

TITLE 13. CALIFORNIA AIR RESOURCES BOARD

NOTICE OF PUBLIC HEARING TO CONSIDER PROPOSED AMENDMENTS TO THE HEAVY-DUTY VEHICLE INSPECTION PROGRAM AND PERIODIC SMOKE INSPECTION PROGRAM

The California Air Resources Board (CARB or Board) will conduct a public hearing at the time and place noted below to consider approving for adoption the proposed amendments to the Heavy-Duty Vehicle Inspection Program (HDVIP) and Periodic Smoke Inspection Program (PSIP).

DATE: May 25, 2018

TIME: 9:00 A.M.

LOCATION: Sacramento County Administration Building
700 H Street
Sacramento, California 95814

This item will be considered at a meeting of the Board, which will commence at 9:00 a.m., May 25, 2018. Please consult the agenda for the hearing, which will be available at least ten days before May 25, 2018, to determine when this item will be considered.

WRITTEN COMMENT PERIOD AND SUBMITTAL OF COMMENTS

Interested members of the public may present comments orally or in writing at the hearing and may provide comments by postal mail or by electronic submittal before the hearing. The public comment period for this regulatory action will begin on April 6, 2018. Written comments not physically submitted at the hearing must be submitted on or after April 6, 2018, and received **no later than 5:00 p.m. on May 21, 2018**. CARB requests that when possible, written and email statements be filed at least ten days before the hearing to give CARB staff and Board members additional time to consider each comment. The Board also encourages members of the public to bring to the attention of staff in advance of the hearing any suggestions for modification of the proposed regulatory action. Comments submitted in advance of the hearing must be addressed to one of the following:

Postal mail: Clerk of the Board, California Air Resources Board
1001 I Street, Sacramento, California 95814

Electronic submittal: <http://www.arb.ca.gov/lispub/comm/bclist.php>

Please note that under the California Public Records Act (Gov. Code, § 6250 et seq.), your written and oral comments, attachments, and associated contact information (e.g., your address, phone, email, etc.) become part of the public record and can be released to the public upon request.

Additionally, the Board requests but does not require that persons who submit written comments to the Board reference the title of the proposal in their comments to facilitate review.

AUTHORITY AND REFERENCE

This regulatory action is proposed under the authority granted in the California Health and Safety Code (H&SC) sections 39600, 39601, 43013, 43701 and 44011.6. This action is proposed to implement, interpret, and make specific sections 39002, 39003, 39010, 39033, 43000, 43013, 43018, 43701 and 44011.6 of the H&SC; sections 260, 305, 410, 505, 545 and 2813 of the California Vehicle Code; section 7521(a) of title 42 United States Code; and title 40, Code of Federal Regulations Part 86, Subpart A.

INFORMATIVE DIGEST OF PROPOSED ACTION AND POLICY STATEMENT OVERVIEW (GOV. CODE, § 11346.5, subd. (a)(3))

This notice concerns staff's proposal for regulatory actions related to complementary but separate programs affecting heavy-duty vehicles and engines, the HDVIP and PSIP. The sections of the California Code of Regulations (CCR) that are affected and any documents incorporated by reference are described below for each regulatory action.

Sections Affected:

HDVIP Regulation

Proposed amendment to title 13, CCR, sections 2180.1, 2181, 2182, 2183, 2185, 2186 and 2187.

PSIP Regulation

Proposed amendment to title 13, CCR, sections 2190, 2191, 2192, 2193 and 2194.

Proposed adoption to title 13, CCR, section 2195.

Documents Incorporated by Reference (Cal. Code Regs., tit. 1, § 20, subd. (c)(3)):

PSIP Regulation

The following documents are incorporated by reference in the proposed regulatory action to title 13, CCR, and the adopted regulatory text:

- Society of Automotive Engineers (SAE). Recommended Practice SAE J1667 "Snap Acceleration Smoke Test Procedure for Heavy-Duty Diesel Powered Vehicles," as issued February 1996 ("1996-02").
- SAE J1939, consisting of:
 - J1939 Serial Control and Communications Heavy Duty Vehicle Network – Top-Level Document, April 2011.
 - J1939-01 On-Highway Equipment Control and Communication Network, May 2011.

- J1939-11 Physical Layer, 250K bits/s, Twisted Shielded Pair, September 2006.
- J1939-13 Off-Board Diagnostic Connector, October 2011.
- J1939-15 Reduced Physical Layer, 250K bits/sec, UN-Shielded Twisted Pair (UTP), August 2008.
- J1939-21 Data Link Layer, December 2010.
- J1939-31 Network Layer, May 2010.
- J1939-71 Vehicle Application Layer (Through May 2010), March 2011.
- J1939-73 Application Layer—Diagnostics, February 2010.
- J1939-81 Network Management, June 2011.
- J1939-84 OBD Communications Compliance Test Cases for Heavy Duty Components and Vehicles, December 2010.
- SAE J1979 E/E Diagnostic Test Modes, February 2012 (SAE J1979):
 - SAE J1979-DA Digital Annex of E/E Diagnostic Test Modes, October 2011.

