



Electricity



Transportation



Buildings



Industrial



Agriculture



Sequestration

First Responder Training for Alternative Fuels

Client: California Fuel Cell Partnership, U.S. DOE, and private companies
2000–ongoing

When firefighters arrive on the scene of a car accident, they know the risks that gasoline and diesel pose and how to mitigate and respond to those risks. As fuel cell and battery electric cars began appearing on the roads, first responders needed to understand the risks that electricity and hydrogen posed and the correct response steps.

Frontier Energy, as the operator of the California Fuel Cell Partnership, quickly filled a void in California. We started the first training program to teach first responders about fuel cell vehicles and hydrogen with a combination of classroom training, hands-on exercises, training videos, and reference materials. Over time, the ER training program evolved to include highway patrol, hazmat, and tow truck drivers and add sections dealing with batteries. U.S. DOE contracted with Frontier Energy to create a national training program that included materials, train-the-trainer sessions, an online forum for questions and exchanging lessons learned, and a national database to report incidents and conduct root cause analysis.

Frontier Energy continued to evolve the training program to include all authorities having jurisdiction so that officials that review plans for fueling stations and maintenance garages have a similar understanding about the properties of hydrogen and the applicable codes and standards for safety equipment. U.S. DOE again contracted with Frontier Energy and our parent company, GTI, to create a national AHJ training program about gaseous fuels in repair and maintenance facilities.



Over two decades, Frontier Energy has directly trained more than 20,000 first responders and nearly as many trainers.

FRONTIER ENERGY:

- Developed interactive curriculum about fuel cell vehicles and hydrogen fuel that continues to be revised as vehicle and station technology evolves
- Conducted thousands of in-person training classes that include classroom training and hands-on activities with vehicles and stations
- Created training videos that include incident response
- Worked with the HAMMER training facility and Kidde to build a hydrogen fueled car prop and took the prop to fire conferences for hands-on firefighting experience
- Arrange for fuel cell and battery electric cars to be donated to extrication workshops and teach first responders how to cut cars apart while avoiding high-voltage systems
- Developed a national training program and website as the hub for first responders and code officials at aiche.org
- Developed training for code officials at h2tools.org and altfuelgarage.org
- Is a founding member of the Hydrogen Safety Center
- Participates in safety codes and standards development for National Fire Protection Association, International Fire Code, International Code Council, and ASTM



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