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New Fuels/New Fire Risks

Ken Willette
Manager, Public Fire Protection Division

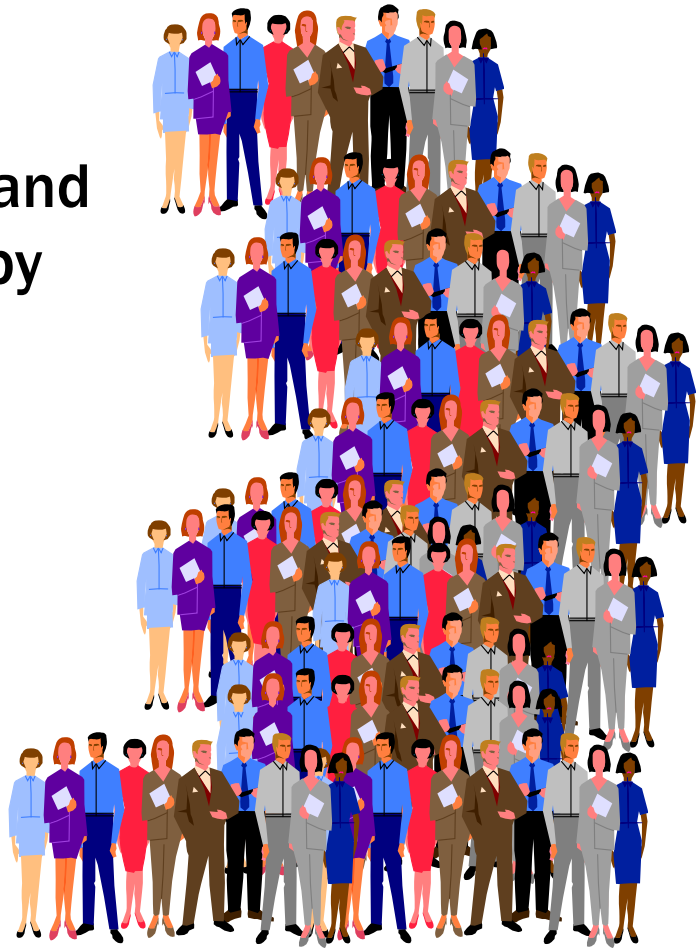
For more information, visit:

