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

Wednesday, January 31, 2018
TIME: 3:00 – 4:00 pm (Eastern Standard Time)

Minutes

Attendees

Andreas Willfort	Jay Keller	Ralph Richter
Carl Rivkin	Juana Williams	Rob Early
Chris LaFluer	Karen Quackenbush	Ryan Crane
Christina Daniels	Kelvin Hecht	Spencer Quong
Connor Dolan	Laura Hill	Stella Papasavva
Douglas Olenick	Norm Newhouse	

I. Welcome and Housekeeping Items

- Reviewed FCHEA's anti-trust guidelines - Available on FCHEA's members only website and a copy can be provided to you on request.
- Approved the meeting agenda
- Approved the previous meeting minutes for January 3, 2018

II. DOE/HQ Update — Laura Hill

The Government is operating under a continuing resolution through February 8th next week.

The 2018 AMR will be held June 13-15 in Washington, D.C.

III. C&S Events and Fuel Cell Safety Information

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).

FCHEA will add upcoming ISO meetings.

SAE's fuel cell standards meeting is coming up in February 8-13. SAE interface on 8th and 9th.

There will be a GTR meeting February 5-7.

ISO WG 18 on the 8th and 9th.

Jay Keller noted there is a new project out of the Europe FCH JU, with a kick-off meeting planned for April. Topic is on pre-normative liquid hydrogen behavior. Jay believes that

Sandia is collaborating. HYSAFE is participating – Jay is a member of HYSAFE, and will provide further information as it becomes available.

IV. Global Technical Regulations — Nha Nguyen

GTR Meeting February 5-7. This will be the second meeting of Phase II of the GTR.

We will look for a report on the next call.

V. Codes and Standards Organization Updates

IEC TC 105 — Kelvin Hecht

No new report from the last call.

ISO/TC 197 — Karen Quackenbush/ Glenn Scheffler/Jay Keller

As reported last month, meetings were held in December of last year – the annual plenary and working group meetings. The January edition of the *Hydrogen and Fuel Cell Safety Report* describes these meetings.

WG 19 and 24 principally, advancing their work products.

WG 24 took 19800-1 to DIS, now out for ballot. They will have meeting in late spring / early summer to answer questions and resolve comments.

Permanent editing committee has received request from TC 197 to review three different documents. With the plenary in December, there are a whole lot of documents out, including a DIS for hydrogen fueling station hoses. Expect to see these new documents in next few months out for review and comment.

NFPA 2 — Carl Rivkin

Hydrogen Technologies Committee – last day for submitting ballot is today for revisions. Committee members who have not submitted their ballot are encouraged to do so. If there are negative votes, there will be another round for voting to gain consensus. NFPA 2 is coming up on tight deadline with first draft of document posted for public comment by February 28th. After first draft is posted will be open for public comment on May 9th. The Second Draft Report has to be posted by January 23rd of next year. There has to be a Committee meeting to review those public comments between May and January, likely in August or September. Carl will work with NFPA to get meeting dates nailed down. Since the last meeting was held on the West Coast, this meeting will likely be at NFPA Headquarters, in Massachusetts.

ICC — Spencer Quong

First draft comments were due in early January. FCHEA did not submit public comments, but did express any concerns to industry members who submitted code change proposals. FCHEA will have an opportunity to support changes as the process continues.

Voting / public comment period is in June.

CSA **Brent Hartman**

No update at this time.

SAE **Mike Steele**

Meetings are next week in Torrance (8th and 9th).

After the GTR meetings, discussions should go easily.

Schedule has been put together, will be circulated soon..

SAE J2600- open for revision, Nico Bouwkamp is taking proposals

SAE J2601 – target for publication is Fall, 2018

SAE J2601-4 (Ambient temperature fueling) – target for publication is Q1, 2019

ASTM **Jennifer Hamilton**

On the verge of kicking off the Inter-laboratory Study. Final pieces of information, samples to be made and shipped (from Airgas). One lab will participate in Brazil.

At December meeting, loosely agreed on February start date.

ASME **John Bendo**

Ryan Crane – No update at this time.

VI. Discussion Topics

Facilitating Deployment **Carl Rivkin**

A new project was recently initiated to remove regulatory barriers to deployment. With NFPA 2 accepted as a national code for hydrogen technologies, we are starting to see some degree of standardization in designs. With those two activities lining up, working on reducing time required for permitting phase of station deployment.

Carl has started a standard permit task group in the NFPA 2 Hydrogen Technologies Committee. The goal is to develop a standard permit for each of the hydrogen station designs to be included in NFPA 2 as an annex.

Kelvin Hecht – question on OSHA NFPA, which still references 50A. Is there any way to get officials to update to NFPA 2?

Carl – There was a significant effort looking into this. It is not likely that this will get on the OSHA regulatory calendar now, but as we look forward with higher deployment numbers, this could change.

Kelvin – A major utility in calendar is referencing 1910-3 which is over fifty years old, despite the fact that California has adopted NFPA 2.

Jay Keller – California OSHA has previously reached out to FCHEA requesting an update on the current regulatory activities. There may be an opportunity to work with them on more updated OSHA regulations, which could then be proposed on a national scale in the future.

H_2USA Activities **Karen Quackenbush**

The RCS Task Force did not meet in January, but will in February. Determining priorities of efforts for 2018 now. Focused on overcoming barriers to deployment from regulatory standpoint.

RCS Task Force made a proactive decision to have meetings be task oriented.

H2@Scale

H2@Scale CRADA call from end of last year. Activities have been kicked off or will be kicked off shortly.

DOE will seek a contact for a more detailed report on the next call.

Regulatory Matrix Review and Comment **Karen Quackenbush**

http://www.hydrogenandfuelcellsafety.info/s/FCHEA-Regulatory-Matrix-markup-Dec-31-2017.pdf

Permitting and Installation of Hydrogen Fueling Stations

CA Station Implementation **Jennifer Hamilton**

Recently added stations that were announced in the last NOPA are on the CAFCP website map.

California Governor Brown just announced $2.5 billion investment through 2025 to support ZEV infrastructure and vehicle deployment, including an increase to 200 hydrogen stations (doubling current level).

https://www.gov.ca.gov/2018/01/26/governor-brown-takes-action-to-increase-zero-emission-vehicles-fund-new-climate-investments/

CA DMS Fuel Quality / Metrology **Kevin Schnepp**

No updates at this time.

Legal Metrology Standards Hydrogen Fuel Quality and Measurement **Juana Williams/Ralph Richter**

During the last meeting, we told everyone of the Committee draft with comments that are available. If you have any interest in providing US comments to submit to the co-conveners, please contact Ralph Richter by February 9th.

The document is OIML R139 (last published in 2014). Originally backdating decades, was written to mostly be pertaining to CNG vehicles. Most recently this document has been used to apply to fueling of hydrogen vehicles. The Japanese were having difficulties with this including meeting accuracy requirements and test procedures. Japan has been pushing for revision of this document.

This is a legal metrology document (recommendation at OIML). These requirements will frequently be used in countries around the world in regulation and legislation to fuel dispensers for major gaseous fuels, including CNG, hydrogen, and other gaseous fuels.

Working with Juana Williams to provide US input on this document.

Once this document is published, will it be used by US jurisdictions?

This is the equivalent of Handbook 44 for US participants. This is important for US Department of Commerce and others as we want to be able to sell products overseas.

Question on last call was how closely will this be related to Handbook 44? We can work to make it as close as we can, but the rest of the world is aware of how far along we are in our hydrogen development and deployment of vehicles, so they listen to us. If we have changes or comments, good chance that they will be incorporated into the document.

Link to documents here - https://www.oiml.org/en/tc-sc-pg/committee-drafts (need to scroll down the page some).

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VII. Open Discussion & Other Issues

Other Issues?

No items discussed.

VIII. Next Meeting – Wednesday, March 7th at 3:00 PM Eastern.