

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

**Wednesday, May 3, 2017
TIME: 3:00 – 4:00 pm (Eastern Standard Time)**

Minutes

Attendees

**Aaron Harris
Bob Boyd
Carl Rivkin
Christina Daniels
Connor Dolan
Elan Bond
Jay Keller**

**Jennifer Hamilton
Juana Williams
Karen Quackenbush
Kelvin Hecht
Laura Hill
Mike Steele
Nha Nguyen**

**Nick Barilo
Norm Newhouse
Spencer Quong
Stella Papasavva
Susan Bershad
Will James**

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.
- Reviewed the meeting agenda.
- Approved the previous meeting minutes for April 2017.

II. DOE/HQ Update

Will James

Will James – looking to get final FY 17 budget in place by Friday. Potentially could be similar to FY 16 FCTO total number of \$101 Million. More details to follow on how it is broken down. House and Senate approval expected by Friday.

DOE Annual Merit Review being held in Washington, D.C. on June 5 – 9. NHFCCSCC members requested to register in advance.

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

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).

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

IV. Global Technical Regulations

Nha Nguyen

Phase two of GTR number 13 on fuel cell vehicles has been approved to proceed in March. Informal working group will form and start meetings. HCRSP in Geneva next week, EU, Japan, will meet with US to plan steps forward – plan for meetings and terms of reference. This WG is planned for two years with options of requesting extension of mandate as needed. Anyone interested in participating, please contact Nha for more details.

Phase II focuses on two main areas: material compatibility (very active now in SAE and others) as well as stress rupture (fuel tank and how to address minimum stress rupture ratio). The rest are simple, will reveal updates on test procedures from Phase 1, electrical safety.

Bob Boyd asked whether the GRT will address only light-duty vehicles or heavy-medium as well? There is a gap where we do not have a lot of regulations for small batch vehicles. There used to be some requirements in NFPA 52, but when moved to NFPA 2 the vehicle safety was taken out of NFPA purview. The GTR LDV tanks are a lighter duty tank / less reinforcement than the heavy-duty tanks.

Nha - This group as far as I know expertise is on light-duty vehicles and some on motorcycles. If there is a strong need for this, welcome someone to talk about it at the informal working group meetings.

Stella – materials compatibility – metals, polymers, or plastics?

Nha – could include them all, main focus now is metal.

Jay – The effort that IPHE and SAE focuses on metals, I personally support looking at non-metallic materials for vehicles.

Stella – Need more work on polymers. Will provide more information.

Nha – welcome suggestions with some sort of data and background material.

V. Codes and Standards Organization Updates

IEC TC 105

Kelvin Hecht

Administrative

- Dr. Ueno is resigning as TC105 chairman
- Toshiki Shimizu (Panasonic), the current Convener of WG7, *Portable Fuel Cell Power Systems*, has been nominated as his successor

WG 3 Stationary Fuel Cell Power Systems

- Meeting to address Edition 2 will be held in Cleveland June 1-2

WG 4 Forklifts

- *Fuel cell power systems for industrial electric trucks (forklifts)-Performance*
- Published April '17

WG 10 Micro Fuel Cells – Power and Data Interchangeability

- US TAG submitted comments to CD for next edition

ISO/TC 197

Glenn Scheffler/Jay Keller

Jay - WG 24 on stations will meet to review CD 2 remarks in Seoul, Korea and prepare for submission of the DIS immediately after the meeting in Korea.

Karen - WG 22 – hoses and hose assemblies – technical issue has slowed CD 2 down a bit. Will shortly circulate a committee draft 2 and will relay the issue with the circulation of the draft. Hope for feedback on how to appropriately deal with this for when the DIS goes out. Review period at that point followed by a WG 22 meeting to address comments.

Spencer - ISO TC/197 WG 27 and ISO/TC197 and TC/158 will meet from May 29-June 3 in Seoul Korea to discuss hydrogen quality.

ISO 19880-8 (WG28) Hydrogen Quality Control DIS has been released. US TAG comments are due July 17.

NFPA 2

Susan Bershad

First draft meetings completed in beginning of April. NFPA 55 has been turned in to editorial staff for processing. NFPA 55 ballot expected out at end of June. NFPA 2 ballot expected at end of August / September. Lot to do on NFPA 2 before editorial still.

Nick Barilo providing a presentation at upcoming NFPA conference on safety issues of hydrogen. He agreed to provide a link to the presentation once it is posted, either by NFPA or H2Tools.

ICC

Bob Davidson

No report at this time.

CSA

Sara Marxen

Request update on materials compatibility work for non-metals next month. Activity kicked off and call for experts out.

Will James - DOE started a project a little over a year ago on polymer materials co-supported by multiple national laboratories. Just getting started on obtaining data on infrastructure side, not necessarily for the vehicle. Mike Veenstra has volunteered to act as co-chair. Have a chair, but looking for larger range of experts. Held workshop in 2013 that identified a number of concerns – test methods and permeability included. Difficult to develop test methods when keeping into account many different types of polymer materials.

SAE

Mike Steele

Meetings are 20th and 21st of June in Michigan. Two weeks after AMR. Interface meeting on the 20th. Glenn on safety WG meeting on Monday the 19th, 20th, and potentially 21st. Standards committee meeting on the 21st.

Steve Mathison has been elected as the new chair of the Interface WG.

ASTM**Jennifer Hamilton**

ASTM D-03.14 Subcommittee – ballot out on work item screening method for halides. Two revised documents done as well out for ballot through end of May.

June in person meeting in Boston. Agenda in development.

ASME**John Bendo**

Will seek report next month.

VI. Discussion Topics**Facilitating Deployment****Carl Rivkin**

Telecommunications Industry Association (TIA) Reference Guide for regulations, codes, and standards for deploying stationary fuel cells now published.

<http://www.tiaonline.org/resources/tia-fuel-cell-reference-guide>

Second reference guide development will begin shortly, will be a broader overview of the technology for those interested in potentially deploying stationary fuel cell systems.

H₂USA Activities**Karen Quackenbush**

RCS Task Team met last week, waiting to hear back from National Association of State Fire Marshals regarding an abstract on hydrogen infrastructure codes and standards, as well as deployment experiences and plans and education and training

Opportunity identified for updating MA fire code to the 2015 edition of NFPA 1, which includes a reference to NFPA 2. FCHEA and H2USA are submitting letters of support for the update.

H2FIRST**NREL/SNL**

As reported last time, H2FIRST made a presentation polling industry recently on work may be able to do in next fiscal year, look forward to results of the polling, will be available soon.

Regulatory Matrix Review and Comment**Karen Quackenbush**

<http://www.fcchea.org/s/FCHEA-Regulatory-Matrix-markup-March-13-2017.pdf>

VII. Permitting and Installation of Hydrogen Fueling Stations**Ca Station Implementation****Jennifer Hamilton**

Since last meeting another station open. 17th True Zero station open by First Element and 27th retail hydrogen station open in the state.

Ca DMS Fuel Quality / Metrology**Kevin Schnepf**

Christina Daniels – no report at this time.

Fueling Compliance

Sara Marxen

No report at this time.

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

Juana Williams

No update at this time.

VIII. Open Discussion & Other Issues

Unauthorized fueling

No update at this time.

Other Issues?

IX. Next Meeting

Since most NHFCCSCC participants will be attending the DOE AMR in June, the group decided to defer our next meeting until the normal time in July.

Next meeting will be held on Wednesday, July 5th at 3:00 PM Eastern.