

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

Third Workshop

Public Workshop
Sacramento, CA
May 17th, 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:

sierrarm@calepa.ca.gov

Outline

- Review of Current Smoke Inspection Program Requirements
- Proposed Changes to Smoke Inspection Programs
 - Opacity Limits
 - Reporting Requirements
 - Smoke Tester Training
 - **NEW!** : indicates changes since February workshop
- HD Inspection and Maintenance Program
- Contacts

Schedule

- Potential Changes: Heavy-Duty Vehicle Inspection Program (HDVIP)/Periodic Smoke Inspection Program (PSIP)
 - First Workshops: Aug/Sept 2016
 - Second Workshop: February 28, 2017
 - Third Workshop: May 17, 2017
 - Board date: Planned Oct 2017
 - Implementation: Late Summer 2018
- Heavy-Duty Inspection and Maintenance Program
 - Board date: Planned 2020
 - Implementation: Post-2020

Current Inspection Programs



Current On-Road HD In-Use Programs

- **HDVIP**
 - Roadside inspections by CARB 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 MY & newer diesel engines
 - 55% opacity limit for 1990 MY & 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 for both HDVIP & PSIP
- PSIP Reporting Requirements
- PSIP Smoke Tester Training Requirements

Lower Opacity Limit



Lower Opacity Limit

- 2007+ MY and DPF Equipped Engines
 - 5% Opacity Limit
 - Vehicles with properly functioning DPFs measure at near-zero opacity levels
- Non-DPF Equipped Vehicles
 - 20% Opacity Limit: 1997-2006 MY Engines
 - 30% Opacity Limit: 1991-1996 MY Engines
 - 40% Opacity Limit: Pre-1991 MY Engines
- Project greater than 90% of in-use vehicles currently meet the proposed opacity limits

NEW!

Proposed PSIP Reporting Requirements



Proposed Requirements

- Current Regulation:
 - Owners are required to keep records of their annual PSIP testing for 2 years.
 - Owners must present records upon an audit by CARB
- Proposed Changes:
 - Owners would be required to electronically report vehicle information and upload opacity test results to CARB

Required Reporting Data

- Owner Information
 - Name, Address, Contact Info
- Vehicle Information
 - For each vehicle in the fleet:
 - VIN Number
 - License Plate Number
 - Engine MY
 - Engine Family
 - Engine Manufacturer
 - Fleets with data in TRUCRS do not have to reenter data
- Annual Opacity Testing Results
 - Enter average opacity values and submit opacity test results through an electronic upload or submission of a photo of the 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"/> |
| 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 | |
| <input type="checkbox"/> Same as mailing address | |
| Address: | <input type="text"/> |
| Suite / Apartment / Floor: | <input type="text"/> |
| City: | <input type="text"/> |
| State: | California ▼ |
| Zip: | <input type="text"/> |
| <input type="button" value="Save Data"/> | |

| Add Vehicle | |
|--|----------------------------|
| Vehicle Information | |
| Vehicle Identification # (VIN): | <input type="text"/> |
| Your Vehicle #: | <input type="text"/> |
| License Plate #: | <input type="text"/> |
| Vehicle Manufacturer: | <input type="text"/> |
| Vehicle Model: | <input type="text"/> |
| Vehicle Purchase Date: | yyyy ▼ mm ▼ dd ▼ ? |
| Engine Information | |
| Engine Family: | <input type="text"/> |
| Engine Manufacturer: | <input type="text"/> |
| Engine Model: | <input type="text"/> |
| Engine Model Year: | <input type="text"/> |
| Have DPF installed? | <input type="checkbox"/> ? |
| <input type="button" value="Save Data"/> | |

| Report Opacity | | | | | | | | | | | |
|--|--|----------------------|---------|-----------|---------|-----------|----------------------|----------------------|----------------------|---|---|
| VIN : 1HSHXSHR89J123475 | | | | | | | | | | | |
| 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 ▼ | | | | | | | | | | |
| Opacity Test (%): | <table border="1"> <thead> <tr> <th>Test #1</th> <th>Test #2</th> <th>Test #3</th> <th>Average</th> <th>Pass/Fail</th> </tr> </thead> <tbody> <tr> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td>%</td> <td>?</td> </tr> </tbody> </table> | Test #1 | Test #2 | Test #3 | Average | Pass/Fail | <input type="text"/> | <input type="text"/> | <input type="text"/> | % | ? |
| Test #1 | Test #2 | Test #3 | Average | Pass/Fail | | | | | | | |
| <input type="text"/> | <input type="text"/> | <input type="text"/> | % | ? | | | | | | | |
| Upload Opacity Data/Test Strip: | <input type="button" value="Browse..."/> No file selected. ? | | | | | | | | | | |
| <input type="button" value="Save Data"/> | | | | | | | | | | | |

