

# Potential Changes to CARB's Heavy-Duty Truck Inspection Programs

Second Workshop

Public Workshop  
Diamond Bar, CA  
February 28, 2017

California Environmental Protection Agency

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**Air Resources Board**



# Questions and Comments

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

[hdvipworkshop@arb.ca.gov](mailto: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



# 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:	<input type="text"/>
Company / Agency Name:	<input type="text"/>
Company / Agency Phone #:	( <input type="text"/> ) <input type="text"/> - <input type="text"/>
Company / Agency Email Address:	<input type="text"/>
# Of Vehicles:	<input type="text"/>

### Company Mailing Address

Address:	<input type="text"/>
Suite / Apartment / Floor:	<input type="text"/>
City:	<input type="text"/>
State:	California ▼
Zip:	<input type="text"/>

### Company Physical Address

Same as mailing address

Address:	<input type="text"/>
Suite / Apartment / Floor:	<input type="text"/>
City:	<input type="text"/>
State:	California ▼
Zip:	<input type="text"/>

Save Data

## Add Vehicle

### Vehicle Information

Vehicle Identification # (VIN):	<input type="text"/>
License Plate #:	<input type="text"/>
Your Vehicle #:	<input type="text"/>
Vehicle Manufacturer:	<input type="text"/>
Vehicle Model:	<input type="text"/>

### Engine Information

Engine Manufacturer:	<input type="text"/>
Engine Model:	<input type="text"/>
Engine Model Year:	<input type="text"/>
Engine Family:	<input type="text"/>
Upload Engine Label:	<input type="button" value="Browse..."/> No file selected.

Save Data

## Report Smoke Opacity Test

VIN : 1HSHXSHR89J123456

Odometer Mileage:	<input type="text"/>
Opacity Meter Brand Name:	<input type="text"/>
Opacity Meter Model:	<input type="text"/>
Opacity Meter Last Calibration Date:	yyyy ▼ - mm ▼ - dd ▼
Smoke Meter Operator Name:	<input type="text"/>

### Smoke Opacity Test Facility

Facility Name:	<input type="text"/>
Address:	<input type="text"/>
Suite / Floor:	<input type="text"/>
City:	<input type="text"/>
State:	California ▼
Zip:	<input type="text"/>

### Smoke Opacity Test

Test Date:	yyyy ▼ - mm ▼ - dd ▼
Average Opacity (%):	<input type="text"/> %
Upload Test Strip:	<input type="button" value="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

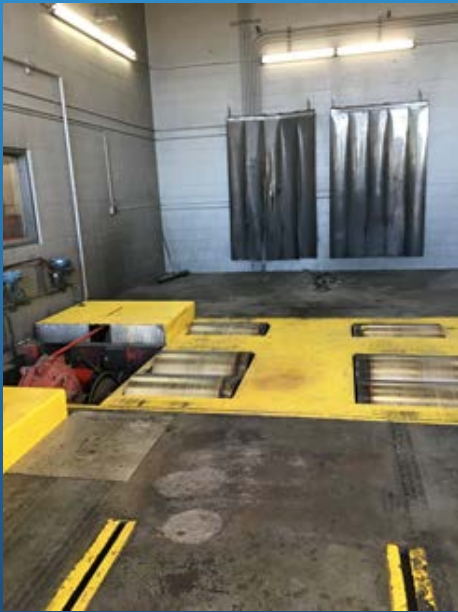
# PSIP Smoke Tester Requirements



# 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](http://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
- Staff Contact
  - Ron Haste, P.E., Manager
  - [rhaste@arb.ca.gov](mailto:rhaste@arb.ca.gov)
  - (626) 575-6676



# 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: