Status of Fuel Economy Policy in Korea

18-20 November 2014

KATRI, The Republic of KOREA
(Korea Automobile testing & research Institute)
1. Introduction

2. Draft of Fuel Economy Regulation in Korea

3. Conclusions

※ Appendix
1. Introduction

- **Fuel economy management system in Korea**
  - Vehicle Manufacturers certified fuel economy by themselves prior to sale (report the results to the government and mark labels on the vehicle)
  - Korea government conducts verification & compliance test of the manufacturers reports
    - Verification test for passenger vehicle
      - Ministry of Trade, Industry and Energy (MOTIE)
    - Compliance test based on “Vehicle Self Certificate System”
      - Ministry of Land, Infrastructure and Transportation (MOLIT)

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**Increasing demand for the integration of the redundant regulatory**
2. Draft Fuel Economy Regulation in Korea

- MOLIT designated as a responsible executive governmental agency for fuel economy post-verification
  - Purchase of test vehicles: Governmental Budget
  - Test agency: KATRI (Korea Automobile Testing & Research Institute)

> Hasn’t been verified officially for the manufacturer’s coast-down value until 2014
2. Draft Fuel Economy Regulation in Korea

- Notification of draft rule making for improving Fuel Economy (GHGs) Management System
  - Improve measurement and calculation methods
    - Vehicle: all light duty vehicles (passenger, commercial)
    - Measurement
      - Pre accumulate mileage: 3,000 ~ 16,000km (recommended 6,500km)
      - New test method for mileage accumulation (no mandatory)
    - Tolerance: -5% (for both City & Highway mode)
  - Improvement of manufacturer’s reporting system

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2. Draft Fuel Economy Regulation in Korea

- Mandatory verification of Road Load coefficients by government
  - Verification methods
    - Compare the energy difference considering the fuel economy test cycle between Manufacture’s RL value and Government’s RL value
    * detailed verification methods will be complemented through fuel economy R&D study
  - Tolerance: -15%
    - If within 15%, the manufacture road load coefficient acknowledged, and proceed to the next test step (dynamo test)
    - If 15% exceeded, the government coefficient will be used for the dynamo test
2. Draft Fuel Economy Regulation in Korea

➢ Test agencies
  ✓ 6 agencies which have fuel economy test labs
  ✓ Correlation test with agencies annually
    * The current issue is how to ensure the correlation between agencies

➢ Penalty (fines) for non-compliance
  ✓ Up to USD 1M paid to the Korean gov.
    * There is an opinion that compensations paid to customers should be legally imposed as well

➢ Investigated vehicles
  ✓ Compliance test 20~30 models annually (bestsellers)
  ✓ Test vehicle: purchase (or lease) from 1 to max 3 vehicles (for post test)
    purchase (or lease) 3 vehicles (for non-compliance)
Conclusion

- Fuel Economy is one of major determinant of safety and performance of vehicle
- By building an integrated fuel economy management system
  - Improve the reliability of Road load coefficients and Fuel economy
  - Induce production of safer and economical vehicle
  - Be realized for consumer protection
- Fuel economy regulations will be complemented through additional R&D study
  - Standard vehicle accumulation break-in test mode
  - Tolerance(-15%) evaluation method of Road load coefficient
  - Correlation evaluation method between agencies
Some comments about Round-robin Test

Considerations for main factors affecting the fuel economy

- Test measurement devices accuracy
- Vehicle preparation & initial test conditions (tire pressure, SOC(%) etc.)
- Coast-down procedures on the CHDY (vehicle setting etc.)
- Pre-conditioning in the vehicle test cell
- Drive quality evaluation for CHDY testing

Is there any plan to perform the Round-robin Test of Road load???
Thank you very much !!!