www.EVSafetyTraining.org

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

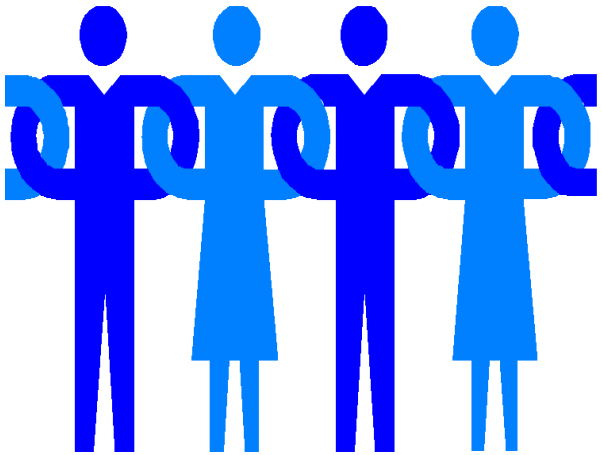
Founded in 1896

Voluntary codes and standards organization

ANSI accredited standards developer

73,000 members in 120 countries

3 International offices



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300 codes and standards

Developed by approximately 200 technical committees

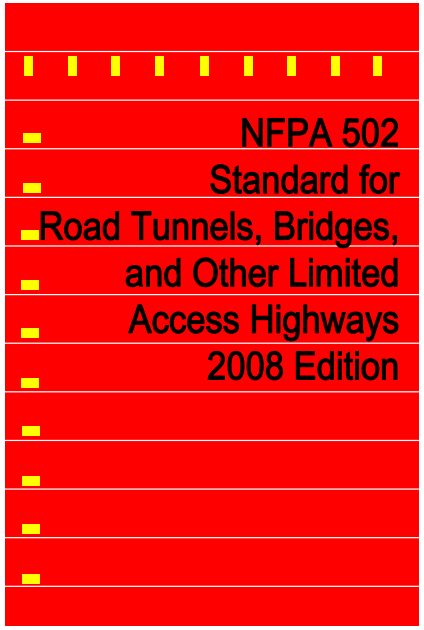
Populated by ~7000 TC volunteers

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



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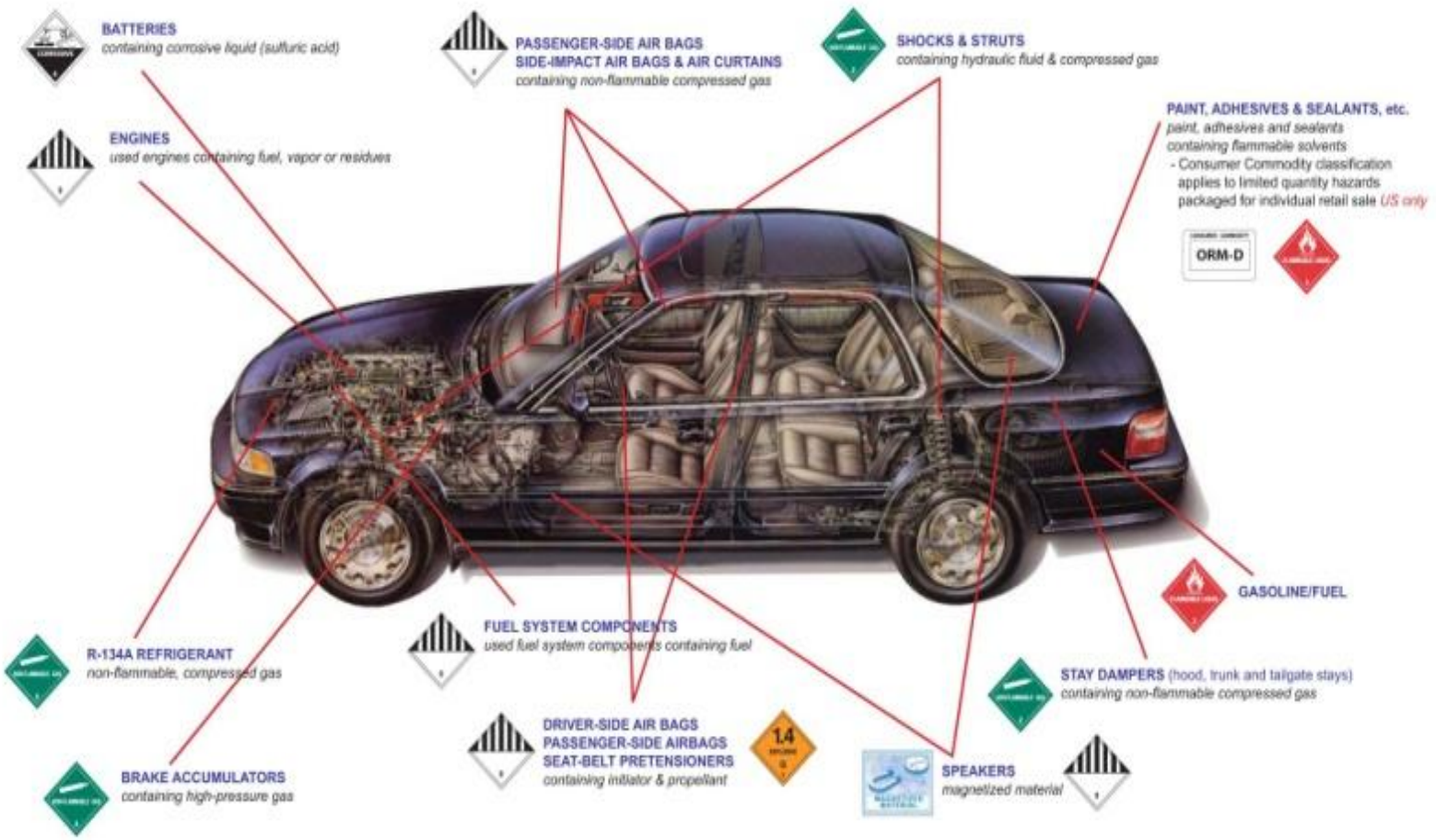

Existing ICE Vehicle Hazards

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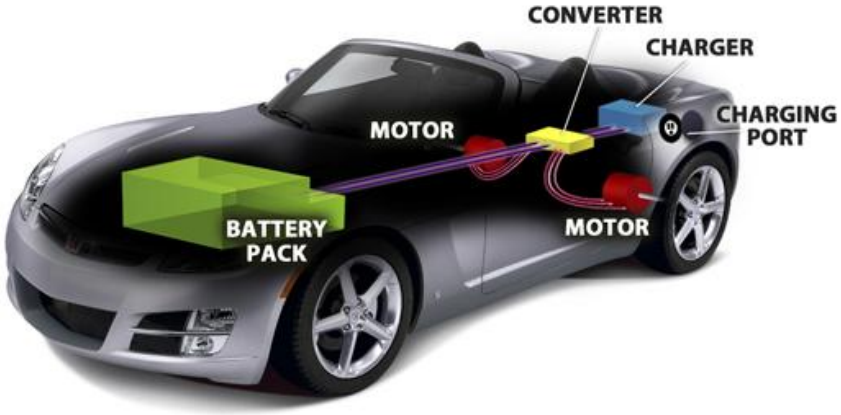
- Hybrid Technology
  - Electric
  - Combination
- CNG/LPG/Hydrogen



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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

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 then lap top batteries
- Initial stages of research

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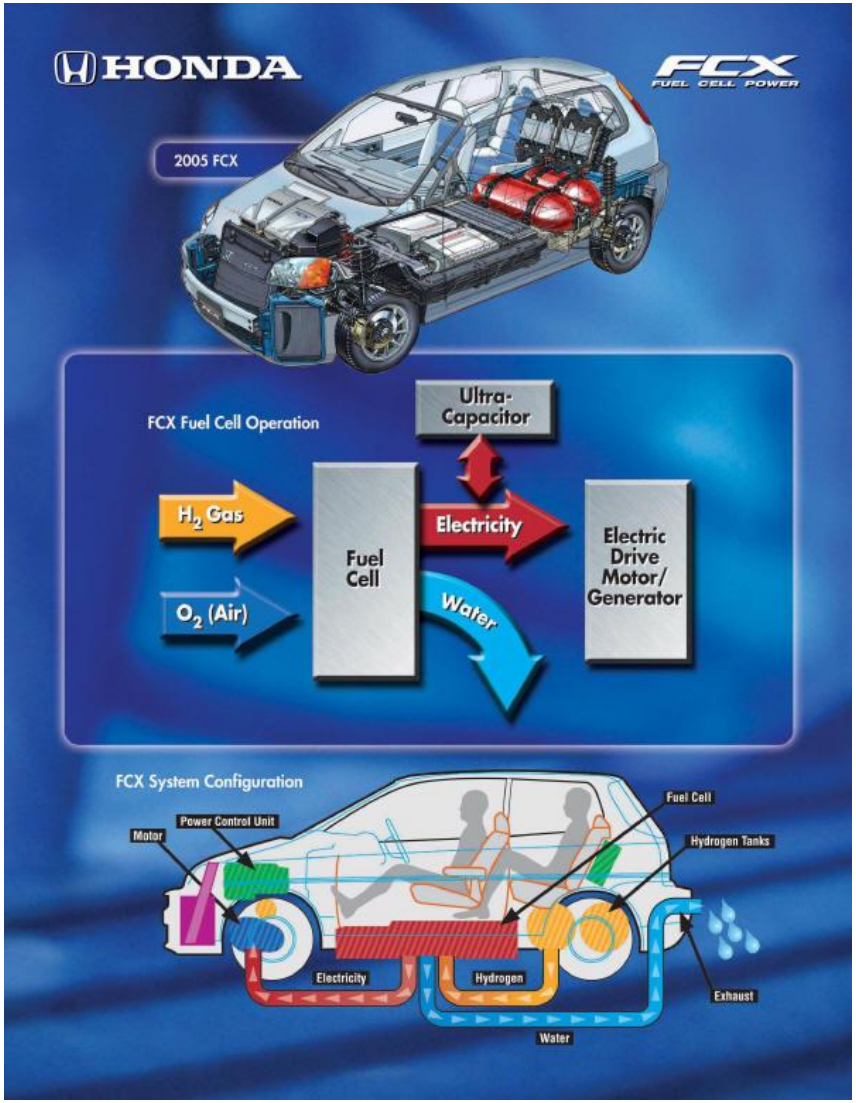

Fuel Cell Technology

- Limited Production
- Few Vehicles
- Future Consideration

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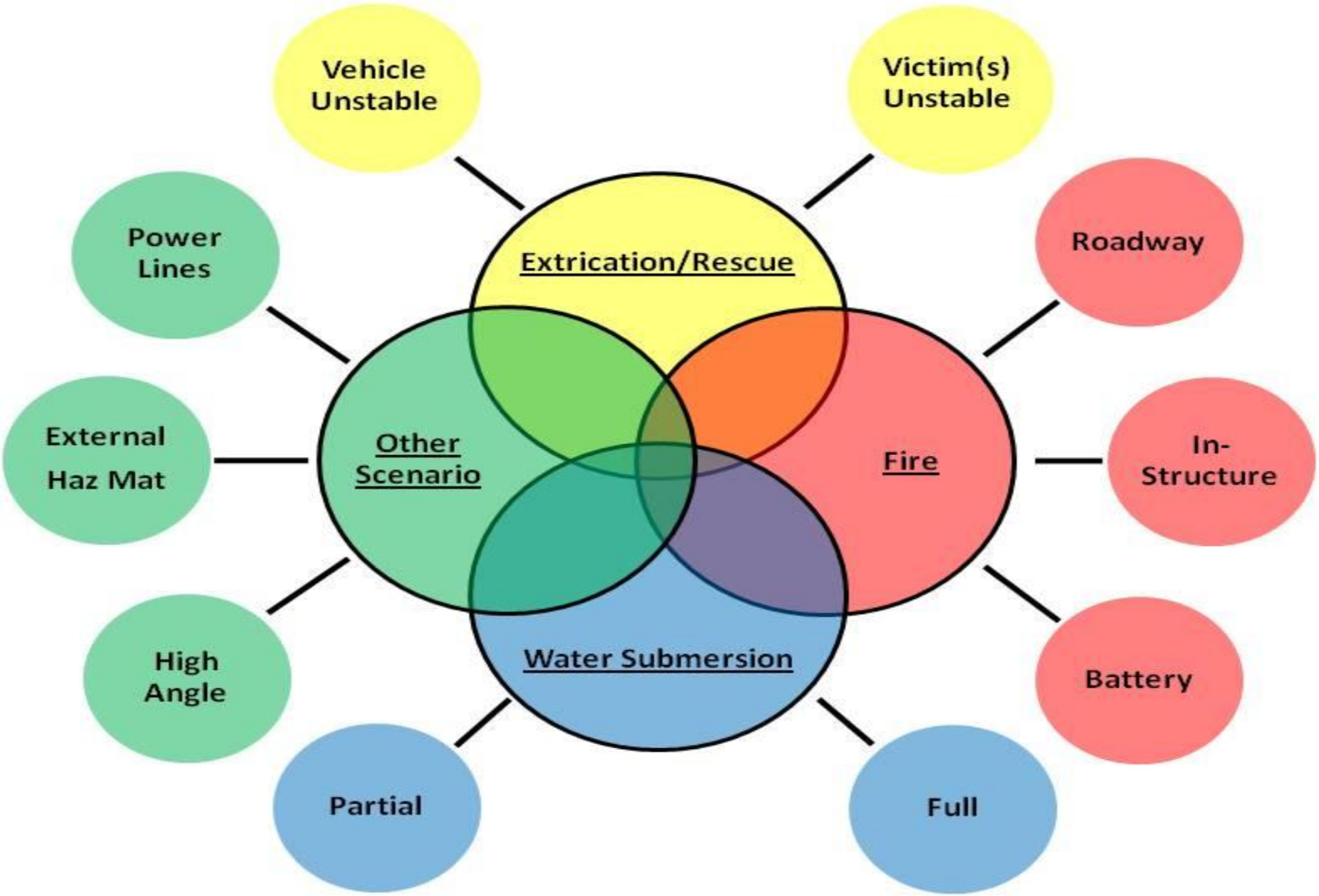

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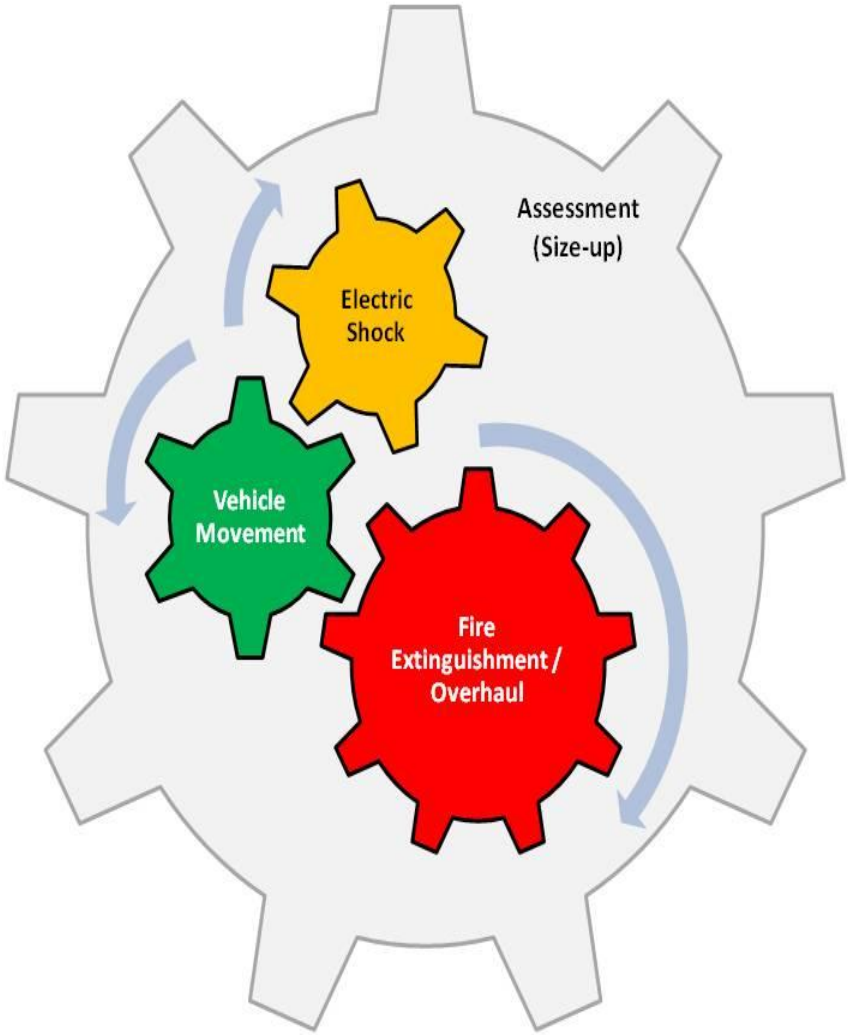
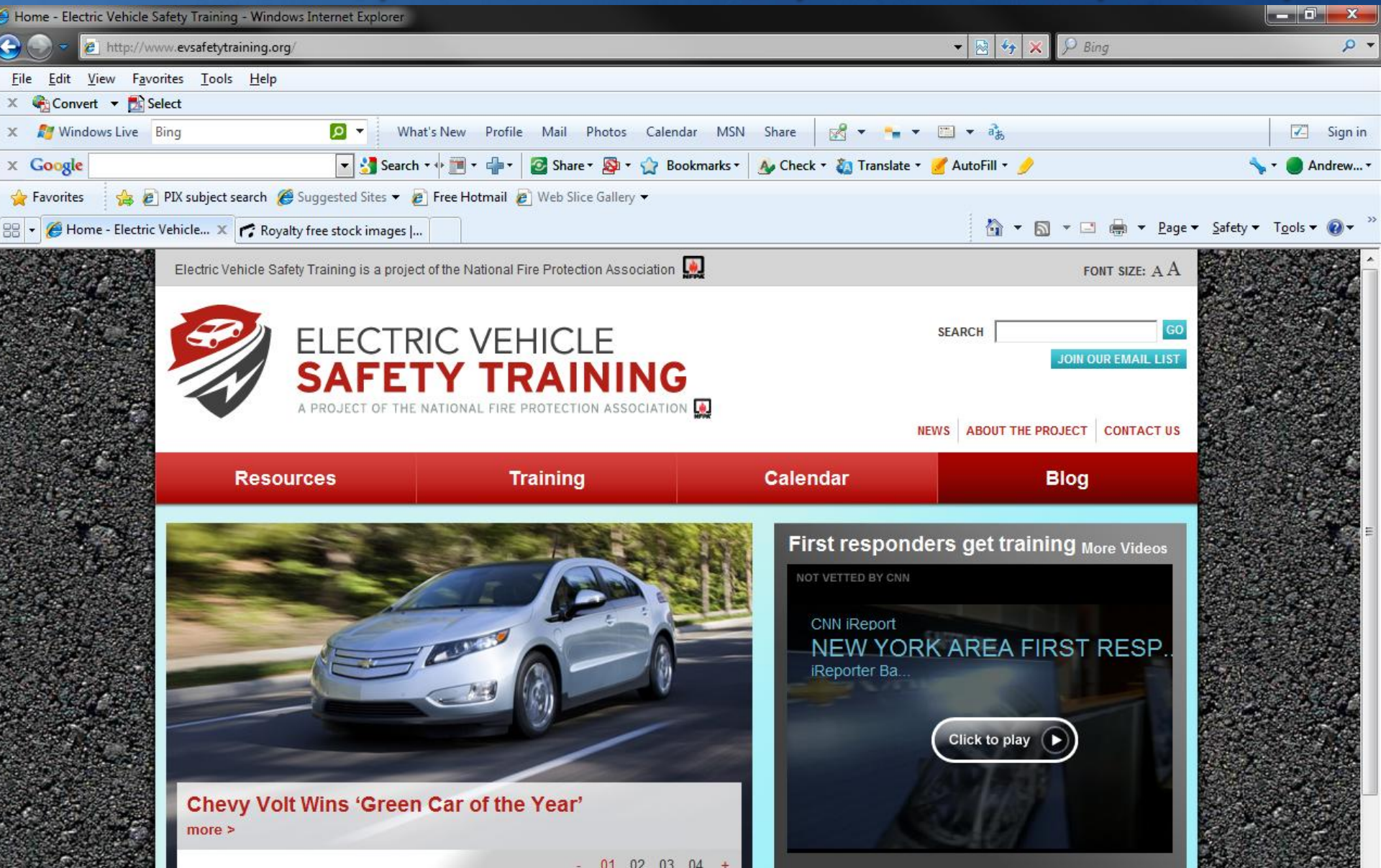


Considerations

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

EVSafetyTraining.org
First Responder EV Safety Central Repository



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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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