Current Status of Establishment of Safety Regulation for Fuel Cell Vehicle

National Traffic Safety and Environment Laboratory
(Independent administrative institution, Japan)

Jan. 2004
History

Apr. 2002  The prime minister and the Minister of Land, Infrastructure and Transportation announced during cabinet discussions the government’s introduction of FCV initiatives and aim of achieving early commercialization of FCVs

Oct. 2002  Technical guidelines established for ministerial approval for individual prototype FCVs

Dec. 2002  Initiative introduced for leasing of prototype FCVs as government use cars

Apr. 2003  Project for establishment of safety type approvals regulation for FCV initiated

(Technical guidelines are base for type approval regulation)
Scheme of ministerial approval system

Application ➔ Examination (documents and vehicles) ➔ Approval under limited conditions about on road use

Fleet tests on roads ➔ Report to MLIT ➔ Reflecting to Consideration of regulations
General Concepts for Safety Regulation

Criteria for entire vehicle
- Conformation to prevent hydrogen gas accumulation
- Hydrogen cutoff system in collisions
- High voltage shutoff system in collisions
- Attachment criteria for gas tank, etc.

Criteria for individual components
- Fuel Tank and its attachments if necessary, following items
- Hydrogen components in gas pipes, etc.
- High voltage and other components in fuel cell stack, etc. (Items should be minimized as far as possible)

Criteria for safety system
Hydrogen safety:
- Hydrogen leak warning system
- Hydrogen gas discharge amount, etc.

High voltage safety:
- Warning system for insulation damage, etc.
Plan

FY 2003

Project for Establishment of Safety Regulation for FCV

Draft plan for collecting data on each item requiring standardization

Data collection (Verification tests)

Draft final version

FY 2004

Establishment of Safety Regulation

Type Approval

FY 2005
Examination Matters for Establishment of Safety Regulation

- High pressure hydrogen gas safety
  Preventing hazardous hydrogen leaks and gas accumulation,
  Keeping safety of passenger and/or surroundings from the hydrogen purge and discharge, etc.

- Crashworthiness
  Keeping safety of passenger and/or surroundings from fuel leakage,
  Ensure no disaster, more than those existing vehicles, are caused in vicinity of FCV. Gas container location which is hard to susceptible to any shock and heat, etc.

- High voltage safety
  Preventing of direct contact hazard, etc.

- Environmental protection
  Fuel economy, etc.

- Others