State of California
AIR RESOURCES BOARD

PUBLIC HEARING TO CONSIDER PROPOSED PROCEDURES FOR EXEMPTION OF ADD-ON AND MODIFIED PART(S) FOR ON-ROAD VEHICLES/ENGINES

STAFF REPORT: INITIAL STATEMENT OF REASONS

DATE OF RELEASE: June 2, 2020
SCHEDULED FOR CONSIDERATION: July 23, 2020

Please see the Public Agenda for the meeting location and/or any appropriate direction regarding a remote-only Board Meeting as necessary, which will be posted ten days before the July 23, 2020, Board Meeting.

This report has been reviewed by the staff of the California Air Resources Board and approved for publication. Approval does not signify that the contents necessarily reflect the views and policies of the Air Resources Board, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.

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Acronyms

CARB	California Air Resources Board
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CO	Carbon Monoxide
ECS	Emissions Control System
ECM	Engine Control Module
EGR	Exhaust Gas Recirculation
FTP	Federal Test Procedure
HC	Hydrocarbons
LEV	Low Emissions Vehicle
MIL	Malfunction Indicator Light
NTE	Not-To-Exceed test
N/V	Engine Speed to Vehicle Speed Ratio
NOx	Oxides of Nitrogen
OBD	On-Board Diagnostics
OEM	Original Equipment Manufacturer
SC03	SC03 Supplemental Federal Test Procedure
SET	Supplemental Emissions Test
SFTP	Supplemental Federal Test Procedure
US06	US06 Supplemental Federal Test Procedure
VIN	Vehicle Identification Number
WMTC	World Motorcycle Test Cycle

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EXECUTIVE SUMMARY

The California Air Resources Board (CARB) staff is proposing amendments to the "Procedures for Exemption of Add-On and Modified Parts", adopted November 4, 1977, amended May 19, 1981, and last amended June 1, 1990. The "Procedures for Exemption of Add-On and Modified Parts"[1] provides a pathway for aftermarket parts manufacturers to receive an exemption from the prohibitions of Section 27156 of the California Vehicle Code for add-on and modified parts or other modifications that affect emissions.

An add-on and modified part is any component or device used on a vehicle or engine that was not part of that vehicle or engine when it was originally certified for sale in California. Examples vary from a simple air intake kit to modifications made to the original engine block to increase displacement. Such modifications have the potential to compromise the effectiveness of emission control systems and impact emissions levels. In order to protect emissions benefits projected at the time of adoption of vehicle or engine certification standards, California law (VC Section 27156) prohibits the sale, offer for sale, or installation of aftermarket parts, unless such parts have been exempted by CARB. An exemption provides CARB's determination that the use of the aftermarket part will not negatively impact the performance of the emission control system on applicable vehicles or engines.

The "Procedures for Exemption of Add-On and Modified Parts," last amended June 1, 1990, provides staff the tools to work with aftermarket parts manufacturers in the daily processing of submitted exemption applications; however, there have been many changes in the design of new vehicles or engines since 1990. Accordingly, staff is proposing new "Procedures for the Exemption of Add-On and Modified Part(s) for On-Road Vehicles/Engines" to improve the exemption process in light of these changes.

The new proposed procedures will clarify, streamline, and update the CARB processes associated with a VC Section 27156 exemption, potentially resulting in cost savings on a per application basis. Clarity and updating is achieved through the creation of the following sections: 1) Application Submission Requirements, 2) Evaluation and Testing Criteria, 3) Test Vehicle or Engine Selection and Testing, and 4) Action on Application. Streamlining and updating would be achieved by: 1) new part specific applications with clear formatting requirements, 2) having manufacturers prepare and submit simplified and better organized vehicle or engine lists, and 3) creation of a template for laboratory reports. The ability to streamline the review and approval process would also be achieved through the creation of new sections that would provide an exemption pathway for less complicated requests, such as: 1) Part Number(s) or Name Change(s), 2) Model-Year Additions on Carryover Vehicle(s) or Engine(s), 3) Private Label(s) or Extending Coverage to Subsidiaries, or 4) Consolidation of Executive

[1] California Air Resources Board (CARB). June 1, 1990. "Procedures for Exemption of Add-On and Modified Parts", incorporated by reference in California Code of Regulations, Title 13, Division 3, Chapter 4, Article 2, Section 2222, subdivision (e) & Section 2224, subdivision (b). https://ww3.arb.ca.gov/msprog/aftermkt/vc27156procedures.pdf

Orders. With these proposed changes, the expectation is faster turnaround on staff review and approval, providing a pathway for manufacturers to bring products to market faster. However, the new proposed procedures may also increase the total number of applications per manufacturer.

The new proposed procedures will have no fiscal impact on California State agencies. However, the proposed procedures are likely to result in reduced CARB staff time necessary to work with aftermarket parts manufacturers regarding missing information or the packaging and formating of submitted applications. The new procedures are designed to reduce ambiguities that exist in the current procedures and to be more relevant to today's vehicles or engines.

I. INTRODUCTION AND BACKGROUND

This Staff Report: Initial Statement of Reasons (Staff Report) for the California Procedures for Exemption of Add-On and Modified Part(s) for On-Road Vehicles or Engines provides the basis for the California Air Resources Board (CARB or the Board) staff's proposal to adopt amended certification requirements for add-on and modified part(s) for use in on-road vehicles and engines, which when exempted, can be sold to California consumers for installation on applicable vehicles or engines.

Since the late 1960's, CARB has adopted and implemented standards for vehicles and engines to regulate their emissions. Vehicle and engine manufacturers have been able to comply with these increasingly stringent emission standards by developing and incorporating systems and components designed to reduce emissions (e.g., catalytic converters, exhaust gas recirculation systems, air injection systems, etc.). Since the proper operation of these emission control systems and components throughout the life of the vehicle or engine is essential in reducing emissions, any modifications that may impact the performance of a required vehicle or engine pollution control device is prohibited by California Vehicle Code (VC) Section 27156.

VC Section 27156 (e) states "no person shall install, sell, offer for sale, or advertise any device, apparatus, or mechanism intended for use with, or as a part of, a required motor vehicle pollution control device or system that alters or modifies the original design or performance of the motor vehicle pollution control device or system." CARB may exempt add-on and modified parts based on an evaluation conducted in accordance with the "Procedures for Exemption of Add-on and Modified Parts" (Procedures), which currently provides the process and criteria for manufacturers of add-on and modified parts to obtain exemptions to legally sell such parts in California. The California Code of Regulations, title13, section 1900 (b) (1 and 14) defines add-on parts as "any aftermarket part which is not a modified part or a replacement part" and a modified part as "any aftermarket part intended to replace an original equipment emission-related part and which is not functionally identical to the original equipment part in all respects which in any way affect emissions, excluding a consolidated part". The Procedures are intended to provide the aftermarket parts industry a practical pathway in the demonstration of aftermarket part(s) on emissions, the original emissions control system, and the On-Board Diagnostic (OBD) system of the certified engine or vehicle.

The Procedures were last updated in June, 1990. Since that time there have been many changes in the design of new motor vehicles and engines. Changes to emission control technologies and strategies have been complex and numerous. While the current Procedures have provided the add-on and modified part(s) industry and CARB with the tools needed to continue the evaluation of aftermarket parts as standards and test procedures have changed, the complexity of systems and desire to streamline the processes warrant amendments to the 1990 procedures.

The proposed "Procedures for the Exemption of Add-On and Modified Part(s) for On-Road Vehicles/Engines" will be more relevant to today's vehicles or engines by providing CARB the needed information to process applications in a more organized

and streamlined way. Manufacturers will have more clarity on information needed in application submissions and will provide a clearer description of the CARB evaluation process and testing requirements to promote robust documentation for a quicker CARB review period. The proposed new procedures would also help streamline the application process by 1) having part categories with unique requirements that simplify the vehicle or engine list, 2) providing requirements for presented information in each application, 3) providing requirements for test data reports from test laboratories, and finally 4) introducing new sections that provide a streamlined exemption pathway for less complicated requests, such as part number(s) or name change(s), model-year additions on carryover vehicle(s) or engine(s), private label(s) or extending coverage to subsidiaries, or consolidation of Executive Orders.

The proposed new procedures, like the current procedures, would require aftermarket parts manufacturers to demonstrate that the add-on or modified part(s) listed in the application do not reduce the effectiveness of any required emission control device on any vehicle for which they are designed. CARB generally requires aftermarket parts manufacturers to demonstrate through vehicle or engine testing that an aftermarket part will not increase emissions or affect OBD system operations before issuing an exemption. The exempted part must also not adversely affect the durability of the emission control system. A primary benefit of the proposed procedures is a simplified application that clarifies the type of information and testing needed when an applicant files for an exemption from VC Section 27156. This will benefit both the manufacturers and CARB staff by providing for a more focused and efficient exemption application process.

The proposed new regulatory language will not include formatted application forms that manufacturers submit to CARB to begin the exemption process. Instead, the procedures include lists of information by category that is required to be included in an application. Aftermarket parts manufacturers should be able to spend less time and effort preparing an exemption application, which may result in cost savings. CARB staff should also spend less time with aftermarket parts manufacturers on missing information or correcting the format of a submitted application.

The clarification and efficiency improvements included in the proposed “Procedures for the Exemption of Add-On and Modified Part(s) for On-Road Vehicles/Engines”, compared to the current Procedures, should lower manufacturers’ costs on a per application basis when applying for and receiving an exemption.

The new proposed procedures will have no fiscal impact on California State agencies; however, CARB staff will spend less time with aftermarket part manufacturers regarding missing information or the packaging format of submitted application(s). The new proposed procedures are designed to reduce ambiguities that exist in the current procedures, be more relevant to today’s vehicle or engine technologies, andstreamline the processing of exemption applications. Applications submitted by manufacturers should be reviewed and approved faster, providing a pathway for manufacturers to bring products to market quicker. However, manufacturers may see an increase the number

of applications submitted to cover any model-years or vehicles or engines that were not included in initial submissions. The proposed procedures will clarify, streamline, and update the CARB process associated with a VC Section 27156 exemption.

II. THE PROBLEM THAT THE PROPOSAL IS INTENDED TO ADDRESS

The "Procedures for Exemption of Add-On and Modified Parts," last amendedJune 1, 1990, are currently used by CARB staff in the daily processing of submitted exemption applications; however, there have been many changes in the design of new vehicles or engines since 1990. Accordingly, staff is proposing new "Procedures for the Exemption of Add-On and Modified Part(s) for On-Road Vehicles/Engines" to improve the exemption process to better address modern engine designs and emission control systems. Electronic control module (ECM) upgrades, in-line modules to the ECM, and supercharger kits are all examples of popular add-on and modified parts that the current Procedures don't address well because they did not exist in 1990. These parts are complex and may impact emissions and emission control systems. Staff needs more detailed descriptions of performance and testing to demonstrate impacts to emissions and emission control systems. On the other hand, relatively simple aftermarket parts like air intakes generally require less emissions testing because of the nature of their operation and potential impacts on emissions.

The objectives of the new proposed procedures are to clarify, streamline, and update the current exemption process for add-on and modified parts, thereby assisting aftermarket parts manufacturers in successfully completing the process of obtaining an exemption from the prohibitions of VC Section 27156.

The new proposed procedures will provide the aftermarket parts manufacturers with simplified application requirements that clarify the type of information needed when an applicant files for an exemption from VC Section 27156. The new proposed procedures, like the current procedures, require aftermarket parts manufacturers to demonstrate that the add-on or modified part(s) do not reduce the effectiveness of any required emission control device.

III. THE SPECIFIC PURPOSE OF EACH ADOPTION, AMENDMENT, OR REPEAL

(a) Application Submission Requirements [Section III]

Staff is proposing in this section to streamline the process of exemption applications. Under the proposal, manufacturers would be required to pick an appropriate application category, provide required information in a described format, and limit the scope of applicable vehicles or engines.

(1) Category Selection [Section III (a)(1-9)]

Manufacturers of add-on and modified part(s) would choose only one category that best describes the request or add-on or modified part(s). If an application is outside the scope of a selected category, the Executive Officer will redirect the application to another appropriate category.

a) Category I – Part Number(s) or Name Change(s), Model-Year Additions on Carryover Vehicle(s) or Engine(s), Private Label(s) or Extending Coverage to Subsidiaries, or Consolidation of Executive Orders

Category I is applicable to manufacturers that have already been issued an exemption and are requesting only one of the following: Addition of part number(s), name change(s), include model-year additions on carryover vehicle(s) or engine(s), request exemption(s) be extended to other manufacturers (private labels) or subsidiaries, or Consolidation of Executive Orders.

b) Category II – Air Intake Kits or Modifications

Category II is applicable to manufacturers that are requesting an exemption for an air intake kit or modifications made to the stock air intake system, excluding parts listed in Category VIII. Installation must not include other parts or modifications that are outside the scope of a hardware only modification (e.g., sensor changes or a modified control module calibration cannot be included in this category). Typically, parts that are applicable to this category change the overall appearance of the stock air intake system with new tube designs and air filter boxes that have been redesigned to accommodate high capacity filters.

c) Category III – ECM (electronic control module) Programmers or ECM Signal Modifications

Category III is applicable to manufacturers that are requesting an exemption for ECM Programmers or ECM Signal Modifications only. Installation must not include other parts or modifications that are outside the scope of a vehicle or engine control module upgrade or an inline electrical signal modifier, excluding speedometer or wheel speed adjusters. Typically, parts that are applicable to this category are designed to increase the overall power output of an engine through the use of modifications made to fuel and ignition timing tables or a change in boost pressure on supercharged or turbocharged applications. Another popular application is ECM modifications for enhancing towing capabilities.

d) Category IV – Fuel Tanks or Fuel Tank Modifications

Category IV is applicable to manufacturers that are requesting an exemption for new fuel tanks and modifications made to the stock fuel tank, including hoses and lines.

Installation must not include other parts or modifications (beyond those necessary for proper installation) that are outside the scope of new fuel tanks or modifications made to the stock fuel tank. Typically, parts that are applicable to this category are designed for special purpose vehicles. An example would be the addition of a mechanical wheelchair ramp on vans and minivans where the fuel tank would need to be moved or reconfigured to accommodate the mechanics of the ramp.

e) Category V – Intercooler Kits, Intercooler Components or Modifications

Category V is applicable to manufacturers that are requesting an exemption for intercooler kits, intercoolers, intercooler pipes or tubes, or other modifications made to the stock intercooler system. No other parts or modifications for proper installation would be permitted in this category. Parts that are included in this category are typically designed to increase the overall power output of an engine by cooling intake air to increase its density. Intercooler pipes or tubes may also enhance intake air flow and cosmetic appearance.

f) Category VI – Supercharger or Turbocharger Kits or Modifications

Category VI is applicable to manufacturers requesting an exemption for supercharger or turbocharger kits, or modifications made to a stock supercharger or turbocharger system. No other parts or modifications for proper installation would be permitted in this category. Typically, kits within this category are designed to increase the overall power output of an engine for unique vehicle models (e.g., Mustangs, Camaros).

g) Category VII – Pre-catalyst Exhaust Components

Category VII is applicable to manufacturers that are requesting an exemption for exhaust components installed upstream of the catalytic converter(s) such as headers, connecting pipes, exhaust manifolds, and turbine inlet and outlet pipes that are not covered by Category VIII. No other parts or modifications are to be included for proper installation. Typically, parts included in this category are designed to increase the overall power output of an engine through the use of higher flow exhaust components. Other popular applications can best be described as more durable (by design or material specifications) or cosmetic.

h) Category VIII – Other Categorized Parts

Category VIII is applicable to manufacturers that are requesting an exemption for air filter rams, air cleaner kits for motorcycles, automatic transmission shift kits, exhaust or transmission braking systems, ignition coils, spark enhancers, multispark modules, ignition modules, ignition distributors, intake manifolds, lift pumps, pulley kits, axle ratio modifications, exhaust manifolds, speedometer or wheel speed adjusters, throttle

bodies and spacer plates, throttle body elbows, carburetor spacers, torque converters, and oil separators on diesel engines, that staff has determined to not increase exhaust and evaporative emissions and to have no negative impacts on current OBD system functionality, based on an engineering analysis and past manufacturers' data on these devices. As such, no emissions testing is required for approval under this category. However, OBD system testing is required for 1996 and newer model-year vehicles. No other parts or modifications for proper installation would be permitted in this category. Typically, parts within this category are designed to replace obsolete original equipment, add cosmetic enhancements, increase engine longevity, and improve overall drivability.

i) Category IX – Add-On or Modified Part(s) Not Applicable to Categories II through VIII

Category IX would apply to manufacturers that are requesting an exemption for parts that do not fit in the categories mentioned above. Applications for parts in this category are not as common, but tend to be the most complex. Hybrid kits, engine displacement increase kits, and multistage performance kits with various components are examples. Parts that do not merit their own category are also placed in this grouping. Camshafts, cylinder heads, transmissions, fuel injectors, and EGR coolers are just a few examples.

(2) Application Requirements [Section III (b)(1-9)]

This section states that manufacturers' applications for an exemption must contain the following information to be complete:

a) Applicant name, mailing address, email address, and telephone number. Manufacturer name, mailing address, email address, and telephone number. Authorized Representative, mailing address, email address, and telephone number.

b) List of vehicles or engines that would be covered by device. The list must also include vehicle or engine test groups, engine families, and evaporative families with applicable CARB new vehicle or engine Executive Order number(s).

c) List of part numbers assigned by the manufacturer for each kit, each part contained in the kit, and each stand-alone part(s).

d) For each kit or stand-alone part number, step-by-step installation instructions with associated parts list and diagrams, pictures, and schematics for proper installation. Instructions that cover installation of more than one kit or stand-alone part number must have all applicable kits and

part numbers clearly presented.

e) Detailed description of the device to assist CARB staff in understanding its operation, including technical operating principles, dimensional drawings, schematics, material specifications, and impacts to performance, fuel economy, drivability, emission control components, OBD, and emissions. Manufacturers shall include impacts to any affected OEM parts, components or systems, identified by part name and number. The detailed description must include the following affected parts, components, or systems for each category:

Category I – Part Number(s) or Name Change(s), Model-Year Additions on Carryover Vehicle(s) or Engine(s), Private Label(s), Extending Coverage to Subsidiaries, or Consolidation of Executive Orders.
See Sections VI (a-d) for requirements

Category II – Air Intake Kits or Modifications
Air induction system (e.g., air filter, air box, tubing, couplers, inlet or ram)
Crankcase breather hose and PCV system
Sensors (i.e. signal modifications, location geometry, and functionality)
Evaporative system (e.g., hydrocarbon trap)

Category III – Engine Control Module (ECM) Programmers or ECM Signal Modifications
ECM parameters (e.g., fuel tables, lambda tables, ignition advance and retard, parameters sensed and controlled, and adjustable settings)
Transmission Control Module (TCM) parameters (e.g., shift points, shift pressure)
Sensors (i.e. signal modifications, location geometry, or functionality)

Category IV – Fuel Tanks or Fuel Tank Modifications
Fuel system (e.g., fuel tank, fuel pump, fuel hoses, fuel filler pipe)
Evaporative system (e.g., carbon canister, purge valves)
Exhaust system and after-treatment
Vehicle geometry (e.g., ground clearance)

Category V – Intercooler Kits, Intercooler Components or Modifications

Heat exchanger, intercooler, or EGR cooler
Intercooler tubing or pipes
Sensors (e.g., signal modifications, location, or functionality)

Category VI – Supercharger or Turbocharger Kits or Modifications
Any item listed in Category II (as applicable)
Any item listed in Category III (as applicable)
Any item listed in Category V (as applicable)
Any item listed in Category VII (as applicable)
Supercharger (e.g., unit type, size, and pulley diameter)
Turbocharger (e.g., unit type, variable or fixed geometry, pneumatic or electronic waste gate, compressor and turbine impeller sizes, turbine housing A/R, area of throat, and flange sizes)
Boost pressure
Fuel system (e.g., carburetor, fuel injectors, fuel pump, fuel pressure regulator)
Drive pulley and belt system
Ignition system and timing
Throttle body and intake manifold

Category VII – Pre-Catalyst Exhaust Components
Exhaust system and after-treatment
Exhaust manifold, header
Upstream oxygen sensors (e.g., location geometry, or functionality)
Turbine inlet and outlet pipes

Category VIII – Other Categorized Parts
Any applicable item listed in other Categories
All affected parts, components, or systems found in this Category (see Section III.(a)(8) for Other Categorized Parts)

Category IX – Add-On or Modified Part(s) Not Covered by Categories II through VIII
Any combination of applicable items listed in other Categories that are similar to the device or kit type, or modification.

All Categories
Any affected stock parts, components or systems, including original manufacturer part name and model number

f) A facsimile of the exemption label (see Section VIII of the proposed procedures for labeling requirements). The first

application of each calendar year must include an actual physical label for manufacturers with a previously issued Executive Order.

g) Sample kit or part only when needed to assist Executive Officer in understanding its operation and effects on emissions.

h) A plan to collect vehicle identification numbers from purchaser's vehicles for any device that modifies a stock engine, body, or transmission control module's calibration software, excluding speedometer or wheel speed adjusters. The plan should describe any process the manufacturer will use to collect vehicle identification numbers from purchasers, how the numbers will be retained, and how the numbers will be transferred to the California Air Resources Board.

i) A signed attestation by the manufacturer of the following: That the information is true, accurate, and complete, and that to the best of the manufacturer's knowledge, installation of the device on a covered vehicle or engine will not cause regulated emissions to increase beyond the certification standards to which the vehicle or engine was certified including any noxious or toxic matter, and will not cause emission control components and OBD to function differently than as designed by the vehicle or engine manufacturer.

(3) Application and Letter of Intent Submission [Section III (c)]

Manufacturers must submit completed applications to CARB, addressed to the Chief of the Aftermarket Parts Certification and Audit Branch, Emissions Certification and Compliance Division. Manufacturers who receive exemptions for devices annually, are encouraged to submit a "Letter of Intent" by January 30 of each year on proposed submissions that may occur during the subsequent 12 months. The "Letter of Intent" gives the Executive Officer foresight into the plans of a manufacturer, allowing CARB staff the opportunity to advise the manufacturers on a best approach in achieving their objectives in a timely manner. New manufacturers are encouraged to submit a Letter of Intent with first application submission.

(4) Vehicle or Engine Coverage Requirements [Section III (d)(1)(A-F)]

This section proposes that a manufacturer's application for an exemption, excluding Category I, must be prepared and organized according to the criteria listed below to be complete, except when combined under the same test group or engine family:

a) Single original equipment vehicle or engine manufacturer

b) Same vehicle or engine class

c) Same engine configuration (e.g., I4, V6, V8, method of aspiration)

d) Same fuel type (flex-fuel is included with gasoline)

e) Same emissions control technology

f) Same emission standards;

The vehicle or engine requirements are intended to group vehicles with similar emission controls, strategies, and operation into a single application. The smaller group of vehicles will result in less vehicle models per application and subsequently less vehicle design research needed by staff to assess the potential impact of the aftermarket part on the vehicle emissions and emission controls. It may result in more applications from manufacturers. Staff expects manufacturers will submit applications with their most popular models first. Subsequent applications may follow for other less popular models. With each submitted application, manufacturers must provide, as applicable, a list of excluded vehicles or engines models. The list must include test groups, engine families and evaporative families with applicable California new vehicle or engine certification Executive Order number(s).

(b) Evaluation and Testing Criteria [Section IV]

This section lists the criteria for evaluating an exemption application, and sets forth the prescribed testing required for specified categories. The following is a description of the tests that will be required, at a minimum, and evaluations to be performed for device review. Additional tests and evaluations shall be required if the Executive Officer determines through engineering analysis that the potential exists for an interaction between the device and vehicle or engine operation or design that may negatively impact drivability and performance, durability, OBD system operation, or emissions and emission controls under conditions not covered by the minimum tests and evaluations.

(1) Drivability and Performance [Section IV (a)]

If the Executive Officer determines through engineering analysis that the device(s) might degrade the drivability or performance of a covered vehicle or engine (e.g., during acceleration, cruise, idle, or cold-start conditions), such that a vehicle or engine owner would be encouraged to tamper with the device(s) or the host vehicle, the Executive Officer shall request the manufacturer to demonstrate adequate drivability and performance.

(2) Durability [Section IV (b)(1,2)]

If the Executive Officer has determined through engineering analysis that either:

a) An add-on or modified part (entire kit or component(s) of kit) would affect the durability of any covered emissions control system, or

b) The quality of workmanship of the add-on or modified parts is inadequately durable when compared to the part(s) or system(s) replaced, potentially resulting in early failure, increased emissions, or engine damage or failure.

The manufacturer shall submit data to demonstrate durability of the vehicle or engine and that the emission control systems will not be negatively affected.

(3) On-Board Diagnostic Requirements [Section IV (c)]

This section states that the manufacturer shall be responsible for ensuring that the device(s) will not affect the performance of the OBD system on applicable vehicles or engines. This includes at a minimum affecting the OBD system's ability to detect malfunctions of monitored components and systems, affecting the OBD system's ability to store and erase fault codes, and affecting the OBD system's ability to illuminate and extinguish the malfunction indicator light, and affecting the vehicle's ability to successfully undergo an inspection and maintenance evaluation (e.g., Smog Check).

(4) Testing or Evaluation Requirements for passenger cars, light-duty trucks, and medium or heavy-duty vehicles with a gross vehicle weight rating (GVWR) ≤ 14,000 lbs. (vehicles up to 16,000 GVWR if included in the test group certified can be included). [Section IV (d)]

Staff proposes in this section the minimum required tests and evaluation criteria, based on add-on and modified part(s) categories for passenger cars, light-duty trucks, and medium or heavy-duty vehicles with a GVWR ≤ 14,000 lbs. Staff proposes the use of prescribed emissions tests conducted by the original new vehicle manufacturers for certification compliance as is required presently. Depending on the aftermarket component, testing is the same emissions tests conducted by the new vehicle manufacturer. Staff is proposing to reduce the number and type of emissions testing to be performed for most of the aftermarket parts categories. The emissions tests prescribed for the categories would be those expected to best capture the operation of the aftermarket part and its impact on emissions.

(5) Testing or Evaluation Requirements for Motorcycles [Section IV (e)]

Similar to section (4) above, staff proposes in this section the minimum required emissions tests and evaluation criteria, based on add-on and modified part(s) categories for motorcycles. The Executive Officer will prescribe testing requirements for Category IX applications.

(6) Testing and Evaluation Requirements for Engines (engine dynamometer testing) intended for vehicles with GVWR > 14,000 lbs. [Section IV (f)]

Similar to section (4) above, staff proposes in this section the minimum required emissions tests and ways to evaluate, based on add-on and modified part(s) categories for engine dynamometer testing that is intended for vehicles with GVWR > 14,000 lbs. The Executive Officer will prescribe testingrequirements for Category IX applications.

(c) Test Vehicle or Engine Selection and Testing [Section V]

This section states the criteria for test vehicle or engine selection, chassis testing for heavy-duty engines, evaluation criteria for emissions testing options, additional or alternate testing, OBD testing, vehicle or engine break-in requirements, and test laboratory report formatting.

(1) Vehicle or Engine Selection [Section V (a)(1,2)]

The basic premise of the existing aftermarket part procedures is that manufacturers should perform the same emissions testing as the original vehicle or engine manufacturers performed to show the vehicles and engines meet the certification emissions standards. Since aftermarket part manufacturers are often small businesses, some of the more costly tests have been excluded from the evaluation of add-on or modified parts. To further minimize testing costs, aftermarket part manufacturers have been required to test the vehicle or engine that represents the worst case for emission impacts. Under the current procedures, manufacturers describe their add-on or modified parts and scope of vehicle or engine coverage. Staff than chooses the worst case vehicle or engine to test, and the manufacturer finds the vehicle, performs the testing at an independent laboratory, and submits the data to CARB. Staff will review the data, and if the results show compliance with the standards, the manufacturer receives an exemption Executive Order.

Staff proposes to continue the current process of choosing the worst case vehicle for testing as one option. Under this option, worse case test vehicle(s) or engine(s) configuration selection shall be determined by all of the following factors:

a) Applicable emission standards.

b) Highest percentage of the new vehicle or engine certification data to emission standards.

c) Vehicle test weight and road or engine dynamometer loading producing the greatest stress on the emission related components as determined by the Executive Officer.

d) Extent of modification and applicable effects.

If test data is not included with the initial application submission, and testing is required, the Executive Officer will provide the manufacturer with an official test memo, which shall list test vehicle(s) or engine(s) and the testing protocol. Selected test vehicle(s) or engine(s) shall be the worst case configuration as described above; however, vehicle(s) or engine(s) within the same test group or engine family can be used if tested at determined worst case test parameters. A manufacturer can submit a written request for the Executive Officer to consider an alternative to the selected test vehicle(s) or engine(s). The Executive Officer's acceptance of an alternate could affect vehicle or engine coverage of the submitted application if the alternative is not representative of the requested coverage.

However, staff is also proposing a new option to allow manufacturers to perform emissions testing prior to application submittal. Manufacturers would be required to select the worst case test vehicle(s) or engine(s) configuration determined by the same CARB applied factors:

a) Applicable emission standards.

b) Highest percentage of the new vehicle or engine certification data to emission standards.

c) Vehicle test weight and road or engine dynamometer loading producing the greatest stress on the emission related components as determined by the Executive Officer.

d) Extent of modification and applicable effects.

If vehicle(s) or engine(s) selected and tested by manufacturers are determined to not be worst case, requested vehicle coverage can be affected. If test data is included with the initial application submission, submitted test data must be in a format described in Section V (e).

The Executive Officer shall allow test vehicle(s) that are equipped with a California certified engine that was certified to the California heavy-duty engine exhaust emission standards in Title 13 Section 1956.8 and the incorporated test procedures, to use the vehicle certification procedures incorporated in Title 13 Sections 1960.1, 1961 and 1961.2 The specific evaluation criteria for vehicle(s) tested herein shall be limited to the comparative test criteria of Section V (b)(2).

The equivalent test weight of the test vehicle(s) shall be equal to the vehicle's curb weight plus 3/4 of the difference between the GVWR and the curb weight of the vehicle. The road load horsepower setting shall be based on the frontal area of the test vehicle without modifications, or the settings can be based on the road load horsepower settings derived by the OEM for the same model.

(2) Emissions Testing Options [Section V (b)(1-3)]

Staff proposes that during the application preparation process, the manufacturers, when applicable, must declare one of the following emissions evaluation compliance methods: 1) comparison against applicable emission standards, or 2) comparison against baseline emission levels (comparative emissions testing). Further explanations of the two evaluation methods are below:

a) Emission Standards

The manufacturer shall demonstrate compliance with these proposed procedures by showing that the emissions from the test vehicle or engine with the device installed are in compliance with the same applicable California new vehicle or engine emission standards used by the OEM vehicle or engine manufacturer for certification. To demonstrate compliance with the applicable emission standards, measured emissions shall be adjusted by the appropriate deterioration and adjustment factor(s), as developed by the original vehicle or engine manufacturer for new vehicle or engine certification, for the model and model-year of the test vehicle or engine. An assigned deterioration factor shall be provided by the Executive Officer if the original vehicle or engine manufacturer's certification did not include one. The deteriorated emissions test results shall be considered in compliance with these proposed procedures only if they do not exceed the applicable California new vehicle or engine emission standards for the test vehicle or engine. The manufacturer shall be permitted only one duplicate emissions tests on any unique emissions test cycle if the initial emission test results fail to demonstrate compliance with these proposed procedures. The results, including all

applied deterioration and adjustment factors, will be the average and those averaged values will be used for compliance evaluation purposes. The same type of California certified test fuel used at the time of new vehicle or engine certification shall be used for all tests. The Executive Officer shall allow higher octane California certified test fuel to be used when the manufacturer has included it to be the required fuel in the installation instructions, e.g., for supercharger kits.

b) Comparative Emissions Testing (Baseline vs Modified)

The manufacturer has the option to conduct comparative emissions tests to demonstrate compliance with these proposed procedures. A minimum of two sets of emissions tests will be required (one baseline and one modified). A baseline emissions test is a test conducted with the test vehicle or engine in its as-built original equipment manufacturer configuration. A modified emissions test is conducted with the test vehicle or engine in its modified state, e.g., with the device installed.

Each test vehicle or engine shall undergo an examination prior to the baseline test to detect and correct all possible defects, maintenance issues, and deviations from the manufacturer's original emission related specifications. If the manufacturer needs to replace any emission related component, the Executive Officer should be notified to determine that the new component is a correct replacement and if it is subject to the requirements of Section V (d). The baseline emissions of the test vehicle or engine should be within the applicable emission standards when within useful life. If beyond useful life, emissions must be similar to other vehicles or engines within that particular make, model, mileage, engine displacement, and model-year. The Executive Officer shall supply appropriate test parameters for the particular vehicle or engine being tested.

