

**21 April 2005**  
**NHA Safety C&S Steering Committee Teleconference**  
**Minutes & Actions**

2-3:45 pm EDT

Roll Call:

Karen Hall-NHA

Patrick Serfass--NHA

Susan Townsend-GE

Bob Boyd-BOC

Carol Bailey-Sentech

Bill Collins-UTCFC

Bill Hoagland-Hydrogen 2000

Tom Joseph-Air Products (absent-late notice by Susan)

Larry Moulthrop-Proton Energy

Krishna Sapru-Ovonics

Chris Sloane-GM (absent)

Mike Swain-U Miami

**Minutes review from Steering Committee Meeting at NHA Annual Conference**

*NOTE: note all of the minutes are in chronological order...we looped back around on several topics, and I have attempted to keep the information together by topic*

DOE May4 3 pm C&S CC etc. meeting

***ACTION: Susan to Call Sondra Ullmann re: Agenda Input***

**ICC Hearings**

- Issue: Committee recommendation to remove all references to MH storage from ICC Codes change up for vote in Sept05
- Currently language said if MH in a container, that container is tested for puncture, etc...therefore the tanks should be treated as pressure vessels not deal with pyrophoric nature of the materials inside as they would not be exposed
- Glendale/AZ Fire Marshalls group "uncomfortable with risk of fire" asked to have language removed
- In response-NHA proposal: Education/Information sharing to turn this around
- Under what standard will MH containers be listed? UL product standard is under development but does not exist yet...existing commercial MH containers are not currently listed
- Final action hearings will be in Detroit...opportunity for increased support for this outreach

## 21Apr05-NHA Safety C&S Steering Committee Telecall-Minutes & Actions

### **General ACTION: Suggested process for review/decision-making on proposed incremental activities**

#### **Action: Patrick - Develop a Cost/Benefit Analysis method for SC approval**

What is the impact of removal of the language?

What is the proposed action?

What is the expected cost of this activity?

Bob Boyd, who is on the CGA Hydrogen Technology Committee stated concerns with the proposed language- issue is there are very few standards in how the containers can be fabricated...normal pressure vessel...have the outside environment and the inside environment...with MH...the expansion and contraction of the MH powder creates a need to manage the loads inside the vessel...mfg have held their design criteria as proprietary information.

It was also noted that Hera was active at CGA, then pulled out, and momentum on MHs was lost. HERA is on the SC advisory committee and could be involved in the NHA effort.

Technical standards for the manufacture, filling and testing of these containers are in progress, but not yet published. Karen agreed to post a schedule of these activities in the Hydrogen Safety Report for use in defending the code language.

#### **NOTE: Performance based standards are at a higher level than design standards, and are desirable to avoid stifling innovation.**

- Ovonics...there are companies working on a listing standard...a lot of testing has been done...Using DOT approved canisters...
- ICC Resolution language will require listed components...hazard class certification will be that of the hydrogen stored in the vessel...and the containers shall be listed
- Karen-ISO is developing a performance-based standard...if the existing code language comes out, it puts us back 3 years (potentially)
- Suggestion: Ovonics, Hera, etc, should own preparing information/education
- Patrick-Bigger/additional issue of "A Fire Marshall striking the language because they were just uncomfortable with the risk of fire."...not data based...so this is also about precedent

#### **Action: Patrick & Krishna/Paul (include Hera, Mike McGowan/BOC) Define scope and plan for outreach to the ICC hearings Bring back to the SC**

Funding Situation Changes:

#### **NHA DOE Funding FY05**

DOE has sent \$75K in March, which they indicated is our lot for FY2005.

Our NHA budget, prior to learning DOE would not fund this amount, was for \$242,447.38 from DOE in calendar year 2005

## 21Apr05-NHA Safety C&S Steering Committee Telecall-Minutes & Actions

### **NHA NREL Funding FY05-\$100 K**

NREL has agreed to add a 2-month extension through the May Safety Report  
Then they will put out an RFP to continue beyond that time.

#### **Current SCOPE-**

H2 Safety Report

Quarterly reports

Proceedings publication of 2 in-person meetings-Joint DOE C&S CC USFCC –  
which may include hosting.

**NFPA NHA Letter of Support** for NFPA funding to put together a handbook that will help permitting/siting of hydrogen equipment POSTED on website. NHA supports the proposed concept and we want to part of the review process

**ACTION:** Review/suggest/Approve by 28Apr05

Karen to include language that says this endorsement if for the proposed concept, and NHA would like offer our endorsement of the final handbook as well if we are able to participate in a contents review.

