

State of California  
Air Resources Board

**Final Statement of Reasons for Rulemaking,  
Including Summary of Comments and Agency Response**

Public Hearing to Consider the Procedures for the Exemption of Add-On and  
Modified Part(S) for On-Road Vehicles/Engines

Public Hearing Date: July 23, 2020  
Agenda Item No.: 20-7-2

**I. General**

- A. The Staff Report: Initial Statement of Reasons for Rulemaking (“staff report” or “ISOR”), entitled “Public Hearing to Consider Proposed Procedures for Exemption of Add-On and Modified Part(s) for On-Road Vehicles/Engines,” released June 2, 2020, is incorporated by reference herein. The staff report contained a description of the rationale for the proposed amendments. On June 2, 2020, all references relied upon and identified in the staff report were made available to the public.

In this rulemaking, the California Air Resources Board (CARB or the Board) has adopted new exemption procedures for add-on and modified parts for use in on-road vehicles and engines. 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. 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, Vehicle Code (VC) Section 27156, prohibits the advertisement, 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 new exemption procedures will replace the current “Procedures for Exemption of Add-On and Modified Parts”, adopted November 4, 1977, amended May 19, 1981, and last amended June 1, 1990. The new procedures will clarify, streamline, and update CARB processes associated with a VC Section 27156 exemption. With these new procedures, the expectation is a faster turnaround for CARB staff review and approval, providing a pathway for manufacturers to bring products to market faster.

On June 2, 2020, CARB published a notice for a July 23, 2020, public hearing to consider the proposed regulatory action along with the Initial Statement of Reasons for the rulemaking (Staff Report). The Staff Report was made available for a public review and comment period beginning June 5, 2020, and ending July 20, 2020. It provides the rationale for the proposed new exemption procedures. Amendments made to sections 2222 and 2224, Article 2, Chapter 4, Division 3, Title 13, California Code of Regulations incorporate by reference the "Procedures for Exemption of Add-On And Modified Part(s) for On-Road Vehicles/Engines", which were included as Appendix B to the Staff Report. These documents were also posted on CARB's website for the rulemaking at: <https://ww2.arb.ca.gov/rulemaking/2020/ampts2020>.

On July 23, 2020, the Board conducted a public hearing and received oral and written comments. At the conclusion of the hearing, the Board adopted Resolution 20-21, which approved for adoption the proposed amendments to sections 2222 and 2224 and the incorporated exemption procedures that were initially proposed by staff and described in the Notice of Public Hearing (45-Day Public Notice) and Staff Report. The resolution further directs the Executive Officer to determine if additional modifications to the originally proposed regulation and incorporated exemption procedures are appropriate based on written comments received during the public comment period or verbal testimony at the public hearing, and if the Executive Officer so determined, to make the modified regulatory language available for public comment for a period of at least 15-days before taking final action to adopt the regulation. The Executive Officer may also decide to again present the regulations to the Board for further consideration if warranted in light of the comments.

Subsequent to the hearing, the Executive Officer proposed modifications to the incorporated exemption procedures. These post-hearing modifications adjust the requirements for demonstrations the manufacturer must make to show that On-Board Diagnostic (OBD) system performance will not be negatively impacted by the aftermarket device, make clear that new exemption applications submitted concurrently can be combined into one newly issued exemption Executive Order, and provide for adding reference, part or kit part numbers to the device label. See Section II for a detailed description.

The text of all the modifications to the originally proposed amendments was made available on December 2, 2020 for a supplemental 15-day comment period by issuance of a "Notice of Public Availability of Modified Text." The comment period ended December 17, 2020. The "Notice of Public Availability of Modified Text" listed the CARB Internet site from which interested parties could obtain the complete text of the regulation that would be affected by the modifications to the original proposal, with all of the modifications clearly indicated. The Notice itself was also published on CARB's webpage for this

rulemaking: <https://ww2.arb.ca.gov/rulemaking/2020/ampts2020>. Three written comment were received during this 15-day comment period.

After considering the comments received during the 15-day comment period and all other documents in the rulemaking record, the Executive Officer issued Executive Order R-21-003, adopting amendments to sections 2222 and 2224 and the incorporated exemption procedures.

This Final Statement of Reasons (FSOR) updates the Staff Report by identifying and providing the rationale for the modifications made to the originally proposed regulatory text, including non-substantial modifications and clarifications made after the close of the 15-day comment period. This FSOR also contains a summary of the comments received by the Board on the proposed amendments and the modifications and CARB's responses to those comments.

#### **B. Mandates and Fiscal Impacts to Local Governments and School Districts**

The Board has determined that this regulatory action will not result in a mandate to any local agency or school district the costs of which are reimbursable by the state pursuant to Part 7 (commencing with section 17500), Division 4, Title 2 of the Government Code

#### **C. Consideration of Alternatives**

For the reasons set forth in the Staff Report, in staff's comments and responses at the hearing, and in this FSOR, the Board determined that no alternative considered by the agency would be more effective in carrying out the purpose for which the regulatory action was proposed, or would be as effective and less burdensome to affected private persons, or would be more cost-effective to affected private persons and equally effective in implementing the statutory policy or other provisions of law than the action taken by the Board.

### **II. Modifications Made to the Original Proposal**

#### **A. Modifications Presented at the Board Hearing and Provided for in the 15-Day Comment Period**

The following summarizes the substantive modifications from staff's original proposal, and the rationale for making such modifications as released on December 2, 2020 (15-day notice), for public comments.

