

State of California  
AIR RESOURCES BOARD

INITIAL STATEMENT OF REASONS

PUBLIC HEARING TO CONSIDER AMENDMENTS TO  
THE CALIFORNIA REGULATIONS FOR NEW 1997 AND LATER  
OFF-HIGHWAY RECREATIONAL VEHICLES AND ENGINES

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Agenda Item No.: 98-XX-XX

I. INTRODUCTION AND BACKGROUND

A. History

The California Clean Air Act, codified in the Health and Safety Code, requires the Air Resources Board (ARB or the Board) to consider regulating emissions from off-road engines and other nonvehicular sources (sections 43013 and 43018, Health and Safety Code). This legislation specifically mandates that ARB consider measures to reduce emissions from off-highway vehicles and motorcycles. ARB has integrated these categories to include all-terrain vehicles (ATVs), go-karts, golf carts, and specialty vehicles.

At a January 13, 1994 public hearing, the Board adopted regulations establishing exhaust emission standards, test procedures, and enforcement provisions for off-highway recreational vehicles and engines (sections 2410-2414, Title 13, Article 3, Chapter 9, California Code of Regulations (CCR), and the documents incorporated by reference therein). A detailed discussion of this regulatory action can be found in staff's Initial Statement of Reasons: "Public Hearing to Consider the Adoption of Regulations Regarding California Exhaust Emission Standards and Test Procedures for Off-Highway Recreational Vehicles and Engines" - released November 24, 1993.

The primary goal of the off-highway recreational vehicle regulations was to implement emissions standards for a segment of off-road vehicles which, until that time, was not subject to any emissions standards. More important, sales data had shown that the majority of the off-highway recreational vehicles, and motorcycles in particular, were powered by two-stroke engines. Due primarily to a process known as "scavenging,"\* two-stroke engines are inherently extremely higher-polluting, compared to four-stroke engines.

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\*Scavenging occurs when the intake and exhaust ports of a two-stroke engine are open simultaneously, allowing roughly 20 to 30 percent of the fuel to exit the engine unburned.

With some exceptions, before California regulated off-highway recreational vehicles and engines, most two-stroke powered motorcycles were marketed as “competition” vehicles. In order to be operated in noncompetition settings, i.e., recreational riding, users were often required to modify the exhaust systems to meet sound level requirements as well as to meet safety requirements (in the form of a spark arrestor). With these modifications, along with the necessary off-highway vehicle (OHV) registration and identification, users were able to operate these high-performance vehicles both competitively and recreationally. Four-stroke powered vehicles, on the other hand, were typically used for recreational purposes only.

To address the high emissions of two-stroke powered vehicles, which comprise the majority of off-highway recreational vehicles, and their unrestricted use, the off-highway recreational vehicle regulations established emissions standards and definitions for all-terrain vehicles (ATVs), off-road motorcycles, and competition vehicles. In the definitions, each vehicle type was described and, most important, usage was clearly outlined. Specifically, ATVs and off-road motorcycles were defined as those vehicles which could be operated for recreational riding, provided they complied with the new emission standards (section 2411, CCR, Title 13, Article 3, Chapter 9). The stringency level of these standards was purposely set such that only four-stroke engines and advanced two-stroke engines equipped with a catalytic converter could comply. Conversely, competition vehicles were legally protected from having to comply with the new emission standards, but their use would be limited to closed course competition/racing events (section 2411, CCR, Title 13, Article 3, Chapter 9). To support these new emissions standards and definitions, the California Department of Motor Vehicles was to modify registration procedures to reflect this differentiation. Only California-certified OHVs (i.e., vehicles complying with the emission standards and other new requirements) would be eligible to obtain the necessary identification plate (Green Sticker) for off-highway recreational use (section 38012, California Vehicle Code). Furthermore, manufacturers had agreed to code the vehicle identification number with a distinguishing character in the eighth digit, which would signify whether a vehicle was a competition model or a noncompetition model (California Exhaust Emissions Standards and Test Procedures, Code of Federal Regulations 86.413 - 78(b)). Together, these components were to support the effort to reduce the unrestricted use of competition vehicles, while promoting the use of off-road vehicles which would meet California’s emission standards.

