State of California
Environmental Protection Agency
AIR RESOURCES BOARD

FINAL STATEMENT OF REASONS

ADOPTION OF THE REGULATORY PROPOSAL TO DETERMINE AND CONTROL EVAPORATIVE EMISSIONS FROM OFF-HIGHWAY RECREATIONAL VEHICLES

June 2014

This Page Intentionally Left Blank

Table of Contents

I. GENERAL 1
A. OVERVIEW 1
B. MANDATES AND FISCAL IMPACTS TO LOCAL GOVERNMENTS AND SCHOOL DISTRICTS 3
C. CONSIDERATION OF ALTERNATIVES 3
II. MODIFICATIONS MADE TO THE ORIGINAL PROPOSAL 3
A. FIRST 15-DAY CHANGE MODIFICATIONS 3
B. SECOND 15-DAY CHANGE MODIFICATIONS 4
III. DOCUMENTS INCORPORATED BY REFERENCE 5
IV. SUMMARY OF COMMENTS AND THE AGENCY RESPONSE 6
A. COMMENTS PRESENTED PRIOR TO OR AT THE HEARING 6
1. REGULATION DELAY 7
2. RED STICKER OHRVs 8
3. AVAILABILITY/PRODUCTION 10
4. TECHNOLOGY 11
5. GENERAL 13
6. INSUFFICIENT NOTICE/TIMING 15
B. COMMENTS RECEIVED DURING THE FIRST 15-DAY COMMENT PERIOD 15
1. LIMITED MODEL AVAILABILITY AND ECONOMIC CONDITIONS 15
2. GENERAL 17
3. COMMENTS REGARDING EXHAUST STANDARDS 18
C. COMMENTS RECEIVED DURING THE SECOND 15-DAY COMMENT PERIOD 18
V. PEER REVIEW 19

This Page Intentionally Left Blank

STATE OF CALIFORNIA
AIR RESOURCES BOARD

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

PUBLIC HEARING TO CONSIDER THE ADOPTION OF THE REGULATORY PROPOSAL TO DETERMINE AND CONTROL EVAPORATIVE EMISSIONS FROM OFF-HIGHWAY RECREATIONAL VEHICLES

Public Hearing Date: July 25, 2013
Agenda Item No.: 13-7-3

I. GENERAL

A. OVERVIEW

The Staff Report: Initial Statement of Reasons for Rulemaking (staff report), entitled "Initial Statement of Reasons for Rulemaking: Adoption of Evaporative Emission Control Requirements for Off-Highway Recreational Vehicles," released June 5, 2013, is incorporated by reference herein. The staff report, contained a description of the rationale for the proposed amendments. On June 5, 2013, all references relied upon and identified in the staff report were made available to the public.

On July 25, 2013, Air Resources Board (ARB or Board) held a public hearing to consider the proposal to determine and control evaporative emissions from off-highway recreational vehicles (OHRV). At the hearing, the Board received oral and written comments. At the conclusion of the hearing, the Board adopted Resolution 13-33, in which it directed the Executive Officer to make the originally proposed OHRV regulation and test procedure with proposed 15-day modifications available for formal public comment.

The first 15-day modifications to the regulation and test procedure were added in response to public comments made during the 45-day comment period. The proposed modified regulation and test procedure language, and the text or narrative description of each modification was contained in a document entitled, "Attachment C: Summary of Proposed Modifications to the Original Proposal, Presented at the July 25, 2013 ARB Hearing," which was distributed at the beginning of the hearing and included as Attachment C to Resolution 13-33.

Resolution 13-33 directed the Executive Officer to incorporate the modifications described in Attachment C into the originally proposed regulatory text along with other modifications as necessary. The

Executive Officer was directed to make the modified regulation (with the modifications clearly identified) and any additional documents or information available for a supplemental 15-day public comment period. He was also directed to consider any comments on the modifications received during the supplemental 15-day public comment period. The Executive Officer was then directed to: (1) adopt the modified regulation as it was made available for public comment, with any appropriate additional modifications; (2) make all additional modifications available for public comment for a period of at least 15 days; and (3) present the regulation to the Board for further consideration if warranted.

In preparing the modified regulatory language, staff made various revisions in response to public comments received during the 45-day comment period. These post-hearing modifications were incorporated into the text of the proposed regulation, along with the modifications specifically identified in Attachment C to Resolution 13-33.

The text of the proposed modifications to the regulation, with the modified text clearly indicated, was made available for a 15-day public comment period starting on January 14, 2014 and ending on January 29, 2014 at 5:00 p.m., by issuance of a "Notice of Public Availability of Modified Text and Availability of Additional Documents and/or Information," which included three attachments: Attachment 1--Modifications to the Proposed Adoption of Evaporative Emission Control Requirements for Off-Highway Recreational Vehicles; Attachment 2--Modifications to the Proposed Test Procedure for Determining Evaporative Emissions from Off-Highway Recreational Vehicles (TP-933); and Attachment 3--Additional Document, "Evaluating Annual Sales Growth Estimates and Red/Green Sticker Methodology Changes In RV2013."

Subsequent to the release of the 45-day notice and first 15-day change notice, staff identified some numbering and date inconsistencies in the proposed regulatory language and proposed test procedure. A second "Notice of Public Availability of Modified Text and Availability of Additional Documents and/or Information," which included two attachments: Attachment 1--Modifications to the Proposed Adoption of Evaporative Emission Control Requirements for Off-Highway Recreational Vehicles; and Attachment 2--Second 15-Day Modifications to the Proposed Test Procedure for Determining Evaporative Emissions from Off-Highway Recreational Vehicles (TP-933). These documents were made available for a 15-day comment period starting on April 28, 2014 at 5:00 p.m. and ending on May 13, 2014 at 5:00 p.m.

With respect to each of the two notices of modified text, on the date that the notice of modified text and all attachments were posted on the internet, the posted documents were also electronically distributed to other parties identified, per Cal. Code Regs., tit.1, Section 44(a). in accordance with Government Code Section 11340.85, and to all persons having subscribed to the following ARB listserves: orrec, and ohrv2013

This Final Statement of Reasons (FSOR) updates the staff report by identifying and providing the rationale for the modifications made to the originally proposed regulation. The FSOR also contains a summary of the comments received on the proposed new regulation during the formal rulemaking process and ARB's responses to those comments.

B. MANDATES AND FISCAL IMPACTS TO LOCAL GOVERNMENTS AND SCHOOL DISTRICTS

The Board has determined that this regulatory action will not result in a mandate to any local agency or school district, the costs of which are reimbursable by the state pursuant to Part 7 (commencing with section 17500), Division 4, Title 2 of the Government Code.

C. CONSIDERATION OF ALTERNATIVES

For the reasons set forth in the Staff Report, in staff's comments and responses at the hearing, and in this FSOR, the Board determined that no alternative considered by the agency would be more effective in carrying out the purpose for which the regulatory action was proposed, or would be as effective as and less burdensome to affected private persons and equally effective in implementing the statutory policy or other provision of law than the action taken by the Board.

II. MODIFICATIONS MADE TO THE ORIGINAL PROPOSAL

A. FIRST 15-DAY CHANGE MODIFICATIONS

The detailed rationale for modifications made during the first 15-day comment period are discussed in the comment and agency response section.

The modified text in the regulation included:

1. Modifying section 2416(b) to exclude all red sticker vehicles, as defined in Cal. Code Regs., tit. 13, §2412(f), from the evaporative emission control requirements set out in this regulation as approved by the Board.

2. Allowing an alternative phase-in calculation in section 2418(d), which manufacturers can use to earn limited emission credits for early compliance, including giving credit for OHRVs meeting the evaporative emissions standards for model year 2017.

3. Allowing the integrated emissions label to be optional, rather than mandatory to increase flexibility.

4. Clarifying the warranty requirements to replace the term “emergency repair” with “temporary repair.”

5. Revising the warranty period cost calculation to set the consumer price index base year as 2016 to eliminate confusion.

6. Other minor edits to improve clarity and intent.

The modified text in the test procedure (TP-933) included:

1. Adding qualifying language to the definition of “deterioration factor” to include the increase in emissions from before to after durability testing.

2. Removing the definition of “useful life.”

3. Allowing the time duration of vehicle tipping to be longer than one minute.

4. Clarifying that the vent lines must be attached to the carbon canister, only if the vehicle is equipped with a carbon canister.

5. Modifying the test procedure to require a maximum of two seconds to orient the vehicle at the beginning of the tip test, rather than an unspecified time period.

6. Adding language that requires the tip test to be performed as part of the canister protection test, as well as during the durability preconditioning.

7. Other non-substantial edits to improve clarity and intent which include correcting the references in Figure A-1. Sections 10.2.1 through 10.2.4 were corrected to sections 10.1.1 through 10.1.4.

B. SECOND 15-DAY CHANGE MODIFICATIONS

The modifications made during the second 15-day comment period are discussed below.

The modified text in the regulation and test procedure included:

1. Correcting the section numbers that were originally proposed for adoption. The original proposal was to adopt sections 2416, 2417, 2418, 2419.1, 2419.2, 2419.3, 2419.4 and 2419.5, tit. 13, Cal. Code Regs., but inadvertently omitted section 2419. The second 15-day

notice added section 2419, and removed section 2419.5. The cross-referencing of section numbers was also corrected.

2. Correcting the dates of the documents incorporated by reference, as specified in the regulatory text and throughout the incorporated test procedure, TP-933, by clearly identifying the incorporated documents with the correct titles and dates of publication.

The above described modifications constituted non-substantial changes to the regulatory text because they more accurately reflect the numbering of a section and correct spelling and grammatical errors, but do not materially alter the requirements or conditions of the proposed rulemaking action.

III. DOCUMENTS INCORPORATED BY REFERENCE

The regulation and the incorporated test procedures adopted by the Executive Officer incorporate by reference the following documents:

1. *California 2015 and Subsequent Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2017 and Subsequent Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles*, California Environmental Protection Agency, Air Resources Board, El Monte, CA, adopted March 22, 2012, as last amended December 6, 2012.

2. *California Evaporative Emission Standards and Test Procedures for 2001 and Subsequent Model Motor Vehicles*, California Environmental Protection Agency, Air Resources Board, El Monte, CA, adopted August 5, 1999, as last amended December 6, 2012.

3. *California Exhaust Emissions Standards And Test Procedures For 1997 And Later Off-Highway Recreational Vehicles And Engines*, California Environmental Protection Agency, Air Resources Board, El Monte, CA, adopted November 22, 1994, as last amended October 25, 2012.

4. *Control of Emissions from New and In-Use Highway Vehicles and Engines.* Title 40, Code of Federal Regulations, Part 86. United States Environmental Protection Agency, 40 CFR §86.107-96 (2012), 40 CFR §86.108-79 (2012), 40 CFR §86.108-00 (2012), 40 CFR §86.133-96 (2012), 40 CFR §86.138-96 (2012), 40 CFR §86.143-96 (2012), 40 CFR §86.508-78 (2012), and 515-78 (2012).

5. *Control of Evaporative Emissions from New and In-Use Nonroad and Stationary Equipment.* Title 40, Code of Federal Regulations, Part 1060. United States Environmental Protection Agency, 40 CFR §1060.520 (2012).

6. *Reddy, S. Raguma. Prediction of Fuel Vapor Generation From a Vehicle Fuel Tank as a Function of Fuel RVP and Temperature.* SAE Technical Paper 892089, September 25-29, 1989. Copyrighted.

7. *Test Procedure for Determining Permeation Emissions from Small Off-Road Engine Equipment Fuel Tanks*, TP-901, California Environmental Protection Agency, Air Resources Board, Sacramento, CA, as adopted July 26, 2004.

These documents were incorporated by reference because it would be cumbersome, unduly expensive, and otherwise impractical to publish them in the California Code of Regulations. In addition, some of the documents are copyrighted, and cannot be reprinted or distributed without violating the licensing agreements. The documents are lengthy and highly technical test methods and engineering documents that would add unnecessary additional volume to the regulation. Distribution to all recipients of the California Code of Regulations is not needed because the interested audience for these documents is limited to the technical staff at a portion of reporting facilities, most of whom are already familiar with these methods and documents. Also, the incorporated documents were made available by ARB upon request during the rulemaking action and will continue to be available in the future. The documents are also available from college and public libraries, or may be purchased directly from the publishers.

IV. SUMMARY OF COMMENTS AND THE AGENCY RESPONSE

The Board received written and oral comments, in connection with the July 25, 2013 Board hearing and the first 15-day comment period. Set forth below are either the full text or a summary of each comment specifically directed at the proposed regulations or test procedures, followed by the agency response. The comments have been grouped by topic whenever possible.

A. COMMENTS PRESENTED PRIOR TO OR AT THE HEARING

Written comments were received during the 45-day comment period in response to the July 25, 2013 public hearing notice, and written and oral comments were presented at the Board Hearing. Listed below are the organizations and individuals that provided comments during the 45-day comment period or at the Board hearing:

Commenter	Written Testimony	Oral Testimony	Affiliation
Amador, Don	July 18, 2013	N	Quiet Warrior Racing (QWR)
Austin, Tom	July 25, 2013	Y	Motorcycle Industry Council (MIC)
Brezny, Rasto	July 25, 2013	Y	Manufacturers of Emissions Control Association (MECA)
Chamberlain, Ryan	July 26, 2013	N	ATV Safety Institute (ASI)
Haris, Nicholas	July 24, 2013	Y	American Motorcyclist Association (AMA)
Hogo, Henry	July 25, 2013	Y	South Coast Air Quality Management District (SCAQMD)
Knott, Greg	June 23, 2013	N	Outdoor Power Equipment Institute (OPEI)
Liberty, Ross	July 26, 2013	N	Factory Pipe LLC (FP)
Myers, Lindsey		Y	Yamaha Motor Corporation (YMC)
Pickett, David		Y	District 36 Motorcycle Sports Committee (MSC)
Schaffer, Erik	July 26, 2013	Y	None (ES)

1. REGULATION DELAY

Comment #1: The OHRV industry is still experiencing economic distress from the recession. ARB staff's projected sales estimates based on housing starts don't match the current sales. The ARB projected a rapid increase in sales which is not occurring. Sales have remained flat in 2012 and in 2013. Current OHRV sales are about 10,000 units a year which is relatively small compared to the passenger car and light-duty truck market. Manufacturers will do an analysis of costs to comply with this regulation and may decide that some of the low sales volume models will no longer be made available in California. In most cases, the amortized fix cost of going through the certification process, rather than the control technology cost, will lead to model unavailability.

The California motorcycle consumer and business community need adequate time to adjust their expectations, inventories, and business practices prior to any new regulations being adopted. Based on the

above concerns, the regulation implementation should be delayed two years to ensure we don't have California dealers unable to stay in business during the phase-in period because of low sales. **[MIC, AMA, QWR, YMC]**

Agency Response to Comment #1: The influence of the recession on OHRV sales is understood and discussed in detail in the staff report. According to ARB's most recent projections, sales are expected to rebound to historic average levels by 2018. The regulation was developed in collaboration with stakeholders and manufacturers to minimize the impact of the current economic conditions. The first mitigating provision included in the regulation is to delay the first year of implementation until model year (MY) 2018. The second mitigating provision is the allowance of a flexible four year phase-in, from MY2018 through MY2021, which will allow manufacturers to spread the cost of compliance out over multiple years. Additional data and analysis was added to the record in Attachment 3 of the 15-day change documents that shows the most recent California Department of Motor Vehicles registration data. The data supports the projections of future OHRV sales made in the staff report. The OHRV sales projections were based on a correlation to new housing starts.

Furthermore, the compliance requirements were reduced by developing a streamlined test procedure which reduces testing and certification costs while ensuring emissions reductions over the useful life of all OHRVs. The test procedure allows alternative certification options such as a pressure controlled system, or calculated vented emissions combined with measured steady state evaporative emissions. The result is a test procedure that is both cheaper and easier to conduct but ensures emissions reductions.
Finally, the current State Implementation Plan (State Strategy or SIP) specifically requires a reduction of reactive organic gas (ROG) emissions from OHRVs by 2023 as part of the state strategy for ozone attainment. Any delay in implementing the new evaporative requirements would create a shortfall in the SIP. It would be very difficult to make up the shortfall by 2023 given the relatively few remaining uncontrolled sources of ROG and the time needed for developing a new regulation. Therefore, implementing the standards cannot be delayed and the phase-in period must not be extended.

