

Education/Training for Safety, Codes and Standards Breakout Session

Hydrogen and Fuel Cells Summit VIII
June 16, 2004

Introduction

- ▶ This session included HAMMER hydrogen safety training and other DOE education/outreach activities
- ▶ [Mary Rose Szoka](#) participated by phone from Canada
- ▶ Participants were asked to provide:
 - Feedback on DOE's education/training activities
 - What's missing that DOE should be doing (gaps)
 - Priorities for education/training

What We Did

- ▶ Identified target audiences
- ▶ Prioritized audiences using two criteria:
 - Subject to accident or incident that could derail the hydrogen economy
 - Impact of public funding could enable the hydrogen economy
- ▶ Discussed what's already being done for top two key audiences
 - Mainly vehicles, but also the built environment
- ▶ Identified gaps where hands-on training is needed
 - Feedback on HAMMER props presented the previous day

Target Audiences

- ▶ First Responders (Fire Fighters and Medical) **21 votes**
- ▶ DoD **0 votes**
- ▶ Permitting/Code Enforcement Officials **16 votes**
 - They want a one-page laminated checklist with code requirements.
- ▶ OSHA **0 votes**
- ▶ Industrial Users/O&M Workers/Construction Contractors (Crafts) **13 votes**
- ▶ Media **0 votes**
- ▶ Designers/Engineers/Researchers **4 votes**

Target Audiences *(cont'd)*

- ▶ Educators (already funded adequately) **0 votes**
- ▶ Fueling Station Property Owners **0 votes**
- ▶ General Public (neighbors) **0 votes**
- ▶ Equipment Operators (vehicles, fuel cells) **0 votes**
- ▶ City/County Zoning and Planning Offices **0 votes**
- ▶ Environmentalists/Consumer Advocates **3 votes**
- ▶ Policy-Makers/State Legislative Staff **0 votes**
- ▶ Public Relations Firms **0 votes**

Key Audience # 1 – First Responders

- ▶ CaFCP trains them in San Francisco and Los Angeles
 - Hydrogen Properties
 - Fuel Cell Technology
 - Emergency Response
 - Hands-on Training with Vehicles
 - Have Published an Emergency Response Guide

- ▶ Could we merge CaFCP training with HAMMER training?

- ▶ Gaps Where Props Are Needed
 - Time required for PRD to empty tank
 - Hydrogen Vehicle/Gasoline Vehicle
 - Location of safe cut lines (hydrogen and electrical)
 - Bulk Transport
 - Canopy/Dispensing Hydrogen into Vehicle
 - Get DOT to update ER Guide (changes needed in 2005 for 2008 edition)

Key Audience # 2 - Permitting/Code Enforcement Officials

- ▶ Permitting Guide (ICC, NFPA, NREL, PNNL) on Fuel Cell Summit website lists applicable codes and standards
- ▶ Hydrogen SourceBook for Permitting Hydrogen Installations on TISEC website (www.tisec.com)
- ▶ Codes and Standards Workshops offered that are tailored to specific audiences
- ▶ Road Shows
- ▶ Groundwork and recommendations for training modules (Mary Rose Szoka - in progress)
- ▶ ICC and NFPA Training

Key Audience # 2 - Permitting/Code Enforcement Officials

(cont'd)

- ▶ Florida's One-Stop Permitting (will visit HAMMER in Summer 2004)
- ▶ California Hydrogen Highway Network
- ▶ CaFCP Station Implementation Guide
- ▶ Hydrogen Safety Report (NHA monthly publication)
- ▶ Gaps
 - Need to synthesize all existing activities
 - Everyone wants a simple one-page laminated sheet
 - Training program to implement all the guides
 - Coordinate efforts
 - Expand overall level of effort to reach entire audience

Parking Lot

- ▶ Hold Road Show concurrent with next Summit.
- ▶ Develop a timeline showing when specific hydrogen applications will occur.
- ▶ Explore opportunities for HAMMER collaboration with others.
- ▶ Review all activities for code officials to make sure they are consistent.
- ▶ Leverage existing training materials as much as possible.