

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

**Wednesday, October 2, 2019
TIME: 3:00 – 4:00 pm (Eastern Standard Time)**

Minutes

Attendees

**Christina Daniels
Connor Dolan
Eric Nelson
Eric Prause
Gregory Chirdon
Ian MacIntire
John Eihusen**

**Juana Williams
Karen Quackenbush
Kelvin Hecht
Kevin Harris
Laura Hill
Mark Richards
Mike Steele**

**Nick Barilo
Norman Newhouse
Ray Rahaman
Sara Marxen
Stella Papasavva
Yuk Wong**

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 approved the meeting agenda.
- The Committee approved the previous meeting minutes

II. DOE/HQ Update

Laura Hill

The federal government is currently under a continuing resolution. We hope to have more information on the budget soon.

The Annual Merit Review in 2020 will be in May in Washington, D.C. More details will be available online.

Last week was the ICHS in Australia. This was a successful conference with ~275 participants, 111 papers presented, and a number of plenaries from US, Japan, EU, Germany, and Australia. Good to have the hydrogen safety community come together to discuss R&D.

Last week was the Hydrogen Energy Ministerial. Last year's ministerial was the Tokyo statement that identified several items to move on. This year's statement developed an action plan.

In a couple of weeks in Seoul on October 20th is the IPHE meeting, which is a government to government collaboration in fuel cells, which includes a codes and standards working group. In that working group we are working to identify priorities and key regulatory gaps that the research community is seeing. Working to take those gaps and move them up to the policy level at these countries in IPHE.

Mark Richards has joined Safety, Codes, and Standards at DOE, located in the Golden, Colorado field office. Welcome!

III. Codes & Standards 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).

IV. Global Technical Regulations

Shashi Kuppa

Ian MacIntire – Will be attending the SAE Fuel Cell Task Force meeting next week and the GTR meeting in November in Stuttgart. After those meetings will have more updates.

V. Codes and Standards Organization Updates

International Electrotechnical Commission IEC TC 105

Kelvin Hecht

- 83rd IEC General Meeting
 - Shanghai, China
 - October 14 – October 26
- TC105
 - Ad Hoc Group 10
 - Performance – EMS control small stationary fuel cell CHP
 - Tues. Oct. 15
 - Working Group 10
 - Micro Fuel Cells – Interchangeability
 - Tues. Oct. 15
 - Working Group 6
 - Forklifts, Range Extenders, APU's
 - Wed. Oct. 16
 - Working Group 8
 - Micro Fuel Cells – Safety
 - Wed. Oct. 16
 - Working Group 13
 - Energy Storage – Fuel Cells in Reverse Mode
 - Wed. Oct. 16
 - Chairman's Advisory Group
 - Thurs. Oct. 17 AM
 - Plenary
 - Thurs. Oct 17 PM – Fri. Oct. 18

International Standards Organization ISO/TC 197

Karen Quackenbush/Jay Keller

Working Group on fittings document has been sent to the Secretariat, review is underway.

Will have a lot more to report after the working groups coming up.

National Fire Protection Association NFPA 2

Chris LaFleur

No activity currently as NFPA 2 and NFPA 55 have just been published and is available on NFPA.org.

International Codes Council ICC

Spencer Quong

There are several i-codes, which are in two groups. Half of them were just recently published which include the fire code and fuel gas code, these are of most interest to this group. The other half of codes are in process now. Please see <https://www.iccsafe.org/about/periodicals-and-newsroom/key-changes-in-the-2018-i-codes/> for a summary of what has been changed.

CSA Group

Sara Marxen/Brent Hartman

- HGV 4.3 *Fueling parameter evaluation* published in July 2019. Work on the next edition of HGV 4.3 will be to align with definitions in SAE J2601.
- HGV 4.1 *Hydrogen dispensing system* Industry Review closed. Some final comments are being dispositioned by the TSC currently, and the TSC is meeting October 3rd.
- HGV 4.9 *Hydrogen fueling stations*. All comments have been dispositioned. The revised draft is being edited and will then be finalized for Technical Committee Ballot.
- SPE 2.1.3 *Best practices for defueling, decommissioning, and disposal of compressed hydrogen gas vehicle fuel containers* is out for Public Review with a close date of October 19, 2019.
- CHMC 2 *Chemical compatibility (Non-Metals)* published in August 2019.
- CSA Group's U.S. Committee Week is scheduled for October 28-30th in Cleveland, Ohio. Meetings planned are as follows:
 - Monday: HGV 4.4, 4.6, and 4.7 *Breakaway valves, manual valves and automatic valves* and HGV 2 *Containers*
 - Tuesday: HGV 4.3 *Fueling parameter evaluation*, Fuel Cell Technical Committee and HPRD 1 *Thermally activated pressure relief devices*, HGV 4.10 *Fittings*, and FC TC meeting
 - Wednesday: Fuel Cell TSC FC 1
- Other hydrogen projects to be launched include HGV 3.1 *Fuel system components for compressed hydrogen gas powered vehicles*, HGV 4.2 *Hoses for compressed hydrogen fuel stations* and HGV 5.1 *Hydrogen Refueling Appliance*
- CSA will participate in National Hydrogen Day on October 8th. Plans are still being finalized but will be sent to Connor for advertising.

Public Review of the CSA SPE 2.1.3 Defueling, Decommissioning and Disposal document: <https://publicreview.csa.ca/Home/Details/3607>

Committee Week registration and lodging info. Note the hotel room block closes 10/7/2019 at 5 pm Eastern: <https://community.csagroup.org/groups/csa-group-2019-us-committee-week/pages/register>

Society of Automotive Engineers (SAE)

Mike Steele

Meetings are next week. Interface on the 8th and 9th, Safety Working Group at the same time, as well as some on Monday.

J2601 – should be wrapping it up soon. Can look for some resolution and will probably go to a vote after this meeting

J2601-4 ambient fueling – close to voting process, almost done with 142 comments.

J2719 – fuel quality – only a very few comments left that are editorial and will also be going to quote at the committee soon.

The meetings on the first day will be 9 AM – 4PM.

Compressed Gas Association (CGA)

Rob Early

FCHEA President Morry Markowitz provided a presentation to the CGA Board of Directors on Friday last week on the status of the industry.

American Society for Testing & Materials (ASTM)

Jennifer Hamilton

Christina Daniels – Call for presentations out on the workshop for hydrogen fuel sampling and analysis that will be held in June 29th, 2020 in Washington, D.C.

American Society of Mechanical Engineers (ASME)

Ray Rahaman

Working on the 2019 edition of the B31.12 Hydrogen Piping and Pipeline Standard, look to have it out by December of this year.

VI. Discussion Topics

Facilitating Deployment

All

Nick Barilo – November 12 in Orlando, Florida, AIChE will have its annual meeting. A couple of presentations will be on the status of hydrogen technologies with a focus on safety, as well as a short primer time for hydrogen safety for R&D as the conference is mostly focused on academia.

November 20th will hold a meeting in New Jersey and the 22nd at the University of Delaware. These meetings will be held by stakeholders and others facilitated by Joann Miliken and others on the East Coast.

Center for Hydrogen Safety

Nick Barilo

We are about to release an online training for first responders, about a one hour web course. Based on PNNL work, but updating and enhancing information. Hope to have that available on October 8th in support of National Hydrogen and Fuel Cell Day.

Also working on information sheets on hydrogen safety, looking at fuel cell cars and hydrogen fueling stations. These will be publicly available. Hope to have out in the next few weeks.

October 14th and 15th is the Center for Hydrogen Safety Conference. There will be speakers from several events held by the Center earlier this year.

October 16th and 17th the Hydrogen Safety Panel will be holding its meetings as well.

Regulatory Matrix Review and Comment

Karen Quackenbush

The latest version was updated as of September 30, 2019 and was included in the minutes.

Please provide any comments or updates to Karen Quackenbush.

Permitting and Installation of Hydrogen Fueling Stations

California Station Implementation

Jennifer Hamilton

The Oakland station opened, the 41st station. Once the situation in northern California is resolved, we expect more stations to be opened in short order.

California Div. of Measurement Standards/Fuel Quality / Metrology **Christina Daniels**

We put out our hydrogen gas measuring devices for another 15-day comment period as we received some data. Based on the data will be making a rulemaking on the 2.0, 3.0, 5.0 accuracy classes. Working on an EVSE supply equipment rulemaking now.

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

Juana Williams/Ralph Richter

No update at this time.

VII. Open Discussion & Other Issues

No updates at this time.

VIII. Next Meeting – Wednesday, November 20th at 3:00 PM