Potential Changes to CARB’s Heavy-Duty Truck Inspection Programs

Second Workshop

Public Workshop
Diamond Bar, CA
February 28, 2017

California Environmental Protection Agency

Air Resources Board
Questions and Comments

- During the workshop, please submit any questions or comments to the following email address:

hdvipworkshop@arb.ca.gov
Outline

• Review of Current Smoke Inspection Program Requirements

• Proposed Changes to Smoke Inspection Programs

• Updates on the Potential Future Heavy-Duty Inspection and Maintenance Program

• Contacts
Schedule

- Potential Changes: Heavy-Duty Vehicle Inspection Program (HDVIP)/Periodic Smoke Inspection Program (PSIP)
  - Previous Workshops: Aug/Sept 2016
  - Current Workshop: February 28, 2017
  - Board date: Planned Sept 2017
  - Implementation: 2018

- Longer-term: Development of Potential Heavy-Duty (HD) Inspection and Maintenance (I/M) Program
  - Board date: Planned 2020
  - Implementation: Post-2020
Current Inspection Programs
Current On-Road HD In-Use Programs

- **HDVIP**
  - Roadside inspections by ARB enforcement personnel for excessive smoke, tampering, and engine certification label compliance

- **PSIP**
  - Annual self-testing for California fleets of 2 or more vehicles
Current Smoke Inspection Requirements

- 40% opacity limit for 1991 & newer diesel engines
  - 55% opacity limit for 1990 & older diesel engines
- Snap acceleration opacity test
  - SAE J1667 compliant smoke meter
- Maintain PSIP records for 2 years
Proposed Changes to CARB’s Smoke Inspection Programs

- Lower Opacity Limit
- PSIP Reporting Requirements
- Reduced PSIP test frequency for well-maintained and compliant fleets
- PSIP Smoke Tester Certification Requirements
Lower Opacity Limit

- DPF Equipped Vehicles
  - 5% Opacity Limit
  - Vehicles with properly functioning DPFs measure at near-zero opacity levels

- Non-DPF Equipped Vehicles
  - 20% Opacity
    - Extensive data showing engine-out opacity of properly functioning engines well below 20%
Repair Extension
(For 2009 MY and Older Engines)

- Applies to vehicles potentially subject to Truck and Bus Regulation turnover requirements
  - 2009 MY and older engines subject to turnover requirements through 2023

- Owners must decide whether they make repairs on the current vehicle or retire it early and get a new vehicle
  - Currently, vehicle repairs must be made within 45 days upon receipt of violation in HDVIP
  - CARB staff proposes increasing repair period to 90 days
    - Allows owners more time to decide whether to retain the current vehicle or retire it
Proposed PSIP Reporting Requirements
What is Changing?

• Currently, owners are required to keep records of their annual PSIP testing for 2 years.
  • Owners must present records upon an audit by CARB

• Under new proposal, all owners subject to PSIP regulation would also be required to report annual PSIP testing results to CARB.
  • Encourages compliance and level playing field
  • CARB staff currently developing a database for submission of results
Required Reporting Data

- For each vehicle, the following data would be required for electronic submission:
  - All data required under Title 13 CCR, Section 2194: Record Keeping Requirements
  - License Plate Number
  - Odometer Mileage
  - Engine Family
  - Photo of the actual smoke opacity test strip
### Database Snapshot Example

**Owner Information**
- **Fleet Owner Name:**
- **Company / Agency Name:**
- **Company / Agency Phone #:** ( )
- **Company / Agency Email Address:**
- **# Of Vehicles:**

**Company Mailing Address**
- **Address:**
- **Suite / Apartment / Floor:**
- **City:**
- **State:** California
- **Zip:**

**Company Physical Address**
- **Address:**
- **Suite / Apartment / Floor:**
- **City:**
- **State:** California
- **Zip:**

