

MINUTES OF THE JANUARY 2010 TELECONFERENCE OF THE NATIONAL HYDROGEN AND FUEL CELLS CODES & STANDARDS COORDINATING COMMITTEE

MEETING DATE: January 6, 2010

FACILITATOR: Chad Blake, NREL

1. Roll Call - Robert Wichert

Robert Wichert welcomed everyone to the January teleconference meeting of the National Hydrogen and Fuel Cells Codes & Standards Coordinating Committee. Karen Hall took the roll call.

- [Attendees](#) (26Kb PDF)

2. Review of Anti-Trust Guidelines - Tony Androsky

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

3. Review of/Corrections to Draft Minutes of September 2009 Teleconference Meeting - Tony Androsky

The December 2009 draft minutes were approved without change. Approved minutes are posted at www.hydrogenandfuelcellsafety.info.

4. DOE/HQ Update – Antonio Ruiz

Antonio is on leave spending time with his newborn daughter. Michael Thompson provided a brief report. There is \$8.8 million for codes and standards in the FY 2010 budget. The budget rollout for FY11 is expected in February. DOE plans to keep the main focus on on-going activities plus the fuel cell priorities, such as materials handling equipment.

DOE and DOT held a joint workshop in December. Jim Ohi described this workshop to discuss lessons-learned from CNG. The workshop had active participation from India, China and Brazil. The US plans to continue this dialog and to continue to work with these emerging economies on collaborative R&D as well as harmonizing RCS. The workshop presentations will be posted on the DOE website shortly. The NHA will link to these through the Safety Report.

5. California Hydrogen Standards - John Mough

No update

6. Hydrogen Industry Panel on Codes (HIPOC) Activities - Bob Boyd / Glenn Scheffler

Karen Hall noted HIPOC will hold a teleconference meeting next week. Most of the activity relates to the NFPA documents which will be reported next. In addition, HIPOC will consider whether to prepare a public comment on the IFC ROP document relating to a proposal by CSA, logged as F175. This proposal was recommended for rejection by the ICC Fire Code Committee because the documents referenced in the proposed change are not yet published standards. More information on this is contained in the November issue of the Safety Report and an update will be available in the January issue.

7. NFPA Activities - Paul May/Marty Gresho

Paul May announced that the NFPA 2 Report on Proposals (ROP) is available for public comment. Interested parties can review the draft document and the committee actions on proposals received on the NFPA website at <http://www.nfpa.org/aboutthecodes/AboutTheCodes.asp?DocNum=2>. You can also download comment forms from this website and submit online comments related to the committee actions on the proposals

received. The public comment closing date is March 5, 2010.

In response to questions about the activities of the NFPA 2 task groups, Paul agreed to provide more information on this. This is available in the January edition of the Safety Report at www.hydrogenandfuelcellsafety.info.

Marty Gresho noted that NFPA 502 is working on requirements for tunnels. NFPA 2 will be able to pick this up once NFPA 502 is published.

NFPA 853 has been approved for publication of the 2010 edition.

NFPA 52 has been approved for publication of the 2010 edition. It is in the Fall 2012 revision cycle. The next proposal closing date is May 23, 2011.

NFPA 55 has been approved for publication of the 2010 revision. It is in the Annual 2012 revision cycle. The next proposal closing date is November 23, 2010.

Robert Wichert asked this group to consider a list of all the NFPA documents that we might be interested in. For example, we already mentioned NFPA 2, NFPA 52, NFPA 55, NFPA 502, and NFPA 853. In addition, NFPA 505 relates to fork lift trucks. Paul May agreed to provide a list of all the NFPA documents referenced in NFPA 2.

The following NFPA documents have been identified as appearing in NFPA 2 (the most prevalent documents are listed in bold) as follows: **1**, 10, 11, 11A, 12, 12A, 13, 14, 15, 17, 17A, 24, 25, **30**, **30A**, 31, 34, 37, **45**, 49, 50A, 51, 51B, **52**, 54, **55**, 58, **68**, **69**, **70**, 72, 77, 79, 80, 82, 86, **88A**, 90A, 91, 92A, 99, 101, 101B, 110, 211, 220, 221, 241, 251, 255, 259, 318, 325, 484, 491, 496, 497, 502, 566, 704, 750, 801, 820, 850, **853**, 914, 921, 1925, 1962, 2001, and 5000. It is also noteworthy that NFPA 505 has added material on hydrogen forklifts that will appear in the next edition.

8. ICC Activities - Darren Meyers

Darren was not on the call. There was nothing new to report that wasn't covered under HIPOC, above.

9. DOE/NREL Activities and DOE/Sandia Activities - Carl Rivkin

NREL will be conducting a C&S Gap Analysis on fuel cell technologies, which is separate from the one they have done on hydrogen technologies. The Hydrogen C&S Gap Analysis will be issued as a Technical Report soon.

10. DOE/Sandia Activities - Dan Dedrick

Sandia is conducting research on hydrogen releases in confined and semi-confined areas. This project is contributing to the NFPA 502 work on tunnels. SANDIA is embarking on a mission to validate modeling data. The work will be conducted at SRI in California in late January/February to validate overpressure predictions and ignition modeling for tunnels. SANDIA is also looking at indoor refueling and is seeking industry input on design for QRA analysis and dispersion modeling. SANDIA is seeing repeatable ignition events for ungrounded surfaces. The materials compatibility in tanks testing work is progressing, with testing anticipated for late January/February. This will generate data for the developing CSA forklift document.

11. IEC/TC105 Activities - Kelvin Hecht

Kelvin Hecht gave a comprehensive report describing the status of each work item – included here. He also described a FCTESQA project which is closely related to activities of the IEC TC 105. For this reason, the current status of this project has been submitted to IEC TC 105 for comments.

WG 11 – Single Cell Test Methods has called a meeting for Feb 9-10 in Milan to discuss comments received during the voting process. Since the document was 'approved', it isn't clear if changes can be made other

then editorial comments.

He also noted that fork lift trucks are likely to be on the IEC/TC 105 agenda later this year.

12. ISO/TC197 Activities - Glenn Scheffler/Jill Thompson

Glenn Scheffler noted there are many documents that are either out for review currently or have recently closed.

- [Glenn's report](#) (15Kb PDF)

In addition, WG 12 (Hydrogen Quality) will be meeting in San Francisco on January 28-29. Jim Ohi noted that the US experts would hold a Technical Roundtable in advance of that meeting, and agreed to send this information to Jill Thompson for distribution to the US TAG.

13. Fuel Cell Forklift Issues - Aaron Harris

Aaron Harris noted that parties interested in the safety, codes and standards issues relating to fork lifts have been meeting by webinar through a USFCC task force. The group is open to all interested parties. The next meeting will be on Tuesday, January 12 by telecon/webinar. This meeting may include discussions of on-board sensors. Fork lift trucks may be considered a proving ground for vehicles in general for ancillary devices. He noted that the applicable SDOs are involved with the effort. UL 2267 and CSA Hydrogen-Powered Industrial Trucks (HPIT) 1, as well as NHPA 502 are all related to this work and representatives are involved in the coordination discussions.

Laurie Florence of UL noted that UL 2267 is moving forward now with interim changes in bullet form to get the changes out quickly.

Mike Steele added that SAE J2919 will be a Technical Information Report (TIR) for industrial trucks which will be based on J2579.

14. NIST Activities - Juana Williams

The DOE/NIST-sponsored National Working Group met on December 15th to focus on the comments on regional weights & measures. There were numerous comments so a follow-up web/teleconference to finish addressing them has been scheduled for January 13th.

Handbook 130 (the fuel quality interim standard) needs input. Juana asked if there is any published information on the effects of constituents when the levels go beyond the published limits. Karen Hall noted that ISO/TC 197 WG 12 has presented several PowerPoints describing research on this. Jim Ohi agreed to provide Juana some information following the upcoming WG 12 meeting. Juana also noted this group typically works with internal combustion engines (ICEs) and asked if there was any data on the constituents with ICEs. As WG 12 and SAE are concerned with PEM fuel cells, the group is not aware of any data on ICEs and it has never been raised as a concern.

15. CSA America Activities - Julie Cairns

Julie Cairns was not on the call. Other than the ICC F175 issue discussed under HIPOC, there was no new information offered.

16. SAE Activities - Mike Steele

Mike Steele reported that the next set of SAE meetings will be 9-11 March. There was a call in December to discuss the J2579 draft revision.

Glenn Scheffler noted SAE is developing a localized fire test and is reworking the test requirements to shorten the time to complete all the tests. There will be a telecon on conformance for production of pressurized containment vessels. The February meeting will address the time-delay for a localized fire test before it becomes a full-blown fire.

J2579 Compressed Hydrogen System is likely to go through draft revision this year. In response to a question about the timing for a document on fork lift trucks, Mike Steele explained the activity is brand new. J2919 has an unknown completion date as the work group hasn't met yet, although SAE hopes to publish the TIR this year.

17. ASTM D.03 Activities - Jackie Button

Jackie Button provided a status update and key dates for ASTM D.03.

- [Jackie's report](#) (23Kb PDF)

18. NHA Activities - Karen Hall

Karen Hall announced that plans are well underway for the NHA's 2010 Hydrogen Conference and Expo, which will be held May 3-6 in Long Beach, California.

There will be fewer breakout sessions than in previous years. The NHA is planning two technical sessions dedicated to safety, codes and standards. The first is a parallel session on the morning of Tuesday, May 4th, which also happens to be Public Day for this year's show. The second is a 3-hour workshop-style session scheduled for Wednesday afternoon, May 5th.

There are opportunities for related events to be scheduled. These will be announced as they are finalized. More information is available at www.hydrogenconference.org.

19. USFCC Activities - Sondra Ullman

Robert Wichert announced that Ruth Cox will become the Executive Director for the USFCC effective February 1st. Bob Rose will continue to serve with the Council in some capacity.

20. Open Discussion & Other Issues - Jim Ohi

Rody Stephenson expressed concern that the different codes and standards use different units for pressure, creating some confusion. He requested this item be added to the agenda for the February call to discuss prospects for agreeing units and harmonizing across the various codes and standards.

Jim Ohi suggested that we add Los Alamos, Argonne, and PNL to the report from National labs. Chad Blake will invite representatives.

21. Next Call – February 3, 2010