State of California
AIR RESOURCES BOARD

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

PUBLIC HEARING TO CONSIDER AMENDMENTS TO THE CURRENT SPARK-IGNITION MARINE ENGINE AND BOAT REGULATIONS

Public Hearing Date: July 24, 2008
Agenda Item No.: 08-7-5

I. GENERAL

In this rulemaking, the Air Resources Board (ARB or Board) is amending California's emissions regulations for new 2009 and later spark-ignition (gasoline) marine engines. These amendments provide relief to the small volume manufacturers of high performance sterndrive and inboard engines (those with power rating greater than 373 kilowatts) by allowing them to certify engines to less stringent exhaust standards (i.e., 16.0 grams per kilowatt-hour combined hydrocarbons and oxides of nitrogen (g/kW-hr HC+NOx)) than would have otherwise been required under the existing regulation (i.e., 5.0 g/kW-hr HC+NOx). The change in emission benefits resulting from this relaxation of the exhaust standard is recouped by incorporating new enhanced evaporative requirements applicable to all manufacturers of high performance engines. The proposed amendments would also allow manufacturers greater flexibility in complying with these requirements. Furthermore, the amendments require manufacturers to limit emissions of carbon monoxide from all categories of spark-ignition marine engines and provide greater alignment with federal requirements for marine engines and boats recently adopted by the United States Environmental Protection Agency (U.S. EPA). Engine manufacturers and boat builders will continue to be subject to, and to have responsibilities under, the amended regulation.

This rulemaking was initiated by the May 27, 2008, publication of a notice for a public hearing scheduled on July 24, 2008. The Staff Report: Initial Statement of Reasons, entitled "Public Hearing to Consider Amendments to the Current Spark-Ignition Marine Engine and Boat Regulations" (Staff Report or ISOR) was also made available for public review and comment starting June 6, 2008. The Staff Report, which is incorporated by reference herein, described the rationale for the proposal.

The proposed amended text of title 13, California Code of Regulations (CCR), sections 2111, 2112 (including Appendix A), 2139, 2147, 2440, 2441, 2442, 2443.1, 2443.2, 2443.3, 2444.1, 2444.2, 2445, and the repeal of section 2448, and related amendments to the "California Exhaust Emission Standards and Test Procedures for 2001 Model Year and Later Spark-Ignition Marine Engines" and the "Procedures for Exemption of Add-On and Modified Parts for Off-Road Categories" were included as attachments to the Staff Report.

These modifications and additions to the regulations and test procedures provide manufacturers of high performance engines with several compliance flexibility options to ease the transition to the 5.0 g/kW-hr HC+NOx standard and to preserve the estimated emission benefits attributed to the existing regulations. The modifications and additions also initiate new standards for the control of carbon monoxide from all spark-ignition marine engines and harmonize requirements with those of the U.S. EPA to minimize the burden of certification. A copy of Board Resolution 08-36 approving the regulatory action described above and the regulatory documents for this rulemaking were also posted on the ARB's internet site for this rulemaking at http://www.arb.ca.gov/regact/2008/marine08/marine08.htm ("ARB's internet site").

On July 24, 2008, the Board conducted a public hearing to consider the staff's proposal as described in the Staff Report. At the hearing, staff proposed to amend California's emissions regulations for new 2009 and later spark-ignition (gasoline) marine engines. Staff also proposed various editorial corrections and several modifications to the proposed regulatory action. Written and oral comments were received at the hearing concerning staff's proposal.

At the conclusion of the hearing, the Board adopted Resolution 08-36, in which the Board approved the adoption of the originally proposed regulations with the modifications presented by staff at the hearing and directed staff to work with commenters to finalize the regulatory proposal. The staff's proposed modifications were identified in a document appended to Resolution 08-36 as Attachment D. Attachment D showed the originally proposed regulatory text and incorporated documents, with the text of all suggested modifications clearly identified. In accordance with section 11346.8 of the Government Code, the Board in Resolution 08-36 directed the Executive Officer to incorporate the modifications to the proposed regulatory text approved by the Board, with such other conforming modifications as may be appropriate, and to make the modified text available to the public for a period of at least fifteen days. The Executive Officer was then directed either to adopt the amendments with such additional modifications as may be appropriate in light of the comments received, or to present the regulations to the Board for further consideration if warranted in light of the comments.

The revised regulations and test procedures, with the modified text clearly indicated, were made available to the public for two supplemental 15-day comment periods by the issuance of a "Notice of Public Availability of Modified Text" for each. The first notice of Modified Text, including staff's modifications to the proposed regulation order and test procedures, a copy of Resolution 08-36, and the Attachment D document (relabeled as Appendix IV), was mailed on March 25, 2009, to all parties identified in title 1, CCR, section 44(a), and to other persons generally interested in ARB's rulemaking concerning new 2009 and later spark-ignition marine engines. The second notice of Modified Text, including only staff's modifications to the proposed regulation order and test procedures that differed from previous modifications, was mailed on May 14, 2009, to the same respective parties as per the first notice. These documents were also published on ARB's internet site on March 25, 2009 and May 14, 2009, respectively. Several written

comments were received during the two separate 15-day supplemental comment periods.

After considering the comments received during the comment period, the Executive Officer issued Executive Order 09-<*insert alphanumeric designation here*>, adopting the amendments, new regulatory text, and incorporated documents.

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. The FSOR also contains a summary of the comments received on the proposed regulatory amendments during the formal regulatory process and ARB's responses to those comments.

Incorporation of Test Procedures. The amended exhaust emission test procedures are incorporated by reference in title 13, CCR, section 2447, and in the re-sequenced section 2441(a)(65). The test procedures document is readily available from the ARB upon request and was made available in the context of this rulemaking in the manner specified in Government Code section 11346.5(b). The test procedures are available online at ARB's internet site.

The test procedures are incorporated by reference because it would be cumbersome, unduly expensive, and otherwise impractical to print them in the CCR. Existing ARB administrative practice has been to have the test procedures incorporated by reference rather than printed in the CCR because these procedures are highly technical and complex. They include the "nuts and bolts" engineering protocols, computer modeling, and laboratory practices required for certification of the regulated engines and equipment and have a very limited audience. Because ARB has never printed complete test procedures in the CCR, the directly affected public is accustomed to the incorporation format used therein. The ARB's test procedures as a whole are extensive, and it would be both cumbersome and expensive to print these lengthy, technically complex procedures for a limited audience in the CCR. Printing portions of ARB's test procedures that are incorporated by reference would be unnecessarily confusing to the affected public.

Fiscal Impacts. The Board has determined that this regulatory action will not create costs or savings, as defined in Government Code section 11346.5(a)(5) and 11346.5(a)(6), to any state agency, other than ARB, or in federal funding to the state, costs or mandate to any local agency or school district, whether or not reimbursable by the state pursuant to Part 7 (commencing with section 17500), Division 4, Title 2 of the Government Code, or other non-discretionary costs or savings to local agencies. The only costs to ARB as a result of the proposed amendments would be to the divisions responsible for verifying the implementation of the new requirements and for ensuring that manufacturers and dealers comply with them. An undetermined number of additional manufacturers (i.e., high performance engine manufacturers) will begin complying for the first time in 2009, and the hiring of additional staff may become necessary should significant increases to workload occur as a result.

Consideration of Alternatives. The amendments and new regulatory language proposed in this rulemaking were the result of extensive discussions and meetings involving staff and the affected marine engine manufacturers, boat builders, component suppliers, U.S. EPA, and other stakeholders. In the Staff Report, staff evaluated and rejected four potential alternatives to the proposed regulations: (1) preserve existing California regulations, (2) wait for the adoption of Federal regulations, (3) exempt small volume high performance manufacturers, and (4) require manufacturer-specific reduction alternatives from all high performance engine manufacturers to compensate for relaxed exhaust standards.

The first alternative to this proposal was to retain the existing California spark-ignition marine engine regulations. The existing regulation contains an averaging provision that unintentionally puts small volume high performance engine manufacturers at a competitive disadvantage. Additionally, a majority of small volume manufacturers were unlikely to overcome the technical obstacles of meeting the catalyst-based exhaust standard in time to sell compliant engines in California for the 2009 model year. Therefore, staff rejected this alternative.

The second alternative was to wait for the federal government to promulgate emission standards for all spark-ignition marine engines and then to harmonize with those standards in California. Prior to the ARB hearing on July 24, 2008, U.S. EPA had not finalized federal spark-ignition marine engine standards. However, on October 8, 2008, federal standards for spark-ignition marine engines, including carbon monoxide caps and Not-To-Exceed limits, were published in the Federal Register (73 FR 59034). For the most part, the federal requirements are not applicable until 2010. Furthermore, the emission requirements promulgated by U.S. EPA for high performance engines are less stringent than either those of the existing California regulations or as the recent amendments approved by the Board in 2008. Consequently, delaying action until the federal regulation takes effect in 2010 would unnecessarily burden the marine industry by requiring it to comply with a California standard for high performance engines for the 2009 model year that, by and large, the marine industry appears unable to meet. Conversely, if the action was to repeal the existing standards and rely on U.S. EPA, the result would be a loss of emission benefits. Therefore, staff rejected this alternative.

The third alternative was to exempt small volume manufacturers of high performance engines from complying with the catalyst-based standards beginning in 2009. Although relatively few in number, high performance engines have high exhaust rates and their impact on air quality in California is not trivial, especially during the summer season. Since the overwhelming majority of these engines are produced by a single manufacturer, staff considered an option to exempt the remaining small volume manufacturers from compliance with the catalyst-based 5.0 g/kW-hr HC+NOx standard while continuing to require the single large volume manufacturer to meet the standard in 2009. While this would address any issues of a competitive disadvantage for the small volume manufacturers, it would not fully constitute an emissions-neutral solution in California compared to the pre-amended regulation. Furthermore, high performance

engines are discretionary products and already expensive to purchase, making the cost of emissions control more absorbable and easier to pass on to the customer and an outright exemption more difficult to justify. Therefore, staff rejected this alternative.

The fourth alternative was to allow manufacturers to individually propose methods for reducing emissions to compensate for the loss in benefits that would result from relaxing the exhaust standard for high performance engines. These methods would be implemented in addition to the otherwise required exhaust standards and evaporative requirements. Upon review, staff determined that although this alternative would theoretically be emissions-neutral, implementation would be overly burdensome. Without clarity on exactly what measures would be needed and acceptable to the Executive Officer, manufacturers might spend an enormous amount of resources developing measures only to have them rejected. In the case of small-volume manufacturers who participate only in the high-performance market, their alternatives for achieving additional emissions reductions would be severely constrained, placing them at a competitive disadvantage with large volume manufacturers that can more easily offset emissions on a smaller, more manageable and incremental basis because of scale. Furthermore, even the large volume manufacturer would be subject to uncertainty regarding product planning. Therefore, staff rejected this alternative.

For the reasons set forth in the Staff Report, in staff's comments and responses at the hearing, and in this FSOR, the Board has determined that none of the alternatives 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. MODIFICATIONS MADE TO THE ORIGINAL PROPOSAL

At the July 24, 2008 hearing, the Board approved the staff's proposed regulatory action. Further, the Board directed staff to work with stakeholders regarding modifications or clarifications to the approved regulations. Twice, staff made these modifications available to the public for 15-day comment periods by separate issuances of a "Notice of Public Availability of Modified Text" on March 25, and May 14, 2009. The following is a consolidated description of the modifications and clarifications by section. The phrase "new conforming modification" was used in these notices and is repeated here to indicate modifications consistent with both the originally noticed proposal and the Board's July 2008 approval action.

TITLE 13, CALIFORNIA CODE OF REGULATIONS

§ 2441 – Definitions

The (a)(31) definition of "Intermediate Volume Manufacturer" was added to create a classification of sterndrive/inboard engine manufacturers wherein a small volume manufacturer could grow into new markets in limited numbers without having to invest

the resources of a large volume manufacturer to comply with technology-forcing standards. All subsequent definitions were renumbered to accommodate this new addition.

The (a)(33) definition of “Large Volume Manufacturer” replaces the previous definition of “Large Volume Dual Category Manufacturer” to widen the scope of applicability by eliminating the condition that a conforming manufacturer must simultaneously produce both standard and high performance sterndrive/inboard engines. Additionally, the minimum number of engines produced for sale in California that define a large volume manufacturer was changed from 75 to 500 units annually to provide room for the new intermediate volume manufacturer classification.

The (a)(40) definition of “Maximum Engine Power” was revised to state that the power value for marine engines less than or equal to 30 kilowatts must be rounded to the nearest one tenth of a kilowatt (i.e., 0.1 kW), but that the power value for all other marine engines must remain rounded to the nearest whole kilowatt. This change will harmonize the criteria for determining marine power categories with that of U.S. EPA. The practical implication of this change in California should be relatively insignificant since California, unlike U.S. EPA, does not employ the use of a credit program for complying with the standards. Nevertheless, staff is making this change to ensure a common power classification for all marine engines nationwide and to facilitate the certification efforts of manufacturers that produce engines in this range.

