Proposed Amendments to the Verification Procedure for In-Use Diesel Emission Control Strategies

January 28, 2010

California Environmental Protection Agency

Air Resources Board
Presentation Overview

- Background
- Proposed amendments
- Impacts & recommendation
Background
Diesel Retrofit Verification Program

- Verification Procedure adopted May 2002
- Used to verify retrofits for in-use diesel engines
  - Heavy-duty on-road trucks, off-road vehicles, stationary engines, and marine vessels
- Verification ensures
  - Durability and performance
  - Warranty protection
- Other verification programs
  - U.S. EPA, VERT (Swiss)
Verification Process

- Applicant submits application
- ARB approves test plan
- Applicant conducts testing
- ARB reviews results
- Executive Order issued if all requirements met
Numerous Retrofits Currently Verified

- 50+ verified systems for diverse applications
  - On-road: 23 retrofits
  - Off-road: 22 retrofits
  - Stationary: 10 retrofits
  - Marine: 1 retrofit
Proposed Amendments
Experience-Based Opportunities to Improve Program

- Improve matching of retrofit to vehicle
- Improve end-user protections
- Improve design and data requirements
- Increase program flexibility
Proposed Amendments: Improve Matching of Retrofit to Vehicle

Matching a retrofit to a vehicle must consider:
• Exhaust temperature, operational condition of the engine, retrofit sizing, etc.

Inappropriate matching may result in:
• Impaired engine operation, frequent retrofit maintenance, voided warranties, retrofit malfunctions

Why does improper matching sometimes occur?
• No standardized procedure exists
Proposed Amendments: Improve Matching of Retrofit to Vehicle

(continued)

● Clarify procedure for matching retrofit to a vehicle/engine
  • Specific temperature assessment
  • Engine condition evaluation
    ■ E.g., oil consumption check, maintenance records

● Records must be kept by installer
Proposed Amendments: Improve End-User Protections

- Retrofit maintenance information
  - Manufacturer must provide sufficient information to enable an end-user to properly maintain the retrofit

- Industrial safety
  - Retrofits must comply with OSHA requirements

- Clarify warranty and sales provisions
  - Warranty applies to out-of-state sales
  - Clarify warranty covers swapped components
  - Clarify remedial actions for excessive warranty claims
Proposed Amendments: Improve Design and Data Requirements

- **Retrofit design requirements**
  - Temperature dependent retrofits must be able to measure and record in-use temperature, pressure, and error codes

- **New data collection requirements**
  - Durability data must be have date/time stamp
  - Engine speed must be logged
Proposed Amendments: Increase Program Flexibility

- Allow swapping of retrofit components among different fleets
  - Provides for larger pool of spare components to be used among fleets

- Provide for repowering a retrofit vehicle

- Directionality requirements
  - Provide sell-through of non-compliant inventory until December 31, 2010 (15-day change)
Public Outreach

- Public workshop in El Monte
  - June 23, 2009
- Industry meetings
  - Manufacturers of Emission Controls Association (MECA)
  - Individual companies
- Proposal incorporates comments received
15-Day Changes

- Directionality requirements
  - Extend sell-through period to December 31, 2010
- Clarify type of maintenance information that must be provided
- Do not require end users to maintain oil consumption records
Impacts and Recommendation
Environmental and Economic Impacts

- No significant impacts anticipated
- Potential end-user cost savings and creation of new services and businesses
  - Fewer restrictions on component swapping
  - Better assessment of retrofit to application
  - Streamlined data logging for matching retrofits with engines
  - Better access to maintenance procedures
Recommendation

- Staff recommends approval of the proposed amendments and 15-day changes