

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

Wednesday, October 14, 2020

TIME: 2:00 – 3:00 pm (Eastern Standard Time)

Minutes

Attendees

**Bob Boyd
Chris LaFleur
Christina Daniels
Connor Dolan
Eric Prause
Iris Monner
Jay Keller
Jennifer Gangi**

**Karen Quackenbush
Kelvin Hecht
Laura Hill
Mark Siira
Nick Barilo
Quailan Homann
Will James
Norman Newhouse**

**Spencer Quong
Mike Steele
Ian MacIntire
Morry Markowitz
Ray Rahaman
Yuk Wong
Amy Ryan**

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 and approved the previous meeting minutes.

DOE/HQ Update

Laura Hill

Happy new Fiscal Year! And happy belated National Hydrogen and Fuel Cell Day!

DOE arranged a webinar on H2@Scale activities last week that will be available online soon.

The Hydrogen Ministerial was held early this morning.

II. 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).

GTR meeting and HySAFE meetings coming up again soon. Will work with Jay to get on the calendar.

IEC TC 197 plenary will also be held on December 9th.

III. Global Technical Regulations

Ian MacIntire

Task force working groups are continuing to meet. Task Force 4 met today, 3 will meet tomorrow on test procedures. Things are moving along.

Starting next week Friday, October 23rd will be the first day of the virtual informal working group meeting. Will also continue on the 26th and 27th the following Monday and Tuesday. This will be the first full IWG meeting held virtually.

IV. Codes and Standards Organization Updates

Institute of Electrical and Electronics Engineers

Mark Siira

Presentation provided by Mark Siira available here -

www.hydrogenandfuelcellsafety.info/s/Hydrogen-Fuel-Cell-Codes-and-Standards-rev-b-10142020.pdf.

Bob Boyd – we also have connectivity to the grid with electrolyzers when there is extra energy available. There is a new/revised standard for electrolyzers in the ISO realm and a new working group trying to figure out how to measure the performance of those electrolyzers as they connect to the grid.

Mark Siira – I would be very interested in that. Will follow-up offline.

For further comments, please contact Mark at Mark.siira@ieee.org.

International Electrotechnical Commission IEC TC 105

Kelvin Hecht

There will be a virtual plenary on November 16th and 17th. Will be held across two days and a few hours a day to accommodate different parts of the world.

The US TAG has scheduled a meeting on November 2nd to review the agenda and take positions on all issues that are of interest to prepare for the plenary.

The 2022 plenary will probably be invited to be held in the United States in San Francisco in coordination with the general meeting of the IEC and we will continue to try to find sponsors for that activity.

International Standards Organization ISO/TC 197

Karen Quackenbush/Jay Keller

A plenary meeting will be planned virtually the second week of December. The new Committee Manager has unfortunately contracted COVID so communication is irregular at the moment. You can go to the ISO/TC 197 website to find information and links for the meeting.

For US, contact Jill Thompson at CGA if you are interested in participating.

Things have slowed down quite a bit for the standards under development and no new information to report.

For new work item proposals (NWIP), things are moving very quickly. The fast fill heavy-duty NWIP has passed the US TAG, the ISO/TC 197 TAB, and has been pushed out to the Secretariat to get team member votes on it.

There is a NWIP out on O-rings with a request for experts out now. If you are interested, please contact Jill Thompson at CGA.

National Fire Protection Association NFPA 2

Chris LaFleur

The first draft meeting will be starting soon (Monday, October 19th) to review the 266 public inputs. There is also extract material from about 21 different codes (more than just NFPA 55). The NFPA staff has gone through those extracts to determine where those codes have changed that we have extracted.

We have scheduled 8 days, but we are confident that we will complete the meeting much sooner. The meetings will be held with 6 hours a day.

The meetings would be held on the 19th – 22nd, as well as on the 26th – 29th.

International Codes Council (ICC)

Spencer Quong

Most of the task groups are done and submitting their proposals. The Fire Code Action Committee (FCAC) will be making their decisions and then the official ICC process will start soon. These are for 2024 edition.

The first draft proposals are due January 2021. This means that the FCHEA Hydrogen Codes Task Force will need to pick this up in December.

Full schedule here -

http://www.hydrogenandfuelcellsafety.info/s/2021_2022_Code_Development_Schedule.pdf.

CSA Group

Iris Monner

Technical Committees		
Hydrogen Transportation Technical Committee	Next meeting is scheduled for November 2, 2020. Actively seeking participation for Gas Supplier Interest categories. Contact: sara.marxen@csagroup.org	
Fuel Cell Technical Committee	Next meeting is being planned for November 2020. Actively seeking participation for Regulatory Authority and User Interest categories. Contact: mark.duda@csagroup.org	
U.S. TAG to IEC/TC 105	IEC TC 105 would like to host a Plenary meeting to coincide with 2022 General Meeting. Currently gathering information from ANSI regarding IEC TC 105 funding guidance.	
Active Projects		
TSC	Title	Status
HGV 4.4	Gaseous hydrogen – Fuelling stations – Valves	This is an adoption of ISO 19880-3 valve standard with North American deviations. The TSC has completed disposition of public

		review comments. The deviations are being prepared for ballot to the H ₂ TTC.
HGV 2	Compressed hydrogen gas vehicle fuel containers	The TSC has completed disposition of public review comments. The document is being prepared for ballot to the H ₂ TTC.
HPRD 1	Thermally activated pressure relief devices for compressed hydrogen vehicle fuel containers	Industry/public review is in progress.
HGV 4.10	Fittings for use in compressed gaseous hydrogen fuelling stations	H ₂ TTC ballot closed with no negative votes. Comments were addressed by TSC, and TC chair. The document is being prepared for publication.
HGV 4.3	Test methods for hydrogen fueling parameter evaluation	TSC continues to meet to discuss inclusion of Protocol Factory Acceptance and Periodic Maintenance Testing in the next edition, as well as making HGV 4.3 a certification standard.
HGV 4.2	Hoses for dispensing compressed gaseous hydrogen	TSC continues to meet to align content with ISO 19880-5, hose standard. The draft is being prepared for Public Review.
FC 1	Stationary fuel cell power systems	This is an adoption of IEC 62282-3-100. Public review period is closed. TSC is meeting to disposition comments.
HGV 5.X	Hydrogen Refueling Appliances	Forming TSC membership now. Expect project to kick-off in November 2020.
HGV 3.1	Fuel system components for compressed hydrogen gas powered vehicles	Project kick-off scheduled for Fall 2020.

Mark Siira – One of the issues that we are just starting to address at IEEE is fast-charging for electric vehicles. Are any of the fuel cell related applications dealing with that? For instance at IEEE we need to reconfigure the distribution grid and it could be an opportunity for fuel cells.

Iris Monner – We are working on a project for DC chargers that is not listed here. That is a harmonized standard for CA-US-MX. The harmonized document is: Standard for DC Charging Systems for Electric Vehicles, NMX-J-817-ANCE/CSA C22.2 No. 346/UL 2202.

Bob Boyd – there are a bunch of SAE standards that also address fast charging and standard methods that should be on your radar as well.

Society of Automotive Engineers (SAE)

Mike Steele

There was almost a two-hour meeting yesterday.

J2600 – went over several of the changes that we are looking at getting out for a vote in early November.

J2601-4 – did solicit comments and received 200+.

J3219 – screening test for hydrogen fuel to look at things that may be in the fuel – has a three-step plan to complete the various parts and anticipate will be completed late next year.

The full fuel cell standards committee meeting will be held today. One of the things we will be deciding will be a meeting schedule for next year, anticipate that they will all be virtual.

Kelvin Hecht – last month's minutes you had a listing of several SAE documents. I did not see 2719-1. What is the status of that document?

It got waylaid. It went through the voting process and had a lot of issues at the publishing level. Whether or not we resurrect that document will be decided.

Compressed Gas Association (CGA)

Rob Early

No update at this time.

American Society for Testing & Materials (ASTM)

Jennifer Hamilton

We will have our Committee meeting in December virtually and are working on getting the agenda together on that.

American Society of Mechanical Engineers (ASME)

Ray Rahaman

The B31.12 hydrogen piping code committee met on September 17th and took care of old items that were pending. Some revision items were standard approved and board approved. We are currently working on commercial / residential pipeline section in the code and the project manager is working on in the background. Working on exclusion of high strength material in one of the tables. The impact test proposals that were brought to us in March 2019.

V. Discussion Topics

Facilitating Deployment

All

No updates at this time.

Center for Hydrogen Safety

Nick Barilo

Held a successful US conference with 120 attendees with good feedback.

The next conference will be next week. This is called a Europe conference and is set-up around their time zone, but all are welcome. The session topics will be safety for maritime applications,

pipeline safety, safety test and laboratory, recent incident investigation responses, electrolyzer safety, and station safety.

<https://www.aiche.org/chs/conferences/center-hydrogen-safety-europe-conference/2020>

Regulatory Matrix Review and Comment

Karen Quackenbush

The Committee reviewed the latest matrix as of September 30, 2020.

<http://hydrogenandfuelcellsafety.info/s/FCHEA-Regulatory-Matrix-markup-September-30-2020.pdf>

Please direct any updates, questions, or comments to Karen Quackenbush by email at kquackenbush@fchea.org.

Permitting and Installation of Hydrogen Fueling Stations

California Station Implementation

Jennifer Hamilton

There are several stations on the schedule for HyStep testing through the end of the year.

SOSS Update – an additional / new status feature has been added to allow customers know when station supply is being replenished.

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

No updates at this time. We are continuing to support the industry and no changes at the moment.

Legal Metrology Standards Hydrogen Fuel Quality and Measurement

Juana Williams/Ralph Richter

No updates at this time.

VI. Open Discussion & Other Issues

Bob Boyd – CSA had a series of valve standards that were given to ISO. Now discussion of an ANSI-approved document. However, found that they raised the pull force requirement on the breakaway at the ISO level. The rationale was for natural gas and the lower fueling that 150 pounds of force. Will follow-up with Jay / Karen following the meeting to discuss further.

VII. Next Meeting – November 18 at 2:00 PM US Eastern