The (a)(46) definition of “Nontrailerable Boat” was revised to clarify the consideration of length and width to be a logical disjunction rather than a logical conjunction. This results in a boat being classified as “nontrailerable” when either its length exceeds 8 meters or its width exceeds 2.6 meters, not only when both conditions have been met.

The (a)(53) definition of “Qualified Intermediate Volume Manufacturer” was added to identify a type of sterndrive or inboard engine manufacturer with a sufficient production volume of standard performance engines to be able to average emission levels with high performance engines to comply with the 5.0 g/kW-hr HC+NOx standard. All subsequent definitions were renumbered to accommodate this new addition.

The (a)(54) definition of “Rebuild” or “Rebuilding” was revised to correctly reference the California Test Procedures instead of the “standard setting part” as the location for information on normally scheduled emission related maintenance during the useful life of an engine.

The (a)(59) definition of “Small Volume Manufacturer” was added to identify a type of sterndrive or inboard engine manufacturer that produces for sale no more than a combined total of 75 engines per year in California. All subsequent definitions were renumbered to accommodate this new addition.

The (a)(61) definition of “Spark-ignition marine engine” or “Spark-ignition propulsion marine engines” was re-titled to make evident the inclusion of spark-ignition propulsion

marine engines as originally intended.

§ 2442 – Emission Standards

The Table 1.2 entry for outboard engines and personal watercraft under the “Model Year” heading was revised to indicate 2010 as the start date for compliance with the carbon monoxide standards.

Paragraph (b)(1) was revised to clarify that the standards in Table 2.1(a) are applicable to standard performance engines whereas the standards in Table 2.1(b) are applicable to high performance engines.

Footnote 8 to Table 2.1(a) was revised to reflect the modified definition of “large volume manufacturer” as it pertains to high performance engine manufacturers and to extend applicability of the footnote to the newly created category of qualified intermediate volume manufacturers.

Paragraph (b)(1)(B) was revised for grammatical clarity and to reflect the modified definition of “large volume manufacturer” as it pertains to high performance engine manufacturers and to extend applicability of the paragraph to the newly created category of qualified intermediate volume manufacturers.

A “Durability” column was reintroduced into Table 2.1(b) after it had been inadvertently omitted in the originally proposed regulatory amendments by staff during the bifurcation of Table 2.1 into subparts (a) and (b). The bifurcation of Table 2.1 aimed to more clearly distinguish between standard performance and high performance engine emission standards. The omission was obviously unintended as there was no precedent for eliminating or otherwise modifying the durability requirements for high performance engines nor was such a change addressed in staff’s initial statement of reasons. Furthermore, the paralleling warranty periods in § 2445.1(c)(3)(C) of the regulations for high performance engines remain unchanged from existing requirements and provide further evidence that the omission of the durability column in Table 2.1(b) was unintentional.

Subsequent to the board hearing, the values in the reinstated durability column of Table 2.1(b) described in the paragraph above were corrected to correspond with the previously existing regulation as was always intended. A formatting error in the suggested modifications proposed at the July 24, 2008, Board hearing (included as Appendix IV to this notice) resulted in truncated cells and incongruous deterioration values being displayed in the table. Again, the paralleling warranty periods in § 2445.1(c)(3)(C) of the regulations for high performance engines are cited as evidence that the values displayed at the Board Hearing in the reinstated durability column in Table 2.1(b) were unintentional and incorrect. Accordingly, there should be no surprise to affected stakeholders regarding this correction. New conforming modification.

The left-most subheading under the “HC+NOx STANDARD” primary heading in

Table 2.1(b) was revised to indicate reference to only small volume manufacturers and intermediate volume manufacturers with an insufficient production volume of standard performance engines versus high performance engines. This revision correlates to changes in the definitions for sales volume categorizations (i.e., small, intermediate, and large).

The right-most subheading under the “HC+NOx STANDARD” primary heading in Table 2.1(b) was revised to reflect the modified definition of “large volume manufacturer” and also to apply to the newly created category of qualified intermediate volume manufacturers.

Footnote “c” was re-appended to Table 2.1(b) corresponding to the inadvertent omission of the “Durability” column in Table 2.1(b) in the originally proposed regulatory amendments (see third previous paragraph). All subsequent footnotes were relabeled and their applications re-sequenced to reflect this new insertion.

Footnote “e” to Table 2.1(b) was revised to reflect the modified definition of “large volume manufacturer” as it pertains to high performance engine manufacturers and to extend the applicability of the footnote to the newly created category of qualified intermediate volume manufacturers.

Paragraph (b)(2)(A) was revised to clarify that the required submittal of evidence regarding the sufficiency and conformity of the evaporative system design is to be provided by the engine manufacturer to the Executive Officer at the time of certification. This clarification should be apparent and is consistent with the intention of the requirements for high performance engine manufacturers as expressed in staff’s initial statement of reasons and should come as no surprise to affected stakeholders. New conforming modification.

Paragraph (b)(5) was revised to reflect the modified definition of “large volume manufacturer” as it pertains to high performance engine manufacturers and to extend applicability of the paragraph to the newly created category of qualified intermediate volume manufacturers. The paragraph was also restructured by incorporating both engine and boat manufacturer responsibilities into sub paragraph (A), which was previously specific to engine manufacturer responsibilities exclusively, and by the creation of a new compliance provision in sub paragraph (B), which was previously specific to boat manufacturer responsibilities exclusively.

Paragraph (b)(5)(A)1. replaces the paragraph previously designated as (b)(5)(A) and was revised to clarify that the required submittal of evidence regarding the sufficiency and conformity of the evaporative system design is to be provided by the engine manufacturer to the Executive Officer at the time of certification. This clarification should be apparent and is consistent with the intention of the requirements for high performance engine manufacturers as expressed in staff’s initial statement of reasons; it should come as no surprise to affected stakeholders. New conforming modification.

Paragraph (b)(5)(A)2. replaces the paragraph previously designated as (b)(5)(B) and modifies grammar.

Paragraph (b)(5)(B) was revised to grant large volume and/or qualified intermediate volume manufacturers of high performance engines the option to comply with the regulations using control measures other than those specifically identified in the regulations so long as the optional measures would 1) result in equivalent emissions reductions, 2) be readily verifiable and quantifiable, 3) be enforceable, and 4) not increase exhaust emissions above the standards. The optional control measures must also include fallback provisions for recouping lost emission benefits in the event the control measure cannot be fully implemented as planned. The Executive Officer is given the authority to rescind the certification of any affected engine families should the manufacturer of those families fail to implement the optional control measures as approved by the Executive Officer.

Paragraph (c) was updated by replacing the preapproved placeholder language with specific requirements and references for Not-To-Exceed (NTE) limits and test procedures for spark-ignition marine engines in alignment with those promulgated by the U.S. EPA on October 8, 2008, in 40 Code of Federal Regulations (CFR) 1045.107 and 40 CFR 1045.515. Paragraph (c) was further revised to include subparagraph (3) exempting engine families that had previously been certified using carry-over emission data from the 2009 model year until 2013, harmonizing with the federal requirements in 40 CFR 1045.145(g). Furthermore, subparagraph (4) was added to clarify that the NTE requirements do not apply to high performance sterndrive/inboard engines. This is also accomplished through the omission of Table 2.1(b) when defining the scope of applicability as specific to engines subject to the standards in Tables 1.1, 1.2, and 2.1(a) only, but for consistency with those tables, staff proposes this change to state explicitly the exclusion of high performance engines.

Paragraph (e) was revised to correct a typographical error in cross referencing the standards section of the spark-ignition marine engine regulations to identify the scope of applicability for engines subject to the newly adopted replacement engine requirements. § 2422 was inadvertently cited, which refers to the off-road land based diesel requirements, whereas § 2442 was the obvious reference since it refers to spark-ignition marine engine standards. New conforming modification.

Paragraph (g)(1)(A) was revised to make evident that carbon monoxide standards would not become applicable until 2010 for jet boats powered by personal watercraft engines. This clarification minimizes the potential for confusing the commencement of carbon monoxide standards by reinforcing 2010 as the start date rather than simply relying on the reference to Table 1.2, which clearly, but indirectly, indicates 2010 as the first year in which standards are required. This clarification is consistent with the intentions expressed in staff's initial statement of reasons and should come as no surprise to affected stakeholders. New conforming modification.

Paragraph (g)(1)(B) was revised to correct a typographical error in which the term

“sterndrive/outboard” was mistakenly used in place of the intended “sterndrive/inboard” term to preface the type of standards in § 2442(b) to which jet boats must comply. This error is obvious in that no precedent existed to create a new “sterndrive/outboard” category nor was such a definition addressed in staff’s initial statement of reasons. Additionally, paragraph (g)(1)(B) was restructured into subparts 1. and 2. providing an option in 2. that would allow the replacement of an existing jet boat engine family in 2010 and 2011 with one that is certified at or below the emissions level of the existing family. There should be no surprise to affected stakeholders regarding these modifications.

Paragraph (g)(1)(C) was revised to clarify the requirements for using a distinct engine family designation (i.e., not combined with personal watercraft engines) depending on when the engine family was first certified.

Paragraph (g)(4) was revised to reference § 2447 as the static point of incorporation of the Test Procedures instead of the dynamic reference at § 2441(a)(58)[1], which must be continually updated whenever new definitions are appended to the regulations causing existing subsequent definitions to be renumbered. New conforming modification.

Paragraph (h) was revised to correct a typographical error in cross referencing the standards section of the spark-ignition marine engine regulations to identify the scope of applicability for engines subject to the newly adopted engine rebuilding provisions. § 2422 was inadvertently cited, which refers to the off-road land based diesel requirements, whereas § 2442 was the obvious reference since it refers to spark-ignition marine engine standards. New conforming modification.

§ 2444.2 – On-Board Engine Malfunction Detection System Requirements - Model Year 2007 and Later Spark-Ignition Sterndrive/Inboard Marine Engines

Paragraph (h) was updated to provide reference by name and date to the completed On-Board Diagnostics Marine (OBD-M) implementation guidelines as contained in the Society of Automotive Engineers (SAE) recommended practices document SAE J1939-05, published February 2008. This modification is a logical fulfillment of the existing paragraph, which contained language describing in general terms the future development and adoption of standardized specifications by ARB and the marine industry for the implementation of OBD-M. The revised language makes this requirement more specific by directing readers to the actual reference documents which are now final and available. The spark-ignition marine industry was actively involved in the development of SAE J1939-05; therefore, the incorporation of this document into the California spark-ignition marine regulations should come as no surprise to affected stakeholders. Furthermore, no other standardized specifications were under serious consideration by ARB, U.S. EPA, or the rest of industry with respect to the OBD-M

[1] The dynamic reference at § 2441(a)(58), which was cited in the Staff’s Suggested Modifications to the Original Proposal, as distributed at the July 24, 2008, Board Hearing (Appendix IV of this document), was also incorrect and should have been § 2441(a)(65) because this is the only definition that refers to the incorporation of the Test Procedures.

requirements. SAE J1939-05 was officially incorporated by U.S. EPA on October 8, 2008, in part 1045.810, title 40, Code of Federal Regulations to define federal OBD-M standardization conventions. New conforming modification.

TEST PROCEDURES

2001 and Later New Spark-Ignition Marine Engines

The same proposed modifications to the regulations as described above are also proposed for the corresponding test procedure provisions, and their descriptions are not repeated in this section. Only those changes specific to the Test Procedures, or for which the section designations differ between the regulations and Test Procedures are noted.

Part I - Emission Regulations for 2001 and Later New Spark-Ignition Marine Engines, General Provisions.

2. Definitions.

The definition of “Rebuild” or “Rebuilding” was revised to correctly reference the requirements of Part I, subsection 7. – Practices for Rebuilding Engines – of the Test Procedures instead of the circularly referenced “standard setting part” as the location for information on normally scheduled emission related maintenance during the useful life of an engine. New conforming modification.

8. Replacement Engines.

This subsection was revised to correct a typographical error in cross referencing the standards section of the spark-ignition marine engine regulations to identify the scope of applicability for engines subject to the newly adopted replacement engine requirements. § 2422 was inadvertently cited, which refers to the off-road land based diesel requirements, whereas § 2442 was the obvious reference since it refers to spark-ignition marine engine standards. New conforming modification.

9. Exhaust Emission Standards for 2001 and Later Spark-Ignition Marine Engines.

Paragraph (e)(1)(A) was revised to make evident that carbon monoxide standards would not become applicable until 2010 for jet boats powered by personal watercraft engines (identical to paragraph (g)(1)(A) reference in the revisions to § 2442 above). New conforming modification.

Paragraph (e)(1)(B) was revised to correct a typographical error in which the term “sterndrive/outboard” was mistakenly used in place of the intended “sterndrive/inboard” term to preface the type of standards in § 2442(b) to which jet boats must comply. Additionally, the paragraph was restructured into subparts 1. and 2. providing an option in 2. that would allow the replacement of an existing jet boat engine family in 2010 and

2011 with one that is certified at or below the emissions level of the existing family (identical to paragraph (g)(1)(B) reference in the revisions to § 2442 above). New conforming modification.

Paragraph (e)(1)(C) was revised to clarify the requirements for using a distinct engine family designation (i.e., not combined with personal watercraft engines) depending on when the engine family was first certified (identical to paragraph (g)(1)(C) reference in the revisions to § 2442 above). New conforming modification.

20. Test Procedures, General Requirements.

A footnote to Table 20-1 was created to provide high performance sterndrive/inboard engine manufacturers with an option to perform the idle mode of certification testing under a 15 percent torque load.

A new paragraph (c) "Certification testing for Not-To-Exceed emissions" was created to align California's NTE testing requirements with those published in the Federal Register on October 8, 2008. The new paragraph contains both textual references to the test procedures from the CFR and graphical illustrations of the applicable NTE zones and subzones to facilitate the identification of required test parameters for those without ready access to the CFR. Additionally, a sentence was added to paragraph (c) to temporarily allow supercharged four-stroke outboard engines greater than 150 kW without catalysts to comply with the NTE requirements using adjusted NTE subzones until 2015. This compliance provision further harmonizes California's requirements with the federal requirements in 40 CFR 1045.145(j). The previously amended paragraph (c) and all subsequent paragraphs were renumbered to accommodate this new addition. New conforming modification.

Part II - Spark-Ignition Marine Engines - Determination of Deterioration Factors.

36. Deterioration Factor.

A new paragraph (d) was created to provide high performance sterndrive/inboard engine manufacturers with an option to use ARB assigned deterioration factors rather than having to derive them through actual testing.

<u>Procedures for Exemption of Add-On and Modified Parts for Off-Road Categories</u>

Part V. - Off-Road Categories, Section D. – Spark-Ignition Marine Engines

The paragraph was revised to correct an oversight in which an exemption to use aftermarket parts for sterndrive/inboard engines was not specifically available.

Part VI. – Test Procedures for Spark-Ignition Marine Engines, Section A. - Test Procedures, Subsection 4) – Test Procedures for Spark-Ignition Marine Engines

This subsection was revised to update the amended date of the incorporated “California Exhaust Emission Standards and Test Procedures for 2001 Model Year and Later Spark-Ignition Marine Engines.”

As part of the proposed 15-day Notice packages, staff has made several other non-substantive modifications throughout the regulations and test procedures to correct grammar, spelling, and typographical errors, correct references and citations, and improve the clarity of the regulations and test procedures.

III. SUMMARY OF COMMENTS AND AGENCY RESPONSES TO THE ORIGINAL PROPOSAL AND NOTICE OF MODIFIED TEXT

At the July 24, 2008 hearing, there were four organizations represented that provided either oral or written comments. Additional written comments were received by the hearing date. Written comments were also received during comment periods on the Notices of Modified Text. A list of commenters is set forth below, identifying the date and form of all comments that were timely submitted.

ORGANIZATION AND PERSON PROVIDING COMMENTS	WRITTEN TESTIMONY	ORAL TESTIMONY
John McKnight, National Marine Manufacturers Association	06/24/2008 [NMMA-1]	
Barry R. Wallerstein, South Coast Air Quality Management District	07/18/2008 [SCAQMD]	
Dr. Rasto Brezny, Manufacturers of Emission Controls Association	07/24/2008 [MECA]	07/24/2008
Tim Carmichael, Coalition for Clean Air		07/24/2008 [CCA]
John McKnight, National Marine Manufacturers Association	07/24/2008 [NMMA-2]	07/24/2008
Patrick Moran, Southern California Marine Association	07/24/2008 [SCMA]	07/24/2008
Dan Ostrosky, Yamaha Motor Corporation	07/24/2008 [YMC-1]	07/24/2008
Paul Ray, Ilmor Marine	07/24/2008 [ILM]	07/24/2008
Mark Riechers, Mercury Marine	07/24/2008 [MMC]	07/24/2008
Sean Whelan, Attwood Marine	07/24/2008 [ATM]	07/24/2008
Carol Kuczora, Unaffiliated	04/02/2009 [UA-1]	
Malcolm Gaffney, Unaffiliated	04/03/2009 [UA-2]	
Randall Frank, Unaffiliated	04/06/2009 [UA-3]	
John McKnight, National Marine Manufacturers Association	04/09/2009 [NMMA-3]	
Dan Ostrosky, Yamaha Motor Corporation	04/09/2009 [YMC-2]	
John McKnight, National Marine Manufacturers Association	05/25/2009 [NMMA-4]	

Set forth below is a summary of each objection or recommendation made regarding the proposed action together with an explanation of how the proposed action was changed to accommodate each objection or recommendation, or the reasons for making no change. The comments have been grouped by topic whenever possible. Comments not involving objections or recommendations specifically directed toward the rulemaking or to the procedures followed by the ARB in this rulemaking are not summarized below.

In general, the recreational marine industry supported the modification of the regulations in that the amendments provided additional compliance flexibility provisions. NMMA, including some of its individual members, had specific comments and recommendations for modification on portions of the proposed regulations which are discussed in further detail below. The comments by MECA supported the adoption of the regulations with no request for modification.

A. General Supporting Comments

1. Comment: We support staff's proposed amendments, in particular the requirement that jet boat engines comply with the same exhaust standards as sterndrive/inboard engines against which they compete in the marketplace. We also urge the Air Resources Board to honor its State Implementation Plan (SIP) commitments by continuing to move forward with the development of equally stringent requirements for all spark-ignition marine engines. [SCAQMD]

Comment: We support staff's proposal granting the Executive Officer discretion to make technical changes to the regulations. This will facilitate greater harmonization with the federal regulations still under development, allowing timely resolution to minor technical issues that could otherwise prove very burdensome to the regulated industry. [NMMA-2]

Comment: The equipment and expertise needed for a successful implementation of staff's proposed canister-based evaporative control requirements will be available to satisfy the demands of the California marketplace in 2009 and thereafter on all boats with high performance engines. [ATM]

Comment: We support staff's proposal to relax the exhaust standards for high performance engines and the revised definitions for small, intermediate, and large volume manufacturers. [ILM]

Comment: Staff's proposal presents a fair and balanced approach that will further harmonize certification requirements and emission standards with those of the U.S. EPA and provide emissions neutral relief to high performance engine manufacturers through the use of enhanced evaporative control systems that can be every bit as durable, safe, and cost-effective as those currently employed in other engine categories. [MECA]

Comment: The Board should adopt staff's proposal. [UA-2]

Agency Response: We agree that the amendments provide industry with additional compliance flexibility options and enhance harmonization with federal requirements without sacrificing previously projected gains in air quality. We will continue to investigate new and emerging emission control technologies for the spark-ignition marine sector and develop regulations as appropriate.

B. Comments Related to High Performance Engines

2. **Comment:** The application of three-way catalysts on high performance sterndrive/inboard engines is not suitable because of the uniquely fuel-rich operating conditions under which these engines are designed to run. [MECA]

   Agency Response: We agree and this was the most compelling reason why staff proposed relief from the catalyst-based exhaust standard for high performance engine manufacturers. However, high performance engine manufacturers are still required under staff's proposal to comply with exhaust standards that are more stringent than pre-controlled emission levels.

3. **Comment:** The Board should not provide relief for small volume manufacturers of high performance engines by allowing them to certify to less stringent exhaust standards than would have otherwise been required under the existing regulation. The economic interests of a few manufacturers should not influence the Board's responsibility to protect the health of boaters, swimmers, and those who consume fish caught in waters where these boats operate. [UA-1] [UA-3]

   Agency Response: The existing regulation requires high performance engine manufacturers to comply with an emissions standard that is based on the use of three-way catalytic converters. As noted in the previous comment, (B)(2) above, at this time three-way catalytic converters are not a viable technology for high performance engines. In fact, catalytic converters could pose a safety threat to vessel occupants on these engines because of the high temperatures generated within the catalyst and the presence of significant amounts of unburned fuel in the exhaust due to the necessary fuel-rich operating conditions. Were staff not to propose relief for the small volume manufacturers of this already small segment of the marine industry, the vast majority of high performance engine manufacturers would be forced out of business in California. Instead, staff has crafted a proposal that enables high performance manufacturers to comply with the requirements without three-way catalytic converters, but in doing so any new boat that uses a high performance engine must be equipped with an enhanced evaporative control system to compensate for the lost emission benefits from relaxing the exhaust standard. We believe this is a more sensible solution than maintaining an infeasible exhaust standard. Additionally, the amended exhaust standards for high performance engines will still earn them a 3 STAR rating making them the "emissions rate equivalent" of the cleanest outboard engines currently available.

4. **Comment:** The proposed requirement that Mercury Marine make up for the lost emission reductions of its competitors as a result of the proposed relaxation in standards for small volume high performance engine manufacturers is unfair. Mercury Marine will nonetheless comply with this requirement to preserve this small segment of the marine industry; however, we would appreciate the courtesy of more advance notice in the future to better negotiate an equitable resolution. Learning of staff's proposal only one day before the release of the staff report was disconcerting since we had been meeting with staff regularly for two years prior and had been led to believe up until the release of the staff report that a different solution would be proposed. [NMMA-1] [MMC]

Agency Response: Staff believes that the requirement referred to by the commentators most fairly balances the need for relief by the high performance segment of the marine industry with the State's need for emission reductions. Staff's intent in proposing the amendment was to provide a means whereby high performance manufacturers could still sell their products in California, while ensuring that no loss in projected emission benefits would result. Initially, staff was hopeful that this could be accomplished through the substitution of enhanced evaporative control systems consisting of activated carbon canisters, low permeation fuel hoses, and non-permeable fuel tanks for catalytic converters on all boats equipped with high performance engines regardless of sales volume, but ultimately the intended tradeoff came up short of emissions neutral.

Staff had consistently maintained during the development of this rulemaking that any proposal it would make to the Board would have to be emissions neutral. To satisfy this goal, staff spent many months trying to identify alternative measures for generating emission benefits. Staff considered proposing changes that would have allowed all high-performance SD/I manufacturers to meet relaxed exhaust standards, equip high-performance boats with enhanced evaporative controls, and also require the individual manufacturers to submit plans for making up the remaining emissions shortfall with supplemental measures. However, although this alternative would theoretically have been emissions-neutral, its implementation would have been overly burdensome. Without clarity on exactly what measures would be needed and acceptable to the Executive Officer, manufacturers could have spent an enormous amount of resources developing measures only to have them rejected. In the case of small-volume manufacturers who participate only in the high-performance market, their alternatives for achieving additional emissions reductions would be severely constrained, placing them at a competitive disadvantage with intermediate and large volume manufacturers.

After exhausting all options, staff proposed relief from the catalyst-based standards only for the small volume manufacturers of high performance engines in exchange for the use of enhanced evaporative systems on boats equipped with the engines, while adding the additional requirement of an enhanced evaporative system to large volume manufacturers to recoup the remaining lost benefits. At that time, the

only large volume manufacturer of high performance engines was Mercury Marine. Unfortunately, the timing of staff's decision to pursue this proposal coincided with the publication of the staff report so advanced notice could not be given to Mercury Marine other than through the requisite and sufficient forty-five day comment period prior to the Board Hearing. See also Appendix A to the ISOR/Staff Report, listing public outreach.

To mitigate the additional requirement imposed on large volume manufacturers, staff proposed an option for them to certify high performance engines to the same non-catalyst based standards as small volume manufacturers, but they would then be required to recover the lost emission benefits by expanding the use of evaporative controls on boats with standard performance engines. Additionally, staff proposed that the Executive Officer be given discretion to allow other methods for recovering lost emission benefits should such methods provide equivalent and verifiable emission benefits as the options identified. The Board approved these provisions at the July hearing and in the subsequent 15 day modifications.

5. **Comment:** We urge the Board not to adopt any new requirement that would deter companies from entering the marketplace or prevent them from conducting business in a fair and equitable manner. In particular, the Board should not impose different requirements on high performance engine manufacturers based on sales volume. [SCMA]

   Agency Response: We strive to ensure a level playing field among regulated entities and staff's proposal to separate high performance manufacturers into small, intermediate, and large categories is a prime example of staff's sensitivity to the effect of its regulations on the economy of the State. In allowing small volume manufacturers to comply with less stringent standards, we encourage the emergence of small businesses and cultivate growth potential. As a business becomes more successful, transitioning into an intermediate or large volume manufacturer, the standards become progressively more stringent ensuring that emission reductions remain in check despite an increased number of engines sold.

6. **Comment:** Engine manufacturers should not be liable for the installation of enhanced evaporative controls on boats with high performance engines. Rather, the burden to install these evaporative controls should be clearly placed on the boat builder, and the burden to ensure that only high performance boats with evaporative controls are sold in California should be that of the dealer. [NMMA-1]

   Agency Response: The ARB disagrees and we propose no change in response to this comment. The requirement that boats with high performance engines be equipped with enhanced evaporative controls is a relief provision for engine manufacturers who, under the existing regulation, would have been required to comply with catalyst-based exhaust standards. As established in the Agency Response to Comment (B)(3) above, the existing catalyst-based exhaust standard is currently infeasible for high performance engines and if left unchanged the

existing regulation would result in virtually all high performance engine manufacturers no longer being able to sell engines in California. Therefore, ARB requires the recipient of this relief, the engine manufacturer, to ultimately be liable for the installation and performance of the enhanced evaporative controls even those these controls will most likely be installed by the boat builder. The engine manufacturer must provide the boat builder with clear and accurate installation instructions and provide ARB with evidence that the evaporative components have been designed to meet or exceed the required diurnal and permeation specifications per §2442(b)(2)(A) of the proposed regulation. However, ARB is not opposed to secondary agreements between the engine manufacturer and boat builder or dealer in which the latter parties agree to assume some or all of the warranty responsibility associated with the evaporative control hardware. Proof of such agreements would be necessary.

7. **Comment:** The criterion for determining eligibility to use a portable emissions measurement system (PEMS) to demonstrate the compliance of high performance engines should be based on California sales and not federal sales, similar to the criterion expressed in the definition for small volume manufacturers (≤ 75 sterndrive/inboard engines annually). [NMMA-1]

   Agency Response: The ARB disagrees and is not proposing any change to Part I Section 20(d) of the Test Procedures in response to this comment. The determination of a small volume manufacturer takes into account both standard performance and high performance sterndrive/engine sales whereas the determination of eligibility to use PEMS is based solely on high performance engine sales, which have historically been less than 200 units annually in California. The exclusive consideration of high performance engine sales is intentional because PEMS is only intended to be an option for high performance engine manufacturers. Furthermore, if the criteria to use PEMS are too broad, such as ≤ 75 California high performance engines annually, it is entirely possible that all high performance manufacturers in California could qualify to use PEMS resulting in a lack of dynamometer based data being submitted to ARB (retail sales of spark-ignited marine engines are reportedly down by 40 percent in California this year due to a sluggish economy). These data are necessary for ARB to assign meaningful and accurate deterioration factors to those high performance manufacturers that do not possess the capability to develop them through actual testing.

8. **Comment:** The proposed definition of a non-trailerable boat should be revised to indicate a mutually inclusive determination based on either “length” OR “width,” but not necessarily both as currently proposed. [NMMA-1]

   Agency Response: We agreed and proposed the requested changes in staff’s first Notice of Public Availability of Modified Text.

C. Comments Related to Carbon Monoxide (CO) Standards

9. Comment: We do not support staff's proposed carbon monoxide standards for outboard engines and personal watercraft unless averaging is allowed and the implementation date is moved up to 2010. [NMMA-1]

Agency Response: Staff has not proposed corporate averaging as an option for complying with the new CO standards because that would have allowed some engines to exceed the desired CO level, increasing the immediate risk of CO poisoning to vessel occupants and possibly other boaters. However, staff does agree that 2010 was a more appropriate implementation date for outboard engines and personal watercraft considering that some manufacturers had already applied for, and were granted, certification of their 2009 model year families prior to the Board hearing on July 24, 2008. This change to 2010 was proposed in staff's first Notice of Public Availability of Modified Text.

10. Comment: Staff's proposal to set carbon monoxide standards for outboard engines and personal watercraft is solely designed to protect human health and safety; however, the U.S. EPA, the U.S. Coast Guard, and the National Institute for Occupational Safety and Health agree with us that the proposed carbon monoxide standards offer no health and safety benefit. Furthermore, staff's proposed standards are not necessary for the attainment of ambient air quality goals and would not be harmonized with those proposed by the U.S. EPA, resulting in additional economic cost to the citizens of California. [NMMA-2]

Agency Response: Although CO is not an ozone precursor, it is a criteria pollutant and has been known to cause fatalities in high concentration through asphyxiation. From approximately 1990-2007, there were 52 boat-related CO poisoning cases in California according to data commissioned by the United States Coast Guard. The California Department of Boating and Waterways reports 10 deaths between 2001 and 2006 in California associated with the inhalation of carbon monoxide during boating activities. At least one death from CO poisoning has been attributed to the use of an outboard engine. Other fatalities or injuries not quantified in this tally may have occurred indirectly (e.g., drowning or loss of balance). The CO standards in this proposal are intended to lower the risk of asphyxiation during boating activities such as wakeboarding and teak surfing where boaters may be in close or direct proximity to a vessel's exhaust, and to protect vessel occupants exposed to lesser concentrations that can cause diminished cerebral capacity leading to accidents as a result. The proposed CO standards would essentially cap CO emissions at current measured levels; therefore, compliance with the proposed standards should not require the incorporation of any additional technology not already required by existing California regulation and should not result in increased costs to manufacturers. Staff does, however, recognize that more stringent standards will likely be necessary to better protect the health of boaters in the future, and is committed to

developing such standards, but for now believes it important to ensure that CO levels not be allowed to increase above current levels.

D. Comments Related to Jet Boat Engines

11. Comment: We support the temporary relief provisions proposed by staff for jet boat engines transitioning to the more stringent sterndrive/inboard exhaust standards; however, the regulations should be revised to reflect 2010 as the new implementation date for CO standards so not to conflict with the jet boat provisions that would allow existing jet boat engines to continue being certified to the personal watercraft standards in 2009. [YMC-1]

Agency Response: ARB agreed with this comment and made changes accordingly. Both Table 1.2 and paragraph 2442(g)(1)(A) in §2442 of the regulations were revised to make evident that carbon monoxide standards would not become applicable until 2010 for jet boats powered by personal watercraft engines. Some manufacturers had already submitted certification applications for 2009 model year personal watercraft engines used in jet boat applications prior to the Board hearing on July 24, 2008; therefore, it was logical and appropriate to move the implementation date to 2010.

12. Comment: The On-Board Diagnostics Marine (OBD-M) standardization requirements should not apply to jet boat engines that already possess a diagnostic system with the capability to detect and identify malfunctions in an equivalent manner. The cost to comply with the OBD-M requirements would require a complete redesign of existing systems and create a tremendous burden on the manufacturer for a very small number of engines in California with no increased air quality benefits. Furthermore, U.S. EPA does not require jet boat engines to comply with the OBD-M standardization requirements. [YMC-2]

Agency Response: We disagree because an important part of the OBD-M requirement is to establish a common strategy for malfunction detection, identification, and electronic access in order to ensure timely and accurate repairs independent of manufacturer or service facility. However, the commenter makes a good case for the temporary use of alternate OBD-M standardization conventions under the general hardship relief provisions proposed by staff in § 2442(g)(3) and as specifically referenced in § 2444.2(h). The manufacturer would be required to demonstrate the equivalency of its diagnostic system in identifying the same malfunctions as an OBD-M system and alerting the vessel operator in a timely manner to be granted relief under this provision. Additionally, the manufacturer would still be required to transition to standardized OBD-M protocols in a reasonable amount of time, and must submit a plan to the Executive Officer documenting the conversion process and obliging itself to complete the transition on schedule.

E. Comments Related to Not-To-Exceed (NTE) Requirements

13. Comment: To ensure harmonization with the federal NTE requirements for marine engines, the provisions temporarily exempting carry-over engines through 2012 and allowing un-catalyzed supercharged four-stroke engines greater than 150 kilowatts to employ optional NTE zones through 2014 should be reflected in the regulations. Additionally, graphs illustrating each of the applicable NTE zones should be pictorially included in the California regulations rather than just linked to the Code of Federal Regulations. [NMMA-3]

Agency Response: We agreed and proposed the requested changes in staff's Second Notice of Public Availability of Modified Text.

14. Comment: The regulations should be revised to explicitly state that the test procedures in Section 40, Part 91 of the Code of Federal Regulations apply to the carry-over engines exempted from the NTE requirements through 2012. [NMMA-3] [NMMA-4]

Agency Response: The change requested by the commentator is unnecessary because California's Test Procedures, which are based on, and virtually identical to, the requirements in 40 CFR Part 91, apply in either case to NTE-applicable or NTE-exempt spark-ignition marine engine families, with the difference in applicability being additional testing requirements for the NTE-applicable engine families pursuant to the federal requirements in 40 CFR 1065. This is indicated in Part I section 20(c) of the Test Procedures. Therefore, it is already clear that NTE-exempt engine families, such as the previously certified carry-over families in question, are not required to comply with the test requirements specific to NTE-applicable engine families and may continue to comply under the 40 CFR Part 91 equivalent of the California Test Procedures.

F. Miscellaneous Comments

15. Comment: We do not support the proposed hang tag durability amendment allowing ARB certification engineers to make arbitrary decisions regarding the acceptability of a marine hang tag's construction. Market forces provide an overwhelming incentive for engine manufacturers to ensure that hang tags remain intact. [NMMA-1]

Agency Response: To address longevity concerns raised by a California dealership during the regulatory development process, staff proposed that the Executive Officer be given discretion to require a demonstration of durability for any hang tag submitted per the provisions of § 2443.3 (d) that is suspected of being too fragile to remain viable for a period of no less than two years displayed under normal conditions. Based on several hang tag samples already reviewed by staff, we do not anticipate that this new provision will be invoked often. However, Assembly Bill 695 now requires hang tags be submitted to the Department of

Motor Vehicles with the registration application for new boats with sterndrive/inboard engines produced on or after July 1, 2008, illustrating the importance of hang-tag durability.

16. **Comment:** ARB should consider suspending the regulations until the economy rebounds since emission reductions are being achieved through attrition as retail sales are down by over 40 percent in California. [MMC]

    Agency Response: The current economic situation is disheartening for all Californians. However, the issues driving the downturn in the market are mostly affecting consumer demand and not a manufacturer's ability to supply product. Furthermore, the majority of staff's amendments proposed in this rulemaking are meant to reduce the burden and costs of compliance, not to increase them. While true that the reduction in engine sales has resulted in reduced emissions overall, attrition on the order of 70 - 80 percent would be necessary to compensate for a regression to non-catalyzed sterndrive/inboard engines and pre-controlled high performance engines (e.g., 16.0 g/kW-hr to 5.0 g/kW-hr and 25.0 g/kW-hr to 5.0 g/kW-hr, respectively).

17. **Comment:** Although we support the majority of staff's proposed amendments, we would have appreciated the opportunity to work more closely with staff during the development of this rulemaking to ensure the interests of our constituents. The outstanding issue for us in staff's proposal is the use of evaporative controls to compensate for the loss of exhaust emission benefits resulting from a relaxation in the standards for high performance engines. Although staff considers the trade off to be emissions neutral, the loss of oxides of nitrogen reductions cannot be recouped by further reducing hydrocarbons as is the case with carbon canisters and low permeation tanks and hoses. [CCA]

    Agency Response: Staff makes every effort to ensure that the public has ample opportunity to weigh in on the rulemaking process during various stages of the regulation's development, such as through the normal statutory processes of workshops, individual meetings, and comment periods prior to the Board hearing. Appendix A of the staff report for this item lists 14 separate occasions where staff communicated its intentions to the public, stakeholders, or other interested parties. It is unclear why the commenter was not aware of our proposed rule earlier in the development process. Nevertheless, for the future we will continue to improve our outreach efforts to ensure that environmental groups such as those represented by the commenter are included early in the rulemaking process.

    The standards for spark-ignition marine engines are expressed as combined hydrocarbons and oxides of nitrogen, thereby not distinguishing between relative amounts of either pollutant. While it is true that the ratio of hydrocarbon to oxides of nitrogen could be altered by staff's proposal to relax exhaust standards for small volume high performance engines, the affected engines are typically calibrated to run very fuel-rich, and exhaust hydrocarbon levels are commonly two to three

times greater than oxides of nitrogen levels. Thus, while staff's proposal will likely increase oxides of nitrogen emissions slightly, these increases will be greatly overshadowed by the significant benefits of lower hydrocarbon emissions, including further reductions of toxic substances such as benzene and tolulene.

18. **Comment:** The definition for "Maximum Engine Power" should be revised to align with the recently finalized federal definition, such that power values should be rounded to the nearest tenth of a kilowatt instead of to the nearest whole kilowatt. [NMMA-3]

Agency Response: We agreed and proposed changes in staff's Second Notice of Public Availability of Modified Text that harmonize California's definition with the federal definition.

19. **Comment:** The definition of a "rebuilt engine," as expressed in the Test Procedures, should be revised to exclude remanufactured engines. Remanufactured engines are constructed from parts originally belonging to multiple engine cores and have no traceability, making it impossible to provide accurate information regarding the record keeping requirements for rebuilt engines. [NMMA-3]

Agency Response: We disagree with the commenter to the extent that remanufactured engines are indeed a subset of rebuilt engines and subject to the same proposed requirements for rebuilding engines in Part I section 7 of the Test Procedures. Although a remanufactured engine may be assembled from parts originally belonging to multiple cores, the end result must be that of a certified or previously certified emissions configuration as specified in section 7(d). Otherwise, the resultant engine would effectively become a new engine requiring certification and the issuance of an executive order prior to being legal for sale in California.

With respect to record keeping requirements for remanufactured engines, Part I section 7(i)(1) of the Test Procedures provides some relief in that it states "Keeping information that is not reasonably available through normal business practices is not expected." The builder of a remanufactured engine would not be required to keep records on the source engines used in a rebuild, only the resulting engine to ensure that it matches the emissions configuration of a previously certified engine.