Section V(c), staff modified the requirements for demonstrations the device manufacturer must perform to show that OBD system performance will not be negatively impacted by the aftermarket device. As modified, these

demonstrations include, at a minimum, 1. validating that the OBD system sets readiness monitors as designed, and 2. 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. The Executive Officer may also require a demonstration, when engineering analysis suggests that a demonstration is warranted, that in-use monitoring frequency of the OBD system is not affected by the aftermarket device. Staff's modification removes a requirement for manufacturers to demonstrate the OBD system continues to detect malfunctions of the monitored emission systems before exceeding the applicable emission thresholds with the device installed. Comments received by industry claimed manufacturers would be overly burdened in demonstrating that OBD systems will detect malfunctions before exceeding the applicable emission thresholds because it requires extensive testing using specialized parts and equipment that are not reasonably available to them. CARB staff agreed with industry on this point, and deleted the emission threshold demonstration requirement from the procedures.

In section VI(d)(2), staff added a paragraph to provide for the issuance of a single exemption Executive Order, when requested, to indicate CARB approval for concurrently submitted applications covering the same device. All applications must share the same device name, description, and applicable OEM (except when combined under the same test group or engine family). Each application submission will be evaluated as a unique separate application. Stakeholders requested this flexibility to aid in the labeling and marketing of exempted devices, and staff does not believe that the requested flexibility will in any way hinder the objectives, evaluation, or implementation of the regulation.

In section VIII, staff removed the word "only" when used in context of the product information label, and added wording to this section that provides manufacturers the option to add only one of the following additional categories of information: reference numbers, device numbers, or kit part numbers to the product information label. The selected category can include multiple numbers; however, device numbers, also known as part numbers and kit part numbers must correlate with the issued Executive Order that is referenced on the label. The product information label must also contain the required one CARB Executive Order number, one unique product name, and the manufacturer's name and contact information.

Manufacturers had requested this added information to be allowed for use in ensuring the correct product information label is included with the correct exempted product. CARB staff view this as a reasonable request.

## **B. Non-Substantial Modifications**

CARB staff did not make any non-substantive changes to the regulation or the procedures for exemption.

## lii. Updates to the Initial Statement of Reasons

Staff would like to take this opportunity to include additional necessity for the amendments to Appendix A.

### Section 2222 (e)

Purpose: This section incorporates by reference the new “Procedures for Exemption of Add-On And Modified Part(s) for On-Road Vehicles/Engines” as proposed in the Initial Statement of Reasons, Appendix B and as modified in the 15-day notice. This section further specifies that applications submitted before the effective date of the proposed amendments shall conform to the “Procedures for Exemption of Add-on and Modified Parts,” adopted by the state board on November 4, 1977, as amended June 1, 1990. And applications submitted after the effective date shall conform to the new procedures.

Rationale: It is necessary to change the reference in this section to accurately reference the new proposed procedures. It is further necessary to specify that applications submitted before the effective date of the new procedures continue to be subject to the previously incorporated procedures—this is necessary to provide clarity to the regulated public as to which procedures their applications and add-on or modified parts must comply. Therefore, the submission date of pending applications (applications that have been submitted, but have not yet completed review) is critically important to determine which set of procedures CARB must utilize to evaluate add-on and modified part applications. CARB will continue to utilize the existing procedures, last amended June 1, 1990, to review pending applications, and CARB will utilize the new procedures to review new applications submitted after the effective date of the regulation.

### Section 2224 (b)

Purpose: This section incorporates by reference the new “Procedures for Exemption of Add-On And Modified Part(s) for On-Road Vehicles/Engines” as proposed in the Initial Statement of Reasons, Appendix B and as modified in the 15-day notice. This section further specifies that applications submitted before the effective date of the proposed amendments shall conform to the “Procedures for Exemption of Add-on and Modified Parts,” adopted by the state board on November 4, 1977, as amended June 1, 1990. And applications submitted after the effective date shall conform to the new procedures.

Rationale: It is necessary to change the reference in this section to accurately reference the new proposed procedures. It is further necessary to specify that applications submitted before the effective date of the new procedures continue to be subject to the previously incorporated procedures—this is necessary to provide clarity to the regulated public as to which procedures their applications and add-on or modified parts must comply. Whereas section 2222 (e), above, affects the Executive Officer’s review of submitted applications in determining whether or not to grant and Executive Order, this section 2224 (b) affects the Executive Officer’s review

#### **IV. Documents Incorporated by Reference**

The regulation and the incorporated exemption procedures adopted by the Executive Officer incorporate by reference the following documents:

1. “Procedures for Exemption of Add-On and Modified Part(s) for On-Road Vehicles/Engines”
2. California Air Resources Board, *California Evaporative Emission Standards and Test Procedures for 2001 and Subsequent Model Motor Vehicles*, last amended September 2, 2015.
3. California Air Resources Board, *California Refueling Emission Standards and Test Procedures for 2001 and Subsequent Model Motor Vehicles*, last amended September 2, 2015.
4. California Air Resources Board, *Specifications for Fill Pipes and Openings of 2015 and Subsequent Model Motor Vehicle Fuel Tanks*, last amended May 31, 2019.
5. Code of Federal Regulations, Title 40, section 86.1803-01, last amended October 25, 2016.
6. Code of Federal Regulations, Title 40, section 86.162–00, last amended July 1, 2012.
7. Code of Federal Regulations, Title 49, Part 565, last amended April 30, 2008.
8. Official Journal of the European Union, *Regulation (EU) No. 168/2013 of the European Parliament and of the Council of 15 January 2013 on the Approval and Market Surveillance of Two- or Three-Wheel Vehicles and Quadricycles*, January 15, 2013.

These documents were incorporated by reference because it would be cumbersome,

unduly expensive, and otherwise impractical to publish it in the California Code of Regulations. These documents contain highly technical test methods that would add unnecessary additional volume to the regulation. Distribution to all recipients of the California Code of Regulations is not needed because the interested audience for these documents is limited to the technical staff at manufacturing facilities, most of whom are already familiar with CARB's methods and the existing procedures, which were also incorporated by reference. Further, CARB made the incorporated documents available during the rulemaking action and it will continue to be available in the future.

## V. Summary of Comments and Agency Response

Below is a list of those who submitted comments during the 45-day comment period, at the July 23, 2020 Board hearing, or gave oral testimony at the Board hearing:

Commenter		Affiliation
a.	Chris Bruny	Gale Banks Engineering
b.	Frank Bohanan* (letter - 7/20/2020)	Green Speed Automotive
c.	Steve Cole (letter - 7/13/2020)	The Turbo Shop, Inc. (TTS)
d.	Marilyn Fuss (letter - 6/25/2020)	Private Citizen
e.	Doug Ingram (letter - 6/10/2020)	Private Citizen
f.	Ross Kornis	Gale Banks Engineering
g.	John Lambert (letter - 6/16/2020)	Hypertech
h.	Braden Liberg* (letter - 7/20/2020)	Edelbrock/Comp Performance Group
i.	Stephen Major (letter - 7/15/2020)	Private Citizen
j.	Max Pfeiffer* (letter - 7/20/2020)	Maxwell Vehicles
k.	Stanton Saucier* (letter - 7/20/2020)	MPower
l.	Amy Schoppman (letter - 7/20/2020)	National Mobility Equipment Dealer Association
m.	Peter Treydte* (letter - 7/20/2020)	Specialty Equipment Market Association (SEMA)

The commenters listed above with a single asterisks (\*) both submitted written comments and gave oral testimony at the July 23, 2020 Board Hearing.

During the 15-day supplemental comment period, the Board received written comments from:

Commenter		Affiliation
a.	Keith Cavallini	Green Diesel Engineering
b.	Frank Bohanan	Green Speed Automotive
c.	Peter Treydte	SEMA

All comments are taken from documents submitted during the 45-day and 15-day comment periods, or from the July 23, 2020 Board Hearing transcript.



## A. Comments and Testimony Presented During the 45-Day Public Comment Period or at the July 23, 2020, Hearing

### 1. Comments

Comment: In support (Chris Bruny, Gale Banks Engineering)

Highlights from verbal comments at the hearing.

"I just wanted to do two things. One, I wanted to thank the folks at CARB, especially Rich Muradliyan and all the staff for actually engaging with industry on this. We're one of those small family-owned businesses in California. And we've been working with CARB -- I think our first EO was in 1986. So we're very familiar with this and support it. And what we'd like to do is continue to work through SEMA to refine some of these new rules. They're absolutely needed and we're glad it's happening. We just want to help clean them up and make sure once they're implemented that it's easier going for all of us".

Agency Response A.1.a: CARB appreciates the participation and support from Gale Banks Engineering during our regulatory process.

Comment: (Frank Bohanan, Green Speed Automotive)

Highlights from submitted and verbal comments at the hearing.

It is unclear how and when CARB is going to ask for information on drivability, and the definition of drivability should include guidelines, criteria, or metrics.

Agency Response A.1.b.1: The new exemption procedures state: If the device(s) potentially degrades 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 or engine, the Executive Officer shall request the manufacturer to demonstrate adequate drivability and performance.

Drivability is a provision that was carried over from the existing procedures and is specifically defined in the procedures. It protects against modifications to vehicles that would impair drivability, for example in an attempt to improve fuel economy, during in-use driving conditions. CARB's concern is that the device or vehicle would be tampered with to operate in a manner inconsistent with the approval to alleviate degraded drivability or performance and that tampering may impact the Executive Officer's determination that the device will not

reduce the effectiveness of the emissions control system. The demonstration of adequate drivability and performance, referenced above, if necessary based on an engineering analysis, will be requested during review of a submitted application.

Existing exemptions shouldn't be impacted by changes to Smog Check.

Agency Response A.1.b.2: Any changes to the Smog Check program would have to be compatible with existing vehicles in the fleet to which the changes would apply. Exempted add-on and modified parts must be compatible with the vehicle's OBD system which is the basis for the smog check test. However, if revocation of an existing Executive Order becomes necessary, for whatever reason, procedural safeguards are included in the procedures, including written notice the holder of the Executive Order and an opportunity to request a hearing before the order may be revoked.

Defeat device needs to be defined.

Agency Response A.1.b.3: Defeat device is defined in the Code of Federal Regulations, Title 40, Section 86.1803-01, as incorporated by reference in section II. of the new procedures.

Evaporative, refueling, and fill pipe testing is infeasible for some companies and should not be required.

Agency Response A.1.b.4: Evaporative testing is necessary in some cases to ensure that the device does not impact evaporative emissions from the vehicle. The test requirements in the new procedures are largely carried over from the current procedures, and evaporative testing can be and is readily performed by independent laboratories. CARB has historically processed many applications where evaporative testing was required and performed successfully without increasing costs beyond what the market could bear. Refueling testing is required only for those applications under Category IV and fill pipe testing is required only for those applications that make changes to the stock fill pipe and these tests necessary to demonstrate compliance with certification or baseline emission levels.

OEM level OBD testing is too burdensome for aftermarket

Agency Response A.1.b.5: At the Board hearing, staff agreed to make modifications to its proposal in response to the comment. The 15-day changes ensure that OBD compatibility testing will not be overly burdensome to complete for aftermarket manufacturers. Specifically, CARB removed the requirement to validate that OBD systems will continue to detect malfunctions before emissions exceed application thresholds when the device is installed. Such testing would have required equipment and expertise that is beyond most aftermarket companies. The remaining required testing can be accomplished by using a generic scan tool, which are widely available and inexpensive, to read information

stored in the vehicle's on-board diagnostic system after periods of mileage accumulation.

Real world screening tests need to be better defined

Agency Response A.1.b.6: The screening tests are for the purpose of identifying defeat devices that might have been introduced with the add/on or modified device. The activation of a defeat device is illegal under all vehicle operating conditions. Therefore, the types of testing CARB can do to look for the existence of defeat devices should not be limited by any kind of definition or condition. Any such limitation would impede CARB's ability to identify and address any defeat device that operates outside of the limitation(s).

Gauges and OBD dongles should be evaluated in Category VIII or evaluated in a separate category

Agency Response A.1.b.7: Devices such as gauges and OBD dongles that simply read and display data from the vehicle and do not modify the vehicle in any way do not need to be exempted and are not subject to the regulation or incorporated evaluation procedures.

More specificity needs to be put into category IX

Agency Response A.1.b.8: This category is for uncommon or unusually complex modifications that do not fit the criteria for Categories II through VIII. CARB cannot reasonably specify up front what kind of testing is needed to evaluate emission impacts of these products without an engineering analysis to understand the nature of the modifications and how they function. CARB staff will need to review the application to determine appropriate testing necessary for the manufacturer to demonstrate that use of the device will not negatively impact emissions or emission control systems.

Providing specific installation instructions is an unnecessary burden. Typical instructions should be enough.

Agency Response A.1.b.9: Installation instructions are used to evaluate whether emission-related components will be removed or otherwise impacted during installation and the existing procedures already require submission of installation procedures. Further, manufacturers already must develop and make available such instructions to provide for installation of the devices by end users. Compliance with this requirement from the existing procedures has not been problematic and there is no evidence that compliance has been overly burdensome.

Listing all of the impacts of a modification on other parts and systems, including OEM part numbers, is too burdensome for aftermarket manufacturers

Agency Response A.1.b.10: This requirement is a carry-over from current procedures, except for the additional requirement to provide OEM part numbers. CARB believes it is reasonable to expect manufacturers to know how their products will impact other parts on host vehicles, and to disclose these impacts to CARB staff for their use in evaluating exemption applications. Although the requirement for OEM part numbers is new, staff believe this is a reasonable requirement to speed the processing of submitted applications.

VIN reporting is not possible

Agency Response A.1.b.11: The procedures require manufacturers to submit a plan to provide VIN information in cases where the device alters on-board computer software/calibrations. Based on discussions with industry, manufacturers acknowledged that this requirement was feasible and reasonable. There are several methods by which the information can be collected and reported, and some manufacturers can comply without changing current practices at all. The information will be helpful to customers and the Bureau of Automotive Repair (BAR). The VIN information will help identify vehicles with CARB approved computer reprogramming devices during Smog Check inspections and aid in future Smog Check compliance, see Agency Response A.1.b.2.

CARB should allow electronic submission of applications

Agency Response A.1.b.12: Over the past year, CARB established a protocol for manufacturers to submit applications electronically.

CARB should allow vehicles with different numbers of cylinders to be grouped in the same application.

Agency Response A.1.b.13: The new procedures are designed to require focused and narrow applications to provide for more efficient review. The number of cylinders may affect emission characteristics of vehicles differently. Therefore, combining vehicles with varying numbers of cylinders into a single application will generally complicate and slow down CARB review. This would be contrary to a key purpose of the new procedures, which is to provide for more efficient staff review of submitted applications.

It is unreasonable to ask manufacturer to run durability testing

Agency Response A.1.b.14: This provision is a carry-over from the existing procedures. Under the procedures, CARB will only ask for durability data if there is a reason to suspect that the aftermarket part may be quick to fail, and/or that it might impact the durability of the emission control system (e.g., degrade a catalyst through excessive exhaust temps).

The new procedures will result in a greater number of applications being submitted

Agency Response A.1.b.15: CARB expects the number of applications to increase, but specifically tailored applications will speed staff review to provide quicker turnaround between submission and CARB's issuance of an Executive Order or denial of the application.

Comment: (Steve Cole, The Turbo Shop, Inc. (TTS))

Highlights from submitted comments.

CARB violates its own current procedures by asking manufacturers to test multiple test vehicles.

Agency Response A.1.c.1: This comment extends beyond the scope of the modifications made available in the 45-Day Notice because it does not raise any objections or recommendations directed to those specified modifications.

CARB staff have not laid out reasons for changing the procedures

Agency Response A.1.c.2: The staff report describes in detail the rationale for the elements of proposed procedures. The primary objectives of the revised procedures are to update, clarify, and improve the efficiency of CARB's VC 27156 exemption process.

The criteria for Executive Officer decisions are not specified

Agency Response A.1.c.3: CARB staff disagree with the comment. In each case where the Executive Officer is empowered to make decisions under the procedures, the criteria governing that decision are provided.

CARB is asking the aftermarket to do testing that doesn't even apply to some vehicles (e.g., US06 and OBD testing)

Agency Response A.1.c.4: CARB's responsibility under Vehicle Code 27156 is to ensure that aftermarket devices do not alter the emission control performance of vehicles or engines under all operating conditions. As such, exemption evaluations should not be limited to only the driving conditions encountered during certification test cycles. The US06 cycle is designed to simulate higher speed driving with strong acceleration events. Although some vehicles subject to the procedures may not have been certified to an emission standard on this cycle, the use of the cycle through back-to-back testing is still effective in evaluating the impact of an aftermarket device when the vehicle is driven more aggressively. Contrary to the assertion of the commenter, OBD testing is not required for vehicles that were not certified to meet California's OBD requirements.

VIN reports are not possible for industry to submit

Agency Response A.1.c.5: The procedures require manufacturers to submit a plan to provide VIN information from end users in cases where the device alters on-board computer software/calibrations. CARB received information from several manufacturers that this requirement was feasible and reasonable during meetings with industry. There are several methods by which the information can be collected and reported, and some manufacturers can comply without changing current practices at all. The information will be used to help BAR discern between vehicles with legal and illegal computer reprogramming in the Smog Check program and aid in future Smog Check compliance, see Agency Response A.1.b.11 & b.2.

CARB shouldn't eliminate the absolute value threshold for back to back testing (e.g., 0.10 g/mi HC or NOx)

Agency Response A.1.c.6: A fixed back-to-back emissions threshold based on absolute values would not be appropriate in light of the large variation in emission standards that now exist within CARB new vehicle and engine certification regulations. The use of a ten percent threshold instead is a continuation of CARB's current practice, under the current procedures, and is reasonable to evaluate whether or not the effectiveness of the emission control system is being reduced by the aftermarket part irrespective of the absolute value of the vehicle or engine certification standard.

It's unreasonable to require that the baseline and modified tests be separated by no more than 3 months or 750 miles.

Agency Response A.1.c.7: The purpose of back-to-back testing is to evaluate the emissions from a vehicle with and without the device installed. The longer the timeframe between the two tests, the greater the likelihood that emission-related changes from vehicle use or age may occur that are unrelated to the aftermarket part. CARB does not believe it is unreasonable to require testing of a vehicle with and without the device installed within a period of 3 months or 750 miles.

Comment: (Marilyn Fuss, Private Citizen)

Highlights from submitted comments.

The commenter states that "exemptions from various California boards in order to allow for longer use of pollutants, particularly exemptions relating to ships and trucks, should be illegal. California already suffers from too much air pollution"

Agency Response A.1.d: The California Air Resources Board appreciates the submission. CARB's mission is to promote and protect public health, welfare, and ecological resources through effective reduction of air pollutants while recognizing and considering effects on the economy.

The new "Procedures for Exemption of Add-On and Modified Part(s) for On-Road Vehicles/Engines" replaces the current "Procedures for Exemption of Add-On and Modified Parts", last amended June 1, 1990. The new procedures, like the current procedures, 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 or engine for which they are designed. The procedures in no way offer an exemption for complying with California emission control requirements applicable to vehicles at the time of certification—the exemption is limited to Vehicle Code section 27156. Section 27156, subsection (h) provides for this process outlined in the new procedures.

Comment: (Doug Ingram, Private Citizen)

Highlights from submitted comments.

The commenter states that "the entire waiver and Executive Order (EO) process should be exempt for any products fitted to 1996+ OBD-II equipped vehicles. The EO process is redundant to already established federal and state laws regulating emissions and emissions oversight. The purpose of these OBD-II systems is to monitor engine and evaporative emissions and flag excessive emissions with fault codes, check engine lights, and even reduced engine performance. The inspection station has the authority to flag and deny emissions certification for any vehicle exceeding emissions. Aftermarket parts installed on OBD-II vehicles already go through this mandated self-inspection monitoring system. Therefore, the EO process is redundant red tape and bureaucracy that does nothing that is already in place on every new vehicle sold in California since 1996. However, in order for this OBD-II system to function the software code of the vehicle should not be altered or tampered with as to render the emissions oversight inoperable (other code changes should be permissible). Aftermarket software products that are proven to not alter this oversight code should be allowed and legal with a EO or waiver. Applying this waiver/EO process to "bolt-on" aftermarket parts that are already subject to constant and persistent OBD-II monitoring should no longer be a requirement."

Agency Response A.1.e: OBD systems are designed to detect emission control system malfunctions. These monitoring systems are not necessarily effective in detecting modifications to the design and operation of the vehicle's powertrain. Further, in many cases, malfunctions will not be detected by the OBD system until emissions are 1.5 times or higher than certification standards. Therefore, reliance on only the vehicle's OBD system would not be adequate to ensure that add-on or modified devices will not negatively impact the performance of emission control systems.

Further, add-on and modified parts have the potential to compromise the effectiveness of the on-board diagnostic system itself. Therefore, the procedures require both an evaluation of emissions performance with the

device installed and an evaluation of the compatibility of the device with the vehicle's OBD system.

Comment: In support (Ross Korn, Gale Banks Engineering)

Highlights from verbal comments at the hearing.

"I just wanted to thank the Board members for hearing all of us out and all of our comments, and thank you to Rich and CARB for all of your efforts on these updated procedures."

Agency Response A.1.f.1: CARB appreciates your participation and support on behalf of Gale Banks Engineering.

Comment: "I do have -- do have one concern that was voiced earlier for -- there are some items that are coming into the aftermarket that are widely cross-platform compatible. So I just -- hopefully, we can come to a procedure for those types of items that would cover hundreds or more of vehicle manufacturers and test groups".

Agency Response A.1.f.2: The new procedures are designed to require focused and narrow applications to provide for more efficient review. Reviewing the impact of a device on a wide array of makes and models within a single application would greatly complicate and lengthen the review process. This would be contrary to a key purpose of the new procedures, which is to provide for more efficient staff review of submitted applications.

Comment: (John Lambert, Hypertech)

Highlights from submitted comments.

Recommend adding electronic pedal adjusters to Category VIII and require only OBD testing

Recommend adding recirculating blow-off-valves in Category V

Agency Response A.1.g: The California Air Resources Board appreciates the involvement and support from John Lambert of Hypertech. CARB staff determined that pedal adjusters belong in Category III – ECM (electronic control module) Programmers or ECM Signal Modifications because data and other available information show that these devices affect emissions differently, depending on the test cycle, application, and type of device installed. Therefore, the testing and evaluation requirements set forth for Category III are the most appropriate for such devices.



CARB views the blow-off-valve as a critical part to any forced air induction system, whether reciprocating or non-reciprocating, and any modifications to this part are best evaluated under Category VI - Supercharger or Turbocharger Kits or Modifications. This category is for new forced air induction kits or modifications made to stock systems.

Comment: In support (Braden Liberg, Edelbrock/Comp Performance Group)

Edelbrock requested two changes be incorporated into the procedures. First, the Vehicle/Engine Coverage Requirements section should be expanded to include differences in emission standards for similar vehicles or engines. Second, the Labeling Requirements should be expanded to allow the manufactures to track and include the correct information labels with their products. Therefore, please modify to optionally allow including the part number. Highlights from submitted comments and verbal comments at the hearing were in support, and provided a brief background of the Edelbrock/Comp company.

Agency Response A.1.h: The California Air Resources Board appreciates the involvement and support from Braden Liberg of Edelbrock/Comp.

The new procedures were designed with various sections that are intended to streamline the exemption process for both manufacturers and CARB staff. One such section is titled "Application Requirements" which directs the manufacturer to submit an application for exemption based on a narrow scope of vehicles or engines that share emission similarities based on applicable OEM manufacturer, vehicle or engine class, engine configuration, fuel type, emission control technologies, and emission standards. This more narrowly focused application will result in subsequently less staff research time needed to assess the potential impacts of an aftermarket part on emissions and control systems, resulting in a faster turnaround on staff review and approval, and providing a pathway for manufacturers to bring products to market quicker.

If CARB was to expand the scope of an application to include more vehicles or engines, staff research time would increase based on the needed effort to determine if vehicles or engines of this wider scope have similarities in emission control technology, emissions equipment, and emission control strategies. CARB review and processing would be similar to current process. Manufacturers are encouraged to submit applications based on most popular models first with subsequent applications filling in their overall intended market.

With respect to the commenter's request to add part numbers on the device label, CARB modified the regulatory language during the 15 day process to permit manufacturers to optionally add one of the following to the label: reference numbers, device numbers, or kit part numbers. Also, multiple numbers are allowed if within the same category.

Comment: (Stephen Major, Private Citizen)

Highlights from submitted comments.

"Please give the Cummings R2.8 crate motor an EO number. The 2.8 motor is currently a 50-state emissions motor and is used in the Chevrolet Colorado series trucks. Cummings has produced a crate motor, the R2.8, that is being sold in other states."

Agency Response A.1.i: This comment extends beyond the scope of the modifications made available in the 45-Day Notice because it does not raise any objections or recommendations directed to those specified modifications. Notwithstanding, the following response is offered: Cummins may apply for an Executive Order and CARB will evaluate their application to determine if an Executive Order may be granted.

Comment: (Max Pfeiffer, Maxwell Vehicles and Stanton Saucier, MPower)

Highlights from submitted and verbal comments at the hearing.

"Electric vehicle conversions should be legal in California." (Pfeiffer)

"The availability of kit like the one proposed by Mr. Pfeiffer of Maxwell Vehicles would be a great first step toward a zero emission future for the Mobility Transportation Sector." (Saucier)

Agency Response A.1.j,k: CARB currently exempts conversion kits that are designed to repower vehicles to run on stored battery power. The new procedures will continue to provide a pathway for CARB staff to evaluate and exempt these types of modifications. Manufacturers wishing to get an exemption for a zero-emission powertrain conversion system would submit a completed Category IX application for CARB review.

Comment: (Amy Schoppman, National Mobility Equipment Dealers Association)

Highlights from submitted comments.

"NMEDA recommends adding the following terms to the "Definitions" section: "Engine Control Unit," "Exhaust Gas Recirculation," "Non-Methane Hydrocarbons," and "Non-Methane Organic Gases."

"More than one category may need to be selected when completing an application for submission. NMEDA recommends that CARB allow manufacturers of an add-on or modified part(s) to choose "at least one" of the categories."

“NMEDA therefore requests that CARB reconsider its approach to WAVs and exempt the automotive mobility (wheelchair accessible vehicle) industry from the Draft Procedures. WAV sales in California are low enough not to merit emissions scrutiny, and the resources CARB is dedicating to WAV oversight are not commensurate with the incredibly limited environmental impact of this small volume specialty industry. The time and cost associated with the Executive Order process delays and ultimately hinders the delivery of WAVs to a deserving – and, for the foreseeable future, particularly vulnerable – population of end-users.”

Agency Response A.1.I: CARB appreciates the submission from Amy Schoppman of National Mobility Equipment Dealers Association.

The suggested terms are defined in light-duty vehicle test procedures which are referenced in the procedures.

A manufacturer must choose one category that best describes its add-on and modified part(s) to determine the appropriate test protocol. If a manufacturer determines that none of the specific categories are applicable, it may choose Category IX, and CARB will evaluate the part and craft an appropriate emissions test protocol using good engineering analysis.

CARB believes that it is important that WAVs be included in the new procedures, WAV modifications alter fuel storage, fuel lines, and evaporative system designs, and those modifications need to be evaluated by CARB to ensure that evaporative emissions will continue to be properly controlled. The required information for evaluation—emissions data and fuel/evaporative system design are well established and evaluations can be performed quickly by staff. The quick turnaround of applications is expected to continue, as the new procedures do not represent a change to the process. Issuance of an exemption Executive Order can be quickened further if a WAV manufacturer’s request can be processed under the requirements of Category I (adding the latest model year of the same vehicle model). If the request cannot be processed under the criteria of Category I, the exemption procedures allow test data from the manufacturer’s other applications to be used to satisfy the requirements for another similar application.

Comment: In support (Peter Treydte, SEMA)

Highlights from submitted comments, verbal comments at the hearing and a brief background of SEMA

“SEMA supports the goal of the New Procedures and is appreciative of the hard work contributed by Staff to get to this point. SEMA has worked closely with CARB staff on the development and review of the proposed language and is largely satisfied that the Procedures will be beneficial to the stakeholders.”

Agency Response A.1.m.1: CARB appreciates the involvement and support it has received from SEMA, from the many workshops to all the work group meetings. The new exemption procedure is a product of this collaborative effort that has resulted in a process that is more focused and efficient, beneficial to both manufacturers and CARB staff.

“The New Procedures are written in such a way as to limit the scope of coverage to a single vehicle make, engine configuration, weight class, and emissions standard category. SEMA agrees with most of these limitations, but feels that the emissions standard requirement may be too restrictive and will result in a dramatic increase in the number of applications required to cover a single product.”

Agency Response A.1.m.2: SEMA’s proposal would have extended the length and complexity of CARB reviews. CARB staff believe that combining standards will continue the tradition of broad and complicated applications that are harder to work through in a timely manner; a problem that CARB is trying to fix with the new procedures. There would be more vehicle and engine designs and emission control technologies in each application. The impacts of the aftermarket part would have to be evaluated for each of the designs and technologies. Determining a worst case vehicle or engine would be more complicated too.

Manufacturers are encouraged to submit applications based on most popular first with subsequent applications filling in their overall intended market. If subsequent applications share commonalities with initial most popular application, manufacturers can include an engineering analysis that substantiates data sharing between applications.

CARB agrees that the number of applications will likely grow significantly, but they will be simpler and more focused allowing staff to review and approve applications faster. Staff’s 15-day changes make clear that a single exemption Executive Order can be issued when manufacturers submit similar applications together.

“It is imperative to our industry that a collaborative CARB/industry procedure be established allowing for advance selection of common worst-case selections for groups of vehicles often included in AMP applications. This will require meetings between CARB Staff and industry on a regular basis, at least annually. This process should result in written confirmation of agreed upon worst-case selections. Staff has agreed to the importance of such collaboration. SEMA requests that this collaborative worst-case test vehicle selection be required by the New Procedures.”

Agency Response A.1.m.3: The new procedures allow staff to work with manufacturers on test vehicle or engine selection before the applications are submitted, through the letter of intent process, and CARB staff understands the benefit to the aftermarket industry of early worst case vehicle selections. CARB recommends that manufacturers submit a letter of intent that 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 efficiently.

While CARB fully intends to collaborate with the industry in the determination of worst case vehicles for testing purposes, as it has done historically, the procedures require the Executive Officer to make the final determination. It is necessary for the Executive Officer to have the final say in test vehicle selection so that the resulting test data will best ensure that emission performance is not negatively impacted on any vehicle included in the application for which use of the device is intended. The specific criteria to determine a worst case test engine or vehicle selection is in Section V.(a)(1) of the procedures.

## **B. Comments Submitted During the 15-Day Public Comment Period**

CARB received three comments during the 15-day comment period. The Administrative Procedure Act (APA) requires a response to comments on the proposed changes in the modified regulatory proposal, not the original regulatory proposal. While CARB is not required to respond to comments that are not responsive to the modified language, the following responses to comments are provided to ensure the record is clear on the issues raised by the commenters.

### **1. Comments**

Comment: (Keith Cavallini, Green Diesel Engineering)

Highlights from submitted comments.

"In the modified text, page 21, section (c), it discusses a manufacturer might need to provide data to compare in-use monitoring performance ratio (IUMPR) data of the OBD system stock vs. modified. Has/is CARB releasing the procedure to run this type of testing? IUMPR is mandated by EPA/CARB, but it is not field monitored to a large degree. Many OEM applications do not meet or are right at the minimum thresholds. It could take many thousand miles of mileage accumulation at various temperatures/altitudes/loads for the ratios to even register and be cost prohibitive and burdensome for small manufacturers of after-market components. The large OEMs have fleets of vehicles dedicated for this type of activity and small companies do not have the same resources."

Agency Response B.1.a: See Agency Response A.1.b.5, above, regarding analysis of in-use performance ratios. This requirement was not added or modified by the 15 day modifications. Nonetheless, CARB disagrees that aftermarket companies do not have the necessary resources to carry out this kind of testing. IUMPR data can be downloaded from vehicles using commonly available and inexpensive tools. While substantial on-road driving may be necessary in order for the data to be calculated by the vehicle's OBD system, the number of miles necessary can be

limited by targeting operating conditions that are most likely to result in in-use monitoring events. Vehicle manufacturers are required to make OBD monitoring condition information available to third parties by CARB's service information rule. Understanding and strategically using this information can minimize the burden of collecting enough in-use data to show that the device does not significantly impair the OBD systems ability to function. It should also be noted that this data will only be required under the procedures when engineering analysis suggests that such an impact on OBD system performance may occur.

Comment: (Frank Bohanan, Green Speed Automotive)

Highlights from submitted comments.

Aftermarket companies are not OEMs. They do not have the resources, capabilities, expertise, or time for development and validation, etc., of the OEMs, this regulation still increases stringency in overly burdensome and significant ways like requiring costly evaporative testing, demonstration of full OBD detection prior to applicable emission standards being exceeded, submitting EO applications by individual test group, and real world testing.

The changes stated in the 15-Day comments are surely welcome, but they're not nearly sufficient enough to mitigate the multitude of concerns described in the prior public comments.

Agency Response B.1.b: CARB has summarized and responded to the comments received in response to its original proposal. For example, see Agency Responses A.1.b. above, regarding comment submissions on: evaporative testing, OBD testing, real world screening, and application vehicle grouping. The Board considered both the written and verbal comments from the commenter, but is not obligated to modify the regulation in response to each comment.

CARB disagrees that these procedures hold aftermarket companies to the same level of stringency and detail that vehicle manufacturer must meet for new vehicle/engine certification. The procedures take the typical size and resources of aftermarket device manufacturers into consideration in that there will typically be no requirement for durability testing to show emissions at end of useful life, the ability to use emissions tests data from one vehicle to satisfy multiple applications, no warranty requirements, and limited OBD testing. The procedures set forth what CARB considers to be the minimum requirements necessary to ensure that the use of aftermarket devices will not negatively impact emissions on today's complicated vehicle designs.