If vehicle or engine emissions exceed the levels of other similar vehicles or engines, as mentioned above, during the baseline test, the manufacturer must make a full diagnostic evaluation of the vehicle or engine, make any appropriate repairs, and retest the vehicle or engine. If the Executive Officer determines through an engineering analysis that no other abnormal conditions of the engine or the emission controls are present, the vehicle or engine test results can

be used for baseline establishment as representative of other unmodified California vehicles. The baseline emissions data, from the approved vehicle or engine, shall be used for comparison against the test results when the device is installed. The manufacturer has the option to forego evaluation and repair of the vehicle, and to instead replace the test vehicle or engine. The manufacturer must notify the Executive Officer of test vehicle or engine replacement. The replacement vehicle or engine is subject to Vehicle or Engine Selection requirements as described in Section V (a).

Upon completion of baseline testing, no servicing, maintenance, or part replacement is to be made, with the exception of such actions that are in accordance with the written instructions provided with the application or stated in the test memo. The Executive Officer shall allow higher octane California certified test fuel to be used, for modified testing only, when the manufacturer has required use of the higher octane fuel in the installation instructions, e.g., supercharger kits.
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Each vehicle or engine selected shall be tested in the baseline configuration first. The modified configuration can be tested first only if the Executive Officer determines based on an engineering analysis that baseline emissions are not impacted. All engine settings shall be adjusted to the vehicle or engine manufacturer's specifications in the unmodified configuration (baseline) test. After baseline testing, the device shall be installed by the test laboratory in accordance with the manufacturers written instructions provided with the application. The Executive Officer shall release the vehicle or engine back to the manufacturer for the device installation only if the device installation is required to be performed by an approved installer of the device. Engine settings shall be recorded and submitted with test results for each test in both the baseline and modified configurations.

The difference between the modified emissions test results and the baseline emissions test results (measured in units as applicable to the test procedures) must not increase by more than 10.0 percent for each regulated pollutant. If the modified emissions test results are greater than 10.0 percent above the baseline for a pollutant, manufacturers may request Executive Offer acceptance of the results. The

Executive Officer shall consider acceptance of comparison data showing greater than a 10.0 percent difference for purposes of granting an exemption if emission test results, with deterioration and adjustment factors added in, are below any existing emission standards for a vehicle or engine in a similar weight class. Emission component elements shall be grouped to the format of the test vehicle or engine's certification standards (e.g., HC+NOx).

Completion of the modified emissions tests must be within three months of the completed baseline emissions tests, and mileage accumulation shall not exceed 750 miles between the baseline and modified emissions tests. If these time and mileage accumulation standards are exceeded, the Executive Officer may only accept the application if a valid technical need is demonstrated, e.g., to complete OBD readiness monitors.

c) Additional or Alternate Testing

If the Executive Officer finds, through engineering analysis, that the emissions testing and evaluation criteria specified in Sections IV and V (b) is not adequate to characterize the emissions performance or durability of a device, the Executive Officer shall require alternate emissions, functional, or bench testing. If the Executive Officer requires such additional or alternate testing of vehicle(s) or engine(s), the Executive Officer shall list those tests in a test memo that will be issued to the manufacturer.

(3) On-Board Diagnostic Testing [Section V (c)]

This section states that manufacturers of a device will perform demonstrations to evaluate any impact to the OBD system. These demonstrations include at a minimum, validating that the OBD system sets readiness monitors as designed, validating that the OBD system detects malfunctions of the monitored emission systems before exceeding the applicable emission thresholds, and validating that the OBD system reports accurate data stream parameters to a scan tool meeting SAE J1978 specification or to a scan tool designed to communicate with an SAE J1939 network. Furthermore, manufacturers shall demonstrate that in-use monitoring performance of the OBD system is not affected, if the Executive Officer determines based on an engineering analysis that such demonstrations are needed.

(4) Vehicle or Engine Break-In Requirements [Section V (d)]

Staff proposes that each test vehicle or engine must be a California certified vehicle or engine with at least: 4,000 miles for a chassis dynamometer based vehicle, 3500 kilometers for a motorcycle, and 125 hours for a heavy-duty engine. In the event that a manufacturer acquires a vehicle or engine with less, mileage or hours can be increased by driving the vehicle on the road or by simulated road loads on a chassis or engine dynamometer. The Executive Officer shall allow test vehicle(s) or engine(s) with less mileage or hours if the manufacturer can demonstrate emissions stability. If a test vehicle or engine requires the replacement of an emission control component, prior to an emissions test, vehicle or engine break-in requirements will apply when the Executive Officer determines based on an engineering analysis that component break-in is needed.

(5) Test Laboratory [Section V (e)]

This section states that a manufacturer shall have any required testing performed at an independent laboratory properly equipped to conduct such tests, an OEM can use in-house testing capabilities. CARB plans to continue to provide a laboratory list[2] with each issued test memo. The test vehicle(s) or engine(s) shall be under the control of the laboratory for the entire test period unless the Executive Officer gives permission to release the test vehicle(s) or engine(s) to the manufacturer. Unauthorized return of the test vehicle(s) or engine(s) to the manufacturer during the test period will invalidate test results. At the conclusion of the test program, the independent laboratory must present the Executive Officer a final report with the information listed in this section of the proposed procedures.

(d) Criteria for Category I Application Requests [Section VI]

Staff has listed that the Executive Officer shall use good engineering analysis, along with required information submitted by the manufacturer, to justify a Category I application request. Furthermore, if the request does not meet the criteria specified, the Executive Officer will redirect the application to the appropriate category; however, the manufacturer will need to supply additional information to meet the requirements of the new category. A manufacturer can only request one of the following with each application request.

(1) Part Number(s) or Name Change(s) [Section VI (a)]

If a manufacturer has a previously issued Executive Order for an exemption and seeks only to add part number(s) or a name change(s) to the Executive Order, the

[2] The laboratory list includes the names and contact information of laboratories in the United States that have performed emissions testing for past aftermarket parts testing. The list is not an endorsement or approval of a laboratory by CARB. Manufacturers are required to ensure emissions testing performed is done according to the applicable CARB emissions test procedures and as outlined in the test memo.

application will be evaluated for the design (excluding exterior appearances, such as color), fit, and function of the additions to those which are currently exempted. A new Executive Order will be issued on the basis of similarity without the need for additional testing.

(2) Model-Year Additions on Carryover Vehicle(s) or Engine(s) [Section VI (b)]

If a manufacturer has a previously issued exemption Executive Order and has requested to add model-year(s) to the same applications, the Executive Officer shall evaluate applicable emission certification standards, worst case vehicle(s) or engine(s) tested, other information used in prior exemption Executive Order(s), and whether the emissions control system has changed and emissions would be negatively impacted for the requested additional model-year(s). The Executive Officer shall grant the request upon determining that the findings leading to the initial exemption Executive Order approval are valid for the added model-years. The device(s) must maintain the same design (excluding exterior appearances, such as color), fit, and function as described in prior exemption Executive Order(s). A new exemption Executive Order will be issued without the need of additional testing.

(3) Private Label(s) or Extending Coverage to Subsidiaries [Section VI (c)]

Manufacturers who have requested to extend all or part of their previously issued exemption Executive Order(s) to another manufacturer or to its own subsidiaries must request approval for such extensions from the Executive Officer. In reviewing the request, the Executive Officer shall evaluate design control and if the part(s) are identical in design (excluding exterior appearances, such as color), fit and function to those currently exempted. If all requirements are met, a new Executive Order will be issued to the marketing manufacturer or a new Executive Order will be issued to the manufacturer with the added marketing manufacturer listed in the Executive Order.

(5) Consolidation of Executive Orders [Section VI (d)]

If a manufacturer has multiple previously issued exemption Executive Orders issued and has requested to consolidate them into one new Executive Order, the criteria for consolidation is based on the issued exemption Executive Orders having the same device name, description and applicable OEM (except when combined under the same test group or engine family); furthermore, information provided by the manufacturer in the associated exemption applications, as approved by the Executive Officer, must still be applicable to the devices to be consolidated.

(e) Action on Application [Section VII]

This section lists the actions of the Executive Officer during the review of an exemption application. Also listed is the criteria on confirmatory testing.

(1) Basis of Evaluation [Section VII (a)]

The Executive Officer shall utilize the manufacturer's test data (if applicable), CARB's confirmatory test data (if applicable), information submitted with the application, and the engineering analysis conducted on the device's drivability and performance, and durability, to determine if the device increases emissions or reduces the effectiveness or durability of the emissions control system, including on-board diagnostics.

(2) Confirmatory Testing [Section VII (b)]

If confirmatory testing of submitted data is deemed necessary, the manufacturer will be notified within 10 days from the time the Executive Officer has received a completed test report by the independent laboratory chosen in response to the issued test memo. The vehicle or engine can be restored or released after the 10 day period if CARB has not provided notice of its intent to conduct confirmatory testing.

If test data is included with a submitted application, the manufacturer will be notified of the decision to conduct confirmatory testing within 20 days from the date the Executive Officer has received a completed application. The vehicle or engine can be restored or released after the 20 day period if CARB has not provided notice of its intent to conduct confirmatory testing.

Upon request for confirmatory testing, the independent laboratory must provide the test vehicle(s) or engine(s) to CARB's test laboratory. Confirmatory tests will be completed within 30 days of receipt of test vehicle(s) or engine(s). Vehicle, engine, or device issues observed by CARB staff during the confirmatory testing process can cause a rejection of test vehicle(s) or engine(s) or a delay as CARB staff work with the device manufacturer on a resolution.

The results of CARB confirmatory tests shall be reported to the manufacturer within 15 days of completion of the tests and the associated quality reviews. The manufacturer and authorized representative shall be given the opportunity to observe all confirmatory tests. Confirmatory testing conducted by CARB will use any or all emissions test cycles that the vehicle or engine was originally certified to in order to demonstrate emissions compliance with the device installed.

If CARB confirmatory test results demonstrate that the device does not comply with the criteria stated in these proposed procedures, the exemption application will be rejected and closed out.

(f) Labeling Requirements [Section VIII]

Staff has listed the criteria that a manufacturer must follow for labeling. The device manufacturer shall provide with each device sold and covered by the Executive Order a product information label, minimum of 12 point font, and complete instructions for its installation of the label in an under hood location for vehicles or engines, or near the tune-up label on motorcycles, that is readily visible to the average person. The product information label shall contain only the following: One unique product name as listed on the exemption Executive Order, CARB Executive Order number using the format "CARB D-XXX," and manufacturer's name and contact information. The label installation instructions shall contain a warning to the consumer in bold lettering that the product information label is required to aid inspection of the vehicle under the California Smog Check program. The product information label shall be designed to be durable in material, wording and method of adhesion for the useful life of the vehicle or engine, the manufacturer must provide documentation or an engineering analysis to support compliance with this requirement.

When the installation of the device requires re-routing of any vacuum or fuel hose(s), belt(s) or changes to the vehicle or engine manufacturer's tune-up specifications, the product information label or a second label shall also provide a complete description of the required changes. A consumer information label must be provided when changes are to be made to the vehicle or engine manufacturer's recommended or required fuel specifications. Instructions must be provided on placement near the fuel fill cap. These labels must also be designed to be durable in material, wording and method of adhesion for the useful life of the vehicle or engine.

(g) Issuing an Exemption Executive Order [Section IX]

If the Executive Officer determines that a device will not reduce the effectiveness of the emissions control system, will not result in emissions that exceed the applicable model-year emission standards or comparative baseline levels for each vehicle or engine specified in the vehicle or engine list, and that it meets all the requirements set forth in Sections IV through VI of these proposed procedures, the Executive Officer shall issue an Executive Order exempting the device(s) from the prohibitions of Vehicle Code Section 27156. The Executive Officer's determination will be based on the manufacturer's test data (if applicable), CARB's confirmatory test data (if applicable), information submitted with the application, and the engineering analysis conducted on the device's drivability and performance, and durability. Further as a condition for the exemption, the modified vehicle must be capable of completing and passing the applicable Smog Check procedure . The manufacturer shall not: 1. use the Executive Order as an endorsement or approval by CARB, 2. market the device(s) using any identification other than that shown on the Executive Order, 3. Apply the Executive Order to parts sold prior to the date shown on the Executive Order, 4. market the device(s) for an application other than those listed on the Executive Order, 5. offer for sale, or advertise any component of an applicable kit as an individual device, or 6. reference the Executive Order in any claim or advertisement that the product is capable of reducing emissions.

The Executive Officer shall deny the applicant's exemption request, if the device will reduce the effectiveness of the emissions control system, will result in emissions that exceed the applicable model-year emission standards or comparative baseline levels for each vehicle or engine specified in the vehicle or engine list, or if it does not meet all the requirements set forth in Sections IV through VI of these proposed procedures. If the applicant's exemption request is denied, the Executive Officer shall convey by letter notice of and the reasons for denial.

When needed for use by CARB or California's Smog Check Program, the Executive Officer will request the manufacturer to submit the information collected according to Section III (b)(8) of these proposed procedures. Manufacturers shall submit the collected information within 45 days of the request. Failure to submit the information in the required timeframe will result in a hold on current and new applications from the manufacturer for similar devices.

Manufacturers that must demonstrate OBD system performance, as stated in Section V (c) of these proposed procedures, will have a hold placed on current and new applications, if data is not presented to the Executive Officer at the conclusion of a data collection time period agreed on between the manufacturer and the Executive Officer.

Violation of any of the above conditions shall be grounds for revocation of the granted Executive Order. The Executive Order can be revoked only after a 10 day written notice of intention to revoke the order, during which period the holder of the order must request in writing a hearing to contest the proposed revocation. If a hearing is requested, it shall be held within 10 days of receipt of the request and the order will not be revoked until a determination is made after the hearing that grounds for revocation exist.

CARB reserves the right in the future to review the exemption Executive Order to assure that the exempted device(s) continues to meet the standards and procedures of Title 13, California Code of Regulations, Section 2222, et seq.

(h) Audit Testing [Section X]

CARB reserves the right to perform audit testing. Audit testing is not described in the current procedures. Staff is proposing to clearly describe CARB's audit testing process and procedures to make a determination of compliance. The Executive Officer would have the option to select up to five new aftermarket parts or kits per manufacturer each year for audit testing. Audit testing conducted by CARB shall utilize, at a minimum, the same testing protocols and procedures required of the manufacturer during the exemption process. CARB will use any or all emissions test cycles that the vehicle or engine was originally certified to in order to demonstrate emissions compliance with the device installed and can utilize additional screening tests which are based on CARB's work for assessing performance of modern light-, medium-, and heavy-duty vehicles, heavy-duty engines and motorcycles. The tests

will represent real world driving operations to detect defeat devices, and can include OBD interrogation and over-the-road testing using portable engine measurement system. The Executive Officer shall revoke a previously granted exemption if the test vehicle or engine fails to demonstrate emissions compliance with the device installed, the testing reveals evidence of the presence of a defeat device, or the test results otherwise fail to meet the Evaluation Criteria as outlined in these proposed procedures.

(i) Other Exemption Procedure Sections

Section I
Purpose: This section describes the applicability of the new proposed procedures, exemption Executive Order issuance criteria, and regulation and certification procedures that are not affected by these new proposed procedures.

Section II
Purpose: This section helps to define terms that are used throughout the new proposed procedures. Definitions in this section are consistent with other CARB mobile source regulations and definitions found in the California Vehicle Code and Health and Safety Code.

IV. THE RATIONALE FOR CARB'S DETERMINATION THAT EACH ADOPTION, AMENDMENT, OR REPEAL IS REASONABLY NECESSARY

The new proposed procedures would update a 30 year old process used by manufacturers to exempt add-on and modified part(s) for use by California consumers in on-road vehicles and on-road engines.

Section I. Applicability.

The new proposed procedures apply to any entity that manufactures add-on or modified part(s), as defined in Section 1900 (b), (1) and (14), Article 1, Chapter 1, Division 3, Title 13, California Code of Regulations.

Manufacturers that satisfy the criteria as specified in these new proposed procedures would be issued an Executive Order by the Executive Officer that exempts the add-on or modified part(s) from the prohibitions of Section 27156 of the California Vehicle Code.

