



NHA Codes & Standards Steering Committee Meeting

Draft Minutes

July 18, 2006 12:00-1:00PM EDT

Steering Committee Participants:

Bob Boyd, BOC
Darren Meyers, ICC
Larry Moulthrop, Proton Energy Systems
Bill Collins, UTC Fuel Cells
Chris Sloane, General Motors (Chair)
Tom Joseph, Air Products (Vice Chair)
Bruce Hindmarch, General Hydrogen
Bill Hoagland, Hoagland & Associates

NHA Staff

Karen Hall
Rex Hazelton

Karen Hall called the roll at 12:08, and pointed out that General Hydrogen could join the Steering Committee

Information Items

- **NHA Contract with NREL for Safety Report and Coordination**
 - **Status report and activities that NHA staff are working on**

Karen Hall reported that the NHA launched a new series of articles in the June *Hydrogen and Fuel Cell Safety Report*. The purpose was to create a dialog about how existing efforts may or may not tie into other efforts and key commercialization decisions. It is anticipated that this discussion and follow-up analysis may help identify potential gaps in codes and standards activities in time to ensure these gaps are filled to meet key commercialization decisions. Staff is working with SAE for an article on their work; specifically how the work on receptacles ties into nozzles, vehicles, refueling stations, fuel quality, etc. The committee discussed the benefit of using one such article to help the community understand the role of CSA for receptacles, and how the model codes cover siting requirements. **Karen agreed this is an excellent follow-on to the first planned article, and agreed to circulate the draft to the Steering Committee (ACTION).** Despite industry opposition expressed during the National Code and Standards Coordinating Committee telecom on July 12, CSA has announced it will continue to seek support for creating a hydrogen refueling station standard. This article may be a way to voice the NHA's perspective on this issue. The NHA C&S Steering Committee may want to speak out against self-funded non-public activities such as this.

- **NHA Contract with DOE for C&S Outreach and technical work**
 - **Status report and activities that NHA staff are working on**

Karen reported that the main current activities will be discussed during this call. She described the cost-share requirements for the contract and indicated staff would be sending the Steering

Committee an In-Kind cost-share form to be completed quarterly. This allows the NHA to quantify the value of the time and effort from the committee members in preparing for, and participating in, the NHA C&S activities. This reduces the burden of the cost-share requirements on the NHA dues budget, which can then be used for activities outside the scope of the contract, including unallowables. She indicated that she and Patrick Serfass would discuss how to make this process easy and painless, and implement a system whereby the information can be collected on a quarterly basis.

Karen then announced two ISO documents out for review and vote. Any member of the SC wishing for a review copy to contribute to the NHA vote is welcome to have one:
ISO/CD 16110-2: Hydrogen generators using fuel processing technologies – Part 2: Test methods and performance. The US vote is due to ISO on October 4. Karen plans to submit her vote to the US TAG Administrator in early September.

ISO DTS 16111: Transportable gas storage devices – Hydrogen Absorbed in reversible metal hydrides. This draft technical specification is circulated for approval until 3 September 2006. This draft technical specification addresses the comments received from ISO/TC 197 and ISO/TC58/SC3 members during the circulation of the second committee draft (ISO/TC 197 doc. N 332). The ECOSOC Sub-Committee of Experts on the Transport of Dangerous Goods (SCETDG) is interested in this document, provided it is available by the end of this year. This is why ISO has reduced the normal circulation period from three to two months. This document is also being developed as a draft International Standard at the same time. It is being developed as a T.S. because it is possible to release a TS faster, so it can be used by the SCETDG. The IS process takes longer, as an IS is developed with broader consensus.

Chris Sloane added that GM has provided input on ISO FDIS 13985: Liquid hydrogen –Land vehicle fuel tanks. GM had done some research on liquid tanks, and provided the input as a public service. In addition, should any auto manufacturer choose to pursue liquid hydrogen vehicles in the future, it is best these issues are addressed. Main issues include some testing, including destructive test, are required for all tanks. This would result in no tanks in the market. The comments are posted on the US TAG website. As a result of these comments, the NHA has rescinded a vote for approval, and has asked the US TAG Administrator for help in resolving the comments. It is felt that the issues are important enough that the NHA should make the US TAG aware of these issues prior to the final vote, and convey any that cannot be resolved quickly.

- **DOE C&S Solicitation Status**

Karen reported that DOE has made a selection on the proposals in response to the DOE solicitation to manage the C&S sub-awards. The announcement is expected soon, pending timing requirements of the Secretary of Energy. It is also worth noting that the contract may not start on October 1, due to the likelihood of a continuing resolution.

Discussion Items

- **Relationship with USFCC – Karen Hall**

Karen reported that the NHA has offered to collaborate with the USFCC on our report to DOT, as well as a joint proposal for C&S funding, however these offers have received no response from the USFCC. **Bill Collins stated he would be speaking with Tony Androsky of the USFCC the next day, and would follow up. (ACTION)**

- **2006 Fuel Cell Seminar Workshop - Patrick Serfass**

Patrick was unable to participate due to an unexpected power failure. Karen reported the Fuel Cell Seminar website now contains information about this NHA Workshop, and that speakers and topics are shaping up.