**Add Vehicle**

**Vehicle Information**
- **Vehicle Identification # (VIN):**
- **License Plate #:**
- **Your Vehicle #:**
- **Vehicle Manufacturer:**
- **Vehicle Model:**

**Engine Information**
- **Engine Manufacturer:**
- **Engine Model:**
- **Engine Model Year:**
- **Engine Family:**

**Report Smoke Opacity Test**

**Vehicle Information**
- **VIN:** 1HSHX3HR09J123456
- **Odometer Mileage:**
- **Opacity Meter Brand Name:**
- **Opacity Meter Model:**
- **Opacity Meter Last Calibration Date:** yyyy - mm - dd
- **Smoke Meter Operator Name:**

**Smoke Opacity Test Facility**
- **Facility Name:**
- **Address:**
- **Suite / Floor:**
- **City:**
- **State:** California
- **Zip:**

**Smoke Opacity Test**
- **Test Date:** yyyy - mm - dd
- **Average Opacity (%):**
- **Upload Test Strip:** Browse... No file selected.

**Save Data**
Proposed Reporting Dates

- Reporting would start in 2019 for larger fleets, with smaller fleets starting a year later:
  - Fleets of 4 or more vehicles
    - Annually beginning April 2019
  - Fleets of 2-3 vehicles
    - Annually beginning April 2020
Alternatives for PSIP Flexibility

- Well-maintained fleets who consistently report on time allowed to decrease the frequency of PSIP testing
  - PSIP testing would only be required every other year instead of every year
- Submission of OBD data in lieu of opacity testing for 2013+ MY engines
- Other options being considered
PSIP Smoke Tester

Requirements
Proposed Smoke Tester Requirements

- CCDET certification would be required for PSIP smoke testers who provide services for a fee
  - California Council on Diesel Education and Technology (CCDET) HDVIP/PSIP Training Course
    - One day in-person training
    - Offered at multiple community colleges throughout the state
    - For more information, please visit ccdet.org

- CARB recommends training, but it would not be required for fleets doing in-house PSIP testing to have certified PSIP testers

- ARB plans to provide on-line training materials
Future HD Inspection and Maintenance Program
Comprehensive HD I/M Program Development

- HDVIP/PSIP amendments are first step toward a comprehensive HD I/M program

- Potential concepts for comprehensive HD I/M program:
  - Focus on OBD for 2013+ model engines
    - Consider remote OBD/telematics
  - Require HD repair shop licensing/mechanic competency
  - Requirements for non-OBD vehicles, program verification elements
HD I/M Supporting Research Efforts: CARB Contracted Study

- UC Riverside, Center for Environmental Research and Technology
  - 24 month study, began Summer 2016
  - Evaluate potential test methods* for identifying vehicles with broken emission controls
  - Pilot demonstration program includes pre-repair emissions testing, vehicle/engine repairs, and post-repair emissions testing
  - Cost and emissions benefits analysis to calculate cost-effectiveness of pilot demonstration program

*currently in the testing phase of the project
HD I/M Supporting Research Efforts: CARB Internal Studies

- CARB Repair Durability Study
  - Measure emissions of high emitters pre- and post-repair
  - Recapture vehicles in 6 months to a year and retest

- OBD Check Pilot Program
  - Collect OBD data from in-use HD vehicles on the road
  - Voluntary participation from fleets
    - Collect OBD data from 2013+ MY engines
Research Project Outreach

• Staff reaching out for additional volunteer vehicles and fleets to participate in internal research programs.
  • Repair Durability Project
    • ARB will pay for vehicle repairs.
  • OBD Check Pilot Program

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ARB Contact Information

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Further Information

Webpage on opacity and HD I/M program regulatory development:
http://www.arb.ca.gov/msprog/hdim/hdim.htm

Join our list serve:
http://www.arb.ca.gov/listserv/listserv.php
(Choose mobile source related, Heavy-Duty Vehicle Inspection and Maintenance)

Questions and comments during webcast: