



SAVE ME CONFERENCE

March 2011



New Fuels/New Fire Risks

Ken Willette

Manager, Public Fire Protection Division



For more information, visit:

www.EVSafetyTraining.org



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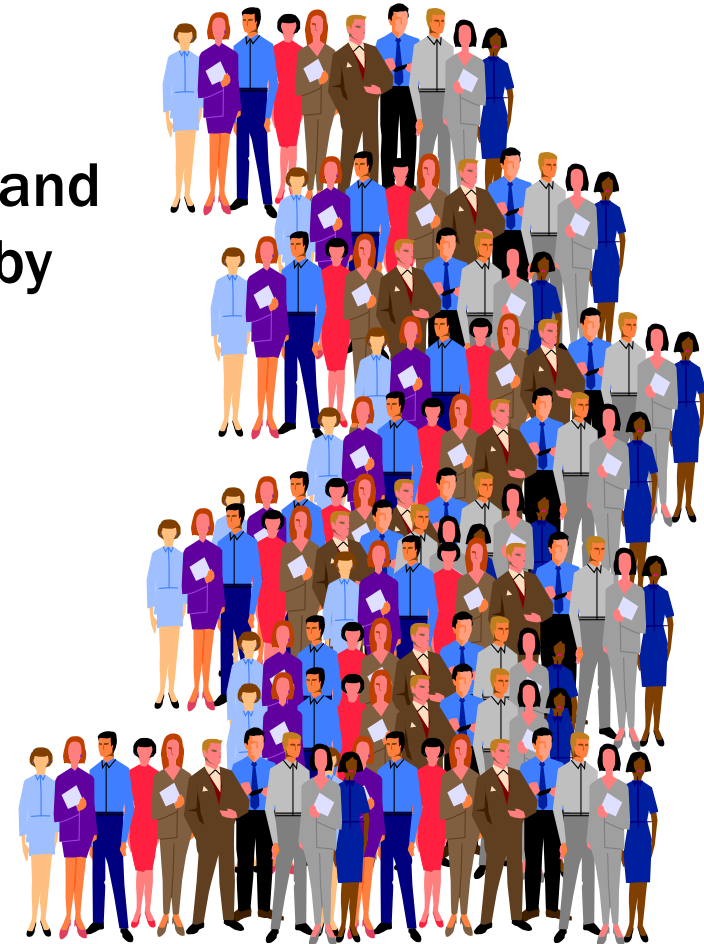
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Overview

NFPA Mission:

Reduce the worldwide burden of fire and other hazards on the quality of life by providing and advocating ...

- **Consensus codes & standards**
- **Research**
- **Training and**
- **Education**





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Private, Not-for-Profit Organization

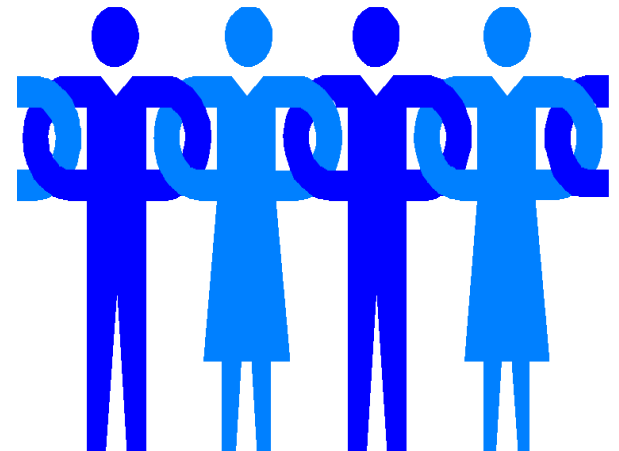
Founded in 1896

Voluntary codes and standards organization

ANSI accredited standards developer

73,000 members in 120 countries

3 International offices





300 codes and standards

Developed by approximately 200 technical committees

Populated by ~7000 TC volunteers

Essentials of the NFPA system

- **Due process – rules, oversight**
- **Openness & transparency - accessible**
- **Lack of dominance – balance, consensus**

Seek balance between:

