

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