

## APPENDIX 1

### *Hydrogen Codes & Standards Highlights*

The International Hydrogen Infrastructure Group (IHIG) Codes & Standards (C & S) Working group presented a C & S update for hydrogen to the IHIG steering committee on 5/16 that was well received. The presentation highlighted with red, yellow and green traffic colors C & S current status, current action and future outlook for hydrogen production, transportation and storage, as well as status of C & S on hydrogen vehicles through their life cycle. Key gaps were identified. The hydrogen update presentation was presented to senior management at GM and D-C by respective steering committee members the following week. IHIG is working with the US Department of Energy (DOE) to try to have the European Integrated Hydrogen Program (EIHP) develop a similar hydrogen status update for Europe.

A key issue that is emerging on hydrogen is the different approaches to standards development in Europe and the US, i.e., Europe is developing Global Technical Regulations (GTRs) while the US is developing Codes and Standards through appropriate standard development organizations (SDOs). DOE has taken the lead in coordinating the development of hydrogen codes and standards with North American SDOs. The IHIG C & S group is meeting with DOE and DOE GTR consultant Bob Mauro, and the American Petroleum Institute (API) to discuss ways to better align the end product of both approaches to hydrogen standards developments.

The International Code Council (ICC) hydrogen ad hoc committee continues to meet. This is the group that had hydrogen included in key US codes and standards last year. The group continues to work on the following key issues in the International Fire Code (IFC) and the International Fuel Gas Code (IFGC):

- Validate hydrogen properties/set backs based on a study to be completed by Sandia National Lab this fall
- Addition of liquid underground hydrogen storage; underground gaseous hydrogen proposal has been withdrawn
- Canopy storage addition proposal to IFC
- Metal hydride addition proposal to IFC

Air Products is working on developing an underground H<sub>2</sub> cryogenic storage system for a refueling stations in Washington, D.C.