Phased in Reporting Requirements

| Fleet Size | Implementation | Submission Deadline: |
|----------------|----------------|----------------------|
| 50+ Vehicles | CY 2019 | April 2020 |
| 20-49 Vehicles | CY 2021 | April 2022 |
| 2-19 Vehicles | CY 2023 | April 2024 |



NEW!

- Updated vehicle information and opacity data must be submitted by April of the following calendar year
- Fleets still required to keep testing records for 2 years
- **Voluntary Fleet Option:**
 - Fleets can report OBD data on vehicles with 2013+ MY engines in lieu of performing opacity testing on those vehicles

PSIP Smoke Tester Training Requirements



Proposed PSIP Smoke Tester Training Requirements

- Successful completion of a training course on how to properly perform PSIP testing will be required for all smoke testers starting in 2019
- Contracted/paid smoke testers must successfully complete an in-person hands-on training course
- In-house smoke testers must successfully complete either a CARB online training course or an in-person training course

NEW!

In-Person Training Course Requirements

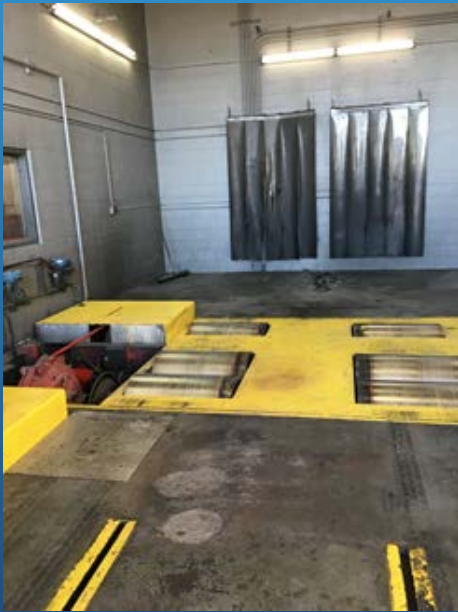
- Criteria for in-person training courses:
 - Hands-on training on how to properly perform SAE J1667 testing protocol
 - Hands-on training on how to properly calibrate a smoke meter
 - Review of PSIP requirements for fleets and testers
 - Completion of a comprehensive examination on the training material to ensure sufficient knowledge
- Training courses can apply to the Executive Officer to receive CARB approval as an in-person training course
 - Currently, CCDET (ccdet.org) is the only approved in-person training course

Online Training Course

- CARB will develop a short online training course and administer it through its main website
 - Course topics:
 - Proper testing procedure
 - Proper calibration techniques
 - PSIP requirements

NEW!

Future HD Inspection and Maintenance Program



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+ MY engines
 - Consider remote OBD/telematics
 - Testing requirements for non-OBD vehicles
 - Consider HD repair shop licensing/mechanic competency
 - Program verification elements

Recent Developments: HD I/M Legislation

- Senator Connie Leyva introduced Senate Bill 638 (SB638) in February 2017
 - Would authorize CARB to adopt regulations for a HD I/M program, in consultation with the Bureau of Automotive Repair and the Department of Motor Vehicles
 - Annual DMV registration to be tied to HD I/M compliance
 - Two-year spot bill:
 - Current bill language is placeholder language for revision
 - SB638 not expected to be finalized until late summer 2018
- Ongoing work for program development
 - Public regulatory process will come after/if legislation is passed

HD I/M Research Contract with UC Riverside: CE-CERT

- 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

CARB Contact Information

- Jason Hill-Falkenthal, Ph.D., Lead Staff on Potential Amendments to HDVIP/PSIP
 - Jason.Hill-Falkenthal@arb.ca.gov
 - (916) 322-4683
- Krista Fregoso, Lead Staff on HD I/M Program Development
 - Krista.Fregoso@arb.ca.gov
 - (916) 445-5035
- Renee Littaua, P.E., Manager
 - Renee.Littaua@arb.ca.gov
 - (916) 324-6429

Further Information

- Preventative Maintenance Handbook
 - <http://ccdet.org/resources/>
- Webpage on HDVIP/PSIP 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:
sierrarm@calepa.ca.gov