS Task Team continues to work to identify science-based information to support facilitation of positive regulatory environment to deploy fuel cell vehicles.

Submitting abstract to provide presentation for 2017 National Fire Marshals conference in July/August. Working on white paper to support this presentation.

Regulatory Matrix Review and Comment**Karen Quackenbush**

New version of the matrix as of December 21, 2016, available here -

<http://www.fcchea.org/s/FCHEA-Regulatory-Matrix-markup-December-31-2016.pdf>

VII. Permitting and Installation of Hydrogen Fueling Stations

Ca Station Implementation

Jennifer Hamilton

25 retail hydrogen stations online currently. Several are in commissioning phase.

Waiting for notice of proposed awards from the CEC. Expected soon.

Recently released AB 8 report from CEC and CARB. States getting to 100 stations, but much discussion is getting passed 100 in California.

<http://www.energy.ca.gov/2017publications/CEC-600-2017-002/CEC-600-2017-002.pdf>

Roughly 2,000 cars on the road currently. The stations are busy.

The CAFCP station map is available on their website www.cafcp.org, as well as the SOSS at <http://m.cafcp.org/>.

Ca DMS Fuel Quality / Metrology

Kevin Schnepf

No report at this time.

Fueling Compliance

Sara Marxen

No report at this time.

Legal Metrology Standards Hydrogen Fuel Quality and Measurement

Juana Williams

International project TC 8/SC7/project 7 as it relates to the hydrogen requirements in OIML R 139 *Compressed gaseous fuel measuring systems for vehicles*

The focus of an upcoming 2017 international project to address hydrogen dispenser requirements in R 139 will be: 1) to recognize the “pre-cooler,” depressurization correction device, and compressors as part of the measuring system; 2) expanding the maximum permissible meter errors to recognize two new accuracy classes; 3) setting limits on the maximum value at 1 kg for the manufacturer’s declared minimum measure quantity (MMQ); 4) establishing an acceptable method to evaluate and correct for the maximum value of the depressurized quantity; 5) establishing the maximum permissible error for repeatability tests; 6) that verification test may be performed onsite using either a weighing or master meter test method; and 7) no endurance tests is required for dispensers equipped with a Coriolis type meter. The first project group meeting will be held in Yokohama City, Japan from February 28, 2017 through March 2, 2017 for OIML TC 8/SC 7/project 7

Ralph Richter – will be attending meeting in Yokohama. If you have any questions on the meeting and / or are interested in attending as part of the US delegation, please contact Ralph at Ralph.richter@nist.gov / 301-975-3997.

VIII. Open Discussion & Other Issues

Non-SAE J2601 Fuelings

Bob Boyd/Spencer Quong

Just had subcommittee meeting today. Language for 2020 edition of NFPA 2. Going into first draft will have public comments on it long before get to then. General issue is that we have determined that we need some kind of secondary confirmation that the vehicle or vehicle system really is a H70 vehicle. Most will use the communications protocol as a means for secondary confirmation. The implication here is that if there is damage done to the dispenser and the communications system does not work, then people could get half fills. With 25 stations and 2,000 cars, the stations are in heavy use.

There are other methods of secondary confirmation, have not come together as an industry to address though. Could be RFID chip added to fueling door of car and antenna system that matches.

Karen – NFPA 2 task group working on this now, encourage anyone interested to contact Bob in next few days. Group will meet a couple more times before making recommendation.

Other Issues?

As these meetings have not typically gone over one hour in the past 8-10 months, we are considering scheduling future meetings for one hour rather than 90 minutes. There were no objections raised.

IX. Next Meeting - Wednesday, March 1, 2017 at 3:00 PM Eastern