- **Hydrogen Industry Panel on Codes (HIPOC) -Tom Joseph**

Tom Joseph reported that the HIPOC had their last webconference meeting on June 16, 2006. The next meeting is scheduled for July 25th. He stated that three proposals had been submitted thus far from the HIPOC and that 13 others are being monitored with plans to review them in order to create industry opposition support, and write desired changes.

The first, F155-06/07, concerns indoor dispensing of hydrogen and how to make it feasible and practical, with help from HIPOC. The second, F154-06/07, is to prevent overpressure of the vehicle fuel system. In this modification, overpressure protection of the vehicles is provided by the fueling station system. The third submission is F156-06/07. The current language does not address safety issues associated with electrostatic discharges (ESD). Fueling surfaces for hydrogen powered vehicles should be at least as protective regarding ESD issues as those fueling surfaces used for petroleum powered vehicles.

In addition, Darren Meyers stated the group may be interested in proposals developed by the National Association of State Fire Marshals, and may want to speak in support or opposition of these proposals. The proposal summaries are shown here:

http://www.hydrogenandfuelcellsafety.info/hipoc/proposals_icc.asp

Karen Hall asked if there was any particular industry support desired for the hearing, saying that NHA would help to coordinate any effort **ACTION ITEM**

Darren Meyers stated that on Sept.21, the 2nd day of code hearings, there could be use for OEM endorsement of F155 and F156 to help push the proposals through the floor to show support, answer questions or refute critiques. **Bob Boyd offered to be there in person to support the proposals, and asked to be included in the next HIPOC meeting. (ACTION ITEM)** Tom Joseph said no opposition was expected, but there may be some procedural push-back as there is not total consensus. It was agreed that OEMs and energy companies need to put in their support to show that there are industry members who actually use what is described--it's not just us saying that industry does it without proof.

- **DOT Gap Analysis – discuss comments received and gather additional issues – All**

Comments have been received Chris Sloane and Bill Collins. Chris pointed out that vehicle repair facilities should not return compressed storage systems to service without requalification - after a crash or at the end of vehicle life. So on-road vehicle safety implies regulations for repair facilities. **The NHA report will include this item (ACTION ITEM).** Bill Collins prepared a report (attached) based on his thorough review. A Summary is included here:

- In general, there is nothing in this report that should adversely affect UTC Power although they might affect the acceptance of hydrogen. There are several items which may be to our benefit.
- It becomes obvious to the reader that ASME (American Society of Mechanical Engineers) and NASFM (National Association of State Fire Marshals) heavily influenced this report. As a rule, it was a good influence.

The following endorsements may adversely affect the industry:

- Generate a risk assessment tool with SNL and NREL. This tool is envisioned to be incorporated into the language of 49 CFR 192.
- Adopt standards for gas detection and incorporated into the language of 49 CFR 192.
- Require an appropriate odorant at an appropriate concentration for hydrogen distribution pipelines. When this is decided upon, the requirement will be incorporated into the language of 49 CFR 192. The specialty gas companies have objected to odorizing transmission pipelines. Members of fuel cell industry are also on record against odorants at this point in time.

Karen requested that any additional issues or support be sent to her by the end of July so that a draft report can be prepared for Steering Committee review in August. (ACTION ITEM)

- **Other items – CSA Certification – Tom Joseph**

Tom reported that despite industry opposition, CSA is planning to move forward with certification. Air Products and BOC met with CSA, and there was an agreement to move toward education rather than certification. CSA suspended the certification program, but then proposed it again, repackaged slightly. Tom has sent his concerns to CSA once again. He will report on the outcome at the next Steering Committee meeting (ACTION ITEM). In the meantime, the committee asked staff to draft a letter which can be shared with other groups, such as the USFCC, API, DOE, ICC, NFPA, etc. Staff will prepare this letter for Steering Committee review by e-mail (ACTION ITEM). The other groups can then sign on as a joint letter, or prepare their own in a similar fashion.

- **Next Committee Meeting, Q4 (Oct – Dec 06)**

Karen suggested most review work as a result of today's meeting can be done by e-mail, and that the next formal telecom could take place in mid-October (after the NHA Renewables to Hydrogen Forum, and before the H2Expo in Germany. Staff will circulate possible dates and time by e-mail (ACTION ITEM). In the event that there are many comments on the draft report to DOT, staff will arrange a call sooner, to be in a position to deliver the DOT report at the end of August if possible.

In addition, the Steering Committee is invited to participate in the In-Person meeting of HFCC&S Coordinating Committee. Staff is working with NREL to propose the next In-Person meeting. The goal is to avoid a conflict with the SAE meetings in Michigan in September. The meeting is therefore likely to be on September 18 at the ICC hearings in Florida or on September 15 in Michigan in conjunction with the NextEnergy C&S conference on September 14. Staff will send details as soon as plans are finalized. (ACTION)