



Fuel Cell &  
Hydrogen Energy  
Association

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

**Wednesday, March 2, 2016  
TIME: 3:30 – 4:30 pm (Eastern Standard Time)**

**Agenda**

**Attendees**

**Aaron Harris  
Bill Collins  
Brent Hartman  
Carl Rivkin  
Connor Dolan  
Eric Nelson  
Ernst Baumgartner  
Jay Keller**

**John Grimes  
Jackie Birdsall  
Jennifer Hamilton  
Karen Quackenbush  
Laura Hill  
Marcia Poxson  
Norm Newhouse  
Sara Marxen**

**I. Welcome and Housekeeping Items**

- The Committee reviewed FCHEA's anti-trust guidelines - Available on FCHEA's members only website and a copy can be provided to you on request.
- The Committee reviewed the meeting agenda.
- The Committee approved the February draft meeting minutes.

**II. DOE/HQ Update**

**Will James**

Laura Hill – No updates at this time.

**III. 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 Quackenbush**

**Action:** Add WHEC in June in Span

**Action:** Add CAFCP WG Meetings next week

**Action:** ASME Meeting – March 23<sup>rd</sup> in New York City

**Action:** ASME Code Week meetings September 21<sup>st</sup>

**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](mailto:khall@fchea.org)) or Connor Dolan ([cdolan@fchea.org](mailto:cdolan@fchea.org)).

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

#### **IV. Global Technical Regulations**

**Nha Nguyen**

Karen noted that an update is expected in a month or two.

#### **V. Codes and Standards Organization Updates**

##### **IEC TC 105**

**Kelvin Hecht**

Karen mentioned the WG 03 meeting coming up in Washington, D.C. this June as well as discussed the FCHEA Portable Power Working Group's interest in seeing WG 08 activities move forward.

##### **NFPA 2**

**Martin Gresho / Susan Bershad**

Karen stated that the public comment period for NFPA 2 2019 edition is open until June 29, 2016.

Susan Bershad (NFPA 2 staff) will be making a presentation to the regional directors at NFPA on NFPA 2. Members of this Committee are providing input to Susan.

##### **ICC**

**Bob Davidson**

Karen noted that we are still in waiting mode for ICC. The current comment period has passed, and the next step is Committee Hearings for Group B codes. The hearing schedule for the International Fire Code (IFC) is available on the ICC website:

<http://www.iccsafe.org/wp-content/uploads/2016-Group-B-CAH-Hearing-Schedule.pdf>.

##### **CSA**

**Sara Marxen**

Sara Marxen provided a presentation, which is available at [www.hydrogenandfuelcellsafety.info/s/CSA-Group-Update-2016-03-02.pptx](http://www.hydrogenandfuelcellsafety.info/s/CSA-Group-Update-2016-03-02.pptx).

##### **SAE**

**Mike Steele / Tim McGuire**

The Committee noted that the SAE meetings are being held next week in Torrance, California.

##### **ASTM**

**Tommy Rockward**

[Tommy Rockward sent in the following report.

Recently had a conference call with Toyota and PNNL in performing inter-laboratory studies (ILS). Both groups are interested in performing these ILS's and are capable of doing at least five of eight. Concerns regarding funding was raised.

Bill Collins noted that ASME B31.12 will be meeting March 23<sup>rd</sup> at ASME Headquarters in New York City.

## **VI. Discussion Topics**

### **Facilitating Deployment**

**Carl Rivkin**

Outreach activity being coordinated and directed by Will James at DOE HQ Safety, Codes, and Standards to support refueling stations and repair garage deployment in the Northeast. Looking at New York City and Boston in May timeframe. Partners involved include NREL, PNNL, Air Liquide, and Toyota.

Supporting development of a video "Permitting Hydrogen Fueling Stations" being conducted by Orange County Fire Authority. That video is 94% complete and will be out soon. The video will be helpful for AHJs who are not familiar with this technology when dealing with permitting for hydrogen stations and will be distributed on the H2Portal.

Jennifer Hamilton discussed recent talks with Tyson at California GoBiz in getting the Governor's office more involved in outreach and AHJ education events. Provided some talks recently at Hazmat and other events, including legislative outreach and education and train the trainers.

Karen mentioned that the issue of repair garages was discussed on today's FCHEA Board of Directors meeting as a good example of way to characterize street level activity for those not active in codes and standards work.

### **H<sub>2</sub>USA Activities**

**Karen Quackenbush**

Karen highlighted Regulations, Codes, and Standards activities on developing materials and resources to allow those working toward identifying and removing regional barriers to deployment, for example placarding of fuel cell vehicles, Maryland bridges and tunnels issue. Coordinating activities with industry.

