

State of California  
AIR RESOURCES BOARD

Resolution 98-15-B

March 26, 1998

Agenda Item No.: 98-3-5

WHEREAS, sections 39600 and 39601 of the Health and Safety Code authorize the Air Resources Board (the Board or ARB) to adopt standards, rules and regulations and to do such acts as may be necessary for the proper execution of the powers and duties granted to and imposed upon the Board by law;

WHEREAS, section 43013 of the Health and Safety Code authorizes the Board to adopt standards and regulations to control emissions from off-road or nonvehicle engine categories;

WHEREAS, section 43018 of the Health and Safety Code directs the Board to endeavor to achieve the maximum degree of emission reduction possible from vehicular and other mobile sources in order to accomplish the attainment of the state ambient air quality standards at the earliest practicable date;

WHEREAS, in December 1990, the Board adopted the world's first emissions standards and test procedures to control emissions from small off-road engines;

WHEREAS, these emissions standards were divided into two tiers of control, one of which was implemented in 1995 (Tier 1), and the other, more stringent is scheduled to be implemented in 1999 (Tier 2);

WHEREAS, the State Implementation Plan (SIP) adopted by the Board in November, 1994, which establishes the state strategy for attaining the national ambient air quality standards for ozone in all areas of the state by 2010 as required by federal law, includes the emissions reductions associated with the current Tier 2 standards for small off-road engines;

WHEREAS, knowledge regarding the emissions inventory from small off-road engines has grown considerably during implementation of the first tier of regulations, as has the knowledge of which engines California is preempted from regulating;

WHEREAS, the adopted California 1994 SIP includes measures for small off-road engines that are based on a 1990 uncontrolled emissions estimate that is less than one-third of the current estimate;

WHEREAS, the existing program does not explicitly control emissions associated with the deterioration of small off-road engines as they age;

WHEREAS, study has shown that the 1999 Tier 2 standards may be inappropriate because they do not address emissions associated with deterioration;

WHEREAS, by controlling emissions associated with deterioration, the proposed amendments strengthen the existing regulation;

WHEREAS, due to changes in the emissions inventory for these engines, there would be a significant SIP shortfall for ozone precursors even without adopting the proposed amendments;

WHEREAS, despite controlling for deterioration, relaxing and delaying the Tier 2 standards will result in an additional, though less significant, SIP shortfall in ozone precursors;

WHEREAS, the current Carbon Monoxide (CO) and Particulate Matter (PM) standards would limit the technology available for optimal hydrocarbon (HC) + oxides of nitrogen (NO<sub>x</sub>) emissions and potentially produce a greater SIP shortfall in ozone precursors;

WHEREAS, most areas of the state are at or near attainment for CO, too little is now known regarding the quantity and type of PM that small off-road engines contribute to the statewide PM inventory, and the ozone precursors HC + NO<sub>x</sub> are of greater concern to more areas of California;

WHEREAS, alignment with portions of the United States Environmental Protection Agency's (U.S. EPA) proposed program for small off-road engines would reduce the compliance burden placed on the small off-road industry;

WHEREAS, ARB staff, the U.S. EPA and numerous affected engine manufacturers agreed to the Compression-Ignition Engine Statement of Principles regarding regulation of compression-ignition (i.e. diesel) engines;

WHEREAS, the Compression-Ignition Engine Statement of Principles will provide measures sufficient to assist in achieving SIP measures M9 and M10 while harmonizing California and federal programs, and federal participation should ensure control of preempted farm and construction diesel equipment;

WHEREAS, in response to the Board's 1996 directive, staff has proposed amendments to address industry's concerns, expressed through numerous workshops and meetings, with the technological and commercial feasibility of the current Tier 2 standards;

WHEREAS, several manufacturers of handheld equipment have developed technology that will reduce the emissions of hydrocarbons and oxides of nitrogen from handheld equipment to meet the current 1999 Tier 2 standards;

WHEREAS, production of both handheld and nonhandheld engines complying with the current 1999 Tier 2 standard will require some additional time for most manufacturers;

WHEREAS, the current distinction between handheld and nonhandheld engine certification may have confused some equipment manufacturers purchasing engines;

WHEREAS, a clearer distinction between handheld and nonhandheld engines, based on whether the engine displaces more than or less than 65 cubic centimeters, will assure that lightweight, multi-positional engines will be available for applications that require such engines, while providing engine manufacturers and their customers with greater certainty in developing or purchasing products that use such engines;

WHEREAS, California currently regulates golf carts under Title 13, Chapter 9, Article 3, Off-Highway Recreational Vehicles and Engines, even though the engines used to propel golf carts are identical to small off-road engines;

WHEREAS, engines less than 25 horsepower used in off-road mobile applications, such as golf carts, would be used in applications other than those off-road mobile applications, and therefore regulation of these engines as small off-road engines would achieve a more sensible distinction;

WHEREAS, the introduction of averaging, banking, and trading of emissions credits will provide the industry with greater compliance flexibility while achieving required emissions reductions;

WHEREAS, emissions indexing and labeling have been shown in the on-road area to provide consumers with an easily understood mechanism to compare the emissions of automobiles;

WHEREAS, such programs encourage consumers to become more informed about the environmental consequences of their purchasing decisions and thus encourage the voluntary purchase of less-polluting products;

WHEREAS, ARB regulations generally may spur a given industry's technological development beyond staff's assumptions in proposing such regulations, and conversely, technological development may lag behind that assumed in proposed regulations;

WHEREAS, periodic reviews of industry's progress, both in meeting current ARB regulatory requirements and in striving to meet requirements with future effective dates, have helped the Board determine whether it needs to reevaluate those requirements;

WHEREAS, due to potential crossovers in application of technologies to meet ARB regulatory requirements in offroad engine categories, there may be merit to reviewing small off-road engine technologies in the larger context of reviewing technological progress in the offroad categories generally;

WHEREAS, the California Environmental Quality Act and Board regulations require that no project which may have significant adverse environmental impacts be adopted as originally proposed if feasible alternatives or mitigation measures are available to reduce or eliminate such impacts;

WHEREAS, the Board has considered the effects of the proposed standards on the economy of the state;

WHEREAS, section 209(e) of the federal Clean Air Act, as amended in 1990, requires that the ARB receive authorization from the EPA Administrator to adopt and enforce standards relating to the control of emissions from nonroad engines or vehicles;

WHEREAS, a public hearing and other administrative proceedings have been held in accordance with the provisions of Chapter 3.5 (commencing with section 11340), Part 1, Division 3, Title 2 of the Government Code;

WHEREAS, the Board finds that:

Despite advances in reducing emissions from motor vehicles, California still has the most severe air pollution problems in the United States;

To meet Federal and California Clean Air Act emissions reductions requirements, ARB must continue to seek proportional and incremental reductions from sources, including small off-road engines;

The emissions reductions expected from the proposed amended small off-road engine regulation will not meet California's 1994 SIP commitment for this source category, and therefore relaxation or delay beyond that proposed is not advisable;

The amendments to the small off-road engine regulations and to establish that the amendments are necessary, cost-effective and technologically feasible;

The current 1999 Tier 2 small off-road engine standards should be modified to address emissions deterioration;

Although the current 1999 Tier 2 standard is technologically feasible for some manufacturers, many manufacturers would have great difficulty meeting the current January 1, 1999 implementation date;

The proposed amendments may cause some businesses in the small off-road engine industry to realize a lower return on investments made to meet the current standards;

Additional time is warranted to help minimize potential adverse impacts on many manufacturers and potential disruption of the small off-road engine market;

Companies representing a significant share of the small off-road engine market will be able to manufacture and bring to market commercially viable engines and equipment to meet the amended Tier 2 standards by January 1, 2000;

Adoption of procedures in closer alignment with the U.S. EPA will simplify the processes of certification and production line testing for industry;

Adoption of an emissions reductions credits program will provide industry with greater flexibility in complying with the emissions standards while achieving the overall emission reduction goals of the proposed amended regulations;

Alignment with the U.S. EPA in the control of emissions from compression-ignited engines should ensure adequate control of emissions from those engines;

Covering engines less than 25 horsepower used in off-road mobile applications, such as golf carts, under the small off-road engine regulation rather than under the current off-road recreational vehicle regulation, clarifies the distinction between the two regulations and will reduce confusion and overlap between the two regulations;

Requiring a label on handheld and nonhandheld equipment that would indicate the relative emissions from these engines will aid consumers seeking lower emitting engines and thereby aid in further reducing emissions;

A periodic review of the small off-road engine industry's technological progress in meeting the proposed amended regulations would enable the Board to remain informed regarding existing issues and to become familiar with any unforeseen issues;

A periodic review of the small off-road engine industry's technological progress will enable the Board and staff to recognize and respond to any difficulties in attaining the emissions goals of the small off-road engine program and in the SIP;

A periodic technological review for the small off-road engines could occur in the context of a larger review of the offroad engine categories generally;

Adoption of the proposed amendments to the standards and test procedures would result in a reduction of approximately 21 tons per day of combined hydrocarbons and oxides of nitrogen emissions statewide in 2010, beyond the federal proposal addressing these engines;

The economic and cost impacts of the amendments have been analyzed as required by California law, and the conclusions and supporting documentation for this analysis are set forth in the Initial Statement of Reasons;

The cost effectiveness of control beyond the federal proposal would be \$2.60 per pound of HC + NO<sub>x</sub> for nonhandheld equipment such as lawn mowers and generators;

The cost effectiveness of control beyond the federal proposal would be \$1.58 for handheld equipment such as chain saws, string trimmers, and blowers;

The cost effectiveness values above are similar to the values associated with other control measures adopted in furtherance of Health & Safety Code sections 43013 and 43018 and SIP measures;

The proposed amendments to the small off-road engine regulations are necessary, cost-effective, and technologically feasible to carry out the purposes of the state and federal clean air laws;

The proposed amendments to the small off-road engine regulations will result in fewer emissions reductions than under the current standards, yet will help attain and maintain national and ambient air quality standards for ozone and nitrogen oxides;

Despite continuing to provide significant emission reductions beyond the federal proposal, changes to the emission inventory, and to a lesser degree proposed changes to the emissions standards, will result in an emissions shortfall in the SIP from this category;

To avoid a further SIP shortfall in ozone precursors, the current Carbon Monoxide (CO) and Particulate Matter (PM) standards should be relaxed to make more technology available for optimal control of HC + NO<sub>x</sub> emissions;

In authorizing the Board to adopt regulations for utility and lawn and garden equipment engines, the Legislature intended such regulations to be fully enforceable;

The proposed amendments to the small off-road engine regulations and procedures for emission control labels, warranties, enforcement procedures, and compliance testing are necessary to adequately enforce the emissions standards and test procedures of the small off-road regulation, and will independently help to reduce emissions from such engines;

Additional proposed amendments to the regulations and test procedures are intended to conform these provisions to the proposed relaxation and delay of the current Tier 2 standards or to make nonsubstantive clarifications to the small off-road engine regulations; and

WHEREAS, the Board further finds that:

Because relaxing the current Tier 2 emissions standards and postponing implementation of those standards from January 1, 1999, to January 1, 2000 will produce fewer emissions reductions than under the existing standards, adverse environmental impacts may result;

Postponement and relaxation of the Tier 2 standard is necessary to provide manufacturers with additional time to meet a more feasible standard, to ensure that market demand for small off-road engines and equipment can be met, and to avoid disruption and adverse economic impacts on the small off-road engine market;

There are no other feasible alternatives or mitigation measures that would reduce these potential adverse environmental impacts while at the same time providing the benefits described above; and

The considerations identified above override any adverse environmental impacts that may occur as a result of achieving fewer emissions reductions from small off-road engines in the near term.

NOW, THEREFORE, BE IT RESOLVED that the Board hereby approves those parts of the table in section 2403(b) affecting Engine Classes I, II, and Spark-Ignition (SI) Engines >65cc, Title 13, California Code of Regulations, "Article 1. Small Off-Road Engines," and those parts of the table in Part I, Section 9 of "California Exhaust Emission Standards and Test Procedures for 1995 and Later Small Off-Road Engines" affecting Engine Classes I, II and Spark-Ignition (SI) Engines >65 cc as set forth in Attachments A and B to the Staff Report: Public Hearing to Consider Amendments to the 1999 Small Off-Road Engine Regulations (released February 6, 1998), with the modifications set forth in Attachment A hereto and such other conforming modifications as may be appropriate.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to adopt the above amendments as set forth in Attachment A to the Staff Report: Public Hearing to Consider Amendments to the 1999 Small Off-Road Engine Regulations (released February 6, 1998), with the modifications set forth in Attachment A hereto and such other conforming modifications as may be appropriate, after making the modified regulatory language and additional supporting documents and information available for public comment for a period of 15 days, provided that the Executive Officer shall consider such written comments regarding the modification and additional supporting documents and information as may be submitted during this period, shall make modifications as may be appropriate in light of the comments received, and shall present the regulations to the Board for further consideration if he determines that this is warranted.

BE IT FURTHER RESOLVED that the Board hereby directs the Executive Officer to consider initiating periodic, potentially biannual, technological reviews for all offroad engine categories under ARB regulation, to initiate such reviews for the small off-road engine category either separately from or concurrently with broad reviews of the offroad engine categories generally, and for each review to conduct at least one public workshop and report verbally to the Board at a regularly scheduled hearing.

BE IT FURTHER RESOLVED that the Board hereby determines that the regulations adopted herein will not cause the California emissions standards, in the aggregate, to be less protective of public health and welfare than applicable federal standards.

BE IT FURTHER RESOLVED that the Board hereby finds that separate California emission standards and test procedures are necessary to meet compelling and extraordinary conditions.

BE IT FURTHER RESOLVED that the Board finds that the California emission standards and test procedures as adopted herein will not cause the California requirements to be inconsistent with the Federal Clean Air Act, as amended, and raise no new issues affecting previous waiver determinations of the Administrator of the Environmental Protection Agency pursuant to section 209 of the Clean Air Act.

BE IT FURTHER RESOLVED that the Executive Officer shall, upon adoption, forward the regulations to the Environmental Protection Agency with a request for confirmation that the regulations are within the scope of an existing waiver of federal preemption pursuant to section 209 of the Clean Air Act, as appropriate.

I hereby certify that the above is a true and correct copy of Resolution 98-15-B, as adopted by the Air Resources Board.

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Pat Hutchens, Clerk of the Board

Resolution 98-15-B

March 26, 1998

Identification of Attachments to the Board Resolution

**Attachment A:** Proposed amendments to California Regulations for 1995 and Later Small Off-Road Engines, sections 2400 through 2414, Title 13, California Code of Regulations, as set forth in Appendix A to the Staff Report (released February 6, 1998) and modified by Staff's Suggested Changes to the Original Proposal (distributed at the Board Hearing on March 26, 1998).