

TITLE 13. CALIFORNIA AIR RESOURCES BOARD

NOTICE OF PUBLIC HEARING TO CONSIDER ADOPTION OF EMISSION STANDARDS AND TEST PROCEDURES FOR NEW 2001 AND LATER SPARK-IGNITION MARINE ENGINES

The Air Resources Board (the Board or ARB) will conduct a public hearing at the time and place noted below to consider the adoption of emission standards and test procedures for new 2001 and later spark-ignition marine engines.

DATE: December 10, 1998

TIME: 8:00 a.m.

PLACE: Board Hearing Room, Lower Level
2020 L Street
Sacramento, California 95814

This item will be considered at a two-day meeting of the Board, which will commence at 8:00 a.m., December 10, 1998, and will continue at 8:30 a.m., December 11, 1998. This item may not be considered until December 11, 1998. Please consult the agenda for the meeting, which will be available at least 10 days before December 10, 1998, to determine the day on which this item will be considered. At 8:00 a.m. on the day that this item will be considered, a demonstration of marine engine technologies will be conducted on the north side of the 2020 L Street building.

This facility is accessible to persons with disabilities. If accommodation is needed, please contact the Clerk of the Board at (916) 322-5594 or TDD (916) 324-9531 or (800) 700-8326 for TDD calls from outside the Sacramento area, by October 8, 1998.

INFORMATIVE DIGEST OF PROPOSED ACTION/PLAIN ENGLISH POLICY STATEMENT OVERVIEW

Sections Affected: Adoption of the following sections of Title 13, California Code of Regulations, and the documents incorporated by reference therein: Chapter 9, Off-road Vehicles and Engines Pollution Control Devices; Article 4.7, Spark-Ignition Marine Engines; sections 2440, et seq., and the incorporated "California Exhaust Emission Standards and Test Procedures for New 2001 and Later Spark-Ignition Marine Engines," "United States Environmental Protection Agency Title 40, Code of Federal Regulations, section 91.803, October 4, 1996," and "ASTM E29-93a."

The California Clean Air Act as codified in Health and Safety Code sections 43013 and 43018 grants the ARB authority to regulate off-road mobile sources of emissions. Included are marine

vessels, locomotives, utility engines, off-road motorcycles, and off-highway vehicles. This regulation is being proposed to reduce emissions of hydrocarbons (HC) and oxides of nitrogen (NOx) from spark-ignition marine engines, specifically, outboard marine and personal watercraft engines. Development of this proposal was undertaken to address the significant emissions impact of these watercraft. Although the United States Environmental Protection Agency (U.S. EPA) has adopted a regulation intended to reduce HC emissions from outboard and personal watercraft engines 75 percent from baseline levels by 2025, the benefits of that program will not be sufficient to meet California's air quality goals.

In crafting the proposal, the ARB staff met with engine manufacturers, trade associations, water agencies, environmental organizations, and other interested parties in numerous individual meetings and calls. The staff also held a public workshop on July 9, 1998.

RELATED FEDERAL ACTIONS

In 1996 the United States Environmental Protection Agency (U.S. EPA) adopted exhaust emission standards for outboard marine and personal watercraft engines (Title 40, Code of Federal Regulations, sections 89 through 91, October 4, 1996). The U.S. EPA standards are established as a function of rated power of the engine using the equation; $A+(151+(557/P^{0.9}))+B$, where A and B are coefficients that change as the regulation is implemented from 1998 to 2006, and P is the rated power of the marine engines. The endpoint of the implementation period, 2006, establishes standards based on the equation $0.25+(151+557/P^{0.9}))+6.00$. The ARB's proposed emission standards are based on a percentage of the 2006 equation. The cost of the separate California program is justified by the benefit to human health, public welfare, and the environment. In addition, the differences from the federal program are authorized by Health and Safety Code sections 43013 and 43018.

STAFF PROPOSAL

The proposal, which would be implemented with marine engines produced in the 2001 and later model years, would apply to outboard marine and personal watercraft engines. The proposed regulations do not apply to inboard or sterndrive engines. The proposed regulation is designed to harmonize as closely as possible with the federal program through the following:

- Emission standards that are a percentage of the U.S. EPA 2006 standards curve.
- Use of U.S. EPA test procedures and test cycles for certification and in-use testing.
- Acceptance of U.S. EPA test data for in-use and compliance testing.
- Use of U.S. EPA's Cumulative Sum method and Selective Enforcement Audit procedures.
- Use of U.S. EPA's certification label format with additional language added for California, eliminating the need for a second California-specific certification engine label.

Emission Standards

Central to the proposal are the exhaust emission standards that are phased-in over three tiers. The first tier, starting in 2001, implements the U.S. EPA 2006 standards. This effectively accelerates the U.S. EPA program by 5 years. Tier 2, to be implemented in 2004, sets the exhaust emission standards at 80 percent of U.S. EPA's 2006 standards. Tier 3, to be implemented in 2008, lowers the standard to 35 percent of U.S. EPA's 2006 standard. The proposed exhaust emission standards are in-use standards, meaning that the engines must be certified by the engine manufacturer to perform at or below the certified emission standard throughout the useful life of the engine. The proposal also allows for corporate averaging of engines, so that on a sales and horsepower weighted basis, a manufacturer's production must meet the emission standards. Through the averaging provision, engine manufacturers may produce some engines that emit more than the emission standard, if they are offset with engines that emit sufficiently less than the standard. Averaging is only allowed within the model year; banking and trading of emission credits is not allowed by the proposed regulations.

Emission Control Labels

In order to clearly identify all California-certified, spark-ignited marine engines, staff proposes that each be affixed with a permanent engine label. The certification label would be located on the engine, inside the cowling or engine compartment. The label would indicate that the subject engine complies with the California regulations and would also be an effective tool used during inspections, in-use testing and other enforcement programs. The requirements for the certification label are not substantially different from the U.S. EPA requirements and will require minimal modification by engine manufacturers.

Consumer/Environmental Label Requirements and Consumer/Environmental Label Notification Requirements

The environmental label program is proposed in order to establish 3 tier designations for consumer awareness and water quality protection programs. The labels would establish criteria for low-, very low- and ultra low-emission engines. These designations will serve to educate consumers about the relative emissions impact of new engines. However, the labels also establish a standardized mechanism for clearly identifying clean technology engines for use by water agencies to enforce water quality related activity restrictions. The proposal would also establish a mechanism to recognize existing clean technology engines (four-stroke and direct injection two-stroke engines) through a fourth label denoted as "clean technology engine" or CTE. The CTE label would be available from manufacturers, distributors or dealerships for retrofit application to existing four-stroke and two-stroke direct injection engines.

In-Use Compliance Testing and Recall Provisions

Certification with the marine engine regulations requires manufacturers to demonstrate that the engines will comply with the emission standards during the useful life of the engine. It is the intent of staff's proposal to use data obtained through the U.S. EPA in-use testing program to

determine compliance with ARB's exhaust emission standards. The proposal also includes the authority for ARB to conduct California-specific in-use testing. California-specific programs will follow the same process as the U.S. EPA to implement testing. This includes appropriately timed notification to the engine manufacturer of: the need to test an engine family, sample size for the test, the test engine selection criteria, the emission testing protocol, and the data reporting requirements.

If an engine family exceeds the applicable HC+NO_x standard on average, the subject engine family would be subject to remedial action designed to mitigate the increased emissions caused by the noncompliance. These programs may include a combination of the following:

- Payment of a mitigation fee to be used for appropriate emission reduction or verification programs
- Adjustment of the corporate average standard for following model years
- Accelerated turn-over program to retire older technology engines, carried out by the manufacturer.
- Demonstration of advanced innovative emission reducing technology on future production engines

Under this program, manufacturers would not be permitted to use federal in-use credits to offset noncompliance. The compliance plan used to mitigate increased emissions from non-compliance with the in-use emission standards will be determined through a consultative process with the ARB and approved by the Executive Officer. If a combination of these programs is found to be ineffective at mitigating the increased emissions resulting from noncompliance, the manufacturer will be subject to an engine recall order.

Defects Warranty Requirements and Emission Control Warranty Statement

Staff is proposing that engine manufacturers ensure that the engines they build will have emission-related components that are reliable, durable and capable of complying with the applicable emission standards. Staff's proposed emissions defects warranty would provide a coverage period of 4 years or 250 hours, whichever occurs first for outboard and personal watercraft engines. The yearly periods represent approximately 25 and 66 percent of the outboard and personal watercraft engines' average useful life, respectively. Staff believes that these warranty periods are appropriate given the cost and duty cycles of the engines. Requirement of an extended emission warranty is consistent with other ARB mobile source regulations. The proposed warranty requirements apply to engine components that affect emissions performance. The warranty requirements do not cover routine and scheduled maintenance, and do not warranty parts past their designed useful life.

For each new marine engine sold in California, engine manufacturers would be required to include in the owner's manual an explanation of their emissions defect warranty, the warranty responsibilities of the owner, including providing proper maintenance.

Cumulative Sum Production-Line Test Procedures and Selective Enforcement Auditing Regulations

Staff proposes a production-line testing requirement to ensure that manufacturers are building engines that comply with emission standards. This program will follow the procedure used for the U.S. EPA's Cumulative Sum procedure. This procedure replicates the statistical foundation of a federal compliance program known as "Selective Enforcement Audit," while providing greater opportunity for a quick decision. Therefore, the Cumulative Sum procedure would reduce the manufacturer's testing burden, especially for those engine families consistently below the emission standard by a wide margin. The minimum number of tests required is only two and the maximum is thirty.

In addition to the other enforcement programs proposed, the proposal would implement a Selective Enforcement Audit (SEA) program to discourage inappropriate production-line testing and/or reporting of insufficient or erroneous data. This program is procedurally identical to that finalized by the U.S. EPA and, as the name implies, will be used when the Executive Officer determines that a manufacturer's production test data are questionable or not representative of the engine family. Since an SEA can be imposed at any time under short notice, manufacturers are more likely to ensure that their production engines are built exactly as certified rather than risk the assessment of potential noncompliance penalties.

BENEFITS OF THE PROPOSAL

The proposal is anticipated to result in 65 percent greater HC+NO_x emission benefits over the U.S. EPA program when fully implemented. The cost effectiveness of this proposal is within the range of other mobile source measure costs.

AVAILABILITY OF DOCUMENTS AND CONTACT PERSON

The Board staff has prepared the staff report for the proposed action that includes a summary of the environmental impacts of the proposal. The staff report and the full text of the proposed regulatory language may be obtained from the Board's Public Information Office, 2020 L Street, Sacramento, California 95814, (916) 322-2990 beginning at least 45 days before the scheduled hearing. The ARB staff has compiled a record that includes all information upon which the proposal is based. The ARB has determined that it is not feasible to draft the regulation in plain English due to the technical nature of the regulation; however, a plain English summary of the regulation is available from the agency contact person named in this notice, and/or is also contained in the staff report for this regulatory action.

To obtain this document in an alternative format, please contact the Air Resources Board ADA Coordinator at (916) 322-4505, TDD (916) 324-9531, or (800) 700-8326 for TDD calls from outside the Sacramento area.

Further inquiries regarding this matter should be directed to Ms. Analisa Bevan, Air Resources Engineer, Marine Team at (916) 323-8966 of the Air Resources Board, Mobile Source Control Division, P.O. Box 2815, Sacramento, California 95812.

COSTS TO PUBLIC AGENCIES AND TO BUSINESSES AND PERSONS AFFECTED

The determination of the Board's Executive Officer concerning the costs or savings necessarily incurred in reasonable compliance with the proposed regulations are presented below.

The Executive Officer has determined that the proposed regulatory action will not create costs or savings, as defined in Government Code section 11346.5(a)(6), to any state agency 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 nondiscretionary savings to local agencies.

In developing this regulatory proposal, the ARB staff evaluated the potential economic impacts on private persons and businesses. The Executive Officer has determined, pursuant to Government Code section 11346.5(a)(3)(B), that the regulation will affect small business because small businesses will not incur costs in reasonable compliance with the regulation. The Executive Officer has also determined that adoption of the proposed regulatory action will not have a significant adverse economic impact on businesses, including the ability of California businesses to compete with businesses in other states.

The Executive Officer has determined that there will be no, or an insignificant, potential cost impact, as defined in Government Code section 11346.5(a)(9), on private persons or businesses directly affected resulting from the proposed action.

Finally, the Executive Officer has determined that the proposed regulatory action will not affect the creation or elimination of jobs within the State of California, the creation of new businesses or elimination of existing businesses within California, or the expansion of businesses currently doing business within California. Assessment of the economic impacts of the proposed regulatory action can be found in the staff report.

Before taking final action on the proposed regulatory action, the Board must determine that no alternative considered by the agency would be more effective in carrying out the purpose for which the action is proposed or would be as effective and less burdensome to affected private persons than the proposed action.

SUBMISSION OF COMMENTS

A written report and oral statements will be presented by staff at the meeting. Interested members of the public may also present comments orally or in writing. To be considered by the Board, written comments must be filed with the Clerk of the Board, Air Resources Board, P.O. Box 2815,

Sacramento, California 95812, no later than 12:00 noon December 9, 1998, or received by the Clerk of the Board at the hearing.

It is requested but not required that twenty copies of any written statement be submitted and that all written statements be filed at least 10 days before the hearing. The Board encourages members of the public to bring to the attention of staff in advance of the hearing any suggestions for modifications of the proposed regulatory action.

STATUTORY AUTHORITY AND HEARING PROCEDURES

This regulatory action is proposed under the authority granted in Health and Safety Code sections 39600, 39601, 43013, 43018, 43101, 43102, 43104, and 43105. This action is proposed to implement, interpret, and make specific Health and Safety Code sections 43013, 43017, 43018, 43101, 43102, 43104, 43105, 43150-43154, 43205.5, and 43210-43212.

The public hearing will be conducted in accordance with the California Administrative Procedure Act, Title 2, Division 3, Part 1, Chapter 3.5 (commencing with section 11340) of the Government Code.

Following the public hearing, the Board may adopt the regulatory language as originally proposed, or with nonsubstantial or grammatical modifications. The Board may also adopt the proposed regulatory language with other modifications if the text as modified is sufficiently related to the originally proposed text that the public was adequately placed on notice that the regulatory language as modified could result from the proposed regulatory action; in such event the full regulatory text, with the modifications clearly indicated, will be made available to the public, for written comment, at least 15 days before it is adopted. The public may request a copy of the modified regulatory text from the Board's Public Information office, 2020 L Street, Sacramento, California 95814, (916) 322-2990.

CALIFORNIA AIR RESOURCES BOARD

Michael P. Kenny
Executive Officer

Date: October 13, 1998