Background and Effect of the Proposed Regulatory Action:

To ensure air quality goals are met, it is important for vehicles to maintain in-use emission levels near their certification levels throughout the lifetime of the vehicle. CARB established opacity limits to identify heavy-duty (HD) vehicles (greater than 6,000 pounds gross vehicle weight rating (GVWR)) with excess particulate matter (PM) emissions due to maintenance issues and tampering. The HDVIP allows CARB enforcement staff to inspect HD trucks and buses for compliance with opacity limits, labeling, and other requirements. Any HD vehicle traveling in California, including vehicles registered in other states and foreign countries, is subject to testing under the HDVIP. Inspections are typically performed at border crossings, California Highway Patrol weigh stations, fleet facilities, and randomly selected roadside locations.

The PSIP, a companion self-inspection program to the HDVIP, requires California HD diesel vehicle fleets of two or more to test their vehicles annually to ensure the vehicles meet the in-use opacity limits. HDVIP on-road testing can only test a limited number of HD vehicles per year due to staff resource limitations. The PSIP ensures most in-state HD vehicles are tested each year. Vehicles that do not meet the required opacity limits must be repaired and retested. CARB randomly audits fleets, reviews on-site maintenance and inspection records, and tests a representative sample of vehicles to encourage compliance with the PSIP. The HDVIP and PSIP both require HD vehicles to meet the same opacity limits, which currently require 1991 and newer model year (MY) HD diesel engines to meet a 40 percent opacity limit and pre-1991 MY HD diesel engines to meet a 55 percent opacity limit.

Staff is proposing the following amendments:

- Lower opacity limits for on-road HD vehicles which apply to both the HDVIP and PSIP (Table 1):

Table 1: Proposed Opacity Limits for the HDVIP and PSIP

2006 MY and Older Engines without DPFs	
Pre-1991 MY	40% Opacity Limit
1991-1996 MY	30% Opacity Limit
1997-2006 MY	20% Opacity Limit
2007 MY and Newer Engines and Engines Equipped with a Level 3 Verified Diesel Emissions Control System (VDECS)	
5% Opacity Limit	
Engines Equipped with a Level 2 VDECS	
20% Opacity Limit	
Two-Engine Cranes Driven by a Non-DPF Off-Road Engine	
40% Opacity Limit	

- Training requirements for the PSIP smoke testers:
Individuals who perform the annual opacity smoke tests required in the PSIP would be required to receive training on how to properly administer the test. Contracted testers, whom fleets hire to perform the annual tests, would be required to successfully complete a CARB approved in-person training course on the proper administration of the SAE J1667 smoke opacity test. Fleets that perform their own PSIP testing would be required to have their testers successfully complete an online training course administered through the CARB website.
- Reporting requirements for fleets subject to PSIP:
Starting in 2023, fleets would be required to submit fleet information and annual PSIP testing results to CARB on a yearly basis. The fleet information would include fleet contact information and vehicle data such as Vehicle Identification Number, license plate number, and engine family designation for each vehicle. The submission of annual PSIP testing results would require the upload of the opacity test result from each vehicle via electronic upload from the testing instrumentation or via upload of a scanned copy of the test strip to a CARB database.
- Voluntary On-Board Diagnostics (OBD) reporting in lieu of the annual PSIP opacity test for vehicles with 2013 MY and newer engines.

CARB may also consider other changes to the sections affected, as listed on page 2 of this notice, during the course of this rulemaking process.

Objectives and Benefits of the Proposed Regulatory Action:

Major portions of California are not in attainment with the federal PM 2.5 standards including regions such as the South Coast Air Basin and the San Joaquin Valley.

Individuals living near highly impacted trucking corridors, such as major highway arteries and seaports, are at the greatest risk from HD vehicle diesel PM emissions. The San Joaquin Valley and South Coast Air Basins record some of the highest PM 2.5 levels in the nation¹.

In an effort to reduce PM exposure, the United States Environmental Protection Agency (U.S. EPA) and CARB tightened new engine PM emission standards beginning with the 2007 model year, which resulted in all new heavy-duty engines coming equipped with a diesel particulate filter (DPF). Additionally, CARB has established fleet rules such as the Truck and Bus rule that accelerate turnover to newer engines and require older vehicles to be retrofitted with DPFs. These standards and rules have helped rapidly advance emission control technology on HD vehicles and resulted in engines with significantly lower PM emission levels than previous generations of engines. Ensuring vehicles continue to operate at or near low emission levels throughout their operating lives is critical to maintaining the emission benefits of U.S. EPA's and CARB's standards and rules.

In this rulemaking, staff is proposing to amend the regulations governing the HDVIP and the PSIP to improve the in-use performance of HD diesel on-road vehicles and reduce harmful diesel exhaust PM emissions. The use of ultra-low sulfur diesel fuel and DPFs along with the more stringent emission standards instituted by U.S. EPA and CARB mean today's engines can easily meet much lower opacity limits. Even vehicles with heavily damaged and malfunctioning emission control systems emit exhaust at opacity levels below the current, out-of-date, opacity limits of 40 and 55 percent. Lowering the opacity limits to the proposed levels would help ensure vehicles operating with malfunctioning PM emission control components are more readily identified and repaired, ensure the benefits of U.S. EPA and CARB's standards and rules are maintained, and ensure the vehicles continue to operate at or near their certified emission levels throughout their operating lives. In turn, this would reduce HD emissions and their associated health risks, while helping the state meet its air quality goals.

Staff is also proposing reporting requirements for the PSIP to allow for better enforcement of the proposed amendments, as well as smoke tester training requirements would help ensure that the smoke opacity test is administered properly. Finally, staff's proposal includes a voluntary provision that would allow owners of newer vehicles equipped with OBD systems to submit OBD data in lieu of performing the annual SAE J1667 opacity test to meet the requirements of the PSIP. This voluntary OBD provision would allow fleets that already include OBD system monitoring in their

¹ Revised Proposed 2016 State Strategy for the State Implementation Plan, <https://www.arb.ca.gov/planning/sip/2016sip/rev2016statesip.pdf>

maintenance practices for a vehicle to avoid the inconvenience and expense of needing to smoke test the vehicle.

The proposed regulatory amendments to the HDVIP and PSIP are projected to deliver PM emission benefits starting in early 2019 due to the repair and replacement of PM emission control components. Projected annual PM emission reductions are shown in Table 2. The reduction of diesel PM exhaust would benefit the health of individuals in California through fewer premature mortalities, fewer hospital and emergency room (ER) visits, and fewer lost days of work. These health benefits would in turn benefit businesses and government agencies throughout California via lower healthcare costs and fewer employee absences.

Table 2: Annual California Statewide PM Emission Benefits from the Proposed Regulatory Action

Year	Tons per Day
2019	0.549
2020	0.613
2021	0.576
2022	0.439
2023	0.316
2024	0.342
2025	0.363

Staff’s proposal was developed in conjunction with an extensive public process. Staff informed, involved, and updated public stakeholders on staff’s progress developing the proposed amendments. Staff held four public workshops; held multiple individual stakeholder meetings; created a public webpage where related workshop materials and relevant information were posted to keep stakeholders up to date on the latest developments in the regulatory process; and distributed announcements and workshop materials through the CARB list serves which, based on individual subscribers to the list serves, reach up to 90,000 individuals. In an effort to reach as many stakeholders as possible throughout the state, staff also sent out multiple emails to over 24,000 fleets providing a description of the proposed regulatory action, announcements to upcoming workshops, and contact information for relevant staff. Announcements and program information were also broadcast via various social media sites and on CARB’s Truck Stop website. Additionally, staff distributed information and details regarding the proposed regulatory action to potentially affected registered truck owners through a mailing campaign which consisted of sending out roughly 32,000 post cards. Overall, CARB staff used many methods to ensure affected stakeholders were aware of the proposed rulemaking process and could give their input on the regulatory developments.

Comparable Federal Regulations:

There are no federal programs comparable to PSIP and HDVIP. Federal regulations do not restrict the opacity from in-use on-road vehicles.

An Evaluation of Inconsistency or Incompatibility with Existing State Regulations (Gov. Code, § 11346.5, subd. (a)(3)(D)):

The proposed regulatory action is neither inconsistent nor incompatible with existing state regulations. The PSIP and HDVIP have been in place for nearly 20 years, operating consistently and compatibly with all other existing State Regulations. Although the proposed regulatory action consists of making the PSIP and HDVIP more stringent, they do not change the overall structure of the programs and do not cause any inconsistency or incompatibility.

DISCLOSURE REGARDING THE PROPOSED REGULATION

Fiscal Impact/Local Mandate Determination Regarding the Proposed Action (Gov. Code, § 11346.5, subds. (a)(5)&(6)):

The determinations of the Board's Executive Officer concerning the costs or savings incurred by public agencies and private persons and businesses in reasonable compliance with the proposed regulatory action are presented below.

Local Agencies and School Districts

Pursuant to Government Code sections 11346.5(a)(5) and 11346.5(a)(6), the proposed regulatory action is a mandate that would create costs for local agencies and school districts, but these costs would not be reimbursable by the State pursuant to Government Code, title 2, division 4, part 7 (commencing with section 17500). Some local government entities may incur additional costs as a result of the proposed regulatory action. Local agency HD fleet vehicles would be subject to the proposed regulatory action to the HDVIP and PSIP and would need to repair those vehicles that are above the proposed opacity limits. Staff estimates that repairing a HD vehicle with a compromised PM emission control system will range from about \$3,200 to \$7,400 depending on the complexity of the repair and age of the engine. Local government agencies that wish to continue to perform their own PSIP opacity testing would also incur additional costs due to the proposed training requirements for smoke testers. Additionally, local government fleets will see increased costs due to reporting requirements starting in 2023. The estimated costs for all local agencies are projected by fiscal year in Table 3. Specific costs to each local agency are expected to vary based on the size of their HD vehicle fleet. Agencies with the largest HD vehicle fleets are likely to be impacted the most.

Table 3: Estimated Annual Cost to Local Government Agencies Statewide for the Proposed Regulatory Action

Fiscal Year	Annual Cost
Current	\$0
2018/2019	\$3,310,000
2019/2020	\$8,747,000
2020/2021	\$2,522,000
2021/2022	\$1,693,000
2022/2023	\$2,036,000
2023/2024	\$1,382,000
2024/2025	\$1,253,000
Total Cost	\$20,943,000

Other Non-Discretionary Costs or Savings on Local Agencies

No additional costs or savings to local agencies beyond those addressed above are expected.

State Agencies

Under Government Code sections 11346.5, subdivision (a)(5) and 11346.5, subdivision (a)(6), the Executive Officer has determined that the proposed regulatory action would result in costs to CARB due to the anticipated hiring of additional staff, as well as to other state agencies that operate a HD vehicle fleet. This regulatory action would not result in savings to any State agency, or costs or savings in federal funding to the State.

The proposed regulatory action is anticipated to require CARB to hire 2 additional Field Representatives beginning in the 2018-2019 fiscal year. The annual cost of a Field Representative is projected at \$103,000 during Year 1, and then \$102,000 per year moving forward. This staffing expectation represents one additional enforcement inspection team which would help increase CARB's enforcement presence throughout the state.

State agencies that own HD vehicles are subject to the requirements of the HDVIP and PSIP. State agencies would incur additional costs due to repairs on fleet vehicles to meet the proposed opacity limits. Costs per vehicle repair are projected to be about \$3,200 to \$7,400. As with local government entities, state agencies would incur additional costs due to the proposed reporting requirements. Additionally, those fleets that perform their own PSIP testing would incur additional costs due to the PSIP smoke tester training. Table 4 shows the annual projected costs to all state agencies due to the proposed regulatory action by fiscal year.

Table 4: Estimated Additional Annual Statewide Costs of State Agencies for the Proposed Regulatory Action

Fiscal Year	Annual Cost
Current	\$0
2018/2019	\$1,297,000
2019/2020	\$2,835,000
2020/2021	\$647,000
2021/2022	\$581,000
2022/2023	\$822,000
2023/2024	\$636,000
2024/2025	\$602,000
Total Cost	\$7,420,000

Cost or Savings in Federal Funding to the State

No costs or savings in federal funding is anticipated.

Housing Costs (Gov. Code, § 11346.5, subd. (a)(12)):

The Executive Officer has also made the initial determination that the proposed regulatory action will not have a significant effect on housing costs.

Significant Statewide Adverse Economic Impact Directly Affecting Business, Including Ability to Compete (Gov. Code, §§ 11346.3, subd. (a), 11346.5, subd. (a)(7), 11346.5, subd. (a)(8)):

The Executive Officer has made an initial determination that the proposed regulatory action would not have a significant statewide adverse economic impact directly affecting businesses, including the ability of California businesses to compete with businesses in other states, or on representative private persons. Staff modeled the economic impact of the proposed regulatory action on the California economy and found they were unlikely to have significant impacts on the economy, including on employment, investment, personal income and production. The impact to overall employment in California does not exceed one-tenth of one percent relative to the baseline in any one year. Thus, employment in California is at least 99.99 percent what it would be in absence of the proposed regulatory action. Given that any business operating a HD vehicle in California, whether it is a California or out-of-state business, can be issued a citation for violating the opacity limit under the HDVIP, CARB staff does not anticipate an adverse impact on the ability of California businesses to compete with out of state businesses. California fleets are subject to the PSIP and face additional reporting requirements that out-of-state fleets do not incur, however, these costs are minor compared to the cost of repairing a vehicle to meet the proposed opacity limits. As a

result, staff does not expect California HD fleets to face an adverse impact that affects their ability to compete with other businesses.

MAJOR REGULATION: Statement of the Results of the Standardized Regulatory Impact Analysis (SRIA) (Gov. Code, § 11346.3, subd. (c)):

On August 10^t, 2017, CARB submitted a Standardized Regulatory Impact Assessment (SRIA) to the California Department of Finance (DOF). On September 11, 2017, DOF provided CARB with written comments on the submitted SRIA. CARB has submitted written responses to DOF's comments. The SRIA is summarized below in sections A to F. Section G contains a summary of DOF's comments on the SRIA and CARB staff's responses to those comments.

(A) The creation or elimination of jobs within the state.

The proposed regulatory action would negligibly impact employment relative to the business as usual (BAU) scenario. The California economy is growing, therefore the projected changes in employment growth are not declines relative to today, but incremental slowing in growth relative to projected growth in future years. With the proposed regulatory action, some industries would experience job growth that is slightly higher than enjoyed under the BAU scenario while other industries would take slightly longer to reach anticipated employment levels. With the proposed regulatory action, there would be a slight slowing of employment growth concentrated in directly impacted industries that would face direct costs as a result of the proposed regulatory action. These industries include truck transportation, transit and ground passenger transportation, and waste management and remediation services. Industries that would see an increase in demand as a result of the proposed regulatory action would see positive employment growth. These industries include parts manufacturing and auto body labor (i.e., repair facilities). The impact to employment in these industries would not be affected by more than two-tenths of one percent relative to the baseline in any one year. Thus, employment in these industries would be at least 99.98-100.02 percent of what it would be in the absence of the proposed regulatory action.

HD fleets would be expected to make the most repairs in the first two years in response to the proposed regulatory action, which would translate into higher demand for parts manufacturing, auto body labor, and office administration services. The first two years of implementation of the proposed regulatory action would also affect the largest population of HD trucks. Costs attributable to the proposed regulatory action would decline over the subsequent years, leading to declining impact on employment growth, beginning in 2021.

