

MINUTES OF THE JULY 2007 TELECONFERENCE OF THE NATIONAL HYDROGEN AND FUEL CELLS CODES & STANDARDS COORDINATING COMMITTEE

MEETING DATE: July 5, 2007

MEETING TIME: 1:00 PM (MST)

MEETING PARTICIPANTS

A list of participants is shown in [Attachment A](#).

1.0 Roll Call – Russ Hewett

Russ stated that as the USFCC was not on the line, he would lead this teleconference meeting, with Karen Hall at the NHA taking minutes. Russ took roll, and introduced new member, Andrea Zajac, who has led the effort to put requirements together for the State of Michigan for hydrogen systems, and is very active on HIPOC and NFPA Technical Committees and Task Groups.

2.0 Reviewed Anti-Trust Guidelines – Russ Hewett

Participants were asked to be mindful of the anti-trust guidelines:

[Antitrust Guidelines](#) (27Kb PDF)

and

[Memo on Antitrust Guidelines](#) (24Kb PDF)

3.0 Review of/Corrections to Draft Minutes of June 2007 Teleconference Meeting

Russ asked for comments on the draft minutes, revised using input from Antonio Ruiz and Juana Williams, which had been circulated with the announcement for this call. Mike Steele requested to be added to the list of participants, as he had participated. No additional changes were requested. Russ agreed to make the change and send the final minutes to the NHA for posting on the NHFCCSCC webpage:

www.hydrogenandfuelcellsafety.info

4.0 Opportunity for DOE/HQ Representative to Provide Latest Information on What's Going on at DOE

- Proposed FY08 Funding
- Other Items?

Antonio Ruiz was performing jury duty, and was therefore unable to participate in the call. Jim Ohi reported that July 31 would mark the end of Patrick Davis' term as acting Hydrogen Program Manager, and that he has been assigned other responsibilities within the Hydrogen, Fuel Cells and Infrastructure Program. Antonio Ruiz would be moving into the role that Patrick Davis had previously – managing the safety, codes and standards activities.

5.0 Report on Hydrogen Fueling Station Permitting Workshop to Be Conducted at the Annual Conference of the National Association of State Fire Marshals on 10 Jul 07

Jim Ohi reminded the participants that one of the results from the DOE/NREL "Workshop on Facilitating Permitting of Hydrogen Fueling Stations" held in Sacramento on February 1 was a recommendation to work with national organizations to educate permitting officials. The National Association of State Fire Marshals (NASFM) is holding their 2007 annual conference in Atlanta, Georgia from July 9-12. On Tuesday July 10, a workshop is being held to address permitting for hydrogen refueling stations. Five case-study station footprints prepared by Shell and Chevron that have already been permitted or are in the process of being permitted will be assessed by five breakout groups, representing fire and building code officials. The purpose is to educate participants about real-world scenarios, and to allow the hydrogen community to learn the process involved in permitting as well as what tools DOE might be able to develop to facilitate permitting in the future. For more information on this workshop, see:

http://www.firemarshals.org/events/annual_conference/Events.asp

6.0 Opportunity for John Mough to Provide Status Report on the California Hydrogen Fuels Project's Efforts to Develop a Hydrogen Fuel Quality Standard

John Mough reported that he met with the California Fuel Cell Partnership a couple weeks ago, and received more input on the draft California fuel quality regulation. Mr. Mough asked participants on the call to review the draft, posted online at:

<http://www.cdfa.ca.gov/dms/hydrogenfuel/HydrogenFuel.htm>

Mr. Mough asked for comments to be sent to him in advance of August 31, at which time the final draft will be prepared and sent to the Governors Office for a 45-day public review period. He noted he has taken comment received on board, and has included a request based on a meeting at SAE regarding allowable limits on CO. SAE is looking into increasing the CO allowance from 100ppm to 300 ppm, pending data. The California regulation is less stringent than the SAE Technical Specification, so that industry can comply while research programs continue on the issue. He reminded participants that California has a developmental fuel variance that is valid for two years and a 2-year period of renewal.

Rody Stephenson asked about the status of the ISO TC 197 work item that is also addressing this issue. Jim Ohi reported that this effort involves single cell testing, and that a test matrix has been agreed tby several countries. The Europeans are applying for EC funding for Hy-Q, which is a follow-on research project from FCTESqa. If funded, Europe will be able to contribute to the matrix. Japan has yet to formally adopt the matrix.

Several participants on the call noted the efforts to develop an international fuel quality standard should be data-driven, rather than time-line driven.

7.0 Opportunity for Gary Castro to Provide Status Report on the California Hydrogen Fuels Project's Efforts to Develop a Hydrogen Fuel Dispenser Standard

Gary Castro is on vacation, and could not participate in the call.

8.0 Opportunity for Juana Williams to Provide Status Report on the National Institute of Standards and Technology's (NIST) Efforts to Develop a National Hydrogen Fuel Dispenser Standard

Juana Williams reported that NIST is gearing up for the National Conference on Weights and Measures, which is being held July 8-12 in Salt Lake City, Utah: <http://www.ncwm.net/>

The conference will be an opportunity to meet with meter manufacturers to brief and solicit input on the draft plans. Several activities are underway, and NIST will be soliciting industry input from the hydrogen and fuel cell community for these as well. One activity is a recommendation on compressed gaseous fuel

document, and another is a recommendation on cryogenic liquids. These, as well as a test report, will be sent out for comment. NIST is looking at holding their national awards, possibly during the first week in October. Juana is interested in avoiding schedule conflicts with other meetings for the weights and measures community.

Responses to the request for technical advisors were small as the notice time was very short.

The materials reliability division in Boulder, Colorado is holding a meeting on materials reliability August 21 & 22. The audience is pipeline professionals and materials test engineers. Information can be found at: www.boulder.nist.gov/div853

9.0 Report on Hydrogen Industry Panel on Codes (HIPOC) Activities

Russ reported an item from Darren Meyers and Patrick Serfass on HIPOC, which was attached to the agenda.

The next HIPOC meeting is scheduled for Thursday, July 26 11AM-1PM mainly to discuss new proposals for changes to the I-Codes as part of the 2008/2009 ICC Code development Cycle. Proposals are due to ICC August 20, 2007.

Directions for submitting a proposal and more information can be found at: <http://www.hydrogenandfuelcellsafety.info/hipoc>

HIPOC has the following items already developed/or in "best and final" stage for vote on July 26th:

1. ESD
2. Indoor fast fill refueling
3. Separation distances placeholder

Code Change Proposals for 2008/2009 ICC Code Development Cycle

For those members of H&FCC&SCC wishing to submit proposed changes affecting hydrogen to the 2009 I-Codes and have them vetted by HIPOC, any such proposals would need to be in "best-and-final" form, on ICC proposal forms and submitted to HIPOC staff (i.e., Serfass, Meyers, Rivkin), ON OR BEFORE JULY 20, 2007.

Patrick plans to place an announcement in the Hydrogen and Fuel Cells Safety Report reminding the Safety Report's audience of this deadline before the teleconference meeting.

10.0 Report on NFPA Activities (Hydrogen Technology Technical Committee to Develop NFPA 2)

The NFPA 2 technical committee task groups have been meeting by teleconference since the last meeting. Several NFPA task groups will be meeting in Allentown, Pennsylvania in mid August to continue activities.

11.0 Report on ISO/TC197 Activities and Documents in the Comments Phase

Debbie Angerman is on vacation. She provided a written report, distributed with the agenda and included here:

1. WG13 met in Seoul in June to address comments from ISO/CD 26142, Hydrogen detection apparatus. Their next meeting is planned for November before the plenary meeting.

