

Regulations for HEVs and EVs on the Electric Safety

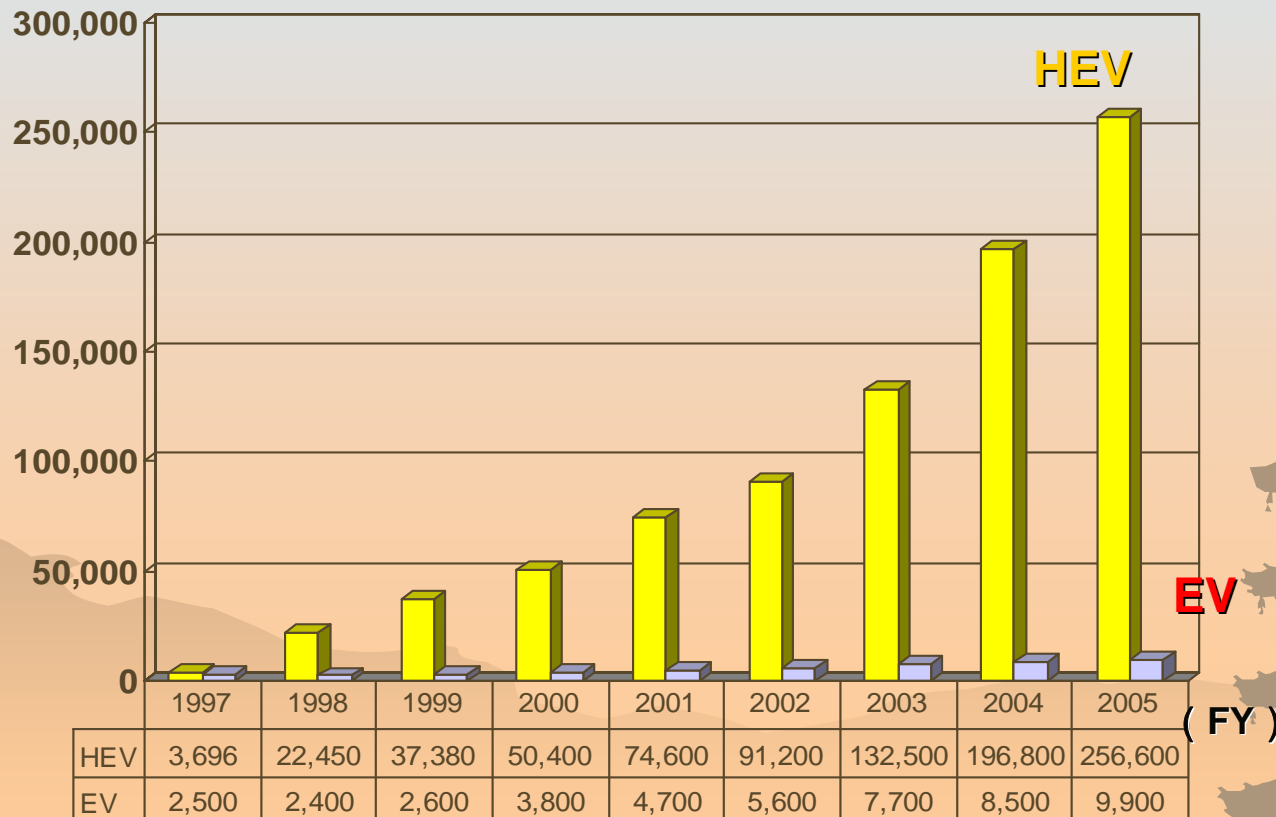
MLIT, Japan



The background of the new regulations establishment

- In Japanese market, the number of HEVs and EVs is increasing rapidly for several years.

(Number of Vehicles) The number of HEVs and EVs in 97'-05'



- 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 frame, etc.) to prevent outbreak of high voltage
 - Insulation resistance.
ex. Keep not less than $100\Omega/V$ 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