(B) The creation of new businesses or the elimination of existing businesses within the state.

Under the proposed regulatory action, some HD trucking businesses, especially small businesses, may struggle with the increase in maintenance costs and be consolidated. Because the trucking industry is currently facing a driver shortage, employees of small fleets that may close would be expected to be hired by larger fleets looking for qualified drivers, resulting in little to no net change in the number of employees in the trucking and transportation industry.

Under the proposed regulatory action, increased repair demand may increase the number of repair facilities. Proposed training requirements for testers may decrease the number of individual contractors who offer testing services. Increased demand for parts may create new businesses in the HD repair industry. Though demand for parts will likely increase, staff expects the current parts manufacturing industry to be able to handle the increase in demand. Overall, staff expects the proposed regulatory action to have a negligible impact on business creation or elimination.

(C) The competitive advantages or disadvantages for businesses currently doing business within the state.

Staff considered whether some California state fleets would be competitively advantaged or disadvantaged compared to other California-based fleets. Staff also considered whether California-based fleets would be competitively advantaged or disadvantaged compared to out-of-state fleets that travel in California. Staff found little reason to believe there was a competitive advantage or disadvantage in either case.

California based intrastate fleets and interstate fleets are treated equally under the proposed amendments. All fleets, regardless of fleet size or primary service location, are held to the same opacity standards. Older vehicles are subject to less stringent opacity standards than newer vehicles, however, these opacity limits are based on what is technologically feasible for each vehicle. The opacity limits are more stringent for vehicles equipped with more technologically advanced emission control systems, for example, a DPF. The proposed opacity limits do not require any upgrading or retrofitting of emission control capability and do not provide a competitive advantage or disadvantage for any emission control technology.

The proposed amendments are expected to help level the playing field in the trucking sector by ensuring more fleets perform adequate maintenance on their vehicles. Those fleets that currently do not maintain the emission control systems on their vehicles to a sufficient level would have to improve their maintenance practices in an effort to meet

the requirements of the proposed amendments. Therefore, intrastate and interstate fleets which already maintain their vehicles properly should benefit from the proposed amendments as it will help equalize costs compared to fleets that were previously spending less to maintain their vehicles. As such, staff expects any competitive advantage for certain in-state fleets, vis-à-vis other in-state fleets, to be lessened because of this more even playing field.

Owner operators in California however, are not subject to the PSIP and would not be impacted by the reporting requirements. This would likely result in a slight advantage to owner operators in California compared to other California fleets. Nevertheless, the costs of reporting are minor relative to the total costs of the proposed amendments, so this competitive advantage is not expected to be significant.

Similar to owner operators, out-of-state fleets are not subject to the PSIP, and are thus, not affected by the proposed reporting requirements. This results in a slight advantage for out-of-state fleets relative to California based fleets, but as was discussed for owner operators, this advantage is not expected to be significant because reporting costs are only a minor portion of the projected regulatory costs.

(D) The increase or decrease of investment in the state.

The proposed regulatory action would produce very small impacts to California private business investment from 2019 to 2025. A slight decline in annual investments in California, which can be linked to incremental increases in production costs to HD fleets operating in California, may restrict potential investments in new capital purchases. As compliance costs decline, slowing of gross domestic private investment growth would be anticipated to decline through 2025. The relative changes to growth in private investment, however, would be imperceptible from BAU.

(E) The incentives for innovation in products, materials, or processes.

The proposed regulatory action would provide similar incentives to innovate as the original regulations. Opportunity still remains to improve upon existing HD vehicle emission reduction technology, but staff assumes no directly-induced increases in technological innovation will result from the proposed regulatory action because the technology that allows compliance has already been available for many years. The proposed regulatory action would not require a specific technology to be used. If a less costly alternative is developed in the future, the costs could be lower than estimated here.

- (F) The benefits of the regulations, including, but not limited to, benefits to the health, safety, and welfare of California residents, worker safety, and the state's environment and quality of life, among any other benefits identified by the agency.

The proposed regulatory action would reduce diesel PM exhaust from HD trucks which would result in health benefits for individuals in California. Staff expects statewide health benefits to include about 130 avoided premature deaths from 2019 to 2025, as well as fewer hospitalizations, ER visits, and lost work days. Additionally, these reduced emissions would likely reduce occupational exposure to PM for truck drivers, as well as other workers near high trucking areas such as major seaports, major highway arteries, and warehouses. Individuals living near highly impacted trucking corridors are at the greatest risks of developing medical issues due to HD truck emissions. Hence, these individuals will likely benefit most from the reduction in PM emissions due to the proposed regulatory action.

(G) Department of Finance Comments and Responses.

- 1. The SRIA must discuss the differential impacts to businesses based upon fleet size. SRIAs require identification of differential impacts to individuals, groups, or businesses where the information exists, and given CARB has compliance records, these differences must be disclosed. In addition, the SRIA needs to discuss the potential differential impacts and competitive disadvantage, if any, associated with the combination of improved enforcement capability and lower emissions requirements.**

Though CARB has some compliance records from the HDVIP and PSIP, they do not provide the necessary level of detail to identify potential impacts based on fleet size. In the HDVIP, enforcement teams can cite vehicles which are not in compliance, however, fleet size is not a criteria that is differentiable from HDVIP citations. Additionally, any historical HDVIP citation records are based on the current 40 percent and 55 percent opacity limits, which provide little to no evidence for potential failure rates by fleet size at the proposed opacity limits.

Fleets are required to maintain opacity records in the PSIP, and CARB enforcement staff can audit fleets to obtain the records. Failure rates based on fleet size could potentially be gained from PSIP records that have been audited by CARB. However, audits by CARB enforcement staff have only been completed for relatively few fleets and target fleets more likely to be non-compliant (i.e., the audits are not done on a random basis). Additionally, any historical records of opacity failures from PSIP audit records would still be based on the current 40 percent and 55 percent opacity limits.

These limiting factors render historical PSIP audit records inadequate to estimate potential failure rates by fleet size.

In 2016, staff performed random opacity testing via roadside testing campaigns to estimate potential failure rates at the proposed opacity limits. However, fleet size was not a criteria that was feasibly recordable during the study. Staff has access to DMV data for each truck registered in California; however, many fleets have multiple bases and common ownership is not always clear in the DMV database (i.e., vehicle owner names and company names are not always standardized). Thus, staff could not confidently determine the fleet size for vehicles that were pulled over in the roadside campaigns. Based on the limited data about impacts based on fleet size, staff assumed failure rates were the same regardless of fleet size when estimating potential costs of the proposed amendments for both large fleets and small fleets in the SRIA and the ISOR.

Staff expects the proposed amendments to help level the playing field in the trucking sector. The proposed lower opacity limits would allow for improved identification of malfunctioning emission control systems and the proposed reporting requirements would increase compliance with the annual self-inspection requirement in the PSIP. This in turn is expected to significantly reduce the number of malfunctioning vehicles on California roadways. Overall, the proposed amendments are expected to help level the playing field in terms of fleet maintenance practices by facilitating more fleets to perform adequate monitoring and maintenance of their vehicles. Although staff lacks data on all fleets, based on anecdotal information from CARB enforcement staff and comments from stakeholders at workshops, staff is aware that maintenance practices vary significantly in the trucking sector. Some fleets have strong preventative maintenance practices and spend significant resources testing and maintaining their vehicles, whereas other fleets have fallen behind in their maintenance practices and spend little effort testing or maintaining their vehicles. Those fleets that currently do not maintain their vehicles to a sufficient level and operate malfunctioning emission control systems would have to significantly improve their maintenance practices in an effort to meet the requirements of the proposed amendments. This will help to close the gap between fleets with strong preventative maintenance practices and those which are lacking, allowing for all fleets to be on a more level footing when competing for business.

- 2. Lowering emission limits and increasing future heavy-duty vehicle compliance rates can affect emissions of pollutants other than particulate matter. Changes in the frequency of certain types of repairs can lead to small increases in other pollutants such as oxides of nitrogen and carbon dioxide. Although quantification of changes in other pollutants is difficult to accomplish given uncertainties with vehicle owner repair choices and usage of vehicles, the SRIA needs to discuss these potential changes.**

Staff acknowledges that the potential exists for the proposed amendments to affect emissions of pollutants other than particulate matter. Engine and aftertreatment repairs have the potential to affect NOx and CO2 emissions in both the positive and negative direction. In terms of NOx emissions for example, the repair and replacement of fuel injectors can lead to an improved combustion efficiency and lead to an increase in engine-out NOx emissions. However, the repair or replacement of a damaged EGR valve stuck in the closed position can actually lead to a reduction in engine-out NOx emissions due to a reduction in peak combustion temperature. Regardless, a properly functioning selective catalytic reduction (SCR) system is designed to be able to account for changes in engine-out NOx emissions through the increase or decrease of urea input into the catalyst system, thus significantly limiting tailpipe NOx emissions under both scenarios. Significant NOx emission benefits would be gained by ensuring that the SCR is functioning at an optimal rate. Unfortunately, the opacity test is not designed to measure NOx emissions or test whether an SCR needs replacement. Staff does not project an increase in SCR replacements due to the implementation of the proposed amendments. Therefore, staff projects little to no change in NOx emissions due to the changes to the HDVIP and PSIP regulations.

Staff also considered changes in CO2 emissions due to the proposed amendments. Similar to the effect on NOx emissions, some upstream repairs can lead to a decrease in CO2 emissions, while others can lead to an increase in CO2 emissions. Similar to the example used earlier, the replacement of fuel injectors can reduce CO2 emissions by improving the efficiency of the combustion process. However, the replacement of an EGR valve stuck in the closed position could lead to more exhaust gas flowing into the combustion chamber and lead to a reduction in combustion efficiency. Additionally, the replacement of the DPF can effect CO2 emissions in both the positive and negative direction. A DPF with exhaust PM ash buildup would eventually lead to increased backpressure requiring the engine to work harder and likely lead to greater CO2 emissions. An ash cleaning or DPF replacement can lead to a CO2 emission benefit. However, there are instances where replacement of a damaged DPF may result in a slight increase in backpressure and actually increase CO2 emissions. One example is the replacement of a DPF with significant cracks and holes. If these cracks are large enough, exhaust gases can likely freely flow through the DPF without any resistance. Replacement with a properly functioning DPF would actually lead to more resistance for the exiting exhaust gas and likely increase CO2 emissions slightly. But it is important to note that any backpressure increase as a result of installing a properly functioning DPF would only bring the backpressure up to a level for which the engine was originally designed. Likewise, any CO2 increase would not cause CO2 levels to exceed the CO2 levels when the engine was originally certified. For these reasons, staff estimates that there is little to no effect on CO2 emissions from the proposed rulemaking.