2. WG12 on product specification (ISO 14687) also met in Seoul, and plans to meet again in November.
3. A meeting of ISO/TC 197 WG6 (joint with ISO/TC 22 and ISO/TC 58/SC 3) Gaseous hydrogen and hydrogen blends—Land vehicle fuel tanks (ISO 15869) is now targeted for September. Exact dates have not been confirmed.
4. We anticipate appointing a new U.S. TAG Chairman in the next several weeks.
5. There are no documents out for vote or comments at this date.

12.0 Report on ISO/TC197 WG12 Activities

Much of this activity was reported under items 6.0 and 11.0 above. In addition, a report is available on the US TAG website and the June edition of the Hydrogen and Fuel Cell Safety Report.

During the meeting in Seoul, WG 12 went over the test matrix and the issue of modelling. There will be a workshop at Argonne National Laboratory to discuss fuel cell stack and PSA modelling. Jim also mentioned that WG 12 had a chance to tour the new hydrogen refuelling station in Korea, at the Kogas facility outside of Seoul. Kelvin Hecht noted that Korea is hosting the 2008 Plenary of IEC TC 105.

The next WG 12 meeting will be November 6 & 7 in Italy, in conjunction with the World Hydrogen Technologies Convention. Action will be taken on the test matrix, test protocol, data reporting format and modelling.

Jim Ohi noted the International Conference on Hydrogen Safety is being held in San Sebastian, Spain, from September 11-13. DOE will be very prominent at this conference, and all participants are encouraged to attend. The conference website is:

<http://conference.ing.unipi.it/ichs/index.php?id=10>

13.0 Report on IEC/TC105 Activities and Documents in the “Comments” Stage

Kelvin Hecht reported that the stationary and portable fuel cell standards have both been published and adopted by the EC, issued with joint IEC/EN numbers. ANSI and CSA are discussing US adoption of these standards. The micro fuel cell standard is out for comment in the US till July 20. The single cell test method draft received about 70 comments. The WG got through about half of the comments at their last meeting, and will be meeting in Germany in a couple of months to continue the work.

The May statistics for www.fuelcellstandards.com are as follows: Over 6,600 visits and 12,000 pages – both are records for the website. The bulletin board is becoming active, with international interest, especially from Europe.

14.0 Opportunity for CDOs and SDOs to Report on Their Activities (As Appropriate)

- **ASME**
John Koehr reported that the Savannah River National Laboratory and ASME are co-hosting a workshop on September 24 & 25 in Aiken, South Carolina. The flyer was attached to the agenda.
- **CSA**
Julie Cairns reported that the HGV4 work group and the common issues work group (which has representation from all the CSA hydrogen TAGs) have held teleconference meetings to establish priorities. There will be a teleconference meeting next week. Drafts are expected for industry review by the end of the calendar year.

- **SAE**
Mike Steele reported that SAE will hold meetings of the Fuel Cell Technical Committee and work groups from July 17-19 in Troy, Michigan. The next meeting will be September 18-20. Glenn Scheffler reported that J2578 is continuing to work on criteria to determine limits for allowable hydrogen discharge at the exhaust pipe and for post-crash hydrogen loss. For J2579, work is underway to validate the performance-based test methods and criteria to be applied. The target is to get this document out by the end of the year. They are working closely with CSA. An appendix has been added to J2579 on integration of the compressed hydrogen system into the vehicle. The appendix is based on lessons learned from PRDs. The appendix is to be expanded before the first ballot.

15.0 Other Business/Next Teleconference Meeting

- Next Teleconference Meeting – August 1st

16.0 Proposed Next In-Person Meeting

- US Fuel Cell Council’s 2007 Fuel Cell Seminar in San Antonio During the Period October 15 -19
- Topics for Focused Discussion at In-Person Meeting can be sent to Russ Hewett, Robert Wichert, or Karen Hall, or raised during the August 1 teleconference meeting.