2. RED STICKER OHRVs

Comment #2: It was our understanding that red sticker OHRVs would be excluded from this regulation. The ISOR says competition vehicles are only used on closed courses for racing events. This is not consistent with the Health and Safety Code, which exempts "racing vehicles" as "a competition vehicle not used on public highways." There is nothing in the law suggesting that competition vehicles are

only exempt when they are being used in sanctioned racing events. No true racing vehicles are operated exclusively in sanctioned racing events. All drivers and riders must practice. In some cases, practice sessions occur at locations where non-competition vehicles also have access (e.g., national forests and OHRV parks). As a result, these vehicles still need a "red sticker." To be consistent with the statutory exemption for "racing vehicles," the red sticker competition vehicle exemption needs to be included. We are concerned with the statement in the ISOR that "red sticker OHRVs will be required to meet evaporative standards."

In 1997, following legislation to repeal the OHRV emission regulations, CARB formed a Recreational OHRV Working Committee to address the need for practice areas for competition motorcycles (see July 1998 letter signed by Bob Cross). The result of the Recreational OHRV Working Committee was the development of the Red Sticker Program and CARB's acknowledgment that competition vehicles can legitimately be used for practice on public lands. In addition, MIC and its members would like to see consistent warranty requirements and exhaust emission control evaluated in conjunction with evaporative emissions control for red sticker registered OHRVs. MIC supports staff's 15-day change proposal to exclude red sticker OHRVs and defer this issue. **[MIC]**

Comment #3: A complete and rigorous analysis of the program was not made. Impacts to red sticker OHRV sales, riding seasons, and competition events was not analyzed. **[QWR]**

Comment #4: South Coast AQMD staff recommends supporting the adoption of proposed regulation as originally proposed on June 5, 2013. By excluding red sticker vehicles, ARB is losing 0.25 tons/day of ROG emissions reductions when they are needed for ozone attainment and reducing toxic air exposure. If a red sticker exclusion is adopted, SCAQMD suggests that the a sunset date be included; or that the exclusion will only occur if the red sticker vehicles are subject to another regulation; or include language in the resolution that red sticker vehicles will be subject to the current regulatory proposal if no other regulation is adopted by 2018. **[SCAQMD]**

Agency Response to Comments #2-4: Red sticker OHRVs are a large source of ROG emissions in California. When California's Red Sticker Program was originally adopted in the late 1990s, the population of uncontrolled red sticker OHRVs was expected to gradually decline as compliant four-stoke OHRVs were introduced into the market. This transition has occurred as predicted for competition all-terrain vehicles due to a federal prohibition on dealer sales. However, the fraction of sales of red sticker off-highway motorcycles (OHMC) has dramatically increased. Sales of red sticker OHMCs now account for about 75 percent of new OHMC registrations. The increasing fraction of red

sticker OHMC sales is thought to be due to the U.S. Environmental Protection Agency (U.S. EPA) exemption that allows OHMCs made for closed course competition to be sold in dealerships. This is significant because OHMCs make up approximately 40 percent of the total OHRV inventory in California.

In California, evaporative emissions emitted from red sticker OHRVs during storage are a concern because they are often stored in urban non-attainment areas. Exhaust emissions may also be a problem due to unrestricted year-round operation on private land.

A comprehensive evaluation of the Red Sticker Program with regard to costs, emissions, warranty requirements, and sales impact must be conducted to ensure the success of emissions control from this unique category. On July 25, 2013, the Board adopted the regulation with a proposed 15-day change to exclude red sticker OHRVs. In granting the continued exemption for red sticker OHRVs, the Board directed staff to conduct a comprehensive evaluation and come back with a proposal for controlling emissions from the category by December 2015. The evaluation will be carried out with extensive stakeholder participation including state and federal agencies, the motorcycle manufacturing industry, dealer associations, rider groups, and unaffiliated riders.