- 3. The SRIA does not describe an overall price effect of these regulations on transportation services. Production cost inputs for macroeconomic modeling are described, but no analysis of the price effects or assumptions about cost pass-through to consumers is provided. While the price effect on transportation services may be relatively small, the SRIA should contain a discussion of this expected regulatory impact.**

The impact of the increase in production cost to the truck transportation industry can be estimated in REMI by looking at consumer price changes by consumption category. First, the increase in production cost raises the delivered price of output from the affected sector. The delivered price measures the cost of providing a unit of output in that sector to the California market based on the cost of producing it both inside and outside of California and the effective cost of transporting it from each location to California.

The proposed amendments have a minor price effect on commodity prices in 2019, but negligible price impacts throughout all other years of the assessment. Table 5 outlines the commodity price changes between 2019 and 2025 as a result of the proposed amendments, where commodity prices increase 0.01 percent in 2019 for most consumption categories, likely due to the highest cost from the proposed amendments occurring in 2019. Commodity prices for all consumption categories remain at baseline levels from 2020 to 2025 as production cost increases decline.

Table 5: Commodity Price Changes between 2019 and 2025

	2019	2020	2021	2022	2023	2024	2025
Motor vehicles and parts	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Furnishings and household equipment	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Recreational goods and vehicles and other durable goods	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Food and beverages purchases for off-premises consumption	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Clothing and footwear	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Motor vehicle fuels, lubricants, and fluids	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Fuel oil and other fuels	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Other nondurable goods	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Housing	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Household Utilities	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Transportation services	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Health care	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Recreation and other services	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Business Report (Gov. Code, §§ 11346.5, subd. (a)(11); 11346.3, subd. (d)):

In accordance with Government Code sections 11346.5, subdivisions (a)(11) and 11346.3, subdivision (d), the Executive Officer finds the reporting requirements of the proposed regulatory action which apply to businesses are necessary for the health, safety, and welfare of the people of the State of California.

Cost Impacts on Representative Private Persons or Businesses (Gov. Code, § 11346.5, subd. (a)(9)):

In developing this regulatory proposal, staff evaluated the potential economic impacts on representative private persons or businesses. Statewide costs from 2019 to 2025 for the proposed regulatory action are projected to be about \$217 million. Costs would

primarily be associated with HD vehicle emission control component repairs. Other potential costs incurred by stakeholders due to the regulatory action include the potential for additional citations relative to BAU, costs for training to meet the smoke tester training requirements, and reporting costs. Some fleets may incur additional testing costs as well. Costs associated with the regulatory action will mainly be incurred by businesses in the transportation and goods movement sector. Staff projects that some of the additional costs of the proposed regulatory action may be passed on to the consumer and representative private persons. Other than this, staff is not aware of any cost impacts that a representative private person or business would incur in reasonable compliance with the proposed action.

Effect on Small Business (Cal. Code Regs., tit. 1, § 4, subs. (a) and (b)):

The Executive Officer has also determined under CCR, title 1, section 4, that the proposed regulatory action would affect small businesses. All fleets, regardless of fleet size, would need to meet the proposed opacity limits. This means that small businesses with vehicles above the proposed opacity limits would be subjected to repair costs to bring their vehicles into compliance. Costs would vary based on the relative age of the engine and the complexity of the repair needed to bring the vehicle back into compliance and are projected to range from \$3,200 to \$7,400 per repair. Staff projects that about 9 percent of vehicles currently operating in the state have opacity levels above the proposed limits. Vehicles with opacity levels at or below the proposed limits would encounter zero repair costs as a result of the proposed regulatory action. California fleets of two or more vehicles will also face additional costs associated with the proposed reporting requirements. This requirement will affect small businesses in California. Staff projects that small businesses will be unaffected by the proposed smoke tester training requirements because they generally contract out their smoke testing rather than performing it in-house.

Alternatives Statement (Gov. Code, § 11346.5, subd. (a)(13)):

Before taking final action on the proposed regulatory action, the Board must determine that no reasonable alternative considered by the Board, or that has otherwise been identified and brought to the attention of the Board would be more effective in carrying out the purpose for which the action is proposed, would be as effective and less burdensome to affected private persons than the proposed action, or would be more cost-effective to affected private persons and equally effective in implementing the statutory policy or other provisions of law. Staff has considered a number of alternatives and recommends rejecting them, as discussed further in Chapter IV of the Initial Statement of Reasons (ISOR): Proposed Amendments to the Heavy-Duty Vehicle Inspection Program and Periodic Smoke Inspection Program.

STATE IMPLEMENTATION PLAN REVISION

If adopted by CARB, staff plans to submit the proposed regulatory action to the U.S. EPA for approval as a revision to the California State Implementation Plan (SIP) required by the federal Clean Air Act (CAA). The adopted regulatory action would be submitted as a SIP revision because it amends regulations intended to reduce emissions of air pollutants in order to attain and maintain the National Ambient Air Quality Standards promulgated by U.S. EPA pursuant to the CAA.

ENVIRONMENTAL ANALYSIS

CARB, as the lead agency under the California Environmental Quality Act (CEQA), has reviewed the proposed regulatory amendments and concluded that they are exempt pursuant to CEQA Guidelines §15061, because the action is both an Action Taken by Regulatory Agencies for Protection of the Environment (as described in CEQA Guidelines §15308 for “class 8” exemptions); and it is also exempt as described in CEQA Guidelines §15061(b)(3) (“common sense” exemption) because it can be seen with certainty that there is no possibility that the proposed action may result in a significant adverse impact on the environment. An explanation of the basis for reaching this conclusion is included in Chapter III of the ISOR.

SPECIAL ACCOMMODATION REQUEST

Consistent with California Government Code Section 7296.2, special accommodation or language needs may be provided for any of the following:

- An interpreter to be available at the hearing;
- Documents made available in an alternate format or another language; and
- A disability-related reasonable accommodation.

To request these special accommodations or language needs, please contact the Clerk of the Board at (916) 322-5594 or by facsimile at (916) 322-3928 as soon as possible, but no later than 10 business days before the scheduled Board hearing. TTY/TDD/Speech to Speech users may dial 711 for the California Relay Service.

Consecuente con la sección 7296.2 del Código de Gobierno de California, una acomodación especial o necesidades lingüísticas pueden ser suministradas para cualquiera de los siguientes:

- Un intérprete que esté disponible en la audiencia;
- Documentos disponibles en un formato alternativo u otro idioma; y
- Una acomodación razonable relacionados con una incapacidad.

Para solicitar estas comodidades especiales o necesidades de otro idioma, por favor llame a la oficina del Consejo al (916) 322-5594 o envíe un fax a (916) 322-3928 lo más pronto posible, pero no menos de 10 días de trabajo antes del día programado para la audiencia del Consejo. TTY/TDD/Personas que necesiten este servicio pueden marcar el 711 para el Servicio de Retransmisión de Mensajes de California

AGENCY CONTACT PERSONS

Inquiries concerning the substance of the proposed regulatory action may be directed to the agency representative Dr. Jason Hill-Falkenthal, Air Pollution Specialist, Strategic Planning and Development Section, at (916) 322-4683 or (designated back-up contact) Krista Fregoso, Air Pollution Specialist, Strategic Planning and Development Section, at (916) 445-5035.

AVAILABILITY OF DOCUMENTS

Staff has prepared a Staff Report: ISOR for the proposed regulatory action, which includes a summary of the economic and environmental impacts of the proposal. The report is entitled: "Staff Report-Proposed Amendments to the Heavy-Duty Vehicle Inspection Program and Periodic Smoke Inspection Program."

Copies of the ISOR and the full text of the proposed regulatory language, in underline and strikeout format to allow for comparison with the existing regulations, may be accessed on CARB's website listed below, or may be obtained from the Public Information Office, California Air Resources Board, 1001 I Street, Visitors and Environmental Services Center, First Floor, Sacramento, California, 95814, (916) 322-2990, on April 3, 2018.

Further, the agency representative to whom nonsubstantive inquiries concerning the proposed administrative action may be directed is Bradley Bechtold, Regulations Coordinator, (916) 322-6533. Staff has compiled a record for this rulemaking action, which includes all the information upon which the proposal is based. This material is available for inspection upon request to the contact persons.

HEARING PROCEDURES

The public hearing will be conducted in accordance with the California Administrative Procedure Act, Government Code, title 2, division 3, part 1, chapter 3.5 (commencing with section 11340).

Following the public hearing, the Board may take action to approve for adoption the regulatory language as originally proposed, or with non-substantial or grammatical modifications. The Board may also approve for adoption the proposed regulatory language with other modifications if the text as modified is sufficiently related to the originally proposed text that the public was adequately placed on notice and that the regulatory language as modified could result from the proposed regulatory action. If this

occurs, the full regulatory text, with the modifications clearly indicated, will be made available to the public, for written comment, at least 15 days before final adoption.

The public may request a copy of the modified regulatory text from CARB's Public Information Office, California Air Resources Board, 1001 I Street, Visitors and Environmental Services Center, First Floor, Sacramento, California, 95814.

FINAL STATEMENT OF REASONS AVAILABILITY

Upon its completion, the Final Statement of Reasons (FSOR) will be available and copies may be requested from the agency contact persons in this notice, or may be accessed on CARB's website listed below.

INTERNET ACCESS

This notice, the ISOR, and all subsequent regulatory documents, including the FSOR, when completed, are available on CARB's website for this rulemaking at <http://www.arb.ca.gov/regact/2018/hdvippsip18/hdvippsip18.htm>

CALIFORNIA AIR RESOURCES BOARD



Richard W. Corey
Executive Officer

Date: March 20, 2018

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our website at www.arb.ca.gov.