

# MINUTES OF THE MAY 2009 TELECONFERENCE OF THE NATIONAL HYDROGEN AND FUEL CELLS CODES & STANDARDS COORDINATING COMMITTEE

**MEETING DATE: May 6, 2009**  
**MEETING TIME: 3 - 4:30 PM (EDT)**  
**FACILITATOR: Karen Hall, NHA**

## 1. Roll Call - Karen Hall

- [Partipants](#) (8Kb PDF)

## 2 Review of Anti-Trust Guidelines - Karen Hall

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

## 3. Review of/Corrections to Draft Minutes of April 2009 Teleconference Meeting

Approved as written

## 4. DOE/HQ Update - Antonio Ruiz

Jim Ohi – Budget Issues are high priority at DOE Headquarters

## 5. California Hydrogen Standards - John Mough

No update

## 6. Hydrogen Industry Panel on Codes (HIPOC) Activities

Glenn Sheffler provided an update. There was a HIPOC meeting today (May 6, 2009). Mostly administrative issues were addressed and closed. An additional meeting will be held next Wednesday to complete discussions on NFPA2 and IFC Chapter 22 and 35 Proposals.

## 7. NFPA Activities - Marty Gresho / Paul May

Marty Gresho provided an updated on NFPA2. The proposal deadline is May 29th. The committee meeting to hear the proposals is August, 2009.

Paul May provided an update on NFPA 55 and NFPA 2. NFPA 55 will be released in the fall. The NFPA 52 NITMAM will be heard at the meeting in Chicago on June 11th.

## 8. ICC Activities - Darren Meyers

No report

## 9. DOE / NREL Activities - Chad Blake

Chad Blake provided an update on tentative workshop schedule.

Month	Date	Location	Partner
February	11 & 12	Boulder, CO	n/a
March	25	Los	California Fuel Cell

		Angeles, CA	Partnership
April	3	Columbia, SC	South Carolina Fuel Cell Alliance
April	15	Seattle, WA	
July-flexible		San Antonio, TX	Steve Suthers, City of San Antonio, 210-207-3402; HARC may also play a role
July	17	Tampa, FL	Florida Fire Bureau, Jim Goodlow - Carl to send contact
September	half day: 10 or 11	Hartford, CT	Connecticut Hydrogen Fuel Cell Coalition, 860-291-8832, Paul Aresta
November	13 – half day	New Orleans	ATF Facility – Jefferson Parish

In addition, Chad provided a brief summary of the permitting workshop held the week of the NHA conference, on Friday, at the South Carolina Fire Academy. The comments received were all positive, and the workshop went well. The facility and hosts were very accommodating, and the refueling station tour included a bonus refueling event.

Jim Ohi provided an update on Fuel Quality activities. There will be a group meeting on Tuesday evening during the Annual Merit Review in Washington, DC. ISO TC197 WG12 will meet in Vancouver on June 17th and 18th – FC Testing, Instrumentation, and FC Modeling work will be discussed in preparation for the Draft International Standard due this fall. Instrumentation – Instrumentation information collected from Pitcon on available technologies for in-field testing is being evaluated and the team is nearing a decision for short-term field testing strategies. International Workshop on Fuel Quality, Crete Greece - still no formal approval from TC197 Secretariat, but Jim suspects it will be held in September, the week prior to the ICHS.

## 10. Report on IEC/TC105 Activities – Kelvin Hecht

### TC105 – Fuel Cell Technologies

- Working Group #4 Stationary Fuel Cell Power Systems – Performance
  - The USTAG had no comments on the Committee Draft of the second edition to IEC 62282-3-2.
  - A new activity has been approved as IEC 62282-3-201, *Small Stationary Polymer Electrolyte Fuel Cell Power System – Performance test methods*. Countries agreeing to participate are: Japan, China, Korea, Italy and France.
- Working Group #10 Micro Fuel Cells – Fuel Cartridge Interchangeability
  - The USTAG voted to disapprove the FDIS of 62282-6-300 primarily based on its prescriptive approach. The document was approved 11 to 1.
- New Work Item Proposal
  - Germany plans to propose a new standard; *Explosion Protection of Fuel Cell Systems*.

- Avoidance of potentially explosive atmospheres
- Avoidance of ignition sources
- Consequence reduction in the event of an incident

## **Hydrogen / Fuel Cell Codes & Standards Matrix** -[www.fuelcellstandards.com](http://www.fuelcellstandards.com)

- Website has been redesigned for simplification & differentiation between published standards and standards under development.
  - All comments are welcome
- March website activity
  - Visits - 4,754
  - Pdf downloads - 318

## **11. Report on ISO/TC197 Activities – Glenn Scheffler / Jill Thompson**

ANSI-Accredited U.S. TAG for ISO/TC 197, *Hydrogen technologies*

- Currently out for vote
  - ISO/CD 17268, *Compressed hydrogen land vehicle fueling connection devices*
    - U.S. TAG comments are due on May 5, 2009.
    - A webconference has been scheduled for Monday, May 18, from 2:00 PM to 4:00 PM eastern to develop consensus on the U.S. position.
    - This ballot ends on June 16, 2009.

## **12. NIST Activities – Juana Williams**

### **(1) U.S. National Work Group (USNWG) for the Development of Commercial Hydrogen Measurement Standards**

The USNWG Device Standards Subcommittee and Fuel Specifications Subcommittee met April 28-30, 2009 at the California Fuel Cell Partnership in West Sacramento, CA. Projects and tentative changes to proposed legal metrology requirements for hydrogen refueling applications, pending the USNWG's approval of the April meeting summary, are listed below:

#### **Device Standards Subcommittee (DSS)**

The DSS met on the 28th and 29th to discuss any remaining issues with Draft 4.0 of the NIST Handbook 44 Hydrogen Gas Measuring Devices Code and corresponding equipment test procedures.

