



Fuel Cell &
Hydrogen Energy
Association

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

**Wednesday, September 7, 2016
TIME: 3:00 – 4:30 pm (Eastern Standard Time)**

Minutes

Attendees

**Carl Rivkin
Connor Dolan
Eric Nelson
Will James
Juana Williams**

**Karen Quackenbush
Kelvin Hecht
Laura Hill
Marcia Poxson
Mike Steele**

**Sara Marxen
Spencer Quong
Steven Yip
Susan Bershad
William Collins**

I. Welcome and Housekeeping Items

- Review FCHEA's anti-trust guidelines - Available on FCHEA's members only website and a copy can be provided to you on request.
- Review the meeting agenda.
- Approve the August draft meeting minutes. (Deferred to next meeting)

II. DOE/HQ Update

Will James

National Hydrogen and Fuel Cell Day will take place on October 8th. It will be on a Saturday. FCHEA and our members will conduct activities throughout the week. Any ideas / things being coordinated, please let us know.

Two requests for information recently closed. Both were around Infrastructure – one hydrogen testing demonstration station in California, the second was on H2@Scale cost-ups.

Fiscal Year 2017 starts in a couple of weeks.

III. C&S Events and Fuel Cell Safety Information

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

Kelvin Hecht

<http://www.hydrogenandfuelcellsafety.info/events/>

Karen Quackenbush

NFPA 2 continuation meeting on October 17th -19th. Monday, Tuesday, and Wednesday of that week.

November 10th and 11th – ISO/TC 197 WG 21 (Compressors) will meet at SAE

Request: Recently developed 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).

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

IV. Global Technical Regulations

Nha Nguyen

Waiting for update. Meeting taking place at the end of the year.

V. Codes and Standards Organization Updates

IEC TC 105

Kelvin Hecht

Plenary Meeting

October 13th, Frankfurt, Germany, with issue discussions on October 12th.

New Activities

Stack Performance

- Test methods to describe performance and endurance of polymer electrolyte fuel cell (PEFC) stacks and modules.

Energy storage systems using fuel cell modules in reverse mode

- Solid oxide single cell and stack performance including reversing operation
- PEM single cell and stack performance including reversing operation
- test methods for power storage and buffering systems based on electrochemical modules (combining electrolysis and fuel cells)

ISO/TC 197

Jill Thompson / Glen Scheffler

Karen Quackenbush – TC 197 is trying to limit the number of working groups meeting the week of the plenary.

WG 24 may be meeting the week before the plenary

The US TAG has just put together comments and is submitting substantial comments on the current DIS for the valves document. We are expecting a CD to be distributed on hoses, queued up for 197 for circulation. The hoses document is not perfect yet, but expecting comments in the CD phase to improve it.

Bill Collins – Believe have figured out how to address some issues discussed.

NFPA 2

Susan Bershad

Joint NFPA 2 / NFPA 55 held joint meeting recently in Alexandria, VA. Work on NFPA 55 is complete, NFPA 2 is holding a continuing meeting the week of October 17 to address further comments.

ICC

Bob Davidson

No updates at this time.

CSA

Sara Marxen

HGV 4.3 published the first week of August.

HPIT 2 (industrial power forklift truck) to technical committee by end of September.

CSA committee week later this week, hydrogen work will be on automotive technical committee course and fuel cell technical committee (and working groups).

Will James – Potential for CSA CHMC 2 (compressed hydrogen compatibility and materials – non-metallic) development?

Sara – had meeting awhile back, are looking to move toward something. Mike Veestra expressed interest to be chair of some effort.

SAE

Mike Steele / Tim McGuire

Meetings are next week.

Interface work group will work on some gaps in 2601. Discussing guideline for hydrogen quality.

ASTM

Tommy Rockward

No update at this time.

ASME

John Grimes

No update at this time.

VI. Discussion Topics

Facilitating Deployment

Carl Rivkin

Working with the Orange County Fire Authority to develop a hydrogen permitting video to help code officials and project developers with speeding up the process of permitting. Final changes have been made in the video. Expect to be posted publicly relatively soon. The video will be on the H2Tools website, as well as NREL on YouTube.