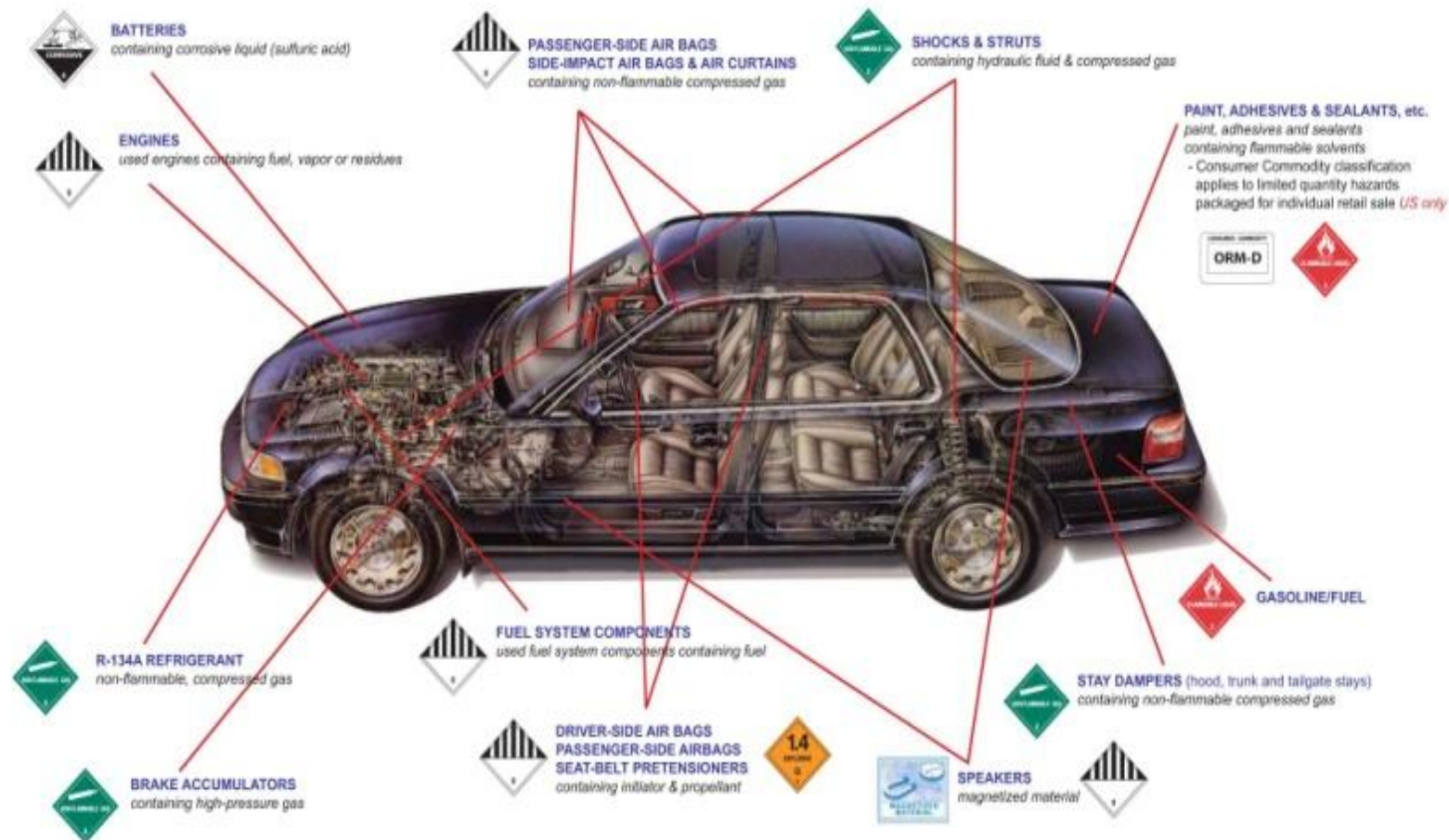
- **Acceptable risk**
- **Commitment of resources**

NFPA 502
Standard for
Road Tunnels, Bridges,
and Other Limited
Access Highways
2008 Edition



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Existing ICE Vehicle Hazards

