State of California
AIR RESOURCES BOARD

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

PUBLIC HEARING TO CONSIDER THE ADOPTION OF CERTIFICATION PROCEDURES FOR ALL AFTERMARKET PART AND CONVERSION SYSTEMS FOR OFF-ROAD VEHICLES, ENGINES, AND EQUIPMENT

Public Hearing Date: November 19,1998
Agenda Item No.: 98-13-3

I. GENERAL

The Staff Report: Initial Statement of Reasons for Rulemaking ("staff report"), "Public Hearing to Consider Adoption of Certification Procedures for Aftermarket Parts for Off-Road Vehicles, Engines, and Equipment" released September 30, 1998, is incorporated by reference herein.

At a public hearing held November 19, 1998, the Air Resources Board (the "Board") adopted sections 2470-2476, and amended sections 2405(c)(10) and 2425(c)(10), title 13, California Code of Regulations ("CCR"). These amendments and new sections allow off-road aftermarket parts manufacturers to demonstrate, through emissions testing, that an aftermarket part will not increase off-road vehicle/engine/equipment emissions. These procedures therefore allow aftermarket part manufacturers to sell, offer for sale, and install add-on or modified parts provided such parts have been exempted in accordance with the adopted procedures. The regulatory action is described in detail in the initial statement of reasons (staff report), released September 1998, as part of Mail-Out MSC 98-26.

The amendments to sections 2405(c)(10) and 2425(c)(10), and adoption of sections 2470 to 2476, title 13, California Code of Regulations ("CCR") incorporate by reference emission standards and test procedures and tune-up label requirements for various categories of off-road vehicles, engines, and equipment. Specifically, for: small off-road engines, off-road diesel engines and equipment, off-highway recreational vehicles and engines, and for gasoline spark-ignition marine engines. Such emission standards, test procedures, and tune-up label requirements are contained in voluminous documents, so that it would be cumbersome, unduly expensive, and cumbersome to publish them in the California Code of Regulations.

Moreover, the emission standards and test procedures are all reasonably available to the affected public from commonly known or specified sources (Code of Federal Regulations or ARB emission standards and test procedures). All incorporated documents are clearly identified by title and date of publication or issuance. The regulatory text also states which documents are incorporated by reference and identifies each such document by title and date of publication or issuance, except where authorizing California statute requires the adoption or enforcement of the incorporated provisions of a document or any subsequent amendments

thereto. The regulation text specifies the portions of documents being incorporated by reference.

In the 15-day changes staff incorporated minor modifications to the originally proposed procedures in order to provide greater clarification or incorporate new information which was unavailable at the time of hearing. These modifications were as follows:

1. Applicability

At the hearing, one manufacturer requested that staff clarify within the procedures that remanufactured and rebuilt engines would not fall under the authority of the certification procedures for aftermarket add-on and modified parts. Since remanufactured and rebuilt engines specifically fall under the certification procedures for new engines, and would not fall within these rules, staff noted this distinction within the aftermarket certification procedures for add-on and modified parts.

As requested during the hearing, further clarifying language concerning Family Emission Levels was added to this section. Some standards permit the engine family to exceed the certification standard under a Family Emission Limit approach. Averaging permits some families to exceed the emission standard which are compensated by engine families that are certified below the emission standard for a specific model year. The certified standard is the basis of comparison for a test engine. A test engine which has been originally certified to a level above the nominal standard will need to meet the emission levels reported in the original certification of the engine family. For example, see Title 40, CFR, Part 91, Subpart C.

2. Test Procedures

At the time of the original mailout, the exhaust emission test procedures were not finalized for spark-ignition marine engines and large off-road spark-ignition engines. Since this information was unavailable at the time of the hearing, staff included the appropriate references within these procedures.

3. Alternative Test Procedures

At the hearing one manufacturer requested that alternative exhaust emission test procedures be considered in lieu of California or Federal test procedures. Although an alternative test procedure was already described within the procedures, staff felt that additional explanation of this option would help clarify this alternative to the applicant.

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.

The Board has further 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 than the action taken by the Board.

II. LIST OF COMMENTORS

Name	Acronym
Terry Ellis Clean Air Cam Technology Systems	**CACTS**
William M. Guerry, Collier, Shannon, Rill & Scott, PLLC	**CSR&S**
Gary Cross, Counsel Dunaway & Cross	**D&C**
Jed Mandel, Counsel Neal Gerber and Eisenberg and Michael Block Engine Manufacturers Association	**EMA**
Gary Baise EMI Clean Air Task Force	**EMI**
Pamela Amette, Vice President Motorcycle Industry Council	**MIC**
William Bergman, Executive Vice President Outdoor Power Equipment Aftermarket Association	**OPEA**
Paul S. Maurer, President Maurdyne Industries, Inc.	**PM**
Robert D. Shephard, Program Manager and Bob Shephard, Power System Associates	**PSA**
Christopher Kersting, Vice President Specialty Equipment Market Association	**SEMA**
Steve McLean, Analyst California Trade and Commerce Agency	**TRADE**

III. SUMMARY OF PUBLIC COMMENTS PRIOR TO OR AT BOARD HEARING AND AGENCY RESPONSES

1. Replacement Parts

Comment: Staff proposal to exempt replacement parts that have received OEM exemption is fair and will cause little disruption in the marketplace. (**OPEA**)

EMA is concerned that ARB have a meaningful means of determining that replacement parts are, in fact, "functionally identical" to the original part. (**EMA**)

Agency Response: ARB agrees with OPEA's comment, which follows the very definition of replacement part, and believes that the technical evaluation of the replacement, coupled with the ARB's authority to ensure compliance with these rules, is sufficient to ensure that the replacement part is "functionally identical."

2. Warranties

Comment: Manufacturers must provide warranties covering their parts. (**OPEA**)

All aftermarket parts should have the same warranty requirement as exists for the original part. (**EMA**) and (**CACTS**)

Agency Response: The ARB believes in allowing aftermarket manufacturers to offer warranties for add-on and modified parts in a manner consistent with market conditions.

3. In-Use Liability

Comment: The Rule should better address how the use of aftermarket parts could affect the OEM's emission warranty and in-use liability obligation. That issue is alluded to in the discussion of alternative fuel conversion systems on page 4, but is not satisfactorily addressed. Specifically, we recommend that engines, vehicles, or equipment with aftermarket parts not be subject to in-use testing and that any emission warranty or other emission performance related liability that might occur be apportioned depending on whether such liability resulted from an OEM or aftermarket part problem. (**EMA**)

Agency Response: For on-road vehicles this issue is effectively addressed in the in-use vehicle selection procedures. These off-road aftermarket procedures were closely modeled after the on-road aftermarket procedures. Currently there is no in-use testing program for off-road vehicles. The ARB expects that any future off-road in-use program will follow the on-road in-use program and will follow the same guidelines.

4. OEM Exemption to Rule

Comment: ARB should explicitly recognize that original equipment manufacturers are exempt from the new proposed certification procedures. (**CSR&S**)

Agency Response: These Rules apply to any manufacturer of add-on and modified parts for off-road vehicles, engines, and equipment. OEM manufacturers that produce add-on and modified parts must still adhere to these Rules. OEM manufacturers that produce replacement parts are exempt.

5. Deterioration Factors

Comment: Section VI.B.1) of the Procedures mandates the application of the engine manufacturer's certification deterioration factor to emission test results. This is only appropriate if the aftermarket manufacturer does not submit durability test data (either from bench aging or field aging) supporting the application of a different, and presumably lower, deterioration factor. For example, if an aftermarket manufacturer can demonstrate, through testing procedures acceptable to the Executive Officer, that installation of its aftermarket system or component can support a deterioration factor lower than the deterioration factor used by the OEM engine manufacturer, then the higher OEM deterioration factor should not be applied to the emission test results for the aftermarket system or component. (**PM**)

Agency Response: The ARB concurs.

6. Claims of Anti-Pollution Benefits

Comment: The very last sentence of the Exemption Application set forth in Appendix A reads, "I further understand that no claims of any kind concerning anti-pollution benefits may be made for an exempted device." If an aftermarket component or system can be shown, through applicable test procedures, to produce verifiable and durable emissions reductions below mandated standards, why should the aftermarket manufacturer not be able to truthfully represent such emissions benefits? It is unnecessarily discriminatory against the aftermarket. The OEM engine manufacturers will certainly tout the emissions benefits of their newer, lower emissions engines. If an exempted aftermarket device produces verifiable and durable emissions levels below mandated standards, then truthful claims to that effect should be allowed. (**PM**)

Those of us with CARB certification have spent the time and the money and the years working through the process that does not even exist to get to this point, and to be labeled as a certified product to have sold the virtues of our emissions reductions and be put on a piece of paper in tandem with something that only does no harm to existing system. I think there needs to be a differentiation. (**CACTS**)

Agency Response: The manufacturer of an aftermarket part wishing to make emission reduction claims can apply to the Cal/EPA's Environmental Technology Program. The off-road aftermarket program requires minimum testing and requires the manufacturer to prove that its product does not increase emissions, i.e., does not "make things worse." This is the minimum criterion that allows the manufacturer to market and sell its parts in California. A manufacturer cannot make any emission reduction claims about its product through the off-road aftermarket program.

7. Engine Emissions Labeling

Comment: The proposed certification program should include, or be coordinated with, an emissions labeling program that would allow the new equipment purchaser to be informed about the emissions levels of the equipment fitted with aftermarket part or systems. (**PM**)

Agency Response: The above statement assumes that the engine may have only one aftermarket part. For a discussion of Cal/EPA's Environmental Technology Program see response (6).

Comment "[B]earing in mind that the aftermarket parts subject to these requirements are typically tiny, the natural presumption is that the product information label does not go on the aftermarket part, but rather is to be provided for installation on the engine or equipment 'in a location readily visible to the average person ...' If this is the case, it should be clarified, because 'product information label' would typically refer to the product being regulated, i.e. the aftermarket part, not some unidentified other product." (**D&C**)

Agency Response The product information label should be placed in a "location readily visible to the average person." Where possible, this location should be on the aftermarket part itself. However, as the comment notes, in some circumstances the size and location of the part may make placement of the label on the part itself impossible. In these circumstances, the label may be placed in another location, including, but not necessarily limited to, the engine or other nearby equipment.

Comment: The installation requirements should be clarified to apply to the installer, not the aftermarket part manufacturer. (**D&C**)

Agency Response: The labeling requirements clearly specify that the aftermarket part manufacturer must only provide the product information label and instructions for its installation.

Comment: "There is also complete confusion regarding the relationship between the product information label and the installation instructions: the provisions generally treat them as separate items, but both must be installed "in a location readily visible to the average person ...," while only the product information label must last 5 years. It also appears that some of the installation instructions must be on the product label (e.g., rerouting of hoses, removal of emission control componentry), but all others may appear only on the separate installation instructions. Or perhaps "complete instructions" for installation means that the product label and installation instructions must partly overlap. At bottom, it is impossible to actually understand the requirements. (**D&C**)

Agency Response: Staff disagrees with the comment that "it is impossible to actually understand the requirements." First, only the product information label must be installed, as stated by the language "The add-on or modified part manufacturer shall provide a product information label and complete instructions for its installation …" (Emphasis supplied). Secondly, the other issues can be resolved by carefully reading the language.

8. Alternative Fuel Procedures

Comment: The definitions for "Alternative Fuel" and "Alternative Fuel Conversion System" and "Conversion System" suggest that conversion of a base diesel engine to alternative fuel with a conversion system will not increase emissions for any of the measured pollutants and such conversion will not have the potential to contribute to higher engine deterioration. Although a catalyst may assist in lowering some of the emissions, it should not be required if the certified emissions of the conversion are within the applicable certification standards. Therefore, we suggest the definitions of "Alternative Fuel" and "Alternative Fuel Conversion System" and "Conversion System" be amended as per the language provided in Attachment A to allow more flexibility in approval of conversion systems. (**PSA**)

Agency Response: The ARB does not believe a change in the present definitions is warranted.

9. Credits

Comments: The proposed regulation needs to have a provision to allow for credits for the addition of a conversion system (especially now with the Carl Moyer funding). (**PSA**)

Agency Response: A manufacturing planning to pursue credits can do so through new vehicle certification. Since an aftermarket credit application would have been identical to the process already in place within the new vehicle certification procedures, the ARB did not feel it was necessary to replicate these procedures within this rulemaking.

10. On-Road Engines Applied to Off-Road Vehicles and Equipment

Comments: A provision should be included to allow certified on-road engine conversions to be used on off-road applications despite the difference in test procedures. (**PSA**)

Agency Response: The ARB presently allows the application of certified on-road engines into off-road vehicles and equipment.

11. Scope

Comments: The Rule should be clarified as to its scope. It purports to cover all off-road products, yet, for example, it does not cover locomotives. Similarly, it references some rules that have been adopted by California, some that really are EPA only, and others that are likely to be adopted in the future. The standards should be referenced consistently and within the scope of ARB's authority. (**EMA**)

Agency Response: The staff report and procedures repeatedly refer to the categories covered within these procedures. All categories fall under the jurisdiction of California's authority to regulate off-road mobile sources. The ARB feels no further clarification is needed.

Comment: The proposed regulations do not apply to Large Spark-Ignited (LSI) engines, even though staff advised ITA that LSI engines would be covered by the proposed regulations. (**D&C**)

Response: LSI engines are not covered by the regulations at this time

Comment: The proposals were developed without consideration of any special circumstances that may attend the aftermarket parts business for LSI engines. (**D&C**)

Response This comment does not relate to this Rulemaking. See above Response. Also, ARB will certainly carefully consider any special circumstances when it amends these regulations to include LSI engines in the future.

12. Replacement, Remanufactured, and Rebuilt Engines

Comments: There are existing EPA and ARB programs that cover replacement engines and the remanufacturing and rebuild process. The Off-Road Aftermarket Parts Rule should not interfere with the way those existing programs function. (**EMA**)

Agency Response: The ARB does not expect these procedures will have any conflict with existing rules.

13. Certification Standard

Comments: The Rule should be modified to reflect the fact that certain off-road standards have family emission levels instead of a specific certification standard. (**EMA**)

Agency response: The ARB modified the Rule to clarify this fact.

14. Exemption Process

Comments: EMA is interested in assuring that the exemption process will be robust without being administratively burdensome. Generally, we think ARB should require some kind of a testing demonstration for aftermarket parts or conversion kits. We recommend that ARB clarify its proposed rules by providing more specific guidance as to the circumstances when testing would not be required. (**EMA**)

Agency response: The ARB believes that the guidelines in the procedures are sufficiently detailed concerning the need for testing. The Rules were drafted to strike a balance between ensuring that the aftermarket part does not produce any adverse conditions versus burdensome administrative requirements.

15. Relationship and Consistency Among the Proposals

Comment The proposed regulation should be organized and issued as one integrated regulation instead of as separate procedures. ARB should organize the three proposals so that common requirements are stated clearly once, and requirements unique to a particular type of

aftermarket part are stated as additional requirements or as exceptions in the same section. (**D&C**)

Agency Response: 1. Separate procedures are warranted because the aftermarket parts procedures specify the procedures generally applicable to all aftermarket parts, whereas aftermarket catalysts and conversion systems pose special concerns that are unique to those parts and that require additional procedures and safeguards because of the greater potential emissions impact.

2. ARB modeled these regulations after the on-road aftermarket parts regulations, which are organized as three separate procedures.

16. Criteria for Approval

Comment: ITA states that the proposed provisions "make it impossible to know what the approval criteria are. There is obviously a very important difference between meeting the standards and not increasing emissions. There may also be a difference between meeting state standards versus federal standards. There is also presumably a difference between not increasing emissions and not increasing emissions 'more than allowed.' CARB must reconcile these conflicts and state clearly what threshold showing is needed to obtain approval."

a. III.A requires testing unless the Executive Officer determines that a part "meets the standards and requirements set forth in these procedures and does not significantly affect emissions."

b. IV.A The Executive Officer shall review data to determine if the add-on or modified part increases emissions.

c. V "Off-Road Categories"
Testing is to ensure that the original certification standards are met. This is consistent with the language in IV.A

d. VI.B.1 and VI.B.2 and VII.A --approval "if EO determines add-on or modified part will not reduce the effectiveness of the emission control system or result in emissions that exceed the applicable model-year state or federal standards." (**D&C**)

Agency Response: The language in III.A. explains that applicants must conduct emission testing of their add-on or modified aftermarket parts unless the Executive Officer determines from available information that testing is unnecessary. Thus, this language sets out the approval criteria for those add-on or modified aftermarket parts for which the Executive Officer has determined testing is unnecessary; namely, that the parts meet the standards and requirements of the procedures (no adverse performance and driveability, durability, and compliance with applicable exhaust emission standards).

IV.A language refers to increasing emissions more than allowed by VI.B. "Vehicle/Engine/Equipment Exhaust Emission Standards."

ARB recognized the potential for confusion and has modified language in its 15-day amendments. [The potential for confusion resulted because ARB is preempted from regulating certain categories of equipment]

e. VII.A the reference to evaluation criteria has been amended to section VI, specifying the test procedures and standards applicable to each category of off-road vehicles/engines/equipment.

17. Testing Laboratory Credentials

Comment: III. B states that the test vehicles(s)/engine(s)/equipment shall not be returned, this carries huge financial consequences. (**D&C**)

Agency Response: This oversight was addressed in the 15 day comments by adding language that the test vehicles(s)/engine(s)/equipment will not be returned until the completion of the test period.

Comment: ITA is concerned that the language specifying that testing be performed at a properly equipped test laboratory (III.B (Test Laboratory); IV.E.2 (Specific Evaluation Criteria Parts Subject to Emission Testing); and V. (Off-Road Categories)) might be construed to require that applicants only test their aftermarket parts at independent, third-party laboratories. This interpretation could be financially burdensome to applicants, especially since some ITA members have state-of-the-art test facilities. (**D&C**)

Agency Response: ARB developed the regulation with the assumption that the majority of aftermarket part manufacturers would not have emission test laboratories. This assumption was based on observations that very few on-road aftermarket part manufacturers had fully-equipped emission test laboratories, that the costs involved in establishing and maintaining such laboratories can be significant, and that the proposal for off-road vehicles/engines/equipment involved many more categories of vehicles/engines/equipment than for the on-road aftermarket regulations.

However, as written, the proposal does not prohibit those off-road aftermarket part manufacturers that own test facilities from conducting their own emissions testing: An applicant who conducts any required tests at a laboratory it owns or that is under its control shall ensure that the test vehicle(s)/engine(s)/equipment will be present at the laboratory for the duration of the test period.

18. Selection of Test Equipment

Comment: The reference in section III.A “Emission Testing Required by the Executive Officer”; “Vehicle/Engine/Equipment Selection” to “upon request of the applicant”does not make sense. (**D&C**)

Agency Response: The language “[u]pon request by the applicant, the Executive Officer shall provide a list of test vehicles/engines/equipment, including alternates” relates to the immediately following sentences: “When selecting test vehicles/engines/equipment, the

Executive Officer shall consider the worst case and/or most popular configurations as defined in Paragraph III.E.2 of these procedures. The number of vehicles/engines/equipment to be tested is specified in Paragraph III.E of this section. Manufacturers are advised to consult with the Air Resources Board staff before conducting any testing in support of an exemption application."

Therefore, the language indicates that before an applicant conducts any testing, it should consult with ARB staff, who will then identify for the applicant both the number and the type(s) of test vehicle(s)/engine(s)/equipment that must be tested to support the applicant's exemption application.

Comment: There is no explanation of "alternates" in section III.A. (**D&C**)

Agency Response: The reference to "alternates" refers to those situations when the Executive Officer determines that a "worst case" test vehicle/engine/equipment cannot be obtained with a reasonable effort or cost to the applicant, in which case the Executive Officer may select another test vehicle/engine/equipment. This is explained in greater detail in Section III.E.2 of the procedures.

Comment: The statement that the Executive Officer shall consider "worst case and/or the most popular configurations," and similar phrasing on p.3, might mean the Executive Officer can require testing both the "worst-case" and "most-popular" equipment, thereby doubling the test burden, but this very critical point is simply ambiguous. (**D&C**)

Agency Response: The ARB disagrees that the subject language is ambiguous. The number of required test vehicles/engines/equipment is clearly specified in sections III.E.2.a-c. These sections state that an applicant whose exemption application applies to the product line of more than one vehicle/engine/equipment manufacturer may be required to test more than one test vehicle/engine/equipment. In such circumstances, an applicant could clearly be required to test both the "worst-case" and "most-popular" versions of equipment.

Comment: The concept of "Generic Categories" in section III.D appears to play no role in meeting the requirements, i.e., the requirements would be the same if the concept of "Generic Categories" did not exist. (**D&C**)

Agency Response: The "Generic Categories" concept was utilized to enable ARB staff to more readily understand the functioning and theory of particular add-on or modified off-road parts by classifying them into analogous categories of aftermarket parts that are typically encountered for on-road vehicles.

Comment: The proposal does not specify how the weight of a test engine would be increased. (**D&C**)

Agency Response: The comment relates to the selection criteria for "worst case" test vehicles/engines/equipment. Section III.E.2 explains that if the Executive Officer determines that a "worst case" test vehicle/engine/equipment cannot be obtained with a reasonable effort or cost to the applicant, the Executive Officer may select another test

vehicle/engine/equipment with the same engine displacement but different test weight. The Executive Officer may then allow the test vehicle/engine/equipment to be tested at the same test weight and road load horsepower as that of the "worst case" vehicle/engine/equipment.

In response to the comment, test engines are commonly tested on an engine dynamometer, where the engine "stress" is simulated by increasing the load on the engine. Therefore, in the event that a substitute test engine was tested in lieu of a "worst case" test engine, ARB staff would determine the appropriate loading (i.e., weight) on an engine dynamometer to simulate the load at which the "worst case" engine would be tested.

Comment: The proposal automatically repeats the phrase "vehicle/engine/equipment" apparently without thought to whether it makes sense in the particular context. It is unclear whether approval of a modified part will require testing the part only on an engine, or instead on the vehicle or equipment with the engine installed. (**D&C**)

Agency Response: Whether an add-on or modified part will require testing on an engine, or in a vehicle or piece of equipment with the engine installed depends on the off-road category that the aftermarket part is designed for. The specifics of the testing arrangements for each off-road category are contained in sections V and VI of the proposal.

Comment: Under section III.E.2 the term "application category" is undefined. (**D&C**)

Agency Response: The term "application category" is contained in subsections III.E.2.a-c, and is analogous to the off-road category for which the aftermarket part was designed.

19. Evaluation Criteria

Comment: Under section IV.C. "Performance and Driveability," the language gives no indication as to what will guide the Executive Officer's evaluation for adverse performance and driveability. The provision seems excessively broad in giving ARB completely subjective authority to determine whether owners will be "encouraged" to adjust settings or to tamper with required emission control systems. (**D&C**)

Agency Response: This section was modeled after an analogous provision regarding evaluation of on-road aftermarket part effects on vehicle performance and driveability. It is anticipated that staff will initially base their evaluations using the criteria they currently use in evaluating performance and driveability for on-road aftermarket parts, and will eventually develop criteria specific to off-road categories as they gain experience in implementing these regulations.

Comment: Section IV.D Durability, "apparently applies whether the engine was subject to any durability requirement in the first place … In such cases, where there is no durability baseline, it is hardly clear how the applicant can demonstrate satisfactory durability compared to the original equipment." (**D&C**)

Agency Response: The comment erroneously states that durability requirements may not exist for particular off-road vehicle/engine/equipment categories, because durability

baselines do exist for every off-road category subject to the proposed regulations. Specifically, off-road vehicle/engine/manufacturers must comply with defects warranty requirements and/or in-use recall/provisions for: small off-road engines (Title 13 CCR section 2405); off-road diesel engines and equipment (40 CFR 89.104-96 or 13 CCR section 2425); off-highway recreational vehicles and engines (Title 13, CCR sections 2414), and gasoline spark ignition marine engines (40 CFR sections 91.105 and 91.1203).

Although an aftermarket part may be installed on an off-road vehicle/engine/equipment that is beyond the terms of its defects warranty or in-use recall provisions, this does not mean that the vehicle/engine/equipment was never subject to any durability requirements.

Comment: The last sentence in section IV.D "[i]n such cases the applicant shall be required to submit data in order to show that the vehicle/engine/equipment emission control system is not affected, and/or that the add-on or modified part has demonstrated adequate durability" can mean anything, and can justify any test or other burden that the Executive Officer may wish to impose. (**D&C**)

Agency Response: Staff disagrees with the characterization of the above language; the language expressly states that the Executive Officer can only require an applicant to submit data relating to the durability of add-on or modified parts and/or data showing that the parts will not affect the emission control systems of the vehicle/engine/equipment they are installed on. This language is nearly identical to similar language in the aftermarket parts regulation for on-road vehicles, which has not had problems with "vagueness." ARB anticipates that staff will utilize their experience with the on-road aftermarket regulation in interpreting this provision.

Comment: The first sentence of section IV.E is meaningless. (**D&C**)

Agency Response: Staff disagrees with this characterization of the language.

Comment: The language of section IV.E.1 "[t]he applicant shall submit a list of vehicles/engines/equipment for which the add-on or modified part may be applied to, before commencing testing. The ARB shall inform the applicant as to which engine may need to be tested. An applicant may be required to test more than vehicle/engine/equipment," is either "wrong, redundant, meaningless or indicative of a requirement that has crept in without explanation." (**D&C**)

Agency Response: Staff disagrees with this characterization of the language. Moreover, this language has been amended to replace "engine" with "vehicle/engine/equipment" for purposes of consistency.

Comment: There seems to be no reason for testing to establish baseline emissions of test vehicles/engines/equipment. "[W]here aftermarket parts are intended for certified products, the baseline should either be the standard applicable to the product or its certification value." (**D&C**)

Agency Response: The proposed regulations require that add-on and modified parts be tested on "functional vehicles/engines/equipment," which are defined in section IV.E.1 as "vehicles/engines/equipment that comply with the applicable original certification standard." The baseline testing requirement is needed to ensure that a test vehicle/engine/equipment does comply with the applicable original certification standard, and to ensure that the test vehicles/engines/equipment are representative of actual and functional vehicles/engines/equipment. Eliminating the baseline test and basing the decision to approve or disapprove an add-on or modified part on only one test would undermine the approval process. For example, although a test vehicle/engine/equipment's engine family may have been certified to extremely low certification values, a particular test vehicle/engine/equipment may have emissions exceeding the certification standard, which would result in failure of the emission test criteria and the denial of the add-on or modified parts exemption application. Without a baseline test, neither the ARB nor an applicant could determine that the test failure was caused by an unrepresentative test vehicle/engine/equipment instead of the add-on or modified part itself.

20. Off-Road Categories

Comment: It is "impossible" to determine what the sentence "[t]he baseline emissions without the add-on or modified part shall be determined prior to testing, but after stabilization of the vehicle/engine/equipment" means (in section V of the proposal). (**D&C**)

Agency Response: Staff believes the subject sentence is clear and self-explanatory. First, applicants must operate test vehicles/engines/equipment for the applicable "break-in periods," defined in the test procedures for each off-road category as operational hours or mileage accumulation needed to stabilize emissions. Second, baseline emissions of test vehicles/engines/equipment shall be determined using the test procedures specified in sections V and VI of the procedures.

Agency Comment: ARB needs to clearly state which off-road categories it is attempting to regulate as to aftermarket certification. "This is another area where a casual decision to include LSI engines leaves important issues unaddressed." (**D&C**)

Response: The proposal explicitly states the off-road categories that will be subject to the regulations in sections V and VI of the procedures: small off-road engines, off-road diesel engines and equipment (off-road diesel cycle engines rated greater than or equal to 50 hp and less than 175 hp certified to federal standards will be evaluated in accordance with federal emission standards and test procedures, those rated at 175 hp and above certified to California emission standards will be evaluated in accordance with California emission standards and test procedures); off-highway recreational vehicles and engines; and gasoline spark ignition marine engines (these will be evaluated in accordance with federal emission standards and test procedures). Large Spark-Ignited (LSI) engines are <u>not</u> included in the regulations, contrary to the comment.

21. Test Procedures and Standards

Comment: "Page 9, under VI.A (5), contains a single sentence permitting alternative test plans for conversion systems. Meanwhile, there is a separate 13-page proposal on obtaining approval for conversion systems, where the identical wording appears on page 11. This disjointed approach only creates more confusion, forcing every potentially affected party to read every sentence of every proposal, since there has been no effort to collect similar requirements in one place." (**D&C**)

Agency Response: The sentence in section VI.A.(5) has been reworded, and the reference to conversion systems has been eliminated.

Comment: If aftermarket parts are intended for use on engine families certified to "Family Emission Limits," would the applicable emission standards be the nominal standards or the Family Emission Limits for the particular engine family? (**D&C**)

Agency Response: This issue has been addressed in the 15-day amendments to the proposal (see section VI.B.3 of the proposal- applicable emission standards are the FEL that the vehicle/engine/equipment is certified to).

22. Appendix A

Comment: "The first asterisk footnote on the Exemption Application for General Criteria Parts contemplates someone other than the manufacturer filing the application, yet the proposal's provisions make no allowance for this, stating on page 1 that "[t]he manufacturer … shall file an application for exemption …" (**D&C**)

Agency Response: Section II states that "The application shall be in writing, and must be signed by a person authorized to act on behalf of the manufacturer." Thus, an applicant seeking an exemption might be the manufacturer's authorized representative (see Item 3 in the application).

Comment: Item 9 in the application implies that one application can be used for more than one design of an aftermarket part. "ARB must clearly state what parts a single application can cover." (**D&C**)

Agency Response: Section II states that a manufacturer "shall file an application for exemption for each generic category, as defined in Paragraph III.D of these procedures."

Comment: "Item 10(b), or perhaps only some of it, is denoted as "Optional." There is also a reference to the 'packaging label,' with no hint as to what that may be." (**D&C**)

Agency Response: All of the information sought by item 10(b) is optional. The term "packaging label" merely refers to any label that may be present on the packaging material containing the aftermarket part.

Comment: Many of the informational requirements required by Items 10(c), (d), and (e) are inconsistent with the labeling requirements in the provisions themselves. (**D&C**)

Agency Response: Staff agrees with this comment and has revised the labeling provisions to be consistent with the Exemption Application for General Criteria Parts. Staff has amended the Application. [See Appendix A].

Comment: "Item 12, the "Emissions Statement," essentially rewrites the already-inconsistent approval criteria by requiring affirmation that the device does not cause the emission of any 'noxious or toxic matter' not emitted without the device. This is a different standard that does not appear in the provisions." (**D&C**)

Agency Response: Staff disagrees that the affirmation sought by item 12 is inconsistent with or is a different standard from that contained in the provisions.

23. Language Usage Amendments

Comment: The Regulation Review Unit (RRU) identified the possible need to include the term "Incorporated by Reference" (IBR) as defined by §20 of Title 1 of the California Code of Regulations. Although other portions of the proposal contain the IBR, some sections do not and state "in accordance with", "pursuant to", and "does not conform to". [See §2474 (e)(h) & (i) and §2475 (b)]. RRU recommends amending these sections to be consistent with each other for ease of reading and to be more in line with the APA. (**TRADE**)

Agency Response: The ARB disagrees.

Comment: The ARB Emissions Parts List identified numerous devices and parts, including the "CEC", valve. The acronym "CEC" or "Computerized Emissions Control" valve should be spelled-out or defined. (**TRADE**)

Agency Response: Staff made this change in the 15-day amendments.

24. Section Number Errors

Comment: "Procedure for Exemption of Add-On and Modified Parts for Off-Road Categories", page 7, Section VI, A 1).

"Evaluation Procedures for New Aftermarket Non-Original Equipment Catalytic Converters for Off-Road Vehicles, Engines, and Equipment §2424" on page 5 (subsection 2), titled "Evaluation Procedures for New Aftermarket Non-Original Equipment Catalytic Converters for Off-Road Vehicles, Engines, and Equipment," should read §2423. (**TRADE**)

Agency Response: These corrections were made in the 15-day amendments.

Comment: "Exhaust Emission Standards and Test Procedures For Systems Designed to Convert Off-Road Vehicles, Engines, and Equipment To Use Alternative Fuels," page 2, Section D 1). (**TRADE**)

Agency Response: Staff does not believe a modification is needed.

III. WRITTEN COMMENTS DURING 15-DAY COMMENT PERIOD

1. Extension of Comment Period

Comment: We request a two week extension until September 14, 1999. (**EMI**)

Agency Response: The ARB extended the comment period until September 17, 1999. See Mailout #MSC 99-23.

2. Alternative Test Plan

Comment: The provisions regarding "Alternative Test Plan" in VI.A.5) should be revised as follows to clarify the types of acceptable data to support equivalency to the applicable standard test procedures:
1) Delete the second paragraph which states, "The Executive Officer may reject data generated under alternative test procedures which do not correlate with data generated under the specified procedures", and
2) replace it with the following paragraph:
"The Executive Officer shall not require actual correlation with results obtained under the specified test procedure, and shall accept hot start alternative test procedures if a) an engineering analysis is provided showing that the part is not expected to have a disproportionate effect on emissions during cold start and warm up and b) data are provided showing that the part affects emissions on a warmed-up vehicle or engine under the specified test procedures." (**MIC**)

Agency Response: The Rules presently allow for the use of an alternative test procedure. The ARB does not believe that its present policy concerning the use of alternative test procedures needs to be amended.

3. Warranty

Comment: The proposed revisions (§2405 and §2425) appear to conflict with the guidelines of the Magnuson-Moss Act in that they call for warranty to be denied based solely on the presence of a non-OEM part. The language specifically states the mere "use" of an aftermarket add-on or modified part which lacks an E.O. is grounds for warranty denial. It does not require the part be the cause of the failure/problem. This conflicts with Magnuson-Moss which mandates that the failure must have been directly caused by the aftermarket part for warranty to be denied; this cause and effect relationship must be maintained. (**SEMA**)
Agency Response: The ARB does not perceive a conflict. Both sections §2405 and §2425 specifically state the following: "The engine manufacturer shall not be liable under this article

to warrant failures of warranted parts caused by the use of non-exempted add-on or modified parts."

Comment: The requirement that aftermarket manufacturers of add-on and modified parts offer a transferable lifetime warranty not only for their products but for the cost of all repair/damage is clearly without precedent and is contrary to federal law. The mere presence of such aftermarket parts must not be grounds for denial of the vehicle/engine/equipment manufacturer's warranty, in accordance with the Magnuson-Moss Warranty act. If the aftermarket part product is proven to be the cause of the failure experienced, warranty coverage may be denied. However, this does not obligate the aftermarket manufacturer to assume the total cost of repairs. The extent of the aftermarket manufacturer's liability, by necessity, must be determined on a case-by-case basis. The potential liability when an aftermarket add-on or modified part is installed goes far beyond the design and manufacture of the part; improper installation and abusive operating conditions/misuse can clearly be responsible for any failures experienced. There is no way any regulation can accurately predict what is the cause of any given failure. As such, it is unrealistic to mandate that the aftermarket manufacture assume such a degree of responsibility when his/her parts are installed. These matters must be resolved based on the merits of each individual case, in accordance with federal law. SEMA thus requests that CARB eliminate this section in total. The warranty which a manufacturer offers will be driven by the marketplace and the reputation/quality of that manufacturer's products. Furthermore, in-use enforcement via compatibility with OBD II and any in-use enforcement audits/test will be more than enough incentive to ensure minimal failures. (**SEMA**)

Agency Response: It is the vehicle/engine/equipment manufacturer's responsibility to determine the conditions of its warranty. Additionally, the aftermarket part manufacturer can determine the time period it wishes to warranty its part. The aftermarket manufacturer needs to provide sufficient information concerning the proper installation of its part(s) to ensure that the part is in fact properly installed. The ARB believes that the above sections and language are appropriate and does not feel it is appropriate to remove required warranty conditions for emissions-related aftermarket parts.

4. Racing Vehicles

Comment: SEMA is concerned with the definition of "racing" implied in the definitions listed under Section 2471, paragraphs (1), (17), and (3). Each of these definitions uses the phrase "used exclusively in a competition/racing event in a closed course...". The statute does not contain language limiting "racing vehicles" to those participating on a "closed course". SEMA is not aware of what the ARB intends by the phrase "closed course" but would challenge an overly restrictive interpretation of this language. (**SEMA**)

Agency Response: The ARB believes that the definitions referred to are sufficiently self-explanatory.

5. Replacement Parts

Comment: SEMA believes that the requirement that supporting data on replacement parts be maintained for a period of four years is not entirely reasonable. Opposition to this requirement may be mitigated if a provision is made for such documents to be optionally stored in electronic format (i.e., scanned into computer memory or stored on CD-ROM, etc.). (**SEMA**)

Agency Response: The ARB leaves it to the manufacturer to determine in what form it will maintain its records. The records must be viewable upon request by the ARB.

Comment: SEMA is concerned over the referencing of Section 27156 in this "Off-Road" regulation. In particular, the language of subsection (d) may be an issue with the aftermarket manufacturers which market their products as replacement parts. The language of this section would seem to imply that non-OEM "replacement" parts will need an E.O. if CARB believes they are modified relative to the OEM part. This is clearly not been the case with on-road applications, nor should it be with off-road. (**SEMA**)

Agency Response: Section 27156 is in the Vehicle Code. The issue raised is not relevant to this Rule since the ARB does not have the authority to modify the Vehicle Code. Moreover, Section 27156(d) refers to fines that may be given and not to replacement parts.

Comment: SEMA believes it is possible for an aftermarket/non-OEM part to have different design specifications than an OEM part yet still be functionally identical and thus qualify as a replacement part. These regulations need to better reflect this possibility by providing for submission of engineering analyses as support. (**SEMA**)

Agency Response: Section §2475 covers replacement parts. The ARB believes that the above comments are addressed within this section.

6. In-Use Testing

Comments: The nature of the in-use testing that may be conducted is far too vague. It would seem possible that CARB could choose testing methods for which the product was neither designed nor intended for use as the basis for an enforcement action. (**SEMA**)

Agency Response: In-use tests are conducted using Board adopted test procedures. The ARB does not believe these comments are relevant to this Rule.

7. Vehicle Code 27156

Comments: SEMA believes it is inappropriate to reference Section 27156 in this regulation since existing law already has provisions for enforcement with regards to off-road vehicles being illegally using on public roads/highways. SEMA believes that Section 38391 should be sufficient for these off-road regulations. (**SEMA**)

Agency Response: The ARB disagrees and believes the reference is valid and appropriate.

8. Additional or Alternative Testing

Comments: The specific inclusion of references to toxic emission testing and off-cycle testing could have serious financial ramifications for aftermarket manufacturers. The test facilities to conduct such tests are not readily available to the aftermarket, nor are the costs associated with such testing reasonable for the aftermarket to incur. Furthermore, the reference to durability testing would share similar concerns due to the inability of the aftermarket to predict how a product would be operated in use. A requirement to do OEM-style durability testing to address this is not feasible. CARB must be limited to only requiring test regimes which are necessary, reasonable and feasible in the context of the aftermarket capabilities. (**SEMA**)

Agency Response: The ARB will require testing of aftermarket devices on a case-by-case basis. Testing of devices is done to ensure that emissions due to an aftermarket device do not increase beyond the certification requirements.

9. Categorization of Parts-Generic Categories

Comments: While the generic categories listed in this section are acceptable, the components list provided in Appendix B is too extensive. The inclusion of such items as hoses, clamps, pulleys, belts, and the like is clearly excessive. Furthermore, many of the components no longer can be found in new vehicles. SEMA believes the list of products should be limited to components which began to be installed after calendar year 1968, specifically for the purpose of reducing emissions (an EGR valve or a purge canister would be examples), or which are directly interfaced with such components (such as an intake manifold) and affect the combustion process. This definition would avoid the inclusion of components which have a negligible impact on emissions (clamps, etc.), yet would capture those which affect formation of pollutants and their subsequent after treatment. (**SEMA**)

Agency Response: Appendix B was included into the Rule package as a reference only. This comment is not applicable to this Rulemaking.

10. Resolution of Discrepancies

Comments: If there is a discrepancy between an applicant's test data and data from tests performed by CARB, a mutually agreeable resolution should be sought. Automatically basing the E.O. evaluation solely on CARB's data is not such a resolution. At a minimum, the test lab which generated the data for the applicant should be brought into the discussion to try to resolve why there is a discrepancy. While it is clearly possible that any of the parties involved are capable of generating erroneous data, it is equally likely that the nature of the error can be cooperatively determined. Whichever data set is determined to be scientifically correct should be used as the basis for the Executive Officer's evaluation. In addition, steps must be taken to ensure the errors which caused the erroneous data to be generated will not be repeated, thus ensuring correlation between CARB and the applicant's labs. (**SEMA**)

Agency Response: While the ARB does not currently approve laboratories for Compliance testing, certain independent laboratories have become accepted, based on information

submitted to the ARB, as being properly equipped to perform specialized tests, in accordance with applicable Federal and California test procedures. Their equipment is equivalent to that used at the Haagen-Smit Laboratory at the ARB. However, these private laboratories are neither inspected nor supervised by the ARB to determine if candidate devices for Vehicle Code Section 27156 exemption are tested in strict adherence to the ARB's test letter and the relevant test procedures. For this reason, the ARB relies on confirmatory tests conducted at its Haagen-Smit Laboratory for a final determination of the emission performance of add-on devices. A list of laboratories can be obtained by the ARB.

11. Section IV.C: Performance and Driveability

Comments: If CARB must pursue this requirement it must reduce the subjective nature of it. At a minimum, objective driveability and performance criteria such as that used by vehicle manufacturers must be used to evaluate these parameters. The vehicle manufacturers have extensively detailed test regimes to establish a driveability index and performance index for each of their vehicles. CARB should use similar methods in their assessments. (**SEMA**)

Agency Response: This section was modeled after an analogous provision regarding evaluation of on-road aftermarket part effects on vehicle performance and driveability. It is anticipated that staff will initially base their evaluations using the criteria they currently use in evaluating performance and driveability for on-road aftermarket parts, and will eventually develop criteria specific to off-road categories as they gain experience in implementing these regulations.

12. Off-Road Categories

Comments: Due to the increased usage of computer-controlled engine management systems, sufficient preconditioning must be performed after the installation of the add-on or modified part. This is necessary to allow the vehicle computer to adapt its calibration parameters to the new hardware configuration. This concept is not sufficiently addressed in the draft regulation. SEMA suggests a minimum of two testing cycles be run to ensure the vehicle has stabilized prior to testing with the aftermarket device installed. Any significant variation between the results of the preconditioning and the test should be cause for concern. Furthermore, the vehicle's adaptive computer parameters (block learn, fuel trim, etc.) should be monitored during the preconditioning to ensure they have become stable. These requirements should be more clearly addressed in the draft. (**SEMA**)

Agency Response: Since appropriate break-in periods or pre-conditioning for each off-road category are already addressed in the test procedures for each category, staff does not believe this comment is relevant to this Rule.

13. Vehicle/Engine/Equipment Exhaust Emission Standards

Comments: With the implementation of more stringent emission standards, the extra margin of compliance afforded by the use of deterioration factors (DFs) becomes smaller and smaller. This reduction in the size of the compliance "window" may be particularly burdensome for manufacturers of aftermarket add-on or modified parts which lack the resources of the vehicle

manufacturers. Historically, this disparity has been accomodated by providing the aftermarket manufacturers with an additional margin for error beyond that of the DF. SEMA believes the need for such relief still exists.

SEMA believes that the multiplicative factors used for the OBD II regulations would be an acceptable margin to provide for manufacturers of aftermarket add-on parts.

SEMA believes this will greatly reduce the expenses incurred by the aftermarket and will ensure greater choice for the consumer. Since the in-use emission thresholds do not change, SEMA believes there will be a negligible, if any, impact of the life cycle emissions of a modified vehicle. (**SEMA**)

Agency Response: The issues raised here are not relevant to this Rule.

Appendix A

State of California
AIR RESOURCES BOARD

Vehicle Code Sections 27156 and 38391 ~~and~~ or 13 California Code of Regulations, Section 2472 Exemption Application for General Criteria Parts

1. Name of Applicant:

   Address:

   Phone:
   Fax: E-mail:

2. Name of Device Manufacturer:*

   Address:

   Phone:
   Fax: E-mail:

3. Name of Authorized Representative:**

   Address

   Phone:
   Fax: E-mail:

4. Test Procedure:***

5. Emission Standards:***

6. Device Name(s):

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*If different from name of applicant. Device as used herein is defined to mean add-on or modified part.
**An authorized representative may be required to prove that he/she is authorized to act on behalf of an applicant or manufacturer.
*** Air Resources Board staff can assist the applicant in determining appropriate test procedures and emission standards.

7. Briefly describe the purpose of the device.

8. Briefly describe the operation of the device.

9. List vehicle/engine/equipment names, model years, engine displacements and systems that are compatible with the device, and for which exemption is requested. Specify the correct device model for each vehicle.

10. The following information is required for the Air Resources Board (ARB) staff to complete an evaluation. Please place a check mark next to the items that are enclosed with the application and provide an explanation for items that are not checked.

(a) A detailed description of the device including operating principles, cross-sectional drawings, electrical schematics, and other such material to assist the staff in understanding its operation.

(b) Copies of all advertising material to be used in selling the device including a sample or facsimile of the packaging label. (Optional).

(c) A copy of the installation and adjustment instructions and drawings that will be included with the device.

(d) A facsimile or prototype of the identification plate or label to be attached permanently to or imprinted on or near each device offered for sale. The plate or label should be placed such that it is visible after the device is installed, and should contain <u>at minimum</u>:

i) the manufacturer's name <u>and address</u>
ii) the device name and model number
iii) the Air Resources Board exemption number identified as "ARB E.O. No.D-O-XX".

(e) A facsimile or prototype engine compartment plate or label. This plate or label is only required if a change is recommended to vehicle/engine/equipment manufacturer's tune-up parameters. The product information label shall provide a complete description of the required changes and the new tune-up specifications. In addition to the recommended tune-up parameter changes, the plate or label must contain the same information as the device label.

(f) A list of the companies or persons that will manufacture the device under license.

11. The ARB may require one or more devices for testing. Do you agree to provide the device(s) free of costs? yes no.

The device(s) will be returned only if return is requested at the time the device(s) are submitted.

12. Emissions Statements

I affirm that to the best of my knowledge this device (1) shall not cause the emission into the ambient air of any noxious or toxic matter that is not emitted in the operation of such vehicle/engine/equipment without such device.

I understand that an exemption, if granted, does not constitute a certification, accreditation, approval, or any other type of endorsement by the 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.

_____ _____

Name of Authorized Representative Signature of Authorized Representative

Date: _____ Date: _____