H₂USA Activities

Karen Quackenbush

RCS Task Force is focusing now on deployment in the Northeast. Identifying questions that regulators have and writing up white papers to address these issues.

H2FIRST

NREL/SNL

Karen Quackenbush - Next meeting of the Hydrogen Fueling Station WG will discuss which H2FIRST activities are moving forward and will facilitate some feedback from industry.

Will James – First optic is addressing urban sites for station siting, addressing for example underground storage risk criteria. Other types of station designs that could help station developers with smaller footprints. This will be an initial scoping exercise. Information developed will ultimately feed into the codes and standards development process. The effort will hopefully use the NFPA 2/55 sub-task group evaluating liquid hydrogen separation distances, as well as gaseous.

Station fueling optimization / reliability task is the second topic.

Regulatory Matrix Review and Comment

Karen Quackenbush

The next version of the Matrix will be made available for next month. This will include updates reported on this call, as well as from the ICC meetings and other groups.

If there are codes, standards, or other activities that we do not have listed, please let us know by email at kquackenbush@fchea.org.

VII. Permitting and Installation of Hydrogen Fueling Stations

Ca Station Implementation

Jennifer Hamilton

Connor Dolan – The latest station opened up in Truckee by Lake Tahoe. This brings the total number of retail stations up to 21.

Ca DMS Fuel Quality / Metrology

Kevin Schnepf

No updates at this time.

Fueling Compliance

Sara Marxen / Jesse Schneider

HGV 4.3 was published. Now waiting to hear from folks using the standard to see how it needs to get revised.

Legal Metrology Standards Hydrogen Fuel Quality and Measurement

Juana Williams

Request to those working on subcommittees / task groups, please notify Juana where it is expected that we will see changes proposed for refueling dispensers either in their design, new or expanded applications for dispensers, or for hydrogen fuel quality standard changes.

Mike Steele – The Fuel Quality Standard was just reaffirmed last year and is on a five-year cycle, valid until 2020. The SAE document will not be changed until there is solid evidence that things need to be changed.

VIII. Open Discussion & Other Issues

Should we add unauthorized fueling to our monthly discussion topics?

Spencer Quong is co-chairing a group with Bob Boyd for NFPA 2. Both NFPA and SAE are discussing some aspects of unauthorized fueling. Other CDOs/SDOs may also have a role as the potential issues are more clearly defined. Would this be an appropriate forum to keep one another updated on these activities to ensure appropriate hand-offs, gaps, or concerns?

Kelvin Hecht – what is unauthorized fueling?

Karen Quackenbush – Refueling a vehicle or filling a container that is not configured to fuel from that dispenser is an example.

The issue was raised in a public comment for NFPA 2 that all that is required for fueling at some stations is a credit card. The idea is to discuss what can be done to reduce the chance of an inappropriate vehicle or something like a container to being fueled by high-pressure hydrogen that should not.

Mike Steele – What we need is a coherent problem statement.

Spencer Quong – Gathering all of the concerns. Unauthorized fueling is not just into a portable container. It is also fueling a vehicle with an unauthorized protocol, such as through a forklift station, which could be a problem if there are not preventive measures.

A new NFPA 2 Task Group is working to funnel the group down to what we need to consider to what will be included in code.

This group could discuss things that will not be addressed in code, so there may be a need for some discussion among industry, potentially through this group.

Carl Rivkin – Anything being done in this task group is done under the scope of the Hydrogen Technologies Committee. Those familiar with NFPA 30A, focused on conventional fueling stations / liquid fueling, have some things included which address what types of containers should not be filled.

Spencer Quong – Working to do what we can in NFPA 2 within the scope.

Karen Quackenbush – I would like to request feedback / objections about adding this item as a standing review item on the agenda by email until the next meeting.

Karen – Now that we are close to completing the process of codes, standards, and regulations for the vehicles and fueling, now looking at “what if?” and determining what other scenarios may occur. Shows progress. Good time to discuss safety concerns over scenarios we do not want to happen. Can tee up this topic to address these broader discussions.

IX. Next Meeting

The next meeting will take place on Wednesday, October 5, 2016 at 3:00 PM Eastern.