

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

**Wednesday, April 1, 2015
TIME: 3:00 – 4:30 pm (Eastern Daylight Time)**

Minutes

Attendees

**Anthony Androsky
Bob Boyd
Brent Hartman
Chris Ainscough
Connor Dolan
Jackie Birdsall
Jay Keller**

**Jesse Schneider
Juana Williams
Karen Hall
Kevin Schnepf
Greg Chirdon
Marcia Poxson
Mike Steele**

**Nick Barilo
Norm Newhouse
Sondra Ullman
Spencer Quong
Steven Yip
Will James**

I. Welcome and Housekeeping Items

- Review anti-trust guidelines - Available on FCHEA's members only website.
- Reviewed the meeting agenda.
- Approved March draft minutes.

II. DOE/HQ Update

Will James

DOE Annual Merit Review – Crystal City, VA June 8 – 12.
<http://www.annualmeritreview.energy.gov/>

The Safety, Codes, and Standards session will be held on Tuesday, June 9th.

On Thursday, June 11th we will have a few cross-cutting presentations on infrastructure.

We did have a first responder webinar, held by Nick Barillo, last week. 240 – 260 people participated. Great turnout.

Two years ago we started an international infrastructure workshop, originally held in Berlin in June 2013. Last year, second installment in Torrance. Third, the Japanese have agreed to hold the week of June 22, 2015 in Tokyo, place TBD.

III. C&S Events and Fuel Cell Safety Information

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

Kelvin Hecht

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

Karen Hall

Add/Update: ISO WG 24 – October 26 – 30 (not 12-16) in Japan. Also, update the June ISO meetings to include WG 19, 20, and 24 in Paris, France.

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 Hall (khall@fchea.org) or Connor Dolan (cdolan@fchea.org).

IV. Global Technical Regulations

Nha Nguyen

No report at this time.

V. Codes and Standards Organization Updates

IEC TC 105

Kelvin Hecht

No report at this time.

ISO TC 197

Jill Thompson

Jesse Schneider - WG 24 – Final revision DTR has been distributed, will be reviewed in April.

Kick-off of risk assessment workshop for hydrogen fueling will also occur in April – this effort is led by Shell.

ISO document has a validation appendix on J2601, being vetted now.

Jay Keller –Georgios Tsotridis, European Commission, DG Joint Research Centre from JRC is organizing a fuel cell degradation workshop later this year in Greece. It is not yet clear if it is registration is open to all parties or limited by invitation. Have a feeler back to Georgios and will provide a report next meeting.

Karen Hall – WG 21 – 22 – 23 (compressors, hoses, fittings) meeting in June at FCHEA's offices in Washington, D.C. Working actively to identify contacts in the US to participate. Anyone with interest in those technologies, please contact Karen by email at khall@fchea.org.

Mike Steele - WG 5 Meeting on March 12 at Toyota in Ann Arbor. Matrix on potential issues to change on the ISO interface document, several presentations by the Japanese OEMs for proposals on the issues.

NFPA 2

Martin Gresho / Susan Bershad

Spencer Quong – NFPA 2 went through a second draft. Found a minor error in the repair garage sections (applies to dealerships) not very clear where sensors are required (minor vs. major repair facilities). Spencer submitted a TIA to fix the correction.

The FCHEA Hydrogen Codes Task Force felt previously that this was not of an emergency nature. Have a call tomorrow to revisit this issue.

Nick Barilo – Spoke with Susan a few weeks ago. No NITMAMs submitted for NFPA 2. Likely to be available by mid-summer.

ICC

Bruce Johnson

No report at this time.

CSA

Julie Weis

Brent Hartman – Two published documents in past couple of weeks HPIT 1 and HGV 3.1.

As always, looking for experts to participate in committees. Compressed Hydrogen Materials Compatibility (1st edition addresses metallics, Part 2 addresses non-metallics). This new activity is on Part 2 (primarily on rubbers and plastics). Any experts wanting to participate can contact Brent or other contacts at CSA.

Greg Chirdon – CSA is hosting opening of new facility in Langley, Canada. Specializing in testing on fuel system components for vehicles.

SAE

Mike Steele / Tim McGuire

Mike Steele – SAE held meetings in March 10 and 11. Interface WG, Tim is working on affirmation ballot for SAE J2600. There are some incorporations going on within SAE J2601. That process is also moving forward.

SAE J2719/1 doing some updates. Working with WG 24 closely.

Jesse Schneider – Safety WG – March 9 workshop on materials compatibility for stainless steels.

Jesse provided a presentation – Available online at www.fchea.org/s/2015-4-SAE-H2-Material-Workshop-Round-Robin.pdf.

Request for feedback by June 4th for the Round Robin Test Plan.

ASTM

Tommy Rockward

No report at this time.

ASME

John Grimes

No report at this time.

VI. Discussion Topics

Facilitating Deployment

Carl Rivkin

Recent inquiry, expecting more. Some citizens in an area where a hydrogen station is planned asked for information on safety, performance, risk analysis, etc. that were performed to support the building of the station. A couple of members in the email group had Ph.D.s. so they were interested in drilling down into issues. Carl mentioned that NREL composite data products that are published and publicly available have information on station performance and data. Were able to provide this data (see the following links)

www.nrel.gov/hydrogen/cdp_topic.html

Sandia Technical Report on hydrogen fueling risk
http://www.efcog.org/wg/sa_hsig/docs/SAND2009-0874.pdf

H₂USA Activities

Karen Hall

Joint working group working on identifying fire codes of states and regions of interest where deployment might happen. Working to understand the timeframe where there is one. Doing this with a view toward helping the various states and regions of deployment getting more harmonized.

H2USA is also working on communicating within its working groups the models being developed by the labs, with a goal of establishing agreed assumptions for H2USA modeling work.

H2FIRST

NREL/SNL

Coordination panel within H2USA provides feedback to H2First.

Two tasks ongoing now. Hydrogen contaminant detector work. Reviewing status of work online to review status of contaminants. Did gap and KANO analysis to determine needs. Report expected in April.

Second task on hydrogen station reference design. Led by Joe Pratt at SNL, Amgad at Argonne, Danny at NREL. Prototype stations and other possible locations. Also expected to come out in April.

Last task now is HyStep. Testing stations ability to perform to J2601 and HGV 4.3. Being built by Powertech under contract with SNL. Developing an implementation team. Just finished design review for HyStep.

Regulatory Matrix Review and Comment

Karen Hall

The latest version of the Regulatory Affairs Matrix is available online at <http://www.fchea.org/s/FCHEA-Regulatory-Matrix-Dec-31-2014-clean.pdf>.

Comments can be submitted to Karen Hall at khall@fchea.org.

A draft will be provided in advance of the next meeting for comment.

VII. Permitting and Installation of Hydrogen Fueling Stations

Ca Station Implementation

Jennifer Hamilton

No report at this time.

Ca DMS Fuel Quality / Metrology

Kevin Schnepf

Testing on dispenser in Diamond bar. Successfully passed type evaluation and received certification.

In February held collaborative meeting with Japan on hydrogen fuel quality testing, legal metrology, and testing for J2601 compliance. Collaborative format to share challenges and solutions.

Jackie – More on fuel quality testing?

Kevin – Conversation with Japan, their fuel quality lab testing is not as far along as ours. It is my understanding that they do not have the enforcement of standards established at the legal level, still have to go through standards committees to be adopted. They are actively working on establishing a secondary field standard in addition to current gravimetric standard for station certification. This research and development work is focused on a traceable mass flow standard for hydrogen dispenser accuracy assessments.

Japan also has a fully built device for J-2601 fueling protocol testing.

Jackie – Update on plan for fuel quality testing in CA?

Kevin – CA DMS have a fully functioning fuel quality lab and field sampling equipment. Can do both 350 and 700 bar pressure samples. Can analyze for compliance with J2719. Our fuel quality, dispensing, advertising and labeling requirements are not enforceable on public agencies when the fueling equipment is located on agency property and owned and operated by the agency. Technically, until we have a location that is a true retailer, our activities will only be for information gathering and research.

Karen – Any assistance we can provide?

Kevin – Working currently in CA, developers are contracting out to laboratories for initial quality testing. CA DMS will follow-up on complaints on fuel quality or dispenser accuracy. Currently with the level of work required, we are covered in that area and have the resources to handle testing. When we have larger numbers of stations, will need to evaluate how to cover costs.

Jackie – Unaware of the issues of public agencies versus full fuel retailers.

Mike Steele – If excluded from any DMS activities, does that include opting out of data collection?

Kevin – Only excluded if, for example, a public agency refused to allow collection. We have a good relationship and they are on board in terms of developing infrastructure and data gathering. Once commercial stations come around, they will not be able to refuse DMS oversight.

Will James – Can we get clarity on understanding when a facility is not a publicly accessible station. CSU LA is a public station.

Kevin – From an enforcement perspective, if they failed specification, DMS is unable to apply rules and regulations to college districts, municipality districts, etc. A caveat, if the station is operated by a third party, then we can apply our rules.

SAE J2601 Compliance

Jesse Schneider

Discussion last time on the CEP test device. Hydrogen station testing apparatus. That device is used currently to validate a station in Munich. ISO WG 24 meeting will witness a fueling at a Munich station to answer questions on specs, including accuracy of scale onboard and instrumentation, the specifications of the device, etc.

HyStep device group can participate as long as they participate in WG 24.

As the device has not been released yet, provided a one slide presentation last meeting (March NHFCCSCC meeting.)

Jesse will ask if can release the specs.

Experts who are interested are encouraged to participate in WG 24.

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

Juana Williams

No report at this time.

VIII. Open Discussion & Other Issues

Hydrogen Component Listing Online Webinar

You are invited to participate in an online workshop on hydrogen station component listing on April 22 from 2:00 – 3:30 PM US Eastern.

The focus of this workshop is to address the issue that there currently are no components for hydrogen refueling stations that are listed by Nationally Recognized Testing Laboratories (NRTLs). While there is a regulatory path forward for local code authorities to approve hydrogen stations without the components being listed, this is growing issue that needs to be resolved to allow greater development of hydrogen infrastructure in the United States.

The webinar workshop will feature presentations by NREL, as well as the three NRTLs that list these hydrogen components, followed by a discussion period for hydrogen component manufacturers and the NRTLs to move this issue forward.

Should you wish to participate in this workshop, please register online at <https://attendee.gotowebinar.com/register/7090007583012740354>.

If you have any questions, please contact Karen Hall by email at khall@fchea.org, or by phone at 202-308-2353.

More information is available online at www.fchea.org/s/Hydrogen-Component-Workshop-Flyer.pdf

The next meeting will be held on Wednesday, May 6th at 3:00 PM US Eastern.