

# Alternative Fuels Case Study: E-85

# Ethanol: The Stakes

- 30% of all gasoline now contains 10-20% ethanol as an oxygenate
- Moving from mixtures to 85%-100% ethanol
- 95 ethanol refineries produced 4 billion gallons in 2005
- 43 refineries under construction in 19 states in 2006
- All 3 major U.S. automakers pledged to increase their Flex-Fuel Vehicle production to 50% of their vehicle sales by 2012.
- Projected 7.5 billion gallons by 2010 ...  
'virtually eliminate gasoline by 2050'

# Safety as a Barrier to Ethanol

- **April 26, 2006:** PHMSA and International Association of Fire Chiefs issue guidance on responses to gasoline/ethanol incidents.
- **October 5:** UL suspends listing of E-85 dispensing units
- **October 10:** First calls received from code officials
- **October 12:** NASFM invites Renewable Fuels Association (RFA) to the table

# October 31: HELP experts assess E-85 risks

**Conclusion 1:** *Ethanol is a classified hazardous material, to be taken seriously by all who come in contact with it.*

- Motor fuels all ignite readily ...but added risk of ignition from dust explosions
- Unaware of significant incidents involving these fuels
- Water suppresses auto ethanol fires
- Ethanol tanker fires require different fire suppression tactics and suppression agents
- Few concerns about autos engineered to accommodate ethanol ... lawnmowers are a concern.

**Conclusion 2:** *The public safety infrastructure does not exist to support the production, transportation and shipment, and consumer use of fuels consisting primarily of ethanol*

- Few firefighters have been trained on ethanol even in corn-producing states
- Codes and standards are inadequate to facilitate the transition
- Permitting will be a problem ... needs to be resolved quickly

# Trying to move forward

- **March 22, 2007:** UL initiates work on ‘provisional’ classifications for use by end of 2007 to be followed by standards development under ANSI rules.
- **March 28:** Responders express frustrations to Members of Congress about lobbying to undermine safety.
- **April 17:** North Carolina Senate Bill 567: “An Act to promote energy efficiency by allowing the distribution of E-blend fuels.”

- **March 20:** RFA lobbyist meets briefly with NASFM President and declines offer of help. NASFM expresses concerns about RFA lobbying efforts.
- **May 7:** “Underwriters Laboratories is under pressure from ethanol backers including Sen. Barack Obama, Rep. J. Dennis Hastert and Sen. Richard Durbin to remove the speed bump the lab put in the path of a new ethanol-based fuel touted by President George W. Bush and the auto industry.” *Crains*

**May 15:** What are the implications of UL's 'provisional' listing? Will it relieve or exacerbate the permitting problem?

- Will it be recognized by states?
- Is it OSHA-compliant?
- Does it increase legal exposure?
- Is there added anti-trust liability?
- Does it affect listings for existing gasoline/diesel dispensing units?
- Is it likely to change as a result of ANSI standards development?

## **What are the implications of firefighters not trained or equipped to deal with ethanol hazmat incidents?**

**May 13:** Tanker rig with 8,000 gallons of ethanol overturned on a ramp to I-95 and burst into flames, killed the driver and sent a stream of burning ethanol igniting and destroying seven parked cars. Traffic was severely disrupted.

Firefighters sprayed water and foam on the fire for three hours.

- What are the implications for public confidence in alternative fuels?
- What can we learn from ethanol to do a better job building confidence in hydrogen?
- Should we - *can we* - help ethanol producers get back on track?