With the emissions standards in place and three years of lead-time until the implementation date of the off-highway vehicle regulations, it was anticipated in 1994 that manufacturers would have the necessary time to develop and supply their dealers with a full line of certified replacement products, both in terms of significant numbers and with a variety of models. Considering engine designs available in 1994, four-stroke powered vehicles were expected, initially, to comprise the certified category of off-highway recreational vehicles. However, because the regulations did not exclude two-strokes from obtaining certification,

advanced-design two-stroke engines were also envisioned at a future date. Thus, in the interim, it was anticipated that manufacturers would develop certified four-stroke vehicles that would have more of the high-performance characteristics that had made comparable two-stroke vehicles so popular. As was the case with the development in the 1980's of cleaner, yet better performing engines for on-road motorcycles, a similar trend was expected with off-road motorcycles.

During the development of the off-highway recreational vehicle regulations, staff consulted with industry over various issues in order to determine feasible and cost-effective emissions standards. At the time of the Board hearing for these regulations, industry was for the most part in agreement with ARB. Testimony given at the Board hearing by representatives of vehicle manufacturers and associated trade and industry groups primarily focused on granting an extension of time for vehicles with engine displacements under 90cc, which was subsequently approved. There was no indication from manufacturers that the proposed emissions standards would result in very few models meeting certification requirements.

#### B. Recent Events

After the adoption, but before the January 1, 1997 implementation date of the off-highway recreational vehicle regulations, concerns were raised by certain groups about impending impacts. These concerns were voiced primarily by user groups and dealers. User groups noted that, as written, the regulations did not provide legitimate, competitive riders the opportunity to participate in open-land racing events, nor to practice in preparation for a competition event. Dealers were concerned that manufacturers would not supply, in a timely fashion, the anticipated full line of certified off-road motorcycles and ATVs that were envisioned at the time the regulations were adopted. Especially necessary were higher performance, four-stroke off-road motorcycles. There was also a need to change the paradigm in the public's perception about four-stroke powered vehicles vis-à-vis their two-stroke counterparts. Unfortunately, only prototypes of such vehicles existed at that time. In short, dealers could offer either competition vehicles, which some of the public were hesitant to purchase because of the impending usage restrictions, or a limited number of certified vehicles, which many of the public were not interested in because of their perceived inferior performance.

To address the concerns of the user groups and dealers, the Recreational Off-Highway Vehicle Working Committee was formed in April 1997. Participants in the working committee included representatives from ARB, Department of Motor Vehicles, Department of Parks and Recreation, Bureau of Land Management, United States Forest Service, American Motorcyclist Association, American Trials Association, California Motorcycle Dealers Association, California Off-Road Vehicle Association, Motorcycle Industry Council, K. H. Wolf Consulting (representing various aftermarket and small-volume manufacturers), American Honda Motor Company, American Suzuki Motor Corporation, Kawasaki Motors Corporation, and Yamaha Motor Corporation. The goal of this working committee was to administratively address the concerns by providing relief where possible to the impacted groups, while retaining air quality goals set forth in the off-highway recreational vehicle regulations.

Since the working committee was formed, several meetings have been held in which various solutions have been considered to address the aforementioned concerns. During the course of these meetings, it became apparent that the successful implementation of the adopted regulations was being impeded principally because of a lack of certified motorcycles provided by motorcycle manufacturers. This forced staff to abandon an “administrative” solution and instead pursue a regulatory solution (as discussed below and in Part II of this report).

The lack of certified product, as predicted by the dealers, became a reality. While there have been a sufficient number of ATVs certified, the same cannot be said for off-road motorcycles. To date, there have been only 10 models of off-road motorcycles certified to California’s emission standards - compared to several dozen models which have not. This has translated into fewer sales for many dealers, especially for those dealers that sell brands in which the manufacturers have not certified any of their vehicles. Moreover, due to the contractual agreements that manufacturers provide, these dealers typically do not have the option of selling alternative brands that offer certified models. For many dealers, the lack of certified product is reportedly causing economic hardship. As a result, revisions to the regulations which address product availability, while preserving the emissions reduction benefits of the original regulations, are proposed.

