May 21, 2018

California Air Resources Board
1001 I St.
Sacramento, CA 95814

Submitted electronically

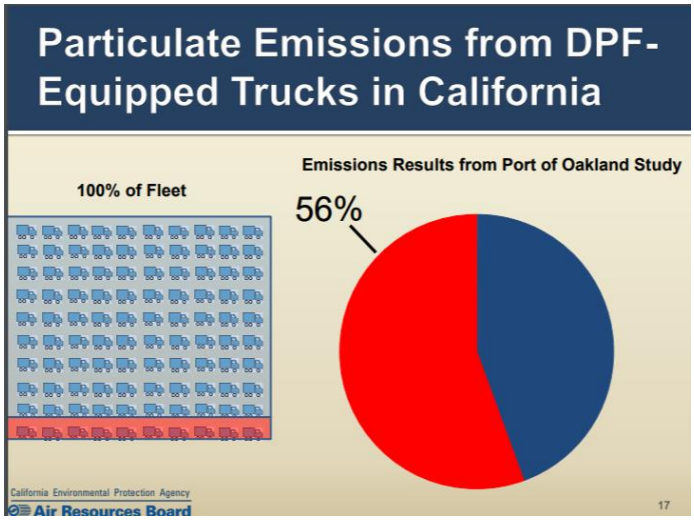
SUBJECT: PROPOSED AMENDMENTS TO THE HEAVY-DUTY VEHICLE INSPECTION PROGRAM AND PERIODIC SMOKE INSPECTION PROGRAM

Thank you for the opportunity to comment on proposed amendments to the Heavy-Duty Vehicle Inspection Program (HDVIP) and the Periodic Smoke Inspection Program (PSIP).

CTA Opposes Proposed PSIP Reporting Requirement

CTA must oppose proposed reporting requirements for PSIP as they will unfairly add cost and administrative burdens to compliant truck operators, result in little to no emission benefit and further exacerbate the uneven playing field created by a persistent lack of enforcement of CARB regulations.

The ISOR and other CARB studies[1] have indicated that a small fraction of the overall truck fleet require repairs at a given time. In a study of diesel particulate filter equipped trucks at the Port of Oakland, just 10% of gross emitters contributed more than half of all emissions.



[1] https://www.arb.ca.gov/board/books/2017/042717/17-4-8pres.pdf

In other words, these studies suggest that a large majority of California truck fleets are likely performing the needed maintenance and repairs to keep their trucks operational.

A high level of maintenance is required simply to keep trucks with modern emission controls operating[2]. OBD faults can lead to severe engine de-rates, causing trucks to go into "limp home mode" which renders them inoperable. Compliant operators already have significant incentive to properly maintain trucks to avoid costly downtime and repairs.

To the extent fleets comply with the self-testing and recordkeeping requirements of the existing PSIP, these fleets are likely already part of the 80-90% of the truck operators properly maintaining their vehicles and repairing mechanical issues in a timely manner.

CARB staff has noted in the past that DPF malfunctions are mostly attributed to continued operation of vehicles with malfunctioning or failed engine components that generally trigger malfunction indicator lights (MIL)[3].

> *Many engine component failures are initially and incorrectly diagnosed as PM filter issues. In the absence of a PM filter, engine component failures generally trigger the malfunction indicator light, and can result in release of excess diesel PM emissions. When equipped with a PM filter, these emissions are collected as designed, but at rates that exceed the design of the PM filter system. Continued operation of a vehicle with malfunctioning or failed engine components, and/or triggered malfunction indicator lights without proper maintenance that addresses the cause of the problem, can damage the core of the PM filter if not addressed promptly. When this PM filter damage occurs, it is caused by continued vehicle operation after a warning light was triggered that indicated a problem in system performance requiring immediate attention. Damaged PM filters can release excess PM emissions which can be fixed only by replacing the filter core. Real-world measurements of trucks operating in California indicate this is occurring; a small fraction of trucks with damaged PM filters appears responsible for the majority of PM emissions and increased localized risk impacts from the PM filter-equipped fleet.*

The self-testing and new proposed reporting requirements for PSIP are unlikely to identify fleet with PM filter damage. Operators ignoring MIL lights are unlikely to perform opacity tests and even less likely to report the results of these tests to CARB.

CARB has acknowledged chronic non-compliance with its rules, estimating that up to 30% of the trucks on the road do not comply with the Statewide Truck and Bus Rule[4]. In recent

[2] http://www.arkansastrucking.com/images/Aftertreatment_Systems_-_Proactive_Approach_to_Protecting_the_Equipment.pdf
[3] https://www.arb.ca.gov/msprog/onrdiesel/documents/DPFEval.pdf
[4] http://leginfo.legislature.ca.gov/faces/billAnalysisClient.xhtml?bill_id=201720180SB174#

years, the CTA has worked with CARB to increase compliance with existing diesel truck regulations and ensure newly adopted rules do not further the uneven playing field that already exists.

Unfortunately, the proposed $10 million in additional reporting burden proposed in the ISOR will likely be bourn exclusively by already compliant fleets. This requirement will compound the cumulative cost to California-compliant fleet operators who continue to suffer from the negative economic impacts of competing on an uneven playing field with those who willfully ignore your rules.

Alternatively, CARB has proposed the near-term adoption of a comprehensive heavy-duty inspection and maintenance program, utilizing on-board diagnostics (OBD) and roadside portable emission sensors. It is expected that CARB will bring a proposal to the Board for consideration prior to 2023 and that the comprehensive program will subsume existing programs such as PSIP and HDVIP for OBD equipped trucks.

Requiring truck operators to comply with two separate inspection and maintenance regulations would add unnecessary confusion and cost, so it would be beneficial for CARB to clearly articulate the transition from PSIP to the future comprehensive inspection and maintenance program. In viewing these amendments in the context of the broader future program, the agency could better consider whether imposing a new reporting requirement for a program which may sunset in the near-term is prudent.

With no likely emission benefit from the proposed reporting requirement, the added burden placed on already compliant fleets and a comprehensive inspection and maintenance program on the horizon, CARB should delay consideration of the reporting requirement.

Smoke Test Requirements for Vehicle Sale

CTA members have also raised concerns with proposed smoke testing requirements prior to vehicle sale. These members share the overall concern that, without fair enforcement, this becomes another cost bourn solely by those who intend to comply with the law.

Also, rental and lease fleets may have already been required to test earlier in the calendar year or could simply be changing ownership where a vehicle is being purchased by the existing lessee, resulting in unnecessary additional testing. We would recommend considering exemptions for such cases.

Because CARB's future comprehensive program may require furnishing of a compliance certificate as a condition of initial, transfer or renewal registration at the Department of

Motor Vehicles, we are concerned that this testing requirement for vehicle sale, along with many others in PSIP, could become duplicative.

Estimated Benefits and Cost-Effectiveness of Proposed Program

The emission benefits of the proposed changes were estimated in the Initial Statement of Reasons (ISOR) Appendix C as follows:

Table 8: Statewide PM2.5 Emission Benefits (in tons/day)

Calendar Year	EMFAC2017	With Regulation	Emissions Benefit
2019	6.068	5.519	0.549
2020	4.933	4.319	0.613
2021	4.145	3.569	0.576
2022	2.367	1.928	0.439
2023	1.388	1.072	0.316
2024	1.418	1.076	0.342
2025	1.435	1.072	0.363

It is of note that these estimated benefits are significantly higher than what was estimated as part of the 2016 Statewide Implementation Plan (SIP).

Table 9: Estimated PM2.5 Emission Benefits from Proposed Amendments to the Periodic Smoke Inspection Program and the Heavy-Duty Vehicle Inspection Program

Reductions shown in tons per day (tpd)

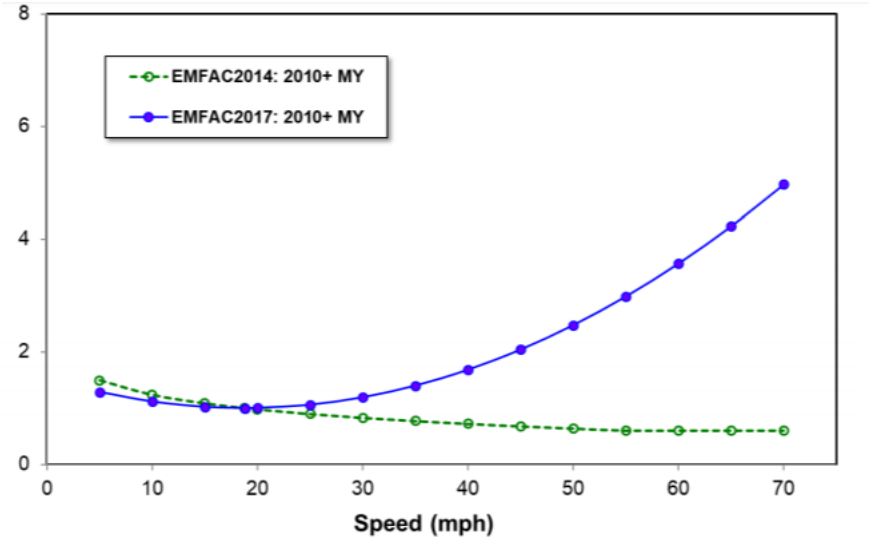
Region	2023	2024	2031
Statewide	.065	.067	.070
South Coast	.018	.019	.022
San Joaquin Valley	.014	.015	.017

Staff attributes this discrepancy to changes made between EMFAC2014 and EMFAC2017. However, as noted by staff in Appendix D, zero-mile and deterioration rates either held steady or were reduced in the newer model.

Table 5: PM ZMR and DR for HHDDT in EMFAC2014 and EMFAC2017

Engine Model Year	EMFAC2014		EMFAC2017	
	ZMR (mg/mi)	DR (mg/mi/10K mi)	ZMR (mg/mi)	DR (mg/mi/10K mi)
2007-2009	27.9	0.80	28.5	0.77
2010-2012	4.5	0.13	2.2	0.13
2013+	4.5	0.10	2.2	0.08

Therefore, it is reasonable to assume that increased estimated benefits can be attributed to changes made to the speed correction factor[5] and overall activity.



Technical documentation for EMFAC2017 indicate that there was significant uncertainty on the relationship between speed and emission rate.

> *The rate vs. speed charts for HC and CO also show similar patterns, although it is not that notable for CO2 (likely due to relatively small intervehicle variability of CO2 emissions) and cannot clearly identified for PM (likely due to relatively large inter-vehicle variability of PM emissions as well as the impact of particulate filter regeneration)… For PM, although all test vehicles were equipped with a DPF, the PM data showed considerable variations among different test vehicles and sometimes even among the different test runs over the same cycle for the same truck. As a result, when the PM data were analyzed separately for the 2010-2012*

[5] https://www.arb.ca.gov/msei/downloads/emfac2017-volume-iii-technical-documentation.pdf

and 2013+ MY groups, a meaningful emissions-speed relationship could not be found.

Because of this uncertainty, and the fact that the increased benefits claimed in the ISOR are likely attributed to changes in EMFAC not related to zero-mile or deterioration rates, we believe it is reasonable to include upper and lower bound emission reduction and cost-effectiveness estimates using both EMFAC2014 and EMFAC2017 and would appreciate such a comparison be included in any modified statement of reasons.

Thank you for the opportunity to comment on the proposed changes to the PSIP and HDVIP programs. If you have any questions, please do not hesitate to contact us.

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