#### **Test Procedures**

The DSS agreed that there are benefits to developing a single test standard that allows for an evaluation of hydrogen refueling equipment to both safety and accuracy standards. One objective in the establishment of legal metrology requirements is to test the equipment's performance across the entire range of flow rates under normal use. This objective will impact the selection of test vessels/receptacles of appropriate sizes.

The uncertainty analysis for gravimetric and volumetric test methods is nearing completion. The next step will be to determine the uncertainties associated with the master meter test method. This information will be important in the selection of an appropriate test method, given the combined error and uncertainty of the test standard must be less than one-third of the applicable performance tolerance when the standard is used without correction.

#### **Device Requirements**

The focus of the April meeting was to eliminate any gaps in Draft 4.0 of the NIST Handbook 44 Hydrogen Gas Measuring Devices Code, to avoid delays in the code's review and subsequent approval during the 2010

cycle for the weights and measures standards development process. The preliminary outcome of DSS discussions are as follows:

- Provide real world examples of stationary and mobile refueling systems to clarify that the code applies to both applications
- Schedule a June 17, 2009 (3:00 p.m. to 5:00 p.m. [EST]) Tele/Webconference to ensure the draft code fully addresses both wholesale and retail applications
- Contact other national and international legal metrology organizations, laboratories, etc. most likely to have sufficient test data that demonstrates:
  - the availability of a test standard(s) to evaluate a hydrogen refueling system's performance
  - the ability of hydrogen refueling systems to attain the proposed tolerances in the draft code
- Modify paragraph S.1.3.3. to specify a maximum value of the quantity-value division of 0.001 kg rather than require its value not exceed a fixed percentage of the minimum measured quantity.

#### **Fuel Specifications Subcommittee (FSS)**

The April meeting resulted in several modifications to the Discussion Paper "The Starting Point: A Discussion Paper Describing a Proposed Method of Sale and Quality Specification for Hydrogen Vehicle Fuel" and Draft 2.3 of the NIST Handbook 130 Method of Sale and Fuel Quality requirements for hydrogen to harmonize, where possible, with the latest recommendations developed by related technical work groups.

#### ***Fuel Quality Specifications***

Modifications will be made to the discussion paper and draft code for consistency with the February 2009 recommendations of SAE J2719 to:

- Identify properties where there is tentative agreement on the ability of current technology to test for the permissible limits proposed in the code
- Update the measurement unit for the permissible level of particulate concentration
- Update the property terminology, measurement unit and the value for the permissible level for particulate size

#### ***Method of Sale Requirements***

Modifications will be made to the discussion paper and draft code to clarify:

- Acceptable symbols for use to identify the fuel "Hydrogen"
- Appropriate expressions of the service pressure in SI units for dispenser labeling and street price sign advertisement

The FSS also agreed to modify the proposed NIST Handbook 130 definitions for "fuel cell", "hydrogen fuel," and "internal combustion engine," to read as follows:

**1.XX. Fuel Cell. - an electrochemical energy conversion device in which fuel and an oxidant react to generate energy without consumption of its electrodes or electrolyte.**

**1.XX. Hydrogen Fuel. - a fuel composed of the chemical hydrogen intended for consumption in a surface vehicle with an internal combustion engine or fuel cell.**

**1.XX. Internal Combustion Engine. - a device used to generate power by converting chemical energy bound in the fuel into mechanical work to power a vehicle.**

### **Next Meeting**

The USNWG discussed and will ballot its members on a change to the date and time for its upcoming August 18-20, 2009 meeting due to scheduling conflicts for multiple USNWG members. The USNWG is considering August 11-13, 2009 for its next in-person meeting. The meeting will be held on the NIST Gaithersburg, Maryland campus. Tentative plans are to hold the FSS meeting from noon to 5 p.m. on August 11th and then hold the DSS meeting from 8:30 a.m. to 5:00 p.m. on August 12th and 13th.

Please contact Juana Williams ([juana.williams@nist.gov](mailto:juana.williams@nist.gov)) if you wish to participate in or observe the work of the U.S. National Work Group or visit the WMD web site at <http://www.nist.gov/owm>, then go to W&M Resources and click on "Developing Commercial Hydrogen Measurement Standards."

### **13. CSA America Activities – Julie Cairns/ Connie Bielawski**

No report

### **14. SAE Activities – Mike Steele / Glenn Scheffler**

Mike Steele provided an update. The May meetings have been cancelled. The next scheduled meetings are the week of 13 July 2009.

### **15. ASTM D.03 Activities -- Jackie Birdsall**

Jackie Birdsall provided an update. New work item 22378 for analysis of total hydrocarbon content. Work item 18779 has been changed to 24073.

### **16. NHA Activities – Karen Hall / Geoff Bromaghim**

Karen Hall provided an update. The NHA Conference workshop proceedings & featured papers have been posted to the NHA website. Registration is open for safety school scheduled to take place in Corsica, France just before ICHS.

### **17. Report on USFCC Codes & Standards Priorities for 2009 – Sondra Ullman**

Sondra Ullman provided an update. The USFCC Codes and Standards Priority Matrix has remained essentially the same for a few months.

### **18. Open Discussion**

None

### **19. Next Meeting**

Wednesday June 3rd, 2009