

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

Wednesday, June 2, 2021

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

Minutes

Attendees

**Connor Dolan
Jay Keller
Norman Newhouse
Rob Early
Daniel Orlowski
Kelvin Hecht
Mark Duda
Mark Richards**

**Iris Monner
Karen Quackenbush
Quailan Homann
Martin Hering
Mike Steele
Ray Rahaman
Morry Markowitz
Jennifer Hamilton**

**Yuk Wong
Stella Papasavva
Ian MacIntire
Bob Boyd
John Eihusen
Eric Prause
Antonio Ruiz
Amy Ryan**

I. Welcome and Housekeeping Items

- FCHEA's anti-trust guidelines - reviewed.
- Agenda - reviewed
- Minutes - approved

II. DOE/HQ Update

Laura Hill

- AMR Starts June 7. Those registered should expect to receive a login link June 3-4. Networking session is scheduled for Wednesday evening.
- FOAs of Note:
 - Concept Paper Deadline has passed, but still open for those who submitted a concept paper:
 - SuperTruck 3: <https://eere-exchange.energy.gov/Default.aspx#FoaId2f6fb61b-71a1-447c-a009-a4c460d08457>
 - Low Greenhouse Gas Vehicle Technologies: <https://eere-exchange.energy.gov/Default.aspx#FoaIdbba83da0-9b58-4d26-8c6a-4a36230aed4f>
 - Recently closed: Nuclear FOA:
<https://www.id.energy.gov/NEWS/FOA/FOAOpportunities/FOA.htm>

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

Ian MacIntire

Task Forces are continuing to work on their issues. There was a GTR 13 cosponsors meeting last week. Issues were discussed with IWG.

There is new leadership for Task Force 1 which is exploring incorporation of heavy-duty vehicles. This is being led by a representative from China and Daimler.

The next GTR 13 IWG meeting is scheduled for June 28th and 29th.

V. Codes and Standards Organization Updates

Institute of Electrical and Electronics Engineers

Mark Siira

No report at this time.

International Electrotechnical Commission IEC TC 105

Kelvin Hecht

WG 8 now has the information needed to move onto the next phase of Committee Draft vote of IEC 62282-6-101 ED1 - Fuel cell technologies – Part 6-101: Micro fuel cell power systems – Safety – General requirements.

International Standards Organization ISO/TC 197

Karen Quackenbush/Jay Keller

A new initiative has been launched in ISO/TC 197 - Subcommittee 1. This will focus on needed activities for at scale deployments. This initiative is still in development.

Andre is stepping down at the end of the year and there is a nominated Chair-elect, Mr Tetsufumi Ikeda, from Japan.

Working groups are moving ahead.

WG 5 – refueling connection devices – meeting on June 3rd at 5 PM Eastern.

WG 33 – Sampling and quality analysis - June 14th meeting at 10:00 AM US Eastern.

WG 32 – hydrogen generators using water electrolysis is meeting on June 29th at 3:00 PM

WG 24 – Anticipating a meeting in the October timeframe for Task Force 1. TF 2 and 3 working on arranging their first meeting in the next couple of months.

WG 27 – Meeting June 9th

National Fire Protection Association NFPA 2

Chris LaFleur

Deadline for public comments is tomorrow at 5 PM US Eastern for the first draft report of NFPA 2 and NFPA 55.

No report at this time.

CSA Group

Sara Marxen/Brent Hartman

Technical Committees		
Hydrogen Transportation Technical Committee	Virtual meeting planned for June 22. Contact: sara.marxen@csagroup.org	
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 document is being prepared for publication.
HGV 4.3	Test methods for hydrogen fueling parameter evaluation	TSC members submitted comments on the draft document. The draft document is out for Industry and Public Review. Industry review closes on May 28, 2021. Public review closes June 27, 2021. Click here to access: https://publicreview.csa.ca/Document/Manage/4180
HGV 4.2	Hoses for dispensing compressed gaseous hydrogen	TSC continues to meet to align content with ISO 19880-5, hose standard. TSC continues to review Industry and Public Review comments in preparation of Technical Committee Ballot. Next meeting is scheduled for June 1, 2021.
HGV 5	Hydrogen Refueling Appliances	TSC continues to meet to develop <i>compact Hydrogen Fueling Systems</i> (HGV 5.2). TSC meetings are scheduled every three weeks for content development. Next meeting is scheduled for June 2, 2021.
HGV 3	Fuel system components for compressed hydrogen gas powered vehicles	TSC continues to meet to develop <i>Onboard vehicle components for Hydrogen Gas Vehicles</i> (HGV 3.1). TSC meetings are scheduled every two weeks for content development. Next meeting is scheduled for June 9, 2021.
FC 1 * C22.2 No. 62282-3-100	Stationary fuel cell	This is an adoption of IEC 62282-3-100. Published May 2021.

	power systems	
FC 4 * C22.2 No 22734	Hydrogen generators using water electrolysis	The technical subcommittee will be initiating work on a binational adoption of ISO 22734 - <i>Hydrogen generators using water electrolysis — Industrial, commercial, and residential applications</i> Members interested in participating in this project may contact mark.duda@csagroup.org .

Society of Automotive Engineers (SAE)

Mike Steele

Working on J2600: Compressed Hydrogen Surface Vehicle Fueling Connection Devices. WG 5 is also looking at the comparable ISO document.

Compressed Gas Association (CGA)

Rob Early

No update at this time.

American Society for Testing & Materials (ASTM)

Jennifer Hamilton

Getting ready for the June meeting. We have a call for abstracts out for the December meeting in Anaheim, CA – workshop on inline hydrogen fuel analyzers. Any information that can be shared would be of interest for early detection. This is related to fuel quality.

For more information, Jennifer can be contact by email at jhamilton@cafcp.org.

Call for abstracts information copied below

CALL FOR PRESENTATIONS DUE AUGUST 13TH

Workshop on In-Line Hydrogen Fuel Analyzers
December 8, 2021
Marriott Anaheim
Anaheim, CA

ABOUT THE EVENT

Abstracts for presentation are invited for the Workshop on In-Line Hydrogen Fuel Analyzers to be held Wednesday, December 8, 2021. This workshop is sponsored by ASTM Committee D03 on Gaseous Fuels and will be held at the Marriott Anaheim in Anaheim, CA, in conjunction with the December standards development meetings of the committee.

Objective and Scope

Hydrogen is a developing fuel source for many types of transportation and power industries. As the industry continues to grow, new research into testing methods and protocols is changing the industry. Maintaining the high-quality hydrogen fuel for consumer vehicles is paramount to the success of the industry. The goal of this workshop is to provide a forum for the exchange of information on novel technology: in-line hydrogen fuel analyzers. This workshop will aim to

establish areas where collaborative activity under the ASTM International umbrella can serve to establish new, and to improve, current ASTM standard(s).

Topics for this workshop include, but are not limited to:

- Ongoing and planned standards development activities within ASTM Committee D03
- Overview of new or novel in-line analyzers
- How particular stakeholders in the hydrogen industry can monitor in situ hydrogen fuel quality
- Recent developments in hydrogen fuel for various transportation applications and for stationary fuel cell applications (power storage, emergency backup power, grid balancing)

Abstract Submittal

Please email your 300-word abstract pertaining to the above topics to Workshop Co-Chairs Jennifer Hamilton (jhamilton@frontierenergy.com) and Christina Daniels (christina.daniels@cdfa.ca.gov) no later than August 13, 2021.

In order to be considered for this event, the abstract must include:

- Abstract Title
- Authors full name(s), company affiliation, email address, and phone number
- Indication of corresponding author, if the abstract has more than one author

Technical questions can be addressed to Workshop Co-Chairs Jennifer Hamilton and Christina Daniels.

For more information about the workshop, please visit:
<http://www.astm.org/D03WorkshopHydrogenDec2021>

American Society of Mechanical Engineers (ASME)

Ray Rahaman

Last met in March. B31.12 will be due for its next cycle publication in 2022. Currently working on streamlining items for the next edition.

The next meeting will be in September during B31 code week.

VI. Discussion Topics

Facilitating Deployment

All

Center for Hydrogen Safety

Nick Barilo

No updates at this time.

Regulatory Matrix Review and Comment

Karen Quackenbush

The Working Group reviewed the March 31, 2021 version of the matrix. A copy was provided with the meeting notice.

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

Working on noise and vibration from hydrogen station activity.

There have been four new stations opened in the last month in California.

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

No updates at this time.

Legal Metrology Standards Hydrogen Fuel Quality and Measurement

Juana Williams/Ralph Richter

No updates at this time.

VII. Open Discussion & Other Issues

VIII. Next Meeting – Wednesday, July 7 at 2:00 PM US Eastern