

H2 Storage Regulations (NHA WG 8)

Navigate various National and International regulations (DOT, etc.) for Hydrogen storage technologies – including on-board vs. off-board applications.

- Chairman: Jim Ohi, NREL
- Report
- Solicit new working group members
- Working Group Breakout Meeting

NHA WG 8 Scope

In an effort to evaluate the status quo and locate gaps, Working Group 8 will identify and assess the domestic and international codes, standards and regulations which have an impact on all types of hydrogen storage.

NHA WG 8 Next Steps

- Develop a useable document that catalogs the codes, standards and regulations (CSRs) for all types of hydrogen storage to identify the appropriate CSRs by application.
- Determine format for the CSR Matrix, and fill-in (Sept. 22-23).

Analyze Impacts of Draft Global Technical Regs. (NHA WG9)

The European Union is developing global technical regulations for hydrogen vehicles. Through a UN committee, the US and other non-European countries have opportunities to comment. The UN may adopt these as Global Technical Regulations. How would this impact U.S. companies? How would it be implemented in the US?

- Chairman: Karen Hall
- Report
- Solicit new working group members
- Working Group Breakout Meeting

WG9 Scope

WG 9: Analyze Impacts of Draft Global Technical Regulations:

The European Union is developing global technical regulations for hydrogen vehicles. Through a UN committee, the US and other non-European countries have opportunities to comment. The UN may adopt these as Global Technical Regulations. The scope of this working group is to analyze how global technical regulations would impact U.S. companies, and how global technical regulations might be implemented in the U.S.

WG9 Next Steps

Step 1

- Identify and contact other stakeholders who can help answer the following questions:
 - What is the current state of the draft global technical regulations?
 - What is the U.S. Government position on these draft regulations? It is the group's assumption, based on the draft MYPP, that the U.S. Government is supportive of GTRs in principle, as they can enable OEMs to design vehicles that meet global requirements for safety, thus avoiding technical inconsistencies between nations or jurisdictions. The challenge is in determining how they could be implemented in the U.S., as approval systems are different in the U.S. than in Europe. Europe uses the "type" approval process, wherein an authority works with a technical service to assess compliance of components and systems (such as a vehicle). The U.S. uses a self-certification process.
 - How can the U.S. have an active role in setting the requirements of possible Global Technical Regulations?
 - How are (alternative fuel) vehicles approved for roadworthiness in the U.S. today?
 - What tax or regulatory incentives are available for alternative fueled vehicles in the U.S. today?
 - Are GTRs essentially technical requirements that allow the use of different approval processes and global harmonization of legal requirements for all vehicles, or would changes be required in how vehicles are approved in the U.S.?
- Timeline: September 2003 – April 2004.

WG9 Next Steps

Steps 2&3

- Step 2
- Review the technical aspects of the draft GTRs to identify any differences from US trends and activities. Pole members and other groups on the impacts of these differences.
 - What would have to be done differently in the U.S. if we adopted the GTRs exactly as they are?
 - What are the pros and cons for U.S. industry of adopting GTRs?
- Solicit and publish a number of articles addressing these questions for the Hydrogen Safety Report.
- Step 3:
- Get these experts together on a panel in an open forum to discuss the issues in order to increase understanding and create an environment of "how to" rather than "what if".
- A possibility for this is an expert panel at the NHA's Annual Conference in April 2004.
- Timeline: April 2004, with report appearing in June 2004 edition of the Hydrogen Safety Report.

WG9 Next Steps

Step 4

- Identify any areas of difficulty from above, and determine who the stakeholders may be. Determine whether this working group has completed its mission or needs to address any remaining issues in 2005. Determination to be made at NHA Fall 2004 C&S Workshop.
- Timeline: September/October 2004.
- The NHA welcomes participation from a broad array of experts in the Codes & Standards Committee, and NHA membership is not required to contribute to developing consensus standards. Anyone with an interest in an NHA work item may participate in the working group. If you have an interest in participating in this working group, please forward your contact details to khall@ttcorp.com, and you will be invited to participate in the next meeting of the working group.

Support DER Road Show (NHA WG10)

NHA has already prepared a training module on hydrogen for this purpose. Activity would include participation in Road Shows that request hydrogen training to present the module, and arrange hardware demonstrations from members in Road Shows locations near member companies.

- Chairman: Russell Hewett, NREL
- Report
- Solicit new working group members
- Working Group Breakout Meeting

NHA WG 10 Scope

- (1) Provide technical support to DER in preparing hydrogen and hydrogen safety-related modules
- (2) Participate in road shows that involve hydrogen training/present hydrogen training modules
- (3) Participate in road shows involving hydrogen training by arranging and/or conducting hardware demonstrations
- (4) Evaluate usefulness of hydrogen training modules to the target audiences by attending such sessions and querying participants
- (5) Keep abreast of hydrogen and hydrogen safety-related information, success stories, breakthroughs, etc. and provide information to DER to update hydrogen training modules
- (6) Serve as a resource for DER specifically regarding hydrogen generation/production

NHA WG 10 Next Steps

- Obtain DER hydrogen training modules and review regarding currency of information and make recommendations regarding enhancements to existing modules and new modules
- Timeline: Complete review of existing DER hydrogen modules (31 Dec 03)

CSA support of NGV revisions for H2 tanks (NHA WG11)

CSA has invited the NHA to provide hydrogen experts as potential members of the TAG to develop the NGV2 standard to address hydrogen on-board vehicle storage cylinders.

- Chairman: Russell Hewett, NREL (Acting)
- Report
- Solicit new working group members
- Working Group Breakout Meeting

NHA WG 11 Scope

- 1) Inspection and maintenance of on-board vehicle hydrogen storage cylinders
- 2) Re-qualification and life-times of on-board hydrogen storage cylinders
- 3) Materials compatibility issues: hydrogen and storage tank materials
- 4) On-board storage tanks for storing chemicals/fuels for generating hydrogen on-board the vehicle
- 5) Harmonization of NGV2 with NFPA 52
- 6) Specifications for on-board cylinders used to store hydrogen generated on-board
- 7) Safe positioning of hydrogen cylinders in vehicles/crash worthiness issues

NHA WG 11 Next Steps

- 1) Participation in upcoming meetings of NGV2 technical committee
- 2) Complete comprehensive review and critique of latest draft of NGV2

Portable power coordination (NHA WG12)

Work with contacts at DOT and DOD involved in portable fuel cell activities to facilitate safety, C&S information transfer between government and industry. Begin to develop performance test requirements.

- Chairman: Harry Jones, UL
- Report
- Solicit new working group members
- Working Group Breakout Meeting

NHA WG 12 Scope

To track and communicate efforts and develop broad industry consensus related to the development of safety and performance related solutions for the hydrogen and hydrogen-related portable energy conversion devices. To act as the guiding conduit for all stakeholders, leading and planning the most effective and efficient combination of efforts that best serves the involved industries.

NHA WG 12 Next Steps

1. Review definitions of “portable”, “mobile” and “transportable” power applications to adopt one (in part, whole, combination or modified) that works for this working group. (ASME-H.Jones, ICC-K.Hall, UL 2265-H.Jones, IEC TC 105-H.Jones, IEEE 1547-S.Hester, IEEE 1608-S.Hester, UL 1741-H.Jones, CSA FC3-H.Jones, PTC50-H.Jones, USFCC-B.Walsh) Responses to P. Serfass by Oct. 30, 2003.
2. Develop a list or white paper describing the current situation of challenges for the portable fuel cell industry, and the needs of the regulatory groups and customers. This will include identification of current and developing codes, standards, and regulations. H.Jones to draft the document by Oct. 30, 2003.
3. Record the current and needed communication linkages between our committee and the various stakeholders.
4. Highlight any efforts being made to develop solutions that compromise fuel cell markets or technologies.
5. Evaluate test requirements for safety and performance to help insure broad industry consensus in their development and modification.
6. Create a list of items that may need further action to accomplish the desired result.

Support NFPA Hydrogen Coordinating Committee (NHA WG13)

Review NEC and other NFPA documents to determine if there are any issues regarding hydrogen safety and developing C&S activities for hydrogen system components.

Are proposals for changes warranted?

- Chairman: Ned Stetson, Texaco Ovonics (Acting)
- Report
- Solicit new working group members
- Working Group Breakout Meeting

NHA WG13 Scope

- The Working Group will help keep the NHA informed of the activities of the NFPA Hydrogen Coordinating Group. The Working Group will provide assistance to the NFPA Hydrogen Coordinating Group in developing and reviewing proposals regarding hydrogen safety and hydrogen system installations. The Working Group will also provide assistance to the NFPA technical committees.

NHA WG13 Next Steps

- Step 1: Identify a permanent Chair as soon as possible.
- Step 2: Identify and contact other stakeholders who can provide value to the WG
- Step 3: Coordinate the WG 13 activities with the NFPA Hydrogen Coordinating Group (HCG) scheduled efforts. See link on NHA web site (<http://www.hydrogensafety.info/articles/NFPA-7-8-03.pdf>)
- Step 4: Participate in the scheduled NFPA HCG Conference Calls

Continue ongoing coordination activities with SAE, USFCC, DOE, others (NHA WG14)

Continue to provide hydrogen safety expertise to SAE and USFCC working groups, DOE Hydrogen C&S Coordinating Committee, ASME, UL, and other efforts as appropriate. Keep hydrogen community informed of hydrogen issues – solicit input to activities. Help assure technical harmonization.

Specific near-term needs:

- UL committees
- ASME task forces
- SAE activities, including hydrogen product specification
- Chairman: None – Information dissemination only
- Reports to be made Tuesday
- NHA offers to assist with open technical issues.