Regulations for HEVs and EVs on the Electric Safety

MLIT, Japan
The background of the new regulations establishment

- In Japanese market, the number of HEVs and EVs is increasing rapidly for several years.
• Since the electric safety regulation of FCVs is already established in Japan, establishment of that of HEVs-EVs is pressing need.

• Although ECE-R100 is existing, it is difficult to introduce it into the Japanese regulations with the following reasons.

  - The scope of ECE-R100 is limited to Battery EVs.

  - The technical range of ECE-R100 does not correspond to the current new technology.
• As we have announced in the previous GRSP meeting, we are planning to establish the new safety regulation on the Electric Safety and Crash Safety for HEVs and EVs.

• The new safety regulation on the Electric Safety will be created based on ECE-R100.

• The new Electric Safety regulation leads to the ECE-R100 amendment which we will propose from now on.
The Outline of the Electric Safety Regulation (based on the ECE-R100) about HEVs and EVs

- Protection against electric shock at usually usage
  - Protection against direct contacts with live part.
    ex. Barrier, enclosure, etc.
  - Protection against indirect contact.
    ex. Electrical connection between exposed conductive parts (barrier, enclosure, etc.) and electrical chassis (vehicle flame, etc.) to prevent outbreak of high voltage
  - Insulation resistance.
    ex. Keep not less than 100Ω/V of the nominal voltage between live parts and electrical chassis.

- System Safety Requirement
  ex. The safety of the operation method and the charge state.
Draft of Discussion Schedule

- April 06’  Kick off discussion about this issue
- March 07’  Established draft regulation about crash safety of HEV and EV
- April 07’  Collected public comments
- Autumn 07’ Enter into enforce this regulation
- December 07’ Proposed amendment of ECE-R100 at GRSP/GRPE