These proposed procedures do not affect the provisions of CCR Title 13:

- Section(s) 2030, Liquefied Petroleum Gas or Natural Gas Retrofit Systems
- 2031, Alcohol or Alcohol/Gasoline Fuels Retrofit Systems
- 2222 (a)-(d) and (f)-(k), Aftermarket Parts

- 2470 - 2476 Certification Procedures for Aftermarket Parts for Off-Road Vehicles, Engines, Equipment
- 2700 - 2711, Verification Procedure, Warranty and In-Use Compliance Requirements for In-Use Strategies to Control Emissions from Diesel Engines.

Rationale for Section I:

The proposed procedures affect a narrow subset of add-on or modified parts. Other manufactured products that otherwise meet the regulatory definition of an “add-on or modified part” are specifically excluded from the proposed procedures because other existing regulations provide a pathway to market for those products. The listed product categories are specialized, so more particular and specific procedures were necessary to protect the public health. These exceptions to the procedures are expressly listed to clearly communicate to manufacturers which products are not subjected to these proposed procedures.

Section II. Definitions.

For the list below, definitions are included in the new proposed procedures:

Adjustment Factors, Baseline Levels, Calibration Identification Code (CAL ID), Calibration Verification Number (CVN), California Certified Vehicle or Engine, California Smog Check Program, Certification Emission Standards, Days, Deterioration Factors, Device, Drivability, Emission Control System, Emission Standards, Engine Configuration, Executive Officer, Federal Test Procedure (FTP), Gross Vehicle Weight Rating (GVWR), Highway Fuel Economy Test (Highway Testing), In-Use Monitoring Performance Ratios, Malfunction Indicator Light (MIL), Manufacturer, Not-To-Exceed test (NTE), On-Board Diagnostic (OBD) System, Road Load, SC03 Supplemental Federal Test Procedure (SC03), Steady State testing (Steady State), Supplemental Emissions Test (SET), US06 Supplemental Federal Test Procedure (US06), Vehicle Identification Number (VIN), and World Motorcycle Test Cycle (WMTC).

Rationale for Section II:

Clarification: The detailed definitions are necessary to specify what certain terms used throughout the proposed procedures mean. These definitions are necessary to improve the transparency, comprehensibility, and consistency of the proposed procedures.

“Adjustment Factors” is necessary to establish the process of tabulating data to represent emissions deterioration and adjustments to be evaluated against an applicable emission standard.

“Baseline Levels” is necessary to specify what CARB considers the configuration of a vehicle or engine in its certified configuration to generate benchmark emission levels.

“Calibration Identification Code” (CAL ID) is necessary because it represents a unique version of an operating calibration software used in a vehicle or engine.

“Calibration Verification Number” (CVN) is a necessary term because it is a unique computed coded number that is used to verify vehicle or engine control module integrity.

“California Certified Vehicle or Engine” is necessary to differentiate from a Federally certified vehicle or engine.

“California Smog Check Program” is necessary because it represents California’s vehicle inspection and maintenance program that is managed by the Bureau of Automotive Repair.

“Certification Emission Standards” is necessary as a term to clarify what standards original vehicle or engine manufacturers use for certification.

“Days” is necessary to clarify and reduce confusion that days refers to business days and not calendar days, unless otherwise noted.

“Deterioration Factors” is necessary to establish the process of tabulating data to be applied to emissions results to compare against an applicable emission standard.

“Device” is a necessary to establish the meaning of an aftermarket manufacturer’s add-on or modified part.

“Drivability” is necessary because it represents the benchmark of vehicle performance anticipated by its owner.

“Emission Control System” is necessary to ensure manufacturers understand that these are the pollution control components, strategies, OBD, and labels at time of certification.

“Emission Standards” is necessary to specify what constitutes the legal limits of specific air pollutants at the time of certification.

“Engine Configuration” is necessary to establish the criteria on classifying engines.

“Executive Officer” is necessary to understand who at CARB will review and make the final determination.
“Evaporative Testing” is necessary so that manufacturers understand that this references an established test procedure and applicable evaporative emission standards.

“Federal Test Procedure” is necessary so that manufacturers understand that this references an established test procedure and applicable exhaust emission standards.

“Fill Pipe Testing” is necessary so that manufacturers understand that this references an established test procedure.

“Gross Vehicle Weight Rating” is necessary so that manufacturers understand that this references established procedures on determining maximum vehicle load.

“Highway Fuel Economy Test” is necessary so that manufacturers understand that this references established test procedures and applicable exhaust emission standards.

“In-Use Monitoring Performance Ratios” is necessary so that manufacturers understand that this is an established procedure to determine the ratio of testing diagnostic monitors.

“Malfunction Indicator Light” is a necessary term which is used to define its purpose and function.

“Manufacturer” is a necessary term because it defines who has design control.

“Not-To-Exceed test” is necessary so that manufacturers understand that this references an established test procedure and applicable exhaust emission standards.

“On-Board Diagnostic System” is necessary to further define the operation of the system to manufacturers.

“Road Load” is a necessary term that is needed when defining testing parameters for vehicle testing on a chassis dynamometer.

“SC03 Supplemental Federal Test Procedure” is necessary so that manufacturers understand that this references an established test procedure and applicable exhaust emission standards.

“Steady State” is necessary so that manufacturers understand that this references an established test procedure.

“Supplemental Emissions Test” is necessary so that manufacturers understand that this references an established test procedure and applicable exhaust emission standards.

“US06 Supplemental Federal Test Procedure” is necessary so that manufacturers understand that this references an established test procedure and applicable exhaust emission standards.

“Vehicle Identification Number” is necessary so that manufacturers understand in meaning and purpose that is based on established Federal Regulation.

“World Motorcycle Test Cycle” is necessary so that manufacturers understand that this references an established test procedure.

Section III. Application Submission Requirements.

This section provides the necessary tasks needed to submit an exemption application. The section includes parts category descriptions and application requirements, application submission instructions, Letter of Intent, and vehicle or engine coverage requirements. Also provided in this section are the requirements for manufacturers that receive an exemption for any device that modifies the stock ECM, body or transmission control module(s), excluding speedometer or wheel speed adjusters.

Rationale for Section III:

Clarification, Streamlining and Updating: This section is necessary because its main purpose is to improve the application submission process, resulting in a faster review by CARB staff and a pathway for manufacturers to bring product to market faster without impacting projected emissions benefits. This is a primarly goal and objective of the proposed procedures.

Section III (a). Category Selection

This section directs a manufacturer to choose only one appropriate category that best describes the request or add-on and modified part(s).

Rationale for Section III (a):

Clarification, Streamlining and Updating: This section is needed because it streamlines and better organizes the process on how manufacturers submit information to CARB, resulting in applications submitted by manufacturers being reviewed and approved faster. Under the 1990 amendments to the procedures, no categorization method was established, so all applications for any type of add-on or modified part were submitted with identical or substantially similar content. However, motor vehicle emissions control systems have changed dramatically in the years since 1990, and similarly, add-on and modified parts have become more sophisticated and specialized. It is no longer necessary, effective, or efficient to hold all applications to identical requirements. Therefore, staff developed a categorization schema to assist manufacturers in submitting applications and staff in reviewing applications. If an application is outside the scope of a selected category, the Executive Officer will redirect the application to another appropriate category.

Section III (a)(1). Category I – Part Number(s) or Name Change(s), Model-Year Additions on Carryover Vehicle(s) or Engine(s), Private Label(s) or Extending Coverage to Subsidiaries, or Consolidation of Executive Orders

This category is for request(s) made to an existing exemption Executive Order(s) that involves only one action to be performed per request: part number(s) changes, name change(s), model-year addition(s), private label(s), or to consolidate Executive Orders.

Rationale for Section III (a)(1):

Streamlining: Staff's intent is to provide a simple process for manufacturers to get product to market quicker by streamlining request changes, updates, extensions, or Executive Order consolidation for previously granted exemptions. Manufacturers must meet the criteria in Section VI (a-d) of the proposed procedures. Examples would be adding a new color to an existing part or adding the latest model-year in the applicable coverage. Application requirements will be unique for this category to minimize processing times by CARB staff. The elibible types of requests in this category include information that is substantially similar to be evaluated by staff.

Section III (a)(2). Category II – Air Intake Kits or Modifications

This category is for air intake kit(s) or modifications made to the stock air intake system, excluding parts listed in Category VIII. Installation must not include other parts or modifications that are outside the scope of a hardware only modification (e.g., sensors changes or modifications, new control module calibration, etc.).

Rationale for Section III (a)(2):

Streamlining, Technology Update: This category has been created for one of CARB's most popular exemption requests. The application requirements for this category updates the current process by being more relevant to these modifications and today's vehicles and engines. The application will be unique for this category and will streamline the application process, resulting in a quicker review by CARB staff. Typically, parts that are applicable to this category change the overall appearance and design of the stock air intake system, intake tubes and air filter boxes have been redesigned to accommodate high capacity filters and increased air flow

Section III (a)(3). Category III – ECM Programmers or ECM Signal Modifications

This category is for new ECM calibrations or ECM signal modifications that are not applicable to Category VIII and do not require other parts or modifications for proper installation.

Rationale for Section III (a)(3):

Streamlining, Technology Update: This category is CARB's second most popular exemption request. The application requirements for this category will be unique and is intended to streamline the review by CARB staff. Installation must not include other

parts or modifications that are outside the scope of a vehicle or engine control module upgrade or an inline electrical signal modifier, excluding speedometer and wheel speed adjusters—this is necessary because the inclusion of additional parts adds significant complexity and increases data requirements for CARB staff to be able to effectively evaluate the device. Typically, parts that are applicable to this category are designed to increase the overall power output of an engine through the use of modifications made to fuel and timing tables and a change in boost pressure on supercharged or turbocharged applications, the application requirements for this category updates the current process by being more relevant for these modifications and today's vehicles and engines.

Section III (a)(4). Category IV – Fuel Tanks or Fuel Tank Modifications

New fuel tanks or modifications made to the stock fuel tank, including hoses and lines.

Rationale for Section III (a)(4):

Streamlining, Technology Update: Staff's intent is to provide application requirements for this category that will streamline the application process, providing CARB staff critical information for a quicker review. The application requirements for this category updates the current process by being more relevant to changes made to a vehicle when the stock fuel tank is replaced or modified. Installation must not include other parts or modifications that are outside the scope of new fuel tanks or modifications made to the stock fuel tank, excluding parts or modification necessary for proper installation (e.g., exhaust system modifications, fuel and evaporative tubing near the fuel tank modifications, fill pipe modifications, etc.). Typically, parts that are applicable to this category are designed for special purpose vehicles with handicap access.

Section III (a)(5). Category V – Intercooler Kits, Intercooler Components or Modifications

Intercooler kits, intercooler, intercooler pipes or tubes, or modifications made to the stock intercooler systems that do not include other parts or modifications for proper installation.

Rationale for Section III (a)(5):

Streamlining, Technology Update: Staff's intent is to provide application requirements that will be unique to this category and will streamline the application process, resulting in a quicker review by CARB staff. The application requirements for this category updates the current process by being more relevant to changes made to a vehicle or engine when an intercooler is installed or modification are made. Typically, parts that are applicable to this category are designed to increase the overall power output of an engine by cooling intake air to increase its density. Intercooler pipes or tubes can also enhance intake air flow and change cosmetic appearance.

Section III (a)(6). Category VI – Supercharger or Turbocharger Kits or Modifications

Supercharger or Turbocharger kits or modifications made to a stock supercharger or turbocharger system.

Rationale for Section III (a)(6):

Streamlining, Technology Update: The application requirements for this category will be unique and is intended to streamline the review by CARB staff. CARB staff will have the needed critical information to perform a quicker review. The application requirements for this category updates the current process by being more relevant to changes made to a vehicle or engine when adding on a supercharger or turbocharger kit or making modifications to the stock system. Typically, kits that are applicable to this category are designed to increase pressure or density of intake air to increase power for unique vehicle models (e.g., Mustangs, Camaros).

Section III (a)(7). Category VII – Pre-Catalyst Exhaust Components

Exhaust components installed upstream of the catalytic converter(s) such as headers, connecting pipes, exhaust manifolds, and turbine inlet and outlet pipes, and not applicable to Category VIII. No other parts or modifications are allowed for proper installation.

Rationale for Section III (a)(7):

Streamlining, Technology Update: Staff's intent is to provide application requirements that will be unique to this category, providing CARB staff critical information to perform a quicker review, streamlining the application process. The application requirements for this category updates the current process by being more relevant to changes made to a vehicle or engine when modifying the exhaust system before the catalytic converter. Typically, parts that are applicable to this category are designed to increase the overall power output of an engine through use of higher flow exhaust components. Other popular applications can best be described as more durable or a replacement to an obsolete original part.

Section III (a)(8)(A-P). Category VIII – Other Categorized Parts

Add-on or modified part(s) that CARB has determined to not increase exhaust and evaporative emissions and to have no negative impacts on current OBD system functionality. OBD testing (if equipped with an OBD system) and evaporative testing will also be required if the Executive Officer determines based on an engineering analysis that such emissions are impacted by the device.

Rationale for Section III (a)(8)(A-P):

Streamlining, Technology Update: Other Categorized Parts are list of parts or modifications that CARB staff has determined are unlikely to have an adverse impact on exhaust emissions based on review of manufacturers' past applications, emissions data, and OBD test data. The application requirements for this category are unique and are intended to streamline the review by CARB staff. Typically, parts or modifications that are applicable to this category are designed to replace original equipment obsolete parts, add cosmetic enhancements, and increase engine longevity. Staff's intent is to provide application requirements that are unique for each section of this category to streamline application processing time for applications for parts that CARB staff's previous experience demonstrates to have little potential to adversely impact emissions. The application requirements for this category updates the current process by being more relevant to changes made to a vehicle or engine when modified with these parts.

Section III (a)(9). Category IX – Add-On or Modified Part(s) Not Applicable to Categories II through VIII.

Add-on or modified part(s) that do not fit the criteria set forth in Categories II through VIII above.

Rationale for Section III (a)(9):

Streamlining, Technology Update: This category is for manufacturers that are requesting an exemption for parts, kits, systems, and modifications. that do not fit Categories II through VIII. Typically, parts that are applicable to this category are not the most popular requests, but tend to be the most complex. Hybrid kits, engine displacement increase kits, and multistage performance kits with various components are examples. Parts which do not merit their own category are also placed in this grouping, and include camshafts, cylinder heads, transmissions, fuel injectors, and EGR coolers as just a few examples. The application requirements will be unique for this category to streamline the processing by CARB staff for a quicker review on these unique and complex modifications. Typically, devices applicable to this category are designed for unique vehicles (e.g., turbo or supercharged vehicles, sports cars, pickups, exotic or high cost vehicles). The application requirements for this category updates the current process by being more relevant to changes made to a vehicle or engine when modified with these parts, kits, systems, or modifications.

Section III (b). Application Requirements

This section describes the minimum required information an exemption application must contain in order to be considered by CARB staff as a completed application, excluding

Category I requests. Section III (b)(5) outlines the required detailed information on the device and its effect on parts, components, and systems for each category. Also included are requirements for the manufacturers of any device that modifies a stock engine, body, or transmission control module's calibration software, excluding speedometer or wheel speed adjusters, to include a plan, as part of their application submission to CARB, for collecting vehicle identification numbers (VINs) from purchaser's vehicles. A signed attestation is the final step in the application requirements.

Rationale for Section III (b):

Clarification, Streamlining and Updating: Complete and accurate information is necessary for CARB staff to properly review submitted applications. This section provides clear, detailed requirements for the content that must be included, which, when adhered to, will provide a faster and more efficient review and approval process.

The proposed collection of VINs for calibration software modifications on control modules will aid in the identification of modified vehicles or engines with these exempted aftermarket devices that are invisible (not a physical part that is viewable in the engine compartment or underfloor of the vehicle) to a Smog Check inspector. Identifying tampered vehicles without also failing approved modified vehicles that are covered by an Executive Order is the goal. CARB plans to share the VINs obtained with the Bureau of Automotive Repair and will also use the data for its own programs.

The signed attestation is a carryover from the current procedures that has been updated. The current attestation states: "I affirm that to the best of my knowledge this device shall not cause the emission into the ambient air of any noxious or toxic matter that is not emitted in the operation of such motor vehicle without such device" and "I understand that an exemption, if granted, does not constitute a certification, accreditation, approval, or any other type of endorsement by the California Air Resources Board of any claims concerning alleged benefits of a device. I further understand that no claims of any kind concerning anti-pollution benefits may be made for an exempted device".