3. AVAILABILITY/PRODUCTION

Comment #5: A new regulation on OHRVs could result in a reduction of model availability in the California market, especially for youth appropriate models. Younger riders are not supposed to operate larger vehicles but may not be able to obtain appropriate size models under this proposal. **[AMA, QWR]**

Comment #6: An analysis of the increase in OHRV cost and the ensuing reduction in model availability, the effect on dealerships and on local economies was not made. In addition, there was a questionable analysis of environmental benefit. **[QWR]**

Agency Response to Comments #5-6: The staff report includes a rigorous analysis of the cost of compliance for different types of OHRVs. The analysis is based on cost estimates provided to ARB by manufacturers. The analysis concluded that a potential outcome of this regulatory proposal is that OHRV families with low sales volumes may no longer be sold in California. To address this issue staff proposed a provision that allows a small volume evaporative emission design standard, which lowers costs and provides flexibility for manufacturers that produce fewer than 50 new OHRVs per MY. In the case where a model is not available from a particular manufacturer, similar OHRVs from other manufacturers will be available for

consumers. However, they may have fewer options within a given OHRV class if manufacturers are unable to consolidate low volume models into higher volume evaporative families. In a situation where a specialized OHRV is no longer available, a consumer could have a custom fabrication company build an OHRV using the small volume design standard.

Youth models are not expected to have limited availability due to this regulation. Survey and sales data shows that youth models have small fuel tanks and high sales volumes. The combination of these two characteristics indicates that the cost of compliance for youth models is relatively low. Therefore, limited availability will not be an issue.

An extensive evaluation on the environmental benefit of the adopted regulation was conducted. The emissions inventory (RV2013) was revised to reflect new emission factors, and updated usage and activity patterns. A workshop focused specifically on the inventory was held to receive comments. Only minor comments were received and the inventory was revised as appropriate. The staff report contains the revised inventory that includes staff's analysis of the environmental benefit of the regulations.

4. TECHNOLOGY

Comment #7: Manufacturers of Emissions Control Association (MECA) supports this regulation and agrees with ARB's approach to use a three-day, or alternative 24-hour, diurnal test to achieve an evaporative limit of one gram of total organic gases. The standard and method are a cost effective way to control evaporative emissions. The same control technology that has been successfully used for 30 years on passenger cars can be used on OHRVs with the addition of fuel tank spill controls, such as a roll-over valve, which is needed because these vehicles are often tilted beyond their normal operational orientation in the course of their use.

Staff should consider requiring actively, rather than passively, purged carbon canisters. Passive controls are effective in capturing 50-60 percent of the total evaporative ROG emissions. Active purge evaporative systems have an effectiveness of 90-95 percent in capturing evaporative ROG emissions. Today's LEV II vehicles achieve greater than 99 percent efficiency in reducing evaporative ROG emissions from the passenger car fleet. **[MECA]**

Agency Response to Comment #7: ARB agrees that the newly adopted test procedure ensures emissions reductions in a cost-effective way. The regulation includes a test that is designed to ensure that the carbon canister is protected from liquid fuel contamination during operation over the lifetime of the OHRV. The evaporative

standard adopted in the regulation is based on an actively purged carbon canister. However, the emissions control efficiencies for OHRVs will not be as high as they are for passenger cars. The reason for this is because OHRVs are not operated on a daily basis. Off-highway recreational vehicles are often stored for long periods of time in between uses. During these storage periods, the carbon canister is only passively purged because active purging requires engine operation. In practice, this places an upper limit on control of diurnal emissions from OHRVs.

Comment #8: MECA and our members urge ARB staff to explore the use of catalyst exhaust control technologies for further reducing ozone forming emissions from OHRVs. Catalyst technology is well developed and can be applied to both carbureted and direct injection engines. In fact, direct injection technology greatly facilitates the use of catalysts. Emissions reductions from 50 percent to in excess of 80 percent can be achieved if the catalyst is properly integrated with the engine for which it is applied. As was demonstrated by the U.S. EPA in their safety study on small off-road and handheld SI engines, catalyst technology can be designed to work safely and packaged effectively in small, