Mobile Sources Technical Review Subcommittee

EPA's Light-duty In-use Compliance Program

EPA
Office of Air and Radiation
Office of Transportation and Air Quality

February 13, 2002

History

- Over 50 million vehicles recalled since 1972
- Highest rates: 35% of production in 70's and 80's
  - When emission control technology new
- Now about 10% of production voluntarily recalled per year

Program Goals

- Vehicles are designed and built which meet standards in-use
- Ensure emissions compliance over useful life of vehicle (100,000 - 120,000 miles)
- Find and Remedy Problems Early
- Fully successful in-use compliance program:
  - No recalls due to emission non-compliance
  - Collects adequate data to verify the success

Legal Authority

- Clean air act
  - Sec. 202 emission standards & OBD requirements
  - Sec. 207 remedy for non-conformity
  - Sec. 208 manufacturer testing
- 40 CFR 85 subpart S
  - Recall regulations
- 40 CFR 85 subpart T
  - Emission defect reporting requirements
- 40 CFR 86 subpart S
  - General compliance provisions
  - In-use verification program

In-use Program Highlights

- EPA testing - annually
  - 33 classes,109 vehicles, 130 tests
- Optimized to test smaller sample sizes that target suspected noncompliance vehicles
- Partnership with CARB
  - Share information
  - Steering Team
- 2 million vehicles recalled in year 2000

Recent Program Changes

- Transition to NVFEL in Ann Arbor
- Integration certification and in-use programs
- Leverage information and resources
- Class targeting
- Testing efficiencies
- All classes now subjected to evap testing

Testing Sources

- EPA testing
- Manufacturer testing
- IUVP - 2003 CY
- I/M testing
- CARB testing
- Other sources

Light-duty In-use Process

Information Review

- Defect reports
- Voluntary emission recall reports
- I/M data
- Technical service bulletins
- Warranty information
- Quarterly reports
- NHTSA
- CARB
- Consumers

Class Selection

- Demonstrated problems (defect reports, OBD problems, service bulletins, etc.)
- Other data indicating problems (past history, reality check or CAP 2000 data, certification, CARB information, end of line data, I/M information, etc.)
- New standards and/or technology that increase the risk of non-compliance
- Random selections
- Fleet coverage

EPA Laboratory Testing

- Vehicle procurement
- Vehicle inspection
- Vehicle maintenance
- OBD testing
- FTP & EVAP testing
- Fuel Economy testing
- ROVER testing

Test Process

- Vehicle procurement
- Vehicle inspection
- In-use maintenance

Testing

- FTP
- HWFE
- Evaporative
- OBD

OBD Evaluations

- OBD readiness codes
- Evap and fuel cap failure
- Catalyst failure
- Oxygen sensor failure
- In case of vehicle failure, use OBD and/or ROVER to evaluate cause of failure

Types of Remedies

- Ordered recall
- Influenced recall
- Voluntary recall
- Service campaign
- Running change
- Field fix

Results

- 2 million vehicles recalled in 2000
- Various problems fixed
  - Oxygen sensors
  - OBD
  - Calibrations
  - Computer
  - Catalyst
  - Evaporative
  - Exhaust manifold
  - ORVR
  - Fueling
  - EGR
  - Fuel tank
  - Air pump
  - Fuel injection

Cleaner Air

- Avoids non-compliance
- Find and remedy problems early
- Pollution prevention
- Achieve clean air benefits anticipated by our regulations
- Light-duty component still the highest contributor to emissions

Outlook

- More OBD investigations
- Manufacturer in-use testing
- Fuel-economy in-use data
- Expanded in-use cooperation with CARB
- Expanded on-road emission data collection with ROVER type devices