## II. SUMMARY OF STAFF PROPOSAL

The regulatory text of the staff proposal is contained in Attachment A, and the emissions test procedures are contained in Attachment B. The proposal is intended to realize the emissions reductions of the current regulations, while providing relief to groups impacted by the regulations. The proposed regulations are described below.

### A. Regional/Seasonal Proposal

The current situation demonstrates that the intended emissions reductions of the off-highway recreational vehicle regulations are not being realized. The majority of emissions reductions that were predicted in 1994, were based on the conversion of the population of off-road motorcycles and ATVs from noncomplying competition motorcycles to complying noncompetition motorcycles. Sales data have shown that the conversion has not occurred for motorcycles.

As a result of the situation that has occurred, the staff is proposing a new, “regional/seasonal” approach that will achieve the emissions reductions from off-road recreational vehicles, especially off-road motorcycles during the smog season. The approach is based on a program that restricts the use of noncomplying vehicles at OHV areas located in smoggy areas during the smog season. In attainment areas, or in nonattainment areas during months when exceedances of the state ozone standard are not expected, a noncomplying vehicle could operate at OHV areas. The premise of this approach is that there are sufficient riding areas in attainment

areas, and sufficient periods of time for riding in nonattainment areas when smog exceedances are not expected (ranging from several months per year in the South Coast to all but the summer months in areas with a less severe ozone problem), to create a demand for the purchase of the noncomplying vehicles such that dealer sales are not substantially hurt. Because noncomplying vehicles will only be able to operate during periods when ozone is not exceeding standards, the emissions reductions envisioned by the regulations will be achieved during the smog season. Likewise, the desire of some riders to be able to operate a vehicle without regional or seasonal restrictions will continue the demand for cleaner vehicles, and hopefully, the motorcycle manufacturers will respond over time with a fuller slate of high performing, clean four-stroke models than exists now.

The proposal would not change the existing emission standards adopted in 1994. OHV areas would be designated “limited-use,” or “unlimited-use.” Vehicles which comply would continue to utilize an identification numbering system that would allow them to obtain an OHV Green Sticker, allowing year-round use. Noncomplying vehicles would be certified as such and receive an OHV Red Sticker, allowing them to be used for noncompetitive use during periods of clean air. Enforcement of the use requirements using the sticker system would remain the responsibility of the OHV area land managers. Vehicles produced prior to the implementation of the emission standards would remain unaffected by the regulations.

#### B. Changes to Existing Regulations

The proposal calls for changes and additions to the existing regulations found in sections 2410-2414, Title 13, Article 3, Section 9, CCR. Specifically, the definitions portion of the regulations (see section 2411) will be revised to reflect the distinction between certified vehicles which meet emission standards and those which do not, as well as the applicability of the limited-use/unlimited-use riding areas. Additionally, there is an incorporated section (see section 2415) in the proposal which lists California’s off-highway vehicle riding areas, the local governmental authority, and the riding season for each particular site. The riding seasons will be based on attainment to the one-hour state standard for ozone and can be modified by the Executive Office in cases where areas improve or degrade in air quality.

### III. DISCUSSION OF RECOMMENDED ACTION

#### A. Off-Highway Vehicle Areas

There currently exists an organized system of OHV recreation areas throughout California, many of which offer access to off-road motorcycles and ATVs. The majority of these OHV areas are managed by one of three public land agencies: (1) Department of Parks and Recreation, (2) Bureau of Land Management, or (3) United States Forest Service. There are more than 100 different areas in total and they are found in various locations throughout the State.

Approximately one-third of these OHV areas that are available to users of off-road motorcycles and ATVs are located within regions that have been monitored and classified as “in attainment” for the one-hour state ozone standard. Staff proposes that these OHV areas be classified as “unlimited-use” riding areas. Under this classification, all properly registered and identified off-highway vehicles would have the opportunity to enter and be ridden year-round. For the remaining OHV areas located within regions that have been classified as “nonattainment” for the one-hour state ozone standard, the classification of “limited-use” riding area would apply. At these locations, only certified vehicles meeting the emissions standards would be allowed year-round entrance and riding opportunities. Access by noncomplying vehicles would be limited to those periods of the year when the ozone standard is not exceeded.

B. Registration/Identification

A key component supporting the operation of OHV areas has been the issuance of the OHV Green Sticker. This sticker, which serves as an identification device, is obtained when registering an off-road motorcycle or ATV with the Department of Motor Vehicles. The funds that are collected serve to develop and operate OHV facilities. Pending Board approval, the Department of Motor Vehicles has agreed to produce an alternate sticker (OHV Red Sticker) which would identify an off-road motorcycle or ATV as a vehicle that does not meet the emissions standards. The OHV Red Sticker will clearly identify a vehicle subject to usage restrictions. Like the OHV Green Sticker, the OHV Red Sticker will contain a serial number making registration verification possible by peace officers at OHV riding areas.

The Department has also prioritized ARB’s request to fully automate their registration system with the necessary programming modifications that will result in facilitating proper OHV registrations.

C. Enforcement

The various public land agencies that manage these OHV recreation areas have peace officers present to patrol and keep order. Included in their duties is to enforce the California Vehicle Code, as it pertains to OHVs. Currently, vehicles found without a Green Sticker are subject to an infraction (section 38020, California Vehicle Code). Upon implementation of this proposal, similar infractions would be issued to users of vehicles affixed with the Red Sticker that were found to be in violation of the riding season in a limited-use OHV area. Exceptions to this rule would be in cases involving competition events, where users may participate in the event with vehicles having either the Green or Red Sticker, or where sponsors of the event may use vehicles having either the Green or Red Sticker in order to arrange the route of travel for the event.

#### D. Outreach

The staff will work with the dealers, user groups and the land managers to develop informative materials to educate prospective off-highway recreational vehicle purchasers and users of the new requirements on usage.

### IV. AIR QUALITY, ENVIRONMENTAL AND ECONOMIC IMPACTS

#### A. Air Quality and Environmental Impacts

The 1994 State Implementation Plan (SIP) for Ozone is California's master plan for achieving the federal ozone standard in all areas of the state by 2010. Because the off-highway recreational vehicle regulations were already adopted at the time the Ozone SIP was developed, emission reductions from those regulations were incorporated into the SIP baseline.

The off-highway recreational vehicle regulations adopted in 1994 were expected to reduce emissions of HC from off-road motorcycles and ATVs by 33 tons per day statewide, from an uncontrolled baseline of 37 tons per day, in 2010. Emissions of NO<sub>x</sub>, which were determined to be 0.4 tons per day in an uncontrolled baseline, were expected to increase no more than 0.05 tons per day because controlled engines would operate under leaner fuel calibrations. However, the NO<sub>x</sub> increase was deemed relatively insignificant and would be more than compensated for by the associated HC benefits.

Compared to the projected 1994 statewide estimates, implementation of the staff proposal will affect emissions in nonattainment areas and attainment areas (and, thus, also on a statewide basis) differently. In a nonattainment area such as the South Coast, riding is expected to decrease during the smog season due to the use restrictions on noncomplying vehicles. This means that emissions will be lower, since the regulatory assessment had assumed purchasers would have only bought complying products and there would have been no reduction in riding. In the long term, however, we expect manufacturers will introduce a full line of high-performance complying motorcycles, and when this occurs emissions reductions in the nonattainment areas will be the same as had been predicted.

In the attainment areas, and in the nonattainment areas during months without smog violations, emissions will increase, however this will have no impact on ozone air quality since exceedances of the ozone standard do not occur during the period in which riding is allowed. To the extent that HC emissions, which are the principal pollutant emitted from these vehicles, contribute to PM ambient air quality exceedances during these months, or to toxics, a small adverse impact may occur. On a statewide basis, HC emissions will be higher because of the use of noncomplying vehicles in clean areas. A summary of these impacts follows in Table 1:

Table 1:  
Qualitative Summary of Air Quality Impacts of this Proposal

Scenario	Impact on Emissions Compared to Current Regulations
Ozone nonattainment area: smog season.	Lower emissions from less riding due to use restrictions. Possibly no impact in long-term if full line of complying vehicles becomes available.
Ozone nonattainment area: months without exceedances.	Higher emissions. Possible minor impact on PM or toxics.
Ozone attainment areas.	Higher emissions. Possible minor impact on PM or toxics.
Statewide average.	Higher emissions due to use of noncomplying vehicles in attainment areas.

B. CEQA Analysis

The California Environmental Quality Act (CEQA) and ARB policy require an analysis to determine the potential adverse environmental impacts of proposed regulations. Because the ARB’s program involving the adoption of regulations has been certified by the Secretary of Resources (see Public Resources Code section 21080.5), the CEQA environmental analysis requirements are allowed to be included in the ARB Staff Report or Technical Document in lieu of preparing an environmental impact report or negative declaration. In addition, the ARB will respond in writing to all significant environmental points raised by the public during the public review period or at the Board hearing. These responses will be contained in the Final Statement of Reasons for the proposed amendments to the regulations.

Public Resources Code section 21159 requires that the environmental impact analysis conducted by ARB include the following: (1) an analysis of the reasonably foreseeable environmental impacts of the methods of compliance, (2) an analysis of reasonably foreseeable feasible mitigation measures, and (3) an analysis of reasonably foreseeable alternative means of compliance with the regulations.

The proposal would not have any significant or potentially significant effects on the environment and therefore no alternatives or mitigation measures are proposed to avoid or reduce any significant effects on the environment.



The proposal will provide reductions in emissions in ozone nonattainment areas due to use restrictions, at least in the short term. In the long term the reductions will be equal to or greater than expected from current regulations. However, as discussed in the staff report, the current regulations have the potential to impact businesses due to lack of a full line of complying products. The proposed changes to these regulations provide a more viable approach which mitigates the business impacts, and will result in greater likelihood of achieving the emissions reduction desired.

The proposal will increase emissions in attainment areas and in other areas during months in which ozone violations do not occur. Small increases in toxics and ambient PM may occur, however the staff is aware of no means of mitigating these potential impacts. The staff is unaware of any other alternatives that avoid increases of emissions in clean areas, while increasing the likelihood that the emissions reductions envisioned by the current regulations are achieved, and avoid an adverse impact on businesses, especially the dealers who sell off-road motorcycles.

### C. Economic Impact

There are only very minor costs associated with the implementation of this proposal and there is no apparent adverse economic impact. A public outreach brochure that explains the modifications to the regulations would be necessary. A benefit of this proposal would be that the system of OHV recreation areas would maintain necessary revenues due to the implementation of the newly proposed OHV Red Sticker. The costs of production for these stickers would be paid for over time, as the stickers were sold. Impacted dealers also appear likely to benefit from an economic standpoint (an intended consequence).

## V. ISSUES OF CONTROVERSY

For the most part, user groups are in agreement with the concept of this proposal. Several meetings have transpired in which ARB and these user groups have each discussed their respective concerns for air quality and riding opportunities. At this time, virtually all of the negotiated riding seasons at the various OHV riding areas have been successfully and agreeably settled. However, there were a select few areas with very short riding seasons because of their location. Due to more severe air quality problems, the riding seasons are commensurately shorter in Southern California than in Northern California. This problem is further exacerbated due to the fact that there are more users in Southern California. Nevertheless, staff believes the proposed riding seasons are appropriate. Further extensions to the riding season would result in unwanted and untimely ozone-producing emissions.

## VI. REGULATORY ALTERNATIVES

Retaining the regulations as they currently stand would not be a preferred alternative. As already noted, many dealers have been or will be unintentionally impacted. Therefore, the status quo is not recommended.

On the other extreme, repealing the regulations would not be a recommended alternative. Although legislation was introduced that attempted to do this (SB 1726, Johannessen), it has been shown that these vehicles produce significant amounts of emissions, thereby necessitating emission control regulations on this segment of off-road mobile sources. Furthermore, by repealing the regulations, mitigating measures would certainly have to be developed to make up for the shortfall because the current regulations and the proposal are very cost effective. Obtaining the needed reductions from other sources is likely to be more costly.

## VII. CONCLUSION

The proposal described herein would reduce HC emissions in a technologically feasible, cost-effective manner. No alternative considered by the agency would be more effective in carrying out the purpose for which the regulations are proposed or would be as effective or less burdensome to affected private persons than the proposed alternative.