Comment: (Peter Treydte, SEMA)

Highlights from submitted comments.

**Limitation of Application Scope:** While it remains to be seen exactly how the limitation as defined in the New Procedures will play out, SEMA has adapted approximately 15 applications for simple, common products into the new format. On average these applications expanded what would have been 1 application into 5, and at least one became 13. When SEMA has raised concern over this *increase* in administrative burden, rather than a decrease, CARB has suggested that such groupings of applications be submitted in parallel such that they can be considered together. It stands to reason that such submissions will require just as much effort to review as a single application, thus it is unclear how this will help to reduce processing time. For now, this information is provided as a point of reference, but with continued efforts to expedite the process and the ongoing discussions around Fees, this is an important note.

Agency Response B.1.c.1: See Agency Response A.1.m.2, above, regarding Limitation of Application Scope. CARB has made it clear in the staff report that the number of applications would likely increase under the new procedures. However, the narrower focus and better organization of the applications are expected to result in increased efficiency for the review and evaluation process. Further, the new procedures allow for simple updates (part numbers, addition of new model years, private label) to be submitted in a single application, as applicable per existing Executive Order, according to the Category I criteria. These updates do not represent new parts that would require a new enhanced engineering review. Engineering analysis will be performed to ensure grouping of engines in a single application.

**Worst Case Test Vehicle Selection:** In the intervening time since the Board hearing, it has been suggested that SEMA and CARB staff begin the process of meeting to develop a pattern of discussions regarding Worst Case Test Vehicles, as described in the New Procedures. So far, meetings have been held to discuss two distinct groups of vehicles that are popular for performance modifications; FCA LEV3 3.6L naturally aspirated gas vehicles (which include the new Jeep Wranglers and Gladiators) and FCA LEV3 Cummins 6.7L turbodiesel pickup trucks. Such a determination process involves first selecting a Worst Case Test Group, then a vehicle model (usually the heaviest within that test group), then appropriate coefficients and other test criteria. The first meeting (Jeeps) was relatively successful and SEMA staff has confidence in selecting a Worst Case vehicle within that group as a result of the meeting. The second meeting (FCA LEV3 Ram Diesels) was not successful; two potential worst case vehicles were identified during the meeting but later SEMA was notified that CARB

staff had decided in a subsequent meeting (without SEMA) that certain product types might not be covered by the vehicles selected in the meeting.

The success of the new procedures, which allow for pre-emptive testing, is dependent on agreement in these categories, partially because some of this information is not publicly available and thus must be supplied by CARB. Once a vehicle is selected as Worst Case, all necessary information needs to be shared allowing industry to proceed with testing. CARB AMP Division has been reluctant to provide Worst Case determinations, indicating that inconsistency in application coverage requests and variability in product types can affect the selection. While SEMA is aware that there may be certain instances that are difficult to account for, it should be possible to make general assessments.

Agency Response B.1.c.2: See Agency Response A.1.m.3, above, regarding Worst Case Test Vehicle Selection. In addition, as suggested at the Board hearing, CARB will continue to work with SEMA and interested industry to establish worst case emission test vehicles where appropriate for groups of vehicles and engines, and certain aftermarket parts.

SEMA is appreciative of the cooperative relationship that we enjoy with CARB AMP Division. We recognize that the new procedures were developed, in part, with an intent to address concerns about application processing time. However, in addition to the concerns previously expressed, there are some practices that jeopardize the future effectiveness of the new procedures if left unchecked. SEMA's observation is that a significant contributing factor is the personnel growth and resulting unfamiliarity with a primary goal of the AMP EO program: providing a reasonable path for compliance. First, as CARB staff has grown in numbers, the disparate opinions and approaches to evaluating applications, identifying worst case vehicles and reviewing test data seem to have become more commonplace. Many applications that SEMA has assisted with have fallen victim to this unpredictability. It is understandable that staff members will have varying opinions, but this must be handled with open communication resulting in agreed upon standards rather than unequivocal support for multiple divergent paths. SEMA is willing to adopt corrective measures when necessary, but changes to standard procedure will often take time to implement. The success of the new AMP EO Procedures depends on predictability. Second, there have been recent instances of engineering data or test results being disregarded due to technicalities. It must be recognized by staff that the purpose of using the CFR test procedures (and adapted procedures where applicable) is to allow our industry to demonstrate compliance using commonly recognized test methods and that this can be accomplished without rigid adherence to all aspects of the procedures. Good engineering judgement allows for adaptability when it is appropriate. Further, the use of engineering evaluation when reviewing information submitted with an application should be embraced to streamline the EO process. It has been suggested by upper management that since the new procedures have been approved by the Board, it should be reasonable to



begin to adopt the new procedures whenever possible. This would be beneficial for industry since the procedures: 1) allow for pre-emptive testing; and, 2) clearly delineate testing requirements for certain product types. SEMA agrees with early adoption, as it would help to reveal the benefits of and any potential flaws in the New Procedures that require attention.

Agency Response B.1.c.3: The comment regarding the consistency of CARB staff review is not a direct response to the changes made in the 15-day changes document. In response to these comments, however, CARB strives to ensure that its staff remain consistent in applying good engineering analysis during application reviews and provide a level playing field for industry. The new procedures will be followed in all instances and under all circumstances, once effective.

## **VI. Peer Review**

Health & Safety Code section 57004 sets forth requirements for peer review of identified portions of rulemakings proposed by entities within the California Environmental Protection Agency, including CARB. Specifically, the scientific basis or scientific portion of a proposed rule may be subject to this peer review process. This rulemaking provides a pathway for the exemption of add-on and modified part(s) for on-road vehicles or engines using currently available test procedures and technologies, a peer review is not required.