



**ANSI Workshop: Standards and Codes
for Electric Drive Vehicles**

Breakout Questions for Discussion

December 3, 2010 draft

Each breakout group will be asked to discuss and report back on the questions below. An effort will be made to have a variety of stakeholders in each group.

Section1 – Identifying the Issues

Note: As many of these issues likely will be identified on day one, breakout moderators are encouraged to come prepared with day one notes for review by the group to expedite discussion.

- 1) What are the standards issues of concern (e.g., design interoperability, performance, safety, conformance marks and programs, code differences, education) for these stakeholders:

Vehicle Group

- a) Vehicle manufacturers (e.g., design of connectors / interoperability with charging stations)
- b) Battery manufacturers (e.g., safety, wiring, labeling, storage, secondary uses, recycling)
- c) Vehicle component manufacturers (e.g., component ratings, safety, interoperability)

Infrastructure Group

- d) Utility companies (e.g., upgrades to deal with capacity issues, load management during peak / off-peak times, permitting, payment schemes, customer privacy, power outages)
- e) Providers of EDV charging stations (a.k.a. electric vehicle supply equipment [EVSE] (e.g., design of connectors / interoperability with vehicles)
- f) Battery switching station operators (e.g., interoperability, fire safety, warehousing)
- g) Code officials / electrical inspectors (e.g., fire safety, interoperability in residential / commercial settings, use of listed equipment)

Support Services / Other Group

- h) Service technicians (e.g., safety, qualifications, certificate programs / certification)

- i) First responders (e.g., fire safety, wiring, labeling, consistent emergency shut-off procedure / location, extrication, telematics)
 - j) Insurance companies (e.g., safety of battery manufacturing / storage facilities, impact on home / auto insurance premiums)
 - k) Regulators (e.g., fuel economy / labeling, greenhouse gas emissions, jurisdictional coordination issues, public EVSE pricing strategy)?
 - l) Consumers (e.g., fuel economy / labeling, affordability, impact on home / auto insurance premiums, installation of charging stations, permitting, charging times, payment schemes, power outages, service technicians, battery recycling)?
 - m) Standards Developers (e.g., need for cooperation / collaboration, terminology)
- 2) Are there any standards issues of concern that are different for medium- and heavy- duty vehicles?

Section 2 – Identifying the Gaps

- 3) Which of the issues identified in questions 1 and 2 are not yet being addressed by standards, conformance, or education programs?
- 4) Are there plans to address them in 1-2 years, 3-4 years, 5 years and beyond? If so, by whom?
- 5) What can be done to foster greater coordination / collaboration among the various stakeholders to build the global market for EDVs and to minimize conflict, duplication and divergence in standards development (e.g. in standards for batteries, charging station connectors, etc.)?
- 6) Are there any specific standardization activities where the U.S. Department of Energy (DOE) should take a proactive role?

Section 3 – Final Question

- 7) What are the top 3 most significant standards barriers that exist today to the widespread acceptance and deployment of EDVs?