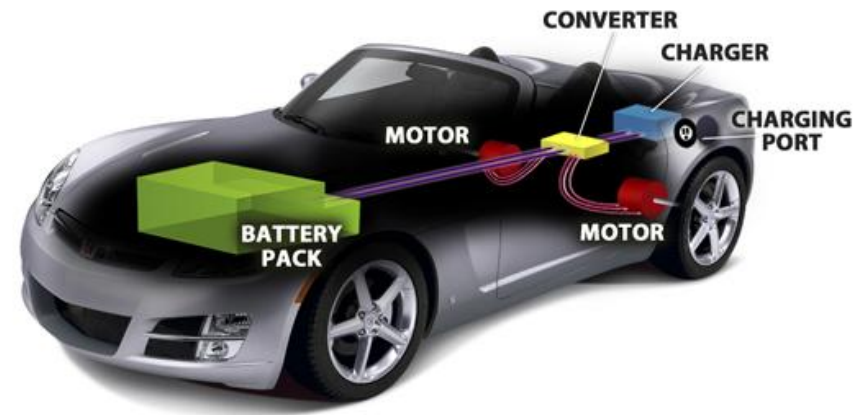


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- ❖ Hybrid Technology
 - Electric
 - Combination
- ❖ CNG/LPG/Hydrogen





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- Boron Infused Steel Safety Cage
- 600 lb Lithium Ion T cell battery
 - 360 volts / 111 Kw



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Crash Resistance

- Hard shell Case
- Protective Cover
- Hi Strength Metals
- Engineered Crumple Zones





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THERMAL CONTROLS

- ☐ Heating/Cooling Fluids
- ☐ Electrical Controls
- ☐ Fuses
- ☐ Manual Disconnect





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Fire Resistance/Contribution to Fire Growth

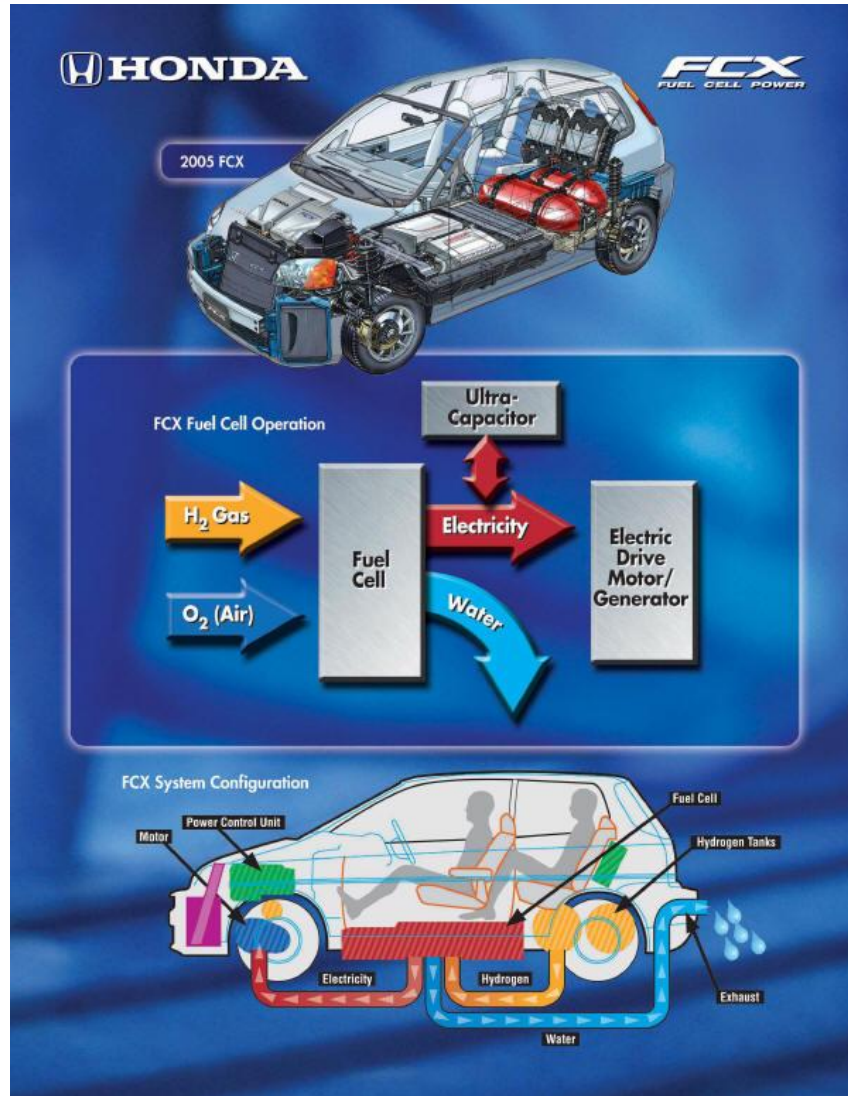
- No data for vehicle batteries
- Different than lap top batteries
- Initial stages of research





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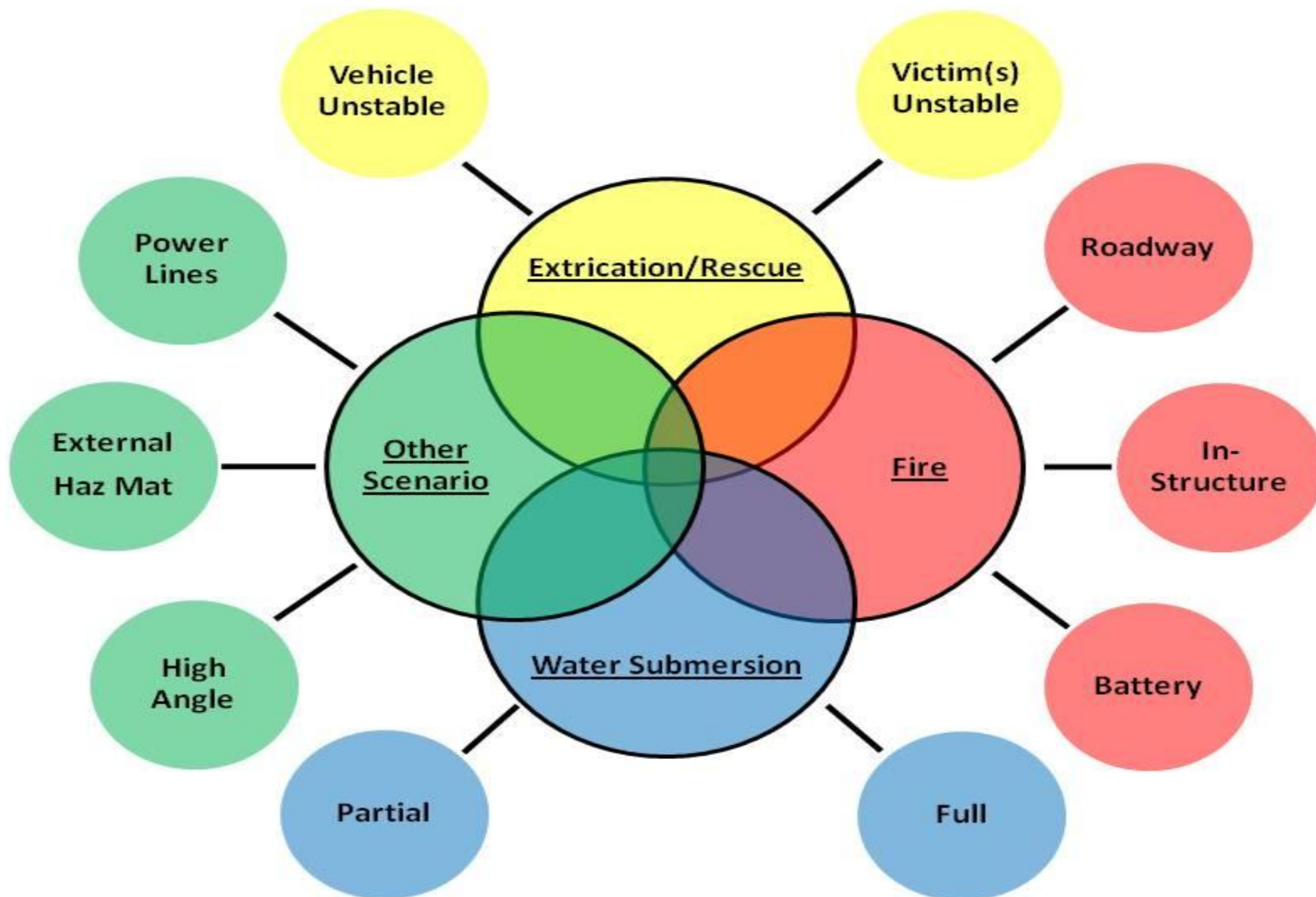
Fuel Cell Technology

- ❖ Limited Production
- ❖ Few Vehicles
- ❖ Future Consideration



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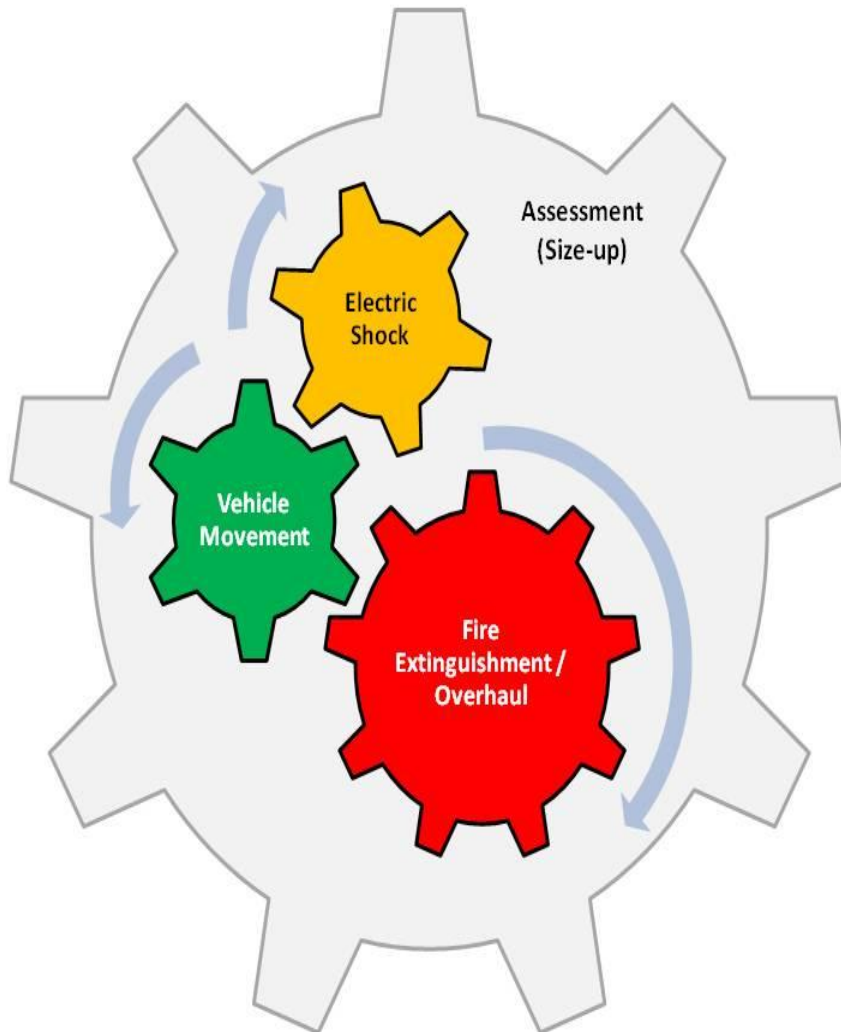
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Considerations

- ❖ Cool down time
- ❖ Distance to charging station
- ❖ Fractured battery case clean up
- ❖ Cargo transport
- ❖ Extinguishing methods



EVSafetyTraining.org

First Responder EV Safety Central Repository

Home - Electric Vehicle Safety Training - Windows Internet Explorer

http://www.evsafetytraining.org/

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A PROJECT OF THE NATIONAL FIRE PROTECTION ASSOCIATION

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New Fuels/New Research

- Already facing many hazards with ICE vehicles
- Strong engineering controls
- Advancing technologies
- Fire Involvement/Exposure
- Bulk transport





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Thank You!

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