“**Hydrogen Workshop**” at Fuel Cell Seminar-Information being presented is synergistic with information we are developing anyway

**ACTION:** Review agenda/suggestions/volunteers

Discussion: The current C&S proposal covers the scope – we simply need DOE to provide the funding. NHA Out of pocket costs are covered by fees.

Focus: Overview of technologies and status of C&S that relate to them.

### **RABQSA presentation-Michael Carmody**

Accredited personal certification organization

New Organization formed in Jan05

Certification management systems procedures and processes

Milwaukee & Sydney

International offices

Primary product-

Environment

Heavy Vehicle

Determine (working with industry) the knowledge skill and expertise necessary  
Individual's working in an inspecting role

Define, Measure (competency based), Examine (testing) personal certification

Certify Training Organizations responsible for delivery of instruction to meet the needs of personal certification

Enable professional development to keep past with changes in industry, regulations, etc.

## 21Apr05-NHA Safety C&S Steering Committee Telecall-Minutes & Actions

A hydrogen safety steering committee has been formed.

He mentioned Doug Rode of Hydrogen Safety LLC and BOC specifically had an interest in exploring this. Approached by industry wanting to define and measure performance

Process for working with industry

Asked RABQSA “can you help us”

Design and develop a personal certification system

Accredited path...if you are seeking to have the individual’s competence recognized, subjected to 3<sup>rd</sup> party audit

Form a “scheme” committee...International - that fairly represents the key stakeholders in that industry

Additional stakeholders for input defining how the person must perform

Bulk users of Industrial gases

Hydrogen Safety Ltd-Doug Rode-began the process, approached RABQSA  
Brought in various folks...”a good cross section”

Question is not about RABQSA endorsement...Question is about Industry needs -  
Where does the industry want to go...Where do you want to go with hydrogen?  
RABQSA would embrace a wider cross section of stakeholder participation

Two needs for NHA C&S SC-Decouple the 2 discussions

Resolve decision about link on NHA website/endorsement

Establish NHA members’ position on “hydrogen certification” in general

Consider whether there a need to increase involvement of hydrogen stakeholders on the Scheme Committee.

Larry Moulthrop offered additional information:

Scheme committee participation by Larry Moulthrop, Kelvin Hecht, Mike McGowan, Ztec, Mike Short UTC

Today-certifications are focused on

- Technician to service the pump
- Engineer who designs the installation

NOT the end-user at this point

Bill C: UTC-observing, containment

## 21Apr05-NHA Safety C&S Steering Committee Telecall-Minutes & Actions

Larry: Proton Energy-wanted to be part of the process; some people in industry might see this as an advantage if they provide installation services. Not sure of need for NHA to endorse at this time as the work of scheme committee is not yet complete  
Bob: BOC perspective-Our current training for hydrogen safety is a bit more cautious than it would need to be i.e., our standards call for people to use Nomex suits...It is currently industry practice but may not be necessary in every situation. Currently require non-sparking tools (copper beryllium-very expensive)...OEM's are not using the same precautions on their systems.

**NOTE: This dialogue reveals a NEED to “update the safety practices/ensure consistency” that NHA should help own.**

My question: Is this hydrogen certification process development the right venue to update the hydrogen safe handling practices?

**ACTION: Karen/Patrick Please put this topic on the next SC telecall agenda**

Patrick- Reminded SC of the need for a decision of RABQSA endorsement by NHA  
NHA support through link on NHA website-providing a conduit to this service  
Revenue producing...share of every person certified that comes through that route

### **Proposed RABQSA ACTIONS:**

- No to endorsement at this time-not until the scheme is complete and reviewed (Patrick to communicate with Michael Carmody/RABQSA)
- Establish working group to stay connected to the Scheme Committee's work - Larry Moulthrop will Chair
  - Consider the need for other NHA members as Scheme stakeholders
  - Consider how NHA can help industry shape the certification process as a part of their vision for a hydrogen energy future
  - Consider the broader scope of the need for NHA to take a leadership position to help in evolving and ensuring consistency in hydrogen equipment design and servicing activities (Bob Boyd's comments above)

**Action: Send out a request for member participation in Codes & Standards activities to Steering Committee and Advisors (Patrick)**

**Action: Next Telecalls**

**DOE C&S CC Call 4May05 3-4:30 pm EST (Russ Hewett, host)**

**NHA SC Telecall 18May05 2-3:30 pm EST (Karen Hall, host)**

**Action: NHA Safety Codes & Standards Activities Prioritization Input**

**Susan to send her spreadsheet/comments to Karen & Patrick for discussion of how to start the process with the Steering Committee and Advisors ASAP**