Under these new proposed procedures, a manufacturer would have to affirm that information in the application is true, accurate, and complete, and that to the best of the manufacturer's knowledge, installation of the device on a covered vehicle or engine will not cause regulated emissions to increase beyond the certification standards to which the vehicle or engine was certified including any noxious or toxic matter, and will not cause emission control components and OBD to function differently than as designed by the vehicle or engine manufacturer.

Section III (c). Application and Letter of Intent Submissions

This sections states that manufacturers will submit completed applications to CARB, which shall be addressed to the Chief, Aftermarket Parts Certification and Audit

Branch, Emissions Certification and Compliance Division. The recommended "Letter of Intent" is also mentioned in this section for manufacturers that are intending to submit more than one application during a 12 month period.

Rationale for Section III (c):

Clarification, Streamlining and Updating: This section is needed because it adds clarity to direct manufacturers on application submissions and that a manufacturer should submit a "Letter of Intent," which CARB will use to direct the manufacturer on the best approach to submitting applications, understanding the manufacturer's timing for application submissions, and helping the manufacturer to achieve its objectives. The "Letter of Intent" streamlines the application process for manufacturers by having CARB provide guidance on testing. A manufacturer will try to minimize testing costs by using data generated on one application submission with other submissions. With the "Letter of Intent", CARB staff would advise the manufacturer on the best approach for its planned submissions and testing. This is an update to the current process which does not have a "Letter of Intent" option. The January 30th and 12 month timeframe was chosen because historically new model-year certification for California is completed by the latter half of the prior calendar year. Manufacturers usually will have identified their target markets by the end of January. The 12 month timeframe is when manufacturers do product development for the current model-year.

Section III (d). Vehicle or Engine Coverage Requirements

This section directs a manufacturer on a per exemption application basis, for Categories II through IX, on the limitations of vehicle or engine coverage, except when combined under the same test group or engine family. The application can only contain coverage that meets the following six guidelines: a single original equipment vehicle or engine manufacturer, same vehicle or engine class, same engine configuration, same fuel type (flex-fuel is included with gasoline), same emissions control technology, and same emission standards.

Rationale for Section III (d):

Clarification, Streamlining and Updating: This section is necessary in providing the criteria on how each exemption application must be constructed using a narrow scope of applicable vehicle(s) or engine(s), excluding requests for Category I. Staff believe that the limitations would ensure the emission characteristics of vehicles or engines in the application are similar. This should reduce the research and analysis needed to evaluate the impacts of the aftermarket part on emissions and the emission control systems and make it easier to determine worst case vehicle(s) or engine(s) for testing. An application would not be accepted by CARB if the manufacturer does not present vehicle or engine coverage based on these requirements.

Single original equipment vehicle or engine manufacturer means the same vehicle or engine manufacturer (e.g., General Motors, Ford, Harley-Davidson, FCA US LLC. (Fiat-

Chrysler)). Each manufacturer tends to use similar emission control strategies, parts and engines across their product lines making staff evaluations of aftermarket parts impacts easier.

Same vehicle or engine class means that grouping patterns follow types of vehicles or engines (e.g., passenger cars, light duty trucks, heavy duty engines, motorcycles). Emission characteristics, standards and testing conditions are typically different depending on the vehicle and engine weight class and operation. Again, structuring applications to contain similar vehicles and engines will make staff evaluation more efficient.

Same engine configuration should be based on the following criteria: Number of cylinders, induction system, and source of power. Supercharged or turbocharged engines would be treated as separate engine configurations. Furthermore, an engine with one turbocharger would be a separate engine configuration when compared to an engine with two turbochargers. A hybrid engine is unique when compared to a dedicated fuel engine, such as a conventional gasoline vehicle, so the two could not share the same engine configuration. An exemption application can contain variations of an engine configuration only if the variations are listed on an applicable On-Road New Vehicle or Engine Certification Executive Order(s) (e.g., an engine test group that contains both naturally aspirated and forced induction variants). Engine configurations will have unique operating temperatures and other emission characteristics.

Same fuel type means vehicle and engines are to be grouped by fuel type (e.g., diesel, gasoline or flex-fuel, and natural gas are all unique fuel types). Vehicles and engines with different fuel types have distinctive emission characteristics. The operation of engines, emissions levels, and emission control strategies are unique by fuel type. Consequently, aftermarket parts affect emissions differently on vehicles and engines with different fuel types. To simplify the procedures, applications will be separate.

Same emissions control technology means that grouping patterns follow those of On-Road New Vehicle or Engine Certification Executive Orders (e.g., section titled “Special Features & Exhaust Emission Control Systems”). An engine with one catalyst would be considered the same emissions control technology as an engine with two or more catalysts. Delivery of fuel to the combustion chamber would be considered a unique emissions control technology (e.g., direct injection is not similar to port injection, and throttle body injection is not similar to a carbureted system, all four methods of delivering fuel to the combustion chamber are unique control technologies). Emissions and emission control components are affected by an aftermarket part differently. Again, to simplify the procedures and keep vehicles and engines with similar emission characteristics together, staff is proposing to limit the scope of applications.

Same emission standards means vehicle and engines are to be grouped by emission standards (e.g., LEV III ULEV 125 and LEV III ULEV 30 are unique emission standards) and cannot be grouped together. Similar to discussions above, vehicles and engines certified to meet unique standards have emissions controls and strategies that are

different to achieve the more stringent emission standards. As a result, the aftermarket part will impact the vehicles and engines differently. Staff is proposing that applications be limited to vehicles and engines in a single emissions standards group. Reviewing impacts on similar vehicles and technologies will allow for quicker reviews.

A list of excluded vehicles or engines that are within the scope of applicable vehicle(s) or engine(s) must be provided. CARB staff will use this information when preparing a test memo or as a footnote on an exemption Executive Order in the applicable vehicle or engine listing section. Currently, there are emission control components that are incorporated into some models in a test group, as an example, some vehicle models have a hydrocarbon trap as part of the air intake system. Aftermarket air intake manufacturers would be able to exclude those models only.

Section IV. Evaluation and Testing Criteria

This section describes the criteria for evaluating an exemption application and prescribed testing for a specified category.

Rationale for Section IV:

Clarification and Updating: This section is necessary to provide clarity and consistency to manufacturers regarding the approval process for submitted applications. By outlining the required evaluation and testing criteria in regulation, aftermarket part manufacturers will have a greater understanding of the requirements for submitting an application before making the decision to initiate or proceed with seeking an exemption from the prohibitions of VC 27156.

Section IV (a). Drivability and Performance

This section directs the manufacturer, on the action of the Executive Officer, to demonstrate adequate drivability and performance if the device(s) potentially degrades drivability or performance.

Rationale for Section IV (a):

Clarification, Streamlining, Technology Update: This section is a carryover from the current procedures and is necessary to provide manufacturers with the criteria and process the Executive Officer will use in resolving potential concerns over drivability and performance with a device installed. If a modification impairs the drivability and performance of covered vehicles, CARB staff believes the owners will be incentivized to further modify the vehicle in unapproved ways (e.g., tampering), potentially leading to degraded emissions performance.

Section IV (b). Durability

This section directs the manufacturer, when the Executive Officer determines through engineering analysis that an add-on or modified part(s) will cause the emissions control system(s) to prematurely deteriorate and emissions to increase, or the add-on or modified part(s) is less durable than the part(s) or system it is replacing, resulting in increased emissions overtime or engine damage or failure to submit data to demonstrate durability of the vehicle or engine and that the emission control systems will not be negatively affected.

Rationale for Section IV (b):

Technology Update: This section is a carryover from the current procedures and it is necessary because it gives CARB staff the tools to address quality issues in devices (e.g., construction material, poor workmanship, inadequate design, etc.) before an exemption Executive Order is granted to an add-on or modified part. CARB staff will also evaluate a device's effect on the durability of the emissions control system(s). Durabililty is a key component that OEM manufacturers must comply with during new vehicle or engine certification, so to preserve the associated projected emissions benefits it is necessary to carryover durability requirements for aftermarket parts.

Section IV (c). On-Board Diagnostic Requirements

This section states a manufacturer's responsibilities to maintain the OBD system on applicable vehicles or engines as designed by the OEM.

Rationale for Section IV (c):

Technology Update: This section is necessary and is a carryover from the current procedures with updates to reflect current and future vehicles and engines. Under these new proposed procedures, a manufacturer is responsible for ensuring that the add-on or modified part(s) will not affect the performance of the vehicle's or engine's OBD systems, since proper operation is essential in maintaining certified emission levels and function of emission related components. This includes at a minimum, affecting the OBD system's ability to detect malfunctions of the monitored emission systems, affecting the OBD system's ability to store and erase fault codes, affecting the OBD system's ability to illuminate and extinguish the malfunction indicator light properly, and affecting the vehicle's ability to undergo an inspection and maintenance evaluation (e.g., smog check) for vehicles or engines listed in the application list of affected vehicles or engines.

Section IV (d). Testing and Evaluation Requirements for passenger cars, light-duty trucks, and medium and heavy-duty vehicles with a gross vehicle weight rating (GVWR)

≤ 14,000 lbs. (vehicles up to 16,000 GVWR if included in the test group certified can be included)

This section directs the manufacturer to the required tests and ways to evaluate, the device for add-on and modified part(s) categories for passenger cars, light-duty trucks, and medium and heavy-duty vehicles with a GVWR ≤ 14,000 lbs. and vehicles up to 16,000 lbs. GVWR, if included in the same test group.

Rationale for Section IV (d):

Technology Update: Staff's intent is to inform the manufacturer about CARB's minimum requirements for device testing and options regarding the evaluation of emissions testing.

Section IV (d)(1)(A). Categories II and V, Air Intake Kits or Modifications and Intercooler Kits, Intercooler Components or Modifications, **without sensors**, excluding temperature sensors.

This section provides the manufacturer the required emissions test cycle and procedures, and ways to evaluate for these parts which do not contain critical sensors.

Rationale for Section IV (d)(1)(A):

Streamlining, Technology Update: Staff's intent is to inform the manufacturer, with parts applicable to this section, about the minimum testing required. It is proposed that they will be subjected to the US06 test cycle only; furthermore, on vehicles equipped with an OBD system, the manufacturer will need to perform testing to demonstrate continued operation of the OBD system. Evaporative testing will also be required if the Executive Officer determines based on an engineering analysis that such emissions are impacted by the device.

The US06 test cycle is required because modifications within this category are typically designed to improve air flow to the engine's combustion chamber during high load conductions like those represented by this test cycle.

If the stock components contain or house sensors other than air temperature sensors, they would be excluded from this category because the US06 test cycle will not capture the full emissions impact of the modification. Such modifications would instead fall into the requirements of Section IV (d)(1)(B).

The requirement for evaporative emissions testing is necessary to evaluate the new air intake or intercooler design on evaporative emissions (e.g., new systems can omit features in the original design that minimized evaporative emissions). The Executive Officer's review of applicable evaporative emission standards and the extent of the

modification to the stock air intake system and any emission control component would also merit evaporative emissions testing.

The manufacturer must request the Executive Officer to evaluate the emissions impact of the add-on or modified part(s) based on the “Emissions Testing Options” criteria listed in Section V (b)(1 and 2) of the new proposed procedures.

Section IV (d)(1)(B). Categories II and V, Air Intake Kits or Modifications and Intercooler Kits, Intercooler Components or Modifications, **with sensors**.

This section provides the manufacturer the required emissions test cycles and ways to evaluate for these parts that contain critical sensors.

Rationale for Section IV (d)(1)(B):

Clarification, Technology Update: Staff’s intent is to inform manufacturers, with parts applicable to this section that they will be subjected to the following test cycles: FTP, US06, and SC03 (for vehicles with a composite standard); furthermore, on vehicles equipped with an OBD system, the manufacturer will need to perform testing to demonstrate continued operation of the OBD system. Evaporative emissions testing will also be required if the Executive Officer determines based on an engineering analysis that such emissions are impacted by the device.

The FTP, US06, and SC03 emissions tests are required based on the subjected parts housing sensor(s); these sensors provide the ECM with critical data, such as airflow and pressure. A change to parts associated with these sensors or near these sensors could alter the output signals which will affect engine combustion characteristics and OBD system performance. CARB staff has determined that the FTP, US06, and SC03 are the best test cycles in determining any adverse impact on exhaust emissions for modifications made to the stock air intake or intercooler systems and components.

The requirement for evaporative emissions testing is necessary to evaluate the new air intake or intercooler design on evaporative emissions (e.g., new systems can omit features in the original design that minimized evaporative emissions). The Executive Officer’s review of applicable evaporative emission standards and the extent of the modification to the stock air intake system and any emission control component would also emit evaporative emissions testing.

The manufacturer must request the Executive Officer to evaluate the emissions impact of the add-on or modified part(s) based on the “Emissions Testing Options” criteria listed in Section V (b)(1 and 2) of the new proposed procedures.

Section IV (d)(2)(A, B). Category III, ECM Programmers or ECM Signal Modifications

This section provides the manufacturer the applicable emissions test cycles and ways to evaluate for ECM Programmers or ECM Signal Modifications which are designed to change stock calibration software or alter sensor(s) inputs and outputs.

Rationale for Section IV (d)(2)(A, B):

Clarification, Technology Update: Staff's intent is to inform the manufacturer of ECM Programmers or ECM Signal Modifications that they will be subjected to the following test cycles: FTP, US06, and SC03 (vehicles with a composite standard); furthermore, on vehicles equipped with an OBD system, the manufacturer will need to perform testing to demonstrate continued operation of the OBD system. The highway test cycle and Steady State testing will also be required, if the device's operation is not demonstrated over the required test cycles.

The FTP and US06 emissions tests are required based on the extent of the modification affecting critical engine combustion characteristics and OBD system performance. CARB staff has determined that the FTP and US06 are the best test cycles to determine any adverse impact on exhaust emissions for ECM Programmers or ECM Signal Modifications.

The requirement for the highway test cycle or Steady State testing will be based on the Executive Officer's review of applicable emission standards and the extent of the modification to the ECM calibration(s) or modification of stock sensor(s) input(s) and output(s).

The manufacturer must request the Executive Officer to evaluate the emissions impact of the add-on or modified part(s) based on the "Emissions Testing Options" criteria listed in Section V (b)(1 and 2) of the new proposed procedures.

If the device provides user adjustability, the Executive Officer shall require all testing to be conducted in a worst case device setting or settings, e.g., each user-adjustable parameter adjusted to have the greatest probability of impacting emissions.This is necessary to achieve an accurate evaluation of the device.

Section IV (d)(3)(A). Category IV, Fuel Tanks or Fuel Tank Modifications with **no changes made to stock sensors or exhaust configuration**.

This section provides the manufacturer the required emissions test cycles and ways to evaluate for Fuel Tanks or Fuel Tank Modifications with no changes made to stock sensors or exhaust configuration.

Rationale for Section IV (d)(3)(A):

Clarification, Technology Update: Staff's intent is to inform the manufacturer of Fuel Tanks or Fuel Tank Modifications with no changes made to stock sensor(s) or exhaust configuration that they will be subjected to the following testing: Evaporative and

Refueling; furthermore, on vehicles equipped with an OBD system, the manufacturer will need to perform testing to demonstrate continued operation of the OBD system. If changes are made to the stock fill pipe, the Executive Officer will also require fill pipe testing.

The manufacturer must request the Executive Officer to evaluate the emissions impact of the add-on or modified part(s) based on the “Emissions Testing Options” criteria listed in Section V (b)(1 and 2) of the new proposed procedures.

Section IV (d)(3)(B). Category IV, Fuel Tanks or Fuel Tank Modifications with **changes made to stock sensors or exhaust configuration**.

This section provides the manufacturer the required emissions test cycles and ways to evaluate for Fuel Tanks or Fuel Tank Modifications with changes made to stock sensors or exhaust configuration.

Rationale for Section IV (d)(3)(B):

Clarification, Technology Update: Staff’s intent is to inform the manufacturer of Fuel Tanks or Fuel Tank Modifications with changes made to stock sensor(s) or the exhaust configuration that they would be subjected to the following test cycles: FTP, US06, and SC03 (vehicles or engines with a composite standard) and evaporative emissions and refueling testing; furthermore, on vehicles equipped with an OBD system, the manufacturer will need to perform testing to demonstrate continued operation of the OBD system. If changes are made to the stock fill pipe, the Executive Officer will also require fill pipe testing.

When the installation of a new fuel tank involves the exhaust configuration to be modified such that the stock after treatment and sensors are no longer in a stock location and orientation, the FTP, US06, and SC03 tests are required based on the extent of the modification. The installation of a new fuel tank also requires the removal and reinstallation of various stock components, such as fuel lines, evaporative hoses, fuel pump, and filler neck are just a few examples. The evaporative test is required based on the above installation process and to also evaluate new tank construction. An OBD system performance test is needed to evaluate the impact of the new components on the OBD system.

The manufacturer must request the Executive Officer to evaluate the emissions impact of the add-on or modified part(s) based on the “Emissions Testing Options” criteria listed in Section V (b)(1 and 2) of the new proposed procedures.

Section IV (d)(4)(A, B). Category VI, Supercharger or Turbocharger Kits or Modifications

This section provides the manufacturer the required emissions test cycles and ways to evaluate for Supercharger or Turbocharger Kits or modifications made to the stock supercharger or turbocharger system.

Rationale for Section IV (d)(4)(A):

Clarification, Technology Update: Staff's intent is to inform the manufacturer of Supercharger or Turbocharger Kits or modifications made to the stock supercharger or turbocharger system that they will be subjected to the following test cycles: FTP, US06, and SC03; furthermore, on vehicles equipped with an OBD system, the manufacturer will need to perform testing to demonstrate continued operation of the OBD system. Highway or Steady State or evaporative testing will also be required if the Executive Officer determines based on an engineering analysis that such emissions are impacted by the device.

The FTP, US06, and SC03 tests are required based on the extent of the modification affecting stock sensors, engine loading, or the exhaust configuration. Staff's determination is based on the following factors: Changes made to stock turbocharger(s) or the addition of a turbocharger kit can impact nearby sensors and effect catalyst light off, a stock supercharger modification or the addition of a supercharger kit can also impact nearby sensors along with additional loading placed on the engine. CARB staff has determined that these tests are best to determine any adverse impact on exhaust emissions for Supercharger or Turbocharger Kits or modifications made to the stock supercharger or turbocharger system. An OBD system performance test is needed to evaluate the impact of the new components on the OBD system.

The requirement for evaporative testing, highway test cycle and Steady State testing will be based on the Executive Officer's review of applicable emission standards and the extent of the modification.

The manufacturer must request the Executive Officer to evaluate the emissions impact of the add-on or modified part(s) based on the "Emissions Testing Options" criteria listed in Section V (b)(1 and 2) of the new proposed procedures

If the device provides user adjustability, the Executive Officer shall require all testing to be conducted in a worst case device setting or settings, e.g., each user-adjustable parameter adjusted to have the greatest probability of impacting emissions. This is necessary to achieve an accurate evaluation of the device.

Section IV (d)(5). Category VII, Pre-Catalyst Exhaust Components.

This section provides the manufacturer the required emissions test cycle and ways to evaluate for Pre-Catalyst Exhaust Components.

Rationale for Section IV (d)(5):

Clarification, Technology Update: Staff's intent is to inform the manufacturer of Pre-Catalyst Exhaust Components that they will be subjected to the FTP test cycle only; furthermore, on vehicles equipped with an OBD system, the manufacturer will need to perform testing to demonstrate continued operation of the OBD system.

The FTP is required based on the extent of the modification affecting stock sensor(s) and the exhaust configuration and OBD system performance. This maintains CARB's current practice today of only requiring the FTP test cycle in its evaluation of parts or modification applicable to this category. Staff's determination is based on the following factors: Changes made to exhaust components directly impacts catalyst light off, the FTP test is best test cycle when determining a part or modification's effect on catalyst light off. Other test cycles have not been as effective when determining adverse impacts of pre-catalyst exhaust components.

The manufacturer must request the Executive Officer to evaluate the emissions impact of the add-on or modified part(s) based on the "Emissions Testing Options" criteria listed in Section V (b)(1 and 2) of the new proposed procedures.

Section IV (d)(6). Category VIII, Other Categorized Parts.

This section provides the manufacturer the primary way to evaluate parts and modifications listed in Other Categorized Parts.

Rationale for Section IV (d)(6):

Clarification, Technology Update: Staff's intent is to inform the manufacturer of Other Categorized Parts that engineering analysis will be the primary method of evaluation (See Rationale for Section III (a)(8)(A-P) for justification); furthermore, on vehicles equipped with an OBD system, the manufacturer will need to perform testing to demonstrate continued operation of the OBD system. Evaporative emission tests shall be required when the Executive Officer has determined it to be necessary through engineering analysis. An application that is outside the scope of this category and will be redirected by the Executive Officer to another appropriate category.

Section IV (d)(7). Category IX, Add-On or Modified Part(s) Not Applicable to Categories II through VIII

This section states that the testing and the evaluation criteria will be based on the Executive Officer's review of the submitted application.

Rationale for Section IV (d)(7):

Clarification, Technology Update: Category IX is designed to be for submitted applications not applicable to categories II through VIII, since these parts or modifications can vary dramatically, staff cannot determine an appropriate means to evaluate until it is reviewed (See Rationale for Section III (a)(9) for justification).

Section IV (e). Testing and Evaluation Requirements for Motorcycles.

This section directs the manufacturer on the required tests and ways to evaluate, based on add-on and modified part(s) categories for Motorcycles.

Rationale for Section IV (e):

Clarification, Technology Update: Staff's intent is to inform the manufacturer, CARB's perspective on testing and options regarding the evaluation of emissions.

Section IV (e)(1)(A, B). Category III, ECM Programmers or ECM Signal Modifications

This section provides the manufacturer the required emissions test cycles and ways to evaluate for ECM Programmers or ECM Signal Modifications which are designed to change stock calibration software or alter sensor(s) inputs and outputs.

Rationale for Section IV (e)(1)(A, B):

Clarification, Technology Update: Staff's intent is to inform the manufacturer of ECM Programmers or ECM Signal Modifications that they will be subjected to the following test cycles: FTP and WMTC.

The FTP and WMTC emissions tests are required based on the extent of the modification affecting critical engine combustion characteristics. CARB staff has determined that the FTP and WMTC are the best test cycles to determine any adverse impact on exhaust emissions for ECM Programmers or ECM Signal Modifications.

The manufacturer must request the Executive Officer to evaluate the emissions impact of the add-on or modified part(s) based on the "Emissions Testing Options" criteria listed in Section V (b)(1 and 2) of the new proposed procedures.

If the device provides user adjustability, the Executive Officer shall require all testing to be conducted in a worst case device setting or settings, e.g., each user-adjustable parameter adjusted to have the greatest probability of impacting emissions. This is necessary to achieve an accurate evaluation of the device.

Section IV (e)(2). Category IV, Fuel Tanks or Fuel Tank Modifications.

This section provides the manufacturer the applicable ways to evaluate for Fuel Tanks or Fuel Tank Modifications.

Rationale for Section IV (e)(2):

Clarification, Technology Update: Staff's intent is to inform the manufacturer of Fuel Tanks or Fuel Tank Modifications for motorcycles that an engineering analysis should be the primary method to evaluate the evaporative emissions impact on motorcycle fuel tanks or modifications, exhaust will not be affected. If testing is required, only evaporative emissions testing will be required by the Executive Officer.

The manufacturer must request the Executive Officer to evaluate the emissions impact of the add-on or modified part(s) based on the "Emissions Testing Options" criteria listed in Section V (b)(1 and 2) of the new proposed procedures.

Section IV (e)(3). Category V, Intercooler Kits, Intercooler Components or Modifications.

This section provides the manufacturer the required emissions test cycles and ways to evaluate for Intercooler Kits, Intercooler Components or Modifications.

Rationale for Section IV (e)(3):

Clarification, Technology Update: Staff's intent is to inform manufacturers, with parts applicable to this section that they will be subjected to the following test cycles: FTP and WMTC.

The FTP and WMTC emissions tests are required based on whether the subjected parts house sensor(s); these sensors provide the ECM critical data, such as airflow and pressure. A change to parts associated with these sensors or near these sensors could alter the output signals which affect engine combustion characteristics. CARB staff has determined that the FTP and WMTC are the best test cycles and represent typical operation in determining any adverse impact on exhaust emissions for modifications made to the stock intercooler systems and components.

The manufacturer must request the Executive Officer to evaluate the emissions impact of the add-on or modified part(s) based on the "Emissions Testing Options" criteria listed in Section V (b)(1 and 2) of the new proposed procedures.

Section IV (e)(4)(A, B). Category VI, Supercharger or Turbocharger Kits or Modifications

This section provides the manufacturer the required emissions test cycles and ways to evaluate for Supercharger or Turbocharger Kits or modifications made to the stock supercharger or turbocharger system.

Rationale for Section IV (e)(4)(A, B):

Clarification, Technology Update: Staff's intent is to inform the manufacturers of Supercharger or Turbocharger Kits or modifications made to the stock supercharger or turbocharger system that they will be subjected to the following test cycles: FTP and WMTC.

The FTP and WMTC tests are required based on the extent of the modification which affect stock sensors or the exhaust configuration. CARB staff has determined that these tests are best and represent typical operation in determining any adverse impact on exhaust emissions for Supercharger or Turbocharger Kits or modifications made to the stock supercharger or turbocharger system.

The manufacturer must request the Executive Officer to evaluate the emissions impact of the add-on or modified part(s) based on the "Emissions Testing Options" criteria listed in Section V (b)(1 and 2) of the new proposed procedures.

If the device provides user adjustability, the Executive Officer shall require all testing to be conducted in a worst case device setting or settings, e.g., each user-adjustable parameter adjusted to have the greatest probability of impacting emissions. This is necessary to achieve an accurate evaluation of the device.

Section IV (e)(5). Category VIII, Other Categorized Parts.

This section provides the manufacturer the primary way to evaluate parts or modifications listed in Other Categorized Parts.

Rationale for Section IV (e)(5):

Clarification, Technology Update: Staff's intent is to inform the manufacturers of Other Categorized Parts that Engineering Analysis will be the primary method of evaluation which CARB staff has determined are very unlikely to have an adverse impact on exhaust emissions based on review of manufacturers' past applications, emissions data, and OBD test data.

Section IV (e)(6). Category IX, Add-On or Modified Part(s) Not Applicable to Categories II through VIII

This section states that the testing and the evaluation criteria will be based on the Executive Officer's review of the submitted application.

Rationale for Section IV (e)(6):

Clarification, Technology Update: Category IX is designed for submitted applications not applicable to the other categories. Since these parts or modifications can vary dramatically, staff must evaluate them upon receipt of an application with a description of the device to determine applicable testing (See Rationale for Section III (a)(9) for justification).

Section IV (f). Testing and Evaluation Requirements for Engines (engine dynamometer testing) intended for vehicles with GVWR > 14,000 lbs.

This section directs the manufacturer on the required tests and ways to evaluate, based on add-on and modified part(s) categories for engines (engine dynamometer testing) intended for vehicles with GVWR > 14,000 lbs.

Rationale for Section IV (f):

Clarification, Technology Update: Staff's intent is to inform the manufacturer of CARB's perspective on testing and possible options regarding the evaluation of emissions impact. Manufacturers can test vehicle(s) that are equipped with a California certified engine that was certified to the California heavy-duty engine exhaust emission standards. The specific evaluation criteria for vehicle(s) tested herein shall be limited to the comparative test criteria of Section V (b)(2).

Section IV (f)(1). Categories II and V, Air Intake Kits or Modifications and Intercooler Kits, Intercooler Components or Modifications.

This section provides the manufacturer the required emissions test cycles and ways to evaluate for these parts.

Rationale for Section IV (f)(1):

Clarification, Technology Update: Staff's intent is to inform manufacturers, that they will be subjected to the following test cycles: FTP, and if the device's operation is not demonstrated over the FTP, the Executive Officer will also require SET or NTE testing.; furthermore, on engines equipped with an OBD system, the manufacturer will need to perform testing to demonstrate continued operation of the OBD system. Evaporative testing will also be required if the Executive Officer determines based on an engineering analysis that such emissions are impacted by the device.

The FTP emissions test is required based on the subject parts affecting critical sensors or housing sensor(s); these sensors provide the ECM critical data, such as airflow and pressure. A change to parts associated with these sensors or near these sensors could

alter the output signals which affect engine combustion characteristics and OBD system performance. CARB staff has determined that the FTP is the best test cycle in determining any adverse impact on exhaust emissions for modifications made to the stock air intake or intercooler systems and components.

The requirement for the SET or NTE test cycles will be based on the Executive Officer's review of applicable emission standards and the extent of the modification to the ECM calibration(s) or stock sensor(s) input(s) and output(s).

The requirement for evaporative emissions testing will be based on the Executive Officer's review of applicable evaporative emission standards and the extent of the modification to the stock air intake system and any emission control component.

The manufacturer must request the Executive Officer to evaluate the emissions impact of the add-on or modified part(s) based on the "Emissions Testing Options" criteria listed in Section V (b)(1 and 2) of the new proposed procedures.

Section IV (f)(2)(A, B). Category III, ECM Programmers or ECM Signal Modifications

This section provides the manufacturer the required emissions test cycles and ways to evaluate for ECM Programmers or ECM Signal Modifications which are designed to change stock calibration software or alter sensor(s) inputs and outputs.

Rationale for Section IV (f)(2)(A, B):

Clarification, Technology Update: Staff's intent is to inform the manufacturer of ECM Programmers or ECM Signal Modifications that they will be subjected to the following test cycle: FTP; furthermore, on engines equipped with an OBD system, the manufacturer will need to perform testing to demonstrate continued operation of the OBD system. If the device's operation is not demonstrated over the required test cycles, the Executive Officer will also require SET or NTE testing.

The FTP emissions test is required based on the extent of the modification affecting critical engine combustion characteristics and OBD system performance. CARB staff has determined that the FTP is the best test cycle to determine any adverse impact on exhaust emissions for ECM Programmers or ECM Signal Modifications.

The requirement for the SET or NTE test cycles will be based on the Executive Officer's review of applicable emission standards and the extent of the modification to the ECM calibration(s) or stock sensor(s) input(s) and output(s).

The manufacturer must request the Executive Officer to evaluate the emissions impact of the add-on or modified part(s) based on the "Emissions Testing Options" criteria listed in Section V (b)(1and 2) of the new proposed procedures.

If the device provides user adjustability, the Executive Officer shall require all testing to be conducted in a worst case device setting or settings, e.g., each user-adjustable parameter adjusted to have the greatest probability of impacting emissions. This is necessary to achieve an accurate evaluation of the device.

Section IV (f)(3)(A). Category IV, Fuel Tanks or Fuel Tank Modifications with no changes made to stock sensors or exhaust configuration.

This section provides the manufacturer the required emissions test cycles and ways to evaluate for Fuel Tanks or Fuel Tank Modifications with no changes made to stock sensors or exhaust configuration.

Rationale for Section IV (f)(3)(A):

Clarification, Technology Update: Staff's intent is to inform the manufacturer of Fuel Tanks or Fuel Tank Modifications with no changes made to stock sensor(s) or exhaust configuration that they will be subjected to the following testing as applicable: Evaporative emissions testing and OBD system testing. If changes are made to the stock fill pipe, the Executive Officer will also require fill pipe testing.

The manufacturer must request the Executive Officer to evaluate the emissions impact of the add-on or modified part(s) based on the "Emissions Testing Options" criteria listed in Section V (b)(1 and 2) of the new proposed procedures.

Section IV (f)(3)(B). Category IV, Fuel Tanks or Fuel Tank Modifications with changes made to stock sensors or exhaust configuration.

This section provides the manufacturers the applicable emissions test cycle and ways to evaluate for Fuel Tanks or Fuel Tank Modifications with changes made to stock sensors or exhaust configuration.

Rationale for Section IV (f)(3)(B):

Clarification, Technology Update: Staff's intent is to inform the manufacturer of Fuel Tanks or Fuel Tank Modifications with changes made to stock sensor(s) or the exhaust configuration that they will be subjected to the following test cycle: FTP and evaporative emissions testing; furthermore, on vehicles equipped with an OBD system, the manufacturer will need to perform testing to demonstrate continued operation of the OBD system. The SET or NTE test cycle will also be required, if it is requested by the Executive Officer. If changes are made to the stock fill pipe, the Executive Officer will also require fill pipe testing.

The FTP and evaporative tests are required based on the extent of the modification affecting stock sensor(s) or the exhaust configuration and OBD system performance.

CARB staff has determined that these tests are best to determine any adverse impact on exhaust and evaporative emissions for Fuel Tanks or Fuel Tank Modifications with changes made to stock sensor(s) or exhaust configuration.

The requirement for the SET or NTE test cycles will be based on the Executive Officer's review of applicable emission standards and the extent of the modification.

The manufacturer must request the Executive Officer to evaluate the emissions impact of the add-on or modified part(s) based on the "Emissions Testing Options" criteria listed in Section V (b)(1 and 2) of the new proposed procedures.

Section IV (f)(4)(A, B) Category VI, Supercharger or Turbocharger Kits or Modifications

This section provides the manufacturer the applicable emissions test cycles and ways to evaluate for Supercharger or Turbocharger Kits or modifications made to the stock supercharger or turbocharger system.

Rationale for Section IV (f)(4):

Clarification, Technology Update: Staff's intent is to inform the manufacturer of Supercharger or Turbocharger Kits or modifications made to the stock supercharger or turbocharger system that they will be subjected to the following test cycle: FTP; furthermore, on vehicles equipped with an OBD system, the manufacturer will need to perform testing to demonstrate continued operation of the OBD system. If requested by the Executive Officer, the manufacturer will need to conduct one or all of the following: Evaporative testing, SET and/or NTE test cycle.

The FTP test is required based on the extent of the modification affecting stock sensors or the exhaust configuration and OBD system performance. CARB staff has determined that this test is best to determine any adverse impact on exhaust emissions for Supercharger or Turbocharger Kits or modifications made to the stock supercharger or turbocharger system.

The requirement for evaporative testing, SET or NTE test cycles will be based on the Executive Officer's review of applicable emission standards and the extent of the modification.

The manufacturer must request the Executive Officer to evaluate the emissions impact of the add-on or modified part(s) based on the "Emissions Testing Options" criteria listed in Section V (b)(1 and 2) of the new proposed procedures.

If the device provides user adjustability, the Executive Officer shall require all testing to be conducted in a worst case device setting or settings, e.g., each user-adjustable parameter adjusted to have the greatest probability of impacting emissions. This is necessary to achieve an accurate evaluation of the device.

Section IV (f)(5). Category VII, Pre-Catalyst Exhaust Components.

This section provides the manufacturer the applicable emissions test cycle and ways to evaluate for Pre-Catalyst Exhaust Components.

Rationale for Section IV (f)(5):

Clarification, Technology Update: Staff's intent is to inform the manufacturer of Pre-Catalyst Exhaust Components, that they will be subjected to the FTP test cycle only; furthermore, on vehicles equipped with an OBD system, the manufacturer will need to perform testing to demonstrate continued operation of the OBD system. The SET or NTE test cycle will also be required, if it is requested by the Executive Officer.

The FTP is required based on the extent of the modification affecting stock sensor(s) or the exhaust configuration and OBD system performance. This maintains CARB's current practice today of only requiring the FTP test cycle in its evaluation of parts or modification applicable to this category. Staff's determination is based on the following factors: Changes made to exhaust components directly impacts catalyst light off, the FTP test is best test cycle when determining a part or modification effect on catalyst light off. Other test cycles have not been as affective when determining adverse impacts of pre-catalyst exhaust components.

The requirement for the SET or NTE test cycles will be based on the Executive Officer's review of applicable emission standards and the extent of the modification.

The manufacturer must request the Executive Officer to evaluate the emissions impact of the add-on or modified part(s) based on the "Emissions Testing Options" criteria listed in Section V (b)(1 and 2) of the new proposed procedures.

Section IV (f)(6). Category VIII, Other Categorized Parts.

This section provides the manufacturer the primary way to evaluate parts or modifications listed in Other Categorized Parts.

Rationale for Section IV (f)(6):

Clarification, Technology Update: Staff's intent is to inform the manufacturer of Other Categorized Parts that engineering analysis will be the primary method of evaluation (See Rationale for Section III (a)(8)(A-P) for justification); furthermore, on vehicles equipped with an OBD system, the manufacturer will need to perform testing to demonstrate continued operation of the OBD system. Evaporative emission tests shall be required when the Executive Officer has determined it to be necessary through engineering analysis.

Section IV (f)(7). Category IX, Add-On or Modified Part(s) Not Applicable to Categories II through VIII

This section states that the testing and the evaluation criteria will be based on the Executive Officer's review of the submitted application.

Rationale for Section IV (f)(7):

Category IX is designed to be for submitted applications not applicable to the other categories, since these parts or modifications can vary dramatically, staff cannot determine an appropriate means to evaluate until it is reviewed (See Rationale for Section III (a)(9) for justification).

Section V. Test Vehicle or Engine Selection and Testing

This section describes the criteria for test vehicle or engine selection, chassis testing for heavy-duty engines, evaluation criteria for emissions testing options, additional or alternate testing, OBD testing, vehicle or engine break-in requirements, and test laboratory report formatting.

Rationale for Section V:

Clarification, Technology Update: This section is necessary and is a carryover from the current procedures with updates to reflect current vehicles and engines.

Section V (a). Vehicle or Engine Selection

This section states that a manufacturer must perform testing according to these new proposed procedures when requested by the Executive Officer and that testing should be conducted on a worst case vehicle or engine. Also stated is that a manufacturer can include test data with a submitted application.

Rationale for Section V (a):

Clarification, Technology Update: This section is necessary and is a carryover from the current procedures with updates to reflect current vehicles, engines, and practices. The proposed procedures inform the manufacturer in this section that data can be presented concurrently with an application submission, a practice currently conducted; however, data presented should conform to the format described in the proposed procedures and that if a worst case vehicle or engine was not used, requested vehicle or engine coverage could be affected. The Executive Officer will still issue a letter outlining

required testing if data was not included and testing is required or if test data submitted with the application is not sufficient for the evaluation of the device.

Section V (a)(1)(A-D). The "worst case" test vehicle or engine selection, as determined by the Executive Officer

This section provides the criteria on worst case selection that is based on all of the following: Applicable emission standards, highest percentage of the new vehicle or engine certification data to emission standards, vehicle test weight and road load or engine dynamometer loading, and extent of modification and applicable effects.

Rationale for V (a)(1)(A-D):

Clarification, Technology Update: Under these new proposed procedures, a single test vehicle or engine would be used to assess the impact of the add-on or modified part on emission control system performance across all applicable models. Therefore, in order to best ensure that emissions will not be negatively impacted on the range of models, the vehicle or engine selected needs to be the one that, based on the factors below, would be expected to be the most impacted from an emission control system performance perspective.

Applicable emission standards is the test vehicle or engine certified to the most stringent standards.

Highest percentage of the new vehicle or engine certification data to emission standards is when the test vehicle or engine OEM certified emission levels are near applicable standards. The pollutant(s) of concern (hydrocarbon, carbon monoxide, oxides of nitrogen, particulate emissions) will depend on the device, the extent of modifications, and its impacts.

Vehicle test weight and road load or engine dynamometer loading, are the highest testing parameters listed within the test group or engine family for the test vehicle or engine.

Extent of modification and applicable effects, is the impact of the device on individual emission components.

Section V (a)(2). Criteria for using a chassis dynamometer to test heavy-duty engines installed in a vehicle

This section provides manufacturers the process and evaluation criteria when testing heavy-duty engines (originally certified on an engine dynamometer) on a chassis dynamometer to determine the effects of a device on exhaust emissions.

Rationale for V (a)(2):

Clarification, Technology Update: The section is necessary and is a carryover from the current procedures which is designed to minimize costs to manufacturers by testing engines that were not certified in a vehicle but an engine dynamometer. The certified engine when installed in its intended vehicle configuration can use a chassis dynamometer to conduct only comparative type exhaust emissions testing.

Section V (b). Emissions Testing Options

This section provides the manufacturer the two primary methods of emissions compliance.

Rationale for Section V (b):

Clarification and Updating: This section is needed and is a carryover from the current procedures; a manufacturer must choose the method of emissions compliance when testing is required.

Section V (b)(1). Emission Standards

The manufacturer is informed on the process, when a device is to be evaluated against applicable emission standards.

Rationale for Section V (b)(1):

Clarification and Updating: This section is necessary and is a carryover from the current procedures; the testing protocol listed uses established testing procedures to assess compliance against emissions standards. The manufacturer is also made aware of the use of deterioration and adjustment factors, retest, and test fuel. Deterioration factors are developed by the original vehicle or engine manufacturer for new vehicle or engine certification, for the model and model-year of the test vehicle or engine. The Executive Officer will provide an assigned deterioration factor, that is published by the United States Environmental Protection Agency, if the original vehicle or engine manufacturer's certification did not include one.

Section V (b)(2). Comparative Emissions Testing (Baseline vs Modified)

The manufacturer is informed on the process when a device is to be evaluated against its baseline emission levels.

Rationale for Section V (b)(2):

Clarification and Updating: This section is necessary and is a carryover from the current procedures to demonstrate compliance against baseline emission levels. The manufacturer is informed in this section on testing protocols and procedures, including the process for emissions acceptance, criteria for evaluation, and completion requirements.

Section V (b)(3). Additional or Alternate Testing

This section states that the Executive Officer, in an official test memo, can require additional or alternate testing based on an engineering analysis of the device.

Rationale for Section V (b)(3):

Clarification and Updating: This section is necessary and is a carryover from the current procedures. The emission impact of some devices cannot be completely demonstrated by using just a chassis or engine dynamometer test. Some devices operate outside the prescribed test cycles, but within typical driving patterns. Bench testing or on-road driving conditions are sometimes used to capture the overall impact a device can have on the vehicle or engine's emission control system.

Section V (c). On-Board Diagnostic Testing

The section states the minimal OBD demonstration requirements and that in-use monitoring performance of the OBD system should not be affected by the installation of the manufacturer's device.

Rationale for Section V (c):

Clarification, Technology Update: This section is necessary because it states minimum demonstration requirements that must be performed to evaluate the overall impact of the add-on or modified part on OBD performance. Therefore, it will ensure that the OBD system is not negatively impacted by the addition of the add-on or modified part. These tests are performed currently to ensure the OBD system functions. OBD operation is necessary for the detection of emission-related malfunctions, and to allow vehicles and engines to be compatible with and pass the inspection required in the California Smog Check program. A manufacturer will need to demonstrate that in-use monitoring performance of the OBD system is not affected, if the Executive Officer determines based on an engineering analysis that such demonstration are needed. Monitors are designed and required to operate in real world driving. Manufacturers must test real world vehicles to verify modifications will not reduce the effectiveness of such monitor operation. It is anticipated that manufacturers would locate several in-use vehicles operating with its device for six months or one year and interrogate the OBD system to verify continued operation of in-use monitoring performance. Manufacturers

may perform the downloads themselves and submit the data to CARB to show no loss of performance.

Section V (d). Vehicle or Engine Break-In Requirements

This section describes when CARB considers a vehicle or engine broken-in and ready for emissions testing.

Rationale for Section V (d):

Clarification and Updating: This section is necessary and is a carryover from the current procedures with updates to reflect current vehicles and engines. A new vehicle or engine needs operating time to be ready for an emissions test that would be representative of a typical in-use vehicle or engine. The term “break-in” is this process of accumulating a minimal distance on the vehicle’s odometer or run hours on an engine. This process is designed to allow the vehicle or engine to become acclimated with its components and emissions control system. The break-in process is also used when a test vehicle or engine requires the replacement of a emission control component prior to an emissions test, vehicle or engine break-in requirements will apply when the Executive Officer determines based on an engineering analysis that component break-in is needed

Section V (e). Test Laboratory

This section describes where required testing is to be conducted and when a test vehicle or engine can be released back to the manufacturer. Also in this section is the minimal requirements a laboratory report must contain and how it is to be formatted, when presented to the Executive Officer. In addition, the section describes the type of information the Executive Officer can require, upon request, of laboratories to demonstrate they are capable of performing emissions tests according to prescribed CARB test procedures. Staff can inspect the laboratories and observe preparation and emissions testing upon request.

Rationale for Section V (e):

Streamline: This section is needed to streamline the review of test data submitted by manufacturers or independent laboratories. The current procedures have no section that directs the presentation of test data so test data arrives in various formats causing delays in the processing of applications due to missing information or a disorganized presentation. CARB staff will save review time and manufacturers and independent laboratories will know what information CARB seeks and how it should be presented. Original vehicle or engine manufacturers can use their own emissions testing facilities because they are subjected to CARB’s review and inspection to verify compliance for new vehicle or engine certification. The testing laboratories shall allow the Executive

Officer to inspect their facilities prior to testing and observe all phases of testing upon request.

Section VI (a-d). Criteria for Category I Application Requests

The Executive Officer will use good engineering analysis, along with required information submitted by the manufacturer, to justify a Category I application request. A new exemption Executive Order will be issued when the request is approved by the Executive Officer.

Rationale for Section VI (a-d):

Clarification, Technology Update: Staff's intent is to inform the manufacturer that a Category I application is a simple request, no fit, function, and design changes allowed except when cosmetic. Engineering analysis and the required manufacturer's submitted information will be the primary methods used to process theses requests.

Part Number(s) or Name Change(s) and Model-Year Additions on Carryover Vehicle(s) or Engine(s) will be granted when the Executive Officer has determined based on an engineering analysis that the manufacturer's requested additions have met the basis of the exemption Executive Order being referenced by the manufacturer. It is expected that model-year additions would use a different part number which will be allowed for this request.

Private Label(s) or Extending Coverage to Subsidiaries will be granted when the Executive Officer has determined based on an engineering analysis that the extension duplicates the exemption Executive Order(s) being referenced by the manufacturer, it does not have to include all devices or applicable vehicles or engines. It is expected that private label(s) or subsidiaries will use different marketing names and part numbers which will be allowed for this request.

Consolidation of Executive Orders will be granted when the Executive Officer has determined based on a review of the subjected exemption Executive Orders and the required information supplied by the manufacturer that the requirements for this section have been met.

Section VII (a and b). Action on Application

These sections describe the actions of the Executive Officer during the review of an exemption application. Also listed is the criteria on confirmatory testing.

Rationale for Section VII (a and b):

Basis of Evaluation is a carryover from the current procedures and is intended to inform the manufacturer the actions of the Executive Officer to determine if the device increases emissions or reduces the effectiveness or durability of the emissions control system, including on-board diagnostics.

Confirmatory Testing is a carryover from the current procedures and its intent is to inform the manufacturer that CARB can do confirmatory testing to validate data submitted in support of an exemption application. Confirmatory testing conducted by CARB can include all emissions test cycles that the vehicle or engine was originally certified to in order to demonstrate emissions compliance with the device installed. The application will be rejected and closed out if confirmatory testing demonstrates that the device does not comply with the criteria stated in these proposed procedures

Section VIII. Labeling Requirements

This section describes the requirements and specifications of the product information label and its placement. Also mentioned is the need for an additional label when changes are to be made to the vehicle or engine manufacturer's recommended fuel specifications.

Rationale for Section VIII:

Clarification and Updating: This section is a carryover from the current procedures that has been updated to be more relevant to current technologies. Vehicles and engines last longer than those of the 1990s, manufacturers have more options now to make better labels that last longer. CARB staff updated this section with the criteria that a label should last through the useful life of the vehicle or engine and that manufacturers should also include on the label (or a supplemental label) any changes made to vacuum or fuel hose(s), belt(s) or tune-up specifications. CARB staff also added the requirement of a separate useful life consumer information label when changes are made to stock fuel specifications.

Section IX. Issuing an Exemption Executive Order

This section states when the Executive Officer is to issue an exemption Executive Order, passing an applicable Smog Check test, when a hold is placed on current and new applications, how and why a granted exemption Executive Order is revoked, and the process on when an application request is denied. Also stated is the right for CARB to conduct a future review of the issued exemption.

Rationale for Section IX:

Clarification, Technology Update: This section is new and necessary to these proposed procedures. It restates language currently used on exemption Executive Orders. The

intent of this section is to inform the manufacturer of the final process taken by the Executive Officer to issue the Executive Order exempting the add-on or modified part from the prohibitions of Vehicle code section 27156, and its finding that the device has met all the requirements set forth in Sections IV through VI of the new proposed procedures. As a condition of the exemption, the modified vehicle or engine, as applicable, must be capable of completing and passing the Smog Check test that applies.. Also stated in these proposed procedures and in currently issued exemption Executive Orders, CARB can go back and do another review to make sure the device still meets these proposed procedures and the evaluation criteria that was the basis of the granted exemption. Exemption Executive Orders that are to be issued based on these proposed procedures will inform manufacturers that if subjected to the information collected according to Sections III (b)(8), a failure to submit the information could result in a hold on current and new applications from the manufacturer for similar devices. Manufacturers are made aware in this section the process of when an application is denied by the Executive Officer.

Section X. Audit Testing

This section describes audit testing and how it is administered by the Executive Officer with testing protocols. Also mentioned are the actions of Executive Officer for testing failure or evidence of a defeat device.

Rationale for Section X:

Clarification: This section is new and necessary to establish the procedures CARB staff will follow when buying off the shelf exempted devices and performing audit testing on vehicles or engines that CARB has tested to establish baseline data. The procedure provides manufacturers with clarity on the audit testing process. Audit testing, at minimum, will duplicate testing done by the manufacturer during the exemption process and can include additional test cycles that represent real world driving operation including ones outside those when originally exempted. Audit testing will be limited to five new aftermarket parts or kits per manufacturer each year. Exemption Executive Orders shall be revoked if the part is found to fail these proposed procedures. If the vehicles or engines with the part installed fails its emissions standards, the testing reveals the part introduces a defeat device, or the part fails to meet the Evaluation Criteria described in these proposed procedures.

V. BENEFITS ANTICIPATED FROM THE REGULATORY ACTION, INCLUDING THE BENEFITS OR GOALS PROVIDED IN THE AUTHORIZING STATUTE

The objectives of the new proposed procedures are to clarify, streamline, and update the current procedures for exemption of add-on and modified parts, and to assist aftermarket parts manufacturers in the process of submitting an application for exemption from the prohibitions of VC Section 27156. These new proposed procedures

achieves improved clarity through the creation of revised procedure language for the following sections: Application Submission Requirements, Evaluation and Testing Criteria, Test Vehicle or Engine Selection and Testing, and Action on Application. Streamlining would be achieved by new part specific applications with clear formatting requirements, having manufacturers prepare and submit simplified and better organized vehicle lists, and creation of a template for laboratory reports. The ability to streamline the review and exemption process would also be achieved through the creation of sections which would provide an exemption pathway for less complicated requests, such as Part Number(s) or Name Change(s), Model-Year Additions on Carryover Vehicle(s) or Engine(s), Private Label(s) or Extending Coverage to Subsidiaries, or Consolidation of Executive Orders.

VI. AIR QUALITY

The new proposed procedures, like the current procedures, require aftermarket parts manufacturers to demonstrate that the add-on or modified part(s) do not reduce the effectiveness of any required emission control device. CARB generally requires aftermarket parts manufacturers to demonstrate, through vehicle or engine testing, that an aftermarket part will not increase emissions or affect OBD system operations before an exemption is issued. The exempted part must also not adversely affect the durability of the vehicle's or engine's emission control systems.

The new proposed procedures would help ensure that the use of add-on and modified parts on more advanced technology California vehicles and engines will not adversely impact the performance of the emissions control systems installed on newer vehicles or engines. As such, the new procedures work to facilitate compliance and preserve the emission benefits created by CARB's emission standards and related requirements for vehicles and engines sold in California, while striving to clarify, streamline, and update the application processes.

VII. ENVIRONMENTAL ANALYSIS

A. Introduction

This chapter provides the basis for CARB's determination that the proposed procedures are exempt from the requirements of the California Environmental Quality Act (CEQA). A brief explanation of this determination is provided in section B below. CARB's regulatory program, which involves the adoption, approval, amendment, or repeal of standards, rules, regulations, or plans for the protection and enhancement of the State's ambient air quality, has been certified by the California Secretary for Natural Resources under Public Resources Code section 21080.5 of CEQA (14 CCR 15251(d)). Public agencies with certified regulatory programs are exempt from certain CEQA requirements, including but not limited to, preparing environmental impact reports, negative declarations, and initial studies. CARB, as a lead agency, prepares a

substitute environmental document (referred to as an “Environmental Analysis” or “EA”) as part of the Staff Report prepared for a proposed action to comply with CEQA (17 CCR 60000-60008). If the proposed procedures are finalized, a Notice of Exemption will be filed with the Office of the Secretary for the Natural Resources Agency for public inspection.

B. Analysis

CARB has determined that the proposed procedures are exempt from CEQA under the “general rule” or “common sense” exemption (14 CCR 15061(b)(3)). The common sense exemption states a project is exempt from CEQA if “the activity is covered by the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment. Where it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment, the activity is not subject to CEQA.” The proposed procedures provide a pathway for aftermarket parts manufacturers to be granted an exemption from the prohibitions of Section 27156 of the California Vehicle Code (VC) for their aftermarket parts modifications or other modifications that affect emissions. The proposed procedures will provide the aftermarket parts manufacturers with a simplified application that clarifies the type of information needed when an applicant files for an exemption from VC Section 27156. The proposed procedures, like the current procedures, require aftermarket parts manufacturers to demonstrate that the add-on or modified part(s) do not reduce the effectiveness of any required emission control device. CARB generally requires aftermarket parts manufacturers to demonstrate through vehicle/engine testing that an aftermarket part will not increase emissions and/or affect OBD system operations before an exemption is issued. The exempted part must also not adversely affect the durability of the vehicle’s/engine’s emission control systems. Based on CARB’s review it can be seen with certainty that there is no possibility that the proposed procedures may result in a significant adverse impact on the environment; therefore, this activity is exempt from CEQA.

VIII. ENVIRONMENTAL JUSTICE

State law defines environmental justice as the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies (Government Code, section 65040.12, subdivision (c)). CARB is committed to making environmental justice an integral part of its activities. The Board approved its Environmental Justice Policies and Actions (Policies) on December 13, 2001, to establish a framework for incorporating environmental justice into CARB's programs consistent with the directives of State law.[3] These policies apply to all communities in California, but recognize that environmental

[3] California Air Resources Board (CARB). December 13, 2001. *Policies and Actions for Environmental Justice*. http://www.arb.ca.gov/ch/programs/ej/ejpolicies.pdf

justice issues have been raised more in the context of low-income and minority communities.

Over the past twenty years, the CARB, local air districts, and federal air pollution control programs have made substantial progress towards improving the air quality in California.[4] However, some communities continue to experience higher exposures than others as a result of the cumulative impacts of air pollution from multiple mobile and stationary sources and thus may suffer a disproportionate level of adverse health effects.

The new proposed procedures will work to ensure that excess emissions from in-use vehicles and engines are not caused by the use of add-on and modified parts that reduce the effectiveness of the original equipment manufacturers' emission control systems. As such, the procedures help preserve the emission benefits created by CARB's mobile source programs, and are not expected to create or reduce any disproportionate air quality impact that certain communities may face.

IX. ECONOMIC IMPACTS ASSESSMENT

The California Air Resources Board (CARB) staff is proposing amendments to the "Procedures for Exemption of Add-On and Modified Parts", adopted November 4, 1977, amended May 19, 1981, and last amended June 1, 1990. The "Procedures for Exemption of Add-On and Modified Parts" provides a pathway for aftermarket parts manufacturers to receive an exemption from the prohibitions of Section 27156 of the California Vehicle Code (VC) for add-on and modified parts or other modifications that have the potential to affect emissions.

The new proposed procedures will clarify, streamline, and update the CARB processes associated with a VC Section 27156 exemption, potentially resulting in cost savings on a per application basis. Clarity and updating is achieved through the creation of the following sections: 1) Application Submission Requirements, 2) Evaluation and Testing Criteria, 3) Test Vehicle or Engine Selection and Testing, and 4) Action on Application. Streamlining and updating would be achieved by: 1) new part specific applications with clear submission requirements, 2) requiring manufacturers to prepare and submit simplified and better organized vehicle orengine lists, and 3) outlining clear requirements for laboratory reports. The ability to streamline the review and approval process would also be achieved through the creation of new sections that would provide an exemption pathway for less complicated requests, such as: 1) Part Number(s) or Name Change(s), 2) Model Year Additions on Carryover Vehicle(s) or Engine(s), 3) Private Label(s) or Extending Coverage to Subsidiaries, or 4) Consolidation of Executive Orders. With these proposed changes, the expectation is faster turnaround on staff review and approval, providing a pathway for manufacturers to bring products to

[4] California Air Resources Board (CARB). October 22, 2014. *History of Air Resources Board.* http://www.arb.ca.gov/knowzone/history.htm

market faster. However, the new proposed procedures may also increase the total number of applications per manufacturer.

The proposed procedures directly affect businesses that are engaged in manufacturing aftermarket parts.[5] From March, 1973 to August, 2019, a total of 825 companies have filed applications and were granted exemptions. Most businesses that receive an exemption from the prohibitions of VC Section 27156 are considered small businesses. During the 2018 calendar year, 73 companies received an exemption for one or more products. Fifty seven of these (78 percent) qualify as small businesses because they are independently owned and operated with 100 or fewer employees. Thirty one (31) of the affected manufacturers are located in California, of which 26 (84 percent) are considered to be small businesses.

Staff's proposed new "Procedures for the Exemption of Add-On and Modified Part(s) for On Road Vehicles/Engines" are designed to replace to the current "Procedures for Exemption of Add-On and Modified Parts," and would not create or eliminate jobs within California, create new new businesses or eliminate existing businesses within California, or affect the expansion of businesses currently doing business within the state. The new procedures are expected to provide efficiencies that will clarify information manufacturers must submit in applications and minimum testing requirements that aftermarket parts manufacturers would perform in completing the VC 27156 exemption process. The new procedures will clarify, streamline, and update the process for receiving an exemption from VC Section 27156, resulting in a reduction in staff time needed to review and approve an exemption application.

The proposed new "Procedures for the Exemption of Add-On and Modified Part(s) for On Road Vehicles/Engines" are most likely to lower the application costs that aftermarket parts manufacturers would experience in receiving an exemption compared to the current procedures. However, the new procedures may increase the total number of applications submitted by affected businesses to fully cover their anticipated market of vehicles and engines. Staff believes these changes are likely to offset each other, resulting in no net cost change for manufacturers over the 5-year life of the proposed procedures.

Based on discussions with the industry, staff estimates that it currently takes about eight hours on average for an applicant to complete and file an exemption application. The proposed procedures are expected to reduce the average time to complete an application by about two hours. During the 2018 calendar year, CARB received 213 exemption applications from 73 companies. Assuming that 2018 was a representative year, the proposed procedures will reduce the time needed to complete exemption applications, but the procedures are likely to increase the number of applications by manufacturers to fully cover their anticipated market of vehicles and engines. Although there is the potential for a slight cost savings for manufacturers, staff believes these factors are likely to offset each other, resulting in no net cost impact. Staff does not

[5] NAICS 336390: Automotive parts manufacturers.

expect a significant statewide adverse economic impact directly affecting businesses, including the ability to compete, as a result of this rulemaking.

Similarly, the proposed procedures will have no fiscal impact on California State agencies. However, these procedures are likely to result in a reduced need for CARB staff time in assisting aftermarket parts manufacturers to complete applications and in packaging and formating submitted applications, as new procedures are designed to reduce ambiguities that exist in the current procedures and be more relevant to today's vehicles and engines. The proposed procedures are expected to reduce CARB's staff time in the processing of exemption applications. Applications submitted by manufacturers will be reviewed and approved faster, providing a pathway for manufacturers to bring products to market quicker. However, manufacturers may increase the total number of applications as a result of submitting more narrowly tailored applications. The staff time savings associated with manufacturers' initial submissions is anticipated to be redirected to the subsequent applications that may be submitted by the manufacturer to fully cover its anticipated market of vehicles and engines, resulting in no fiscal impact on CARB.

X. EVALUATION OF REGULATORY ALTERNATIVES

Government Code section 11346.2, subdivision (b)(4) requires CARB to consider and evaluate reasonable alternatives to the proposed regulatory action and provide reasons for rejecting those alternatives. This section discusses alternatives evaluated, and provides reasons why these alternatives were not included in the proposal. As explained below, no alternative proposed was found to be less burdensome and equally effective in achieving the purposes of the procedures in a manner than ensures full compliance with the authorizing law. The Board has not identified any reasonable alternatives that would lessen any adverse impact on small business.

The main alternative considered by staff was to take no action. This alternative will not address the needs of the aftermarket parts manufacturers, which want to bring product to market quicker. There have been many changes in the design of new motor vehicles or engines since the 1990 amended procedures, CARB staff has been left with the time consuming process of coaching manufacturers when obtaining a VC Section 27156 exemption for newer vehicles or engines. Not adopting the proposed new "Procedures for the Exemption of Add-On and Modified Part(s) for On-Road Vehicles/Engines" will not support the needs of industry for a greater efficiency in the current exemption application process. For these reasons, staff rejected this alternative.

As a second alternative, staff considered requiring product testing for every exemption application from aftermarket parts manufacturers, regardless of the likelihood of the product impacting emission control system performance. This alternative will undermine utility of the exemption program and will not meet the needs of aftermarket parts manufacturers. Testing every part number would result in: excessive costs, delaying product to market, overloading the current testing capacity of independent

laboratories, and adding unnecessary excess work load for CARB Staff. For these reasons, this alternative was rejected.

Small Business Alternative

The Board has not identified any reasonable alternatives that would lessen any adverse impact on small business.

Performance Standards in Place of Prescriptive Standards

The new proposed procedures would not mandate the use of specific technologies. These proposed procedures do not mandate any actions by aftermarket parts manufacturers, but instead provides revised approval procedures and a simplified application process that clarifies the type of information needed when an applicant files for an exemption from VC Section 27156. Applying for an exemption from VC section 27156 is voluntary and these proposed procedures do not mandate the use of any specific technology for a part to have no negative impact on the performance of the emission control system for applicable vehicles and engines.

Health and Safety Code section 57005 Major Regulation Alternatives

The proposed regulation will not result in a total economic impact on state businesses of more than $10 million in one or more years of implementation. Therefore, this proposal is not a major regulation as defined by Health and Safety Code section 57005.

XI. JUSTIFICATION FOR ADOPTION OF REGULATIONS DIFFERENT FROM FEDERAL REGULATIONS CONTAINED IN THE CODE OF FEDERAL REGULATIONS

The United States Environmental Protection Agency (U.S. EPA) has adopted regulations applicable to aftermarket parts in the Code of Federal Regulations, title 40, part 85. Federally, an aftermarket emission control device is covered under U.S. EPA's 1974 "Interim Tampering Enforcement Policy." However, these regulations establish only a voluntary self-certification program. In contrast, CARB's aftermarket parts procedures require aftermarket part manufacturers to receive and obtain an exemption before they can offer parts for sale in California.

XII. PUBLIC PROCESS FOR DEVELOPMENT OF THE PROPOSED ACTION (PRE-REGULATORY INFORMATION)

Consistent with Government Code sections 11346, subdivision (b), and 11346.45, subdivision (a), and with the Board’s long-standing practice, CARB staff held a public workshop and other meetings with interested persons during the development of the

new proposed procedures. These informal pre-rulemaking discussions provided staff with useful information that was considered during development of the regulation that is now being proposed for formal public comment.

To support development of these new proposed procedures, CARB staff held public workshops on May 8, 2018 and June 5, 2019, to obtain input from industry and other stakeholders. Staff held additional meetings with stakeholder to discuss specific topics.

XIII. REFERENCES

1. California Air Resources Board (CARB). June 1, 1990. "Procedures for Exemption of Add-On and Modified Parts", incorporated by reference in California Code of Regulations, Title 13, Division 3, Chapter 4, Article 2, Section 2222, subdivision (e) & Section 2224, subdivision (b). https://ww3.arb.ca.gov/msprog/aftermkt/vc27156procedures.pdf

2. California Air Resources Board (CARB). December 13, 2001. Policies and Actions for Environmental Justice. http://www.arb.ca.gov/ch/programs/ej/ejpolicies.pdf

3. California Air Resources Board (CARB). October 22, 2014. History of Air Resources Board. http://www.arb.ca.gov/knowzone/history.htm

4. U.S. Census Bureau. NAICS 336390: Automotive Parts Manufacturers. Accessed May 18, 2020.

XIV. APPENDICES

Appendix A

Title 13. Division 3, Chapter 4, Article 2, Section 2222: Add-On and Modified Parts, and

Appendix B

Proposed Procedures for Exemption of Add-On and Modified Part(s) for On-Road Vehicles/Engines