ATTACHMENT A: PARTICIPANTS IN THE JULY 2007 TELECONFERENCE MEETING OF THE NATIONAL HYDROGEN AND FUEL CELLS CODES & STANDARDS COORDINATING COMMITTEE

NAME	ORGANIZATION	PRESENT AT MEETING (Yes/No)
Adam Gromis	California Fuel Cell Partnership	
Andrei Tchouvelev	A. V. Tchouvelev & Associates, Inc.	
Anna Stukas	Angstrom Power	
Antonio Ruiz	USDOE/Hydrogen, Fuel Cell and Infrastructure Technologies Program	
Bill Chernicoff	USDOT/Research and Innovative Technologies Administration(RITA)/Washington	
Bill Collins	UTC Fuel Cells	
Bill Hoagland	Hoagland and Associates	

Brad Smith	Shell Hydrogen	
Carl Rivkin	National Fire Protection Association (NFPA)	
Carolyn Elam	DOE Golden Field Office	
Cathy Gregoire-Padro	Los Alamos National Laboratory (LANL)	
Chris Sloane	General Motors	
Christina Zhang-Tillman	California Fuel Cell Partnership	
Christopher Moen	Sandia National Laboratories/Livermore	
Dan Casey	ChevronTexaco	
Darren Meyers	International Code Council (ICC)	
David McClosky	USDOC/NIST	
Debbie Angerman	Compressed Gas Association (CGA)	
Doug Horne	Clean Vehicle Education Foundation	
Gary Nakarado	Regulatory Logic	Yes
Glen Schleffler	Consultant to NREL	Yes
Greg Milewski	Shell Oil Products	
Hank Seiff	Clean Vehicle Education Foundation	Yes
Holly Thomas		Yes
Jacquelyn Birdsall		Yes
Jesse Schneider	DaimlerChrysler	
Jim McGetrick	BP	
John Koehr	American Society of Mechanical Engineers (ASME)	Yes
John Mough	California Division of Measurement	Yes

	Standards	
Jonathan Muntez	U.S. DOE	Yes
Jonathan Otero	BP	
Juana Williams	NIST	Yes
Julie Cairns	CSA America	Yes
Karen Hall	National Hydrogen Association (NHA)	Yes
Kelvin Hecht	ANSI, IEC and Consultant to NREL	Yes
Ken Krastins	Plug Power	
Larry Moulthrop	Proton Energy Systems	
Laurie Florence	Underwriter Laboratories	Yes
sLesley Crowell	California Air Resources Board	
Mark Richards	Versa Power Systems	
Michael Sprague	Enersol, Inc.	
Michael Steele	General Motors Advanced Technology Vehicles	Yes
Nha Nguyen	NHTSA/Office of International Policy and Harmonization	
Nick Burkhead	Shell Hydrogen	
Pat Davis	USDOE/Hydrogen, Fuel Cell and Infrastructure Technologies Program	
Patrick Flynn	Enersol, Inc.	
Patrick Serfass	National Hydrogen Association (NHA)	
Paul Bouchard	Energy Conversion Devices	
Paul Buehler	Plug Power, Inc.	
Prentiss Searles	American Petroleum Institute (API)	
Robert Wichert	US Fuel Cell Council (USFCC)	

Rhoads Stephenson	Motor Vehicle Fire Research Institute	Yes
Roger Smith	Compressed Gas Association (CGA)	
Ron Coiner	CSA America	
Sam Sprik	National Renewable Energy Laboratory (NREL)	
Samuel Lam	British Columbia Ministry of Transportation	Yes
Sheral Arbuckle	Ford Motor Company	
Sondra Ullman	Plug Power	Yes
Terry Conrad	Concurrent Technologies Corp.	
Thad Adams	Savannah River National Laboratory	
Thomas Holly	National Renewable Energy Laboratory (NREL)	Yes
Tom Joseph	Air Products and Chemicals	
Tony Androsky	US Fuel Cell Council (USFCC)	
Jim Ohi	National Renewable Energy Laboratory (NREL)	Yes
Russ Hewett	National Renewable Energy Laboratory	Yes

Guests

Ben Deal - CARB
David Mann - NHA
Rob Burgess - NREL