Jay asked the Committee to communicate other needs so that H<sub>2</sub>USA we can tailor new talking points and briefing papers, or add to existing ones.

### **H2FIRST**

**NREL/SNL**

Karen discussed H2FIRST's activities in soliciting input from industry on new projects such as delivery of hydrogen and set back distances. They are looking to hold a meeting in the near-future with the H<sub>2</sub>USA coordination panel. If anyone has potential research topics to pass along, please let us know.

### **Regulatory Matrix Review and Comment**

**Karen Quackenbush**

A new version came out in early December. Most changes last quarter were in CSA, SAE, ISO activities that moved forward.

<http://www.fcchea.org/s/FCHEA-Regulatory-Matrix-clean-copy-31-December-2015.pdf>

Comments can be submitted to Karen Quackenbush at [khall@fchea.org](mailto:khall@fchea.org).

A draft of the next version is expected in advance of the next meeting.

## VII. Permitting and Installation of Hydrogen Fueling Stations

### Ca Station Implementation

Jennifer Hamilton

The CaFCP has a new website. The new station map has access to an excel document that is updated weekly with station progress in California.

CaFCP held a recent webinar on hydrogen station status, resources and information for this is available here- <http://cafcf.org/downloads>. A YouTube recording is available here - <https://www.youtube.com/watch?v=Dc4Qbp65hlc>. And the SOSS is linked at the bottom of CaFCP's public website and also at the bottom of our Station Map at – <http://m.cafcfc.org>

### Ca DMS Fuel Quality / Metrology

Kevin Schnepf

No update at this time.

### Fueling Compliance

Sara Marxen / Jesse Schneider

Jay discussed ISO TC 197 WGs on this topic, which met last week in Japan. WG 27, 28, and 24 met. WG 27 is fuel quality, WG 28 is quality assurance. Fuel Quality New Work Item Proposal is to revisit 14687-1, -2, and -3 to pull these multiple documents into one document. The group is in need of guidance, concerns raised in regards to scope.

Bill Collins noted that those document's thresholds are based on DOE test data.

Jay noted that the WG 28 is focusing on fuel quality assurance, not to revisit the threshold levels. There are many that would like to see them relaxed. May not like the answer if we do our due diligence then we may see them tightened rather than relaxed due to reduced platinum loading. WG 28 is more mature, 2<sup>nd</sup> meeting held. Questions and comments in WG 28 are honed in terms of what needs to happen in terms of fuel quality assurance. Some want to revisit the tolerances this job is for WG 27

Aaron Harris asked if there was any discussion with regard to analysis on the analyzing equipment and the production quality exists today. The standard is based on the tolerances of the fuel cell, the other factors are challenging to nail down is the quality of gas produced today with regards to those constituents and the availability of analysis equipment.

Jay said that ISO is working this area. There is need to appreciate when the standards were written it was in regards to PEM fuel cell reacting to impurities, the international communities spent large amounts of money to do testing at laboratories around the world. There will now be a reluctance within DOE and other entities to revisit this topic with the same robustness that was undertaken initially.

This WG 28 is investigating a quality assurance, quantifying what happens if we miss the tolerance by X, and how damaging that effect is. This notion has been alive in the group for the last two meetings. It is gaining traction, but it does not belong in WG 28, it belongs in

WG 27. If we deviate, it goes to tolerances and needs to be kept separate from quality control.

## **Legal Metrology Standards Hydrogen Fuel Quality and Measurement**

**Juana Williams**

No update at this time.

### **VIII. Open Discussion & Other Issues**

Jay Keller highlighted WG 24 activities, noting that at the plenary in December, two things occurred. One, ISO TC 197 withdrew a previous Technical Specification 20100 on stations. It was withdrawn with the notion that given current station designs following 20100 could lead to unsafe installations. ISO had a moral obligation to withdraw. Second activity was it produced TR 19880-1, approved late Fall – for Fueling Stations. Formal vote to approve to move from a TR to a TS, passed. Changed from TS 20100 to TS 19880-1, now moving to a full standard. On very fast timeframe. Hope to have draft document for vote by the end of this month.

Calendar for ISO meetings, to be co-located with the AMR? Those meetings have not yet been scheduled. The station meetings 24, 27, and 28 will be held a week following WHEC in Germany. WG 21 has been suggested to meet in Germany or Japan. Have to figure out who can attend and what makes sense. Also working on WG 22 and 23. Hope to set meeting times soon.

### **IX. Next Meeting**

Next meeting to be held on Wednesday, April 6 from 3:00 – 4:30 PM Eastern.