

Current Status of Establishment of Safety Regulation for Fuel Cell Vehicle

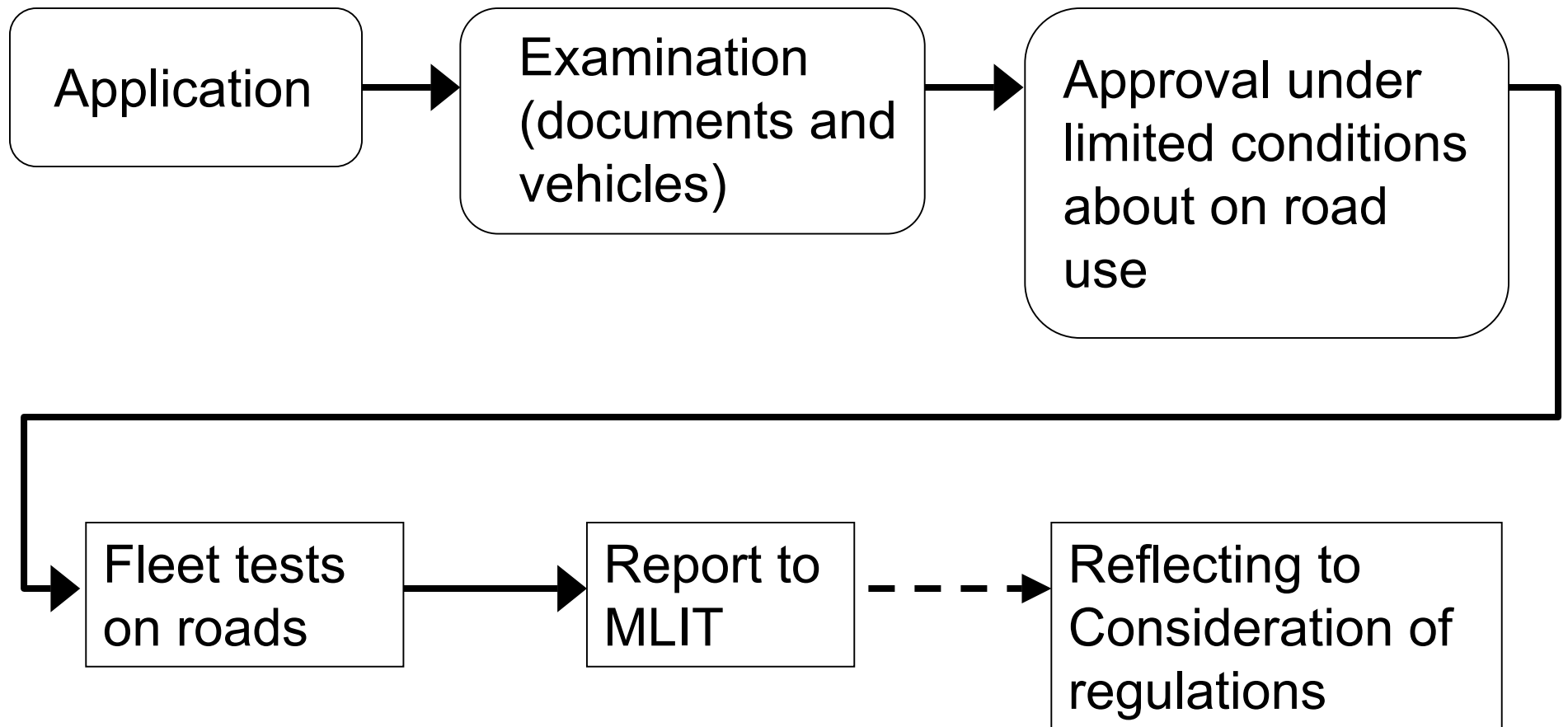
National Traffic Safety and Environment Laboratory
(Independent administrative institution, Japan)

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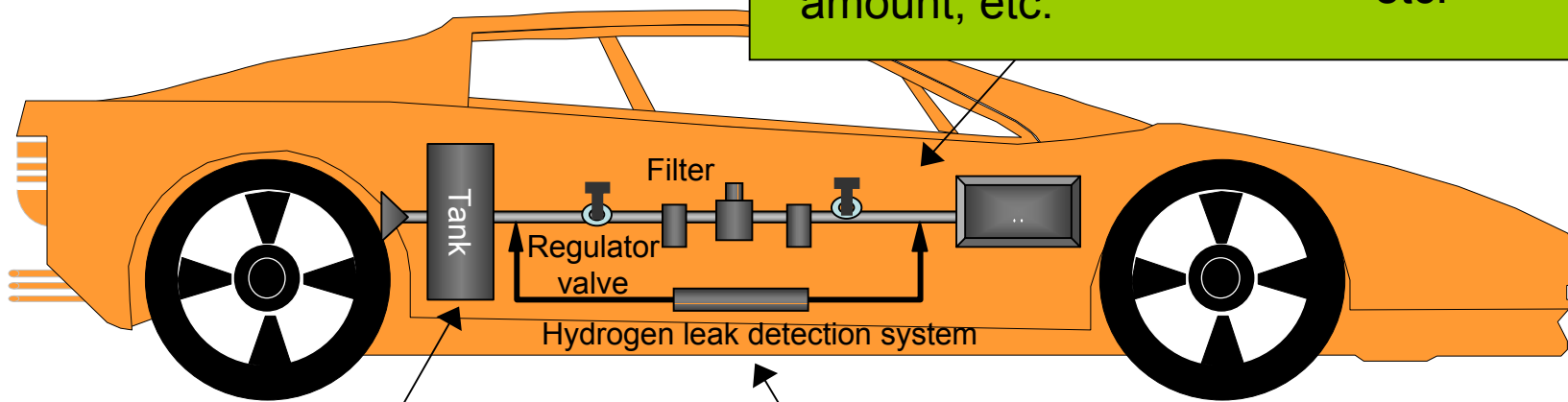
History

- 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



General Concepts for Safety Regulation



Criteria for safety system

Hydrogen safety:

- . Hydrogen leak warning system
- . Hydrogen gas discharge amount, etc.

High voltage safety:

- . Warning system for insulation damage, 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 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.

Plan

FY 2003

FY 2004

FY 2005

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

Establishment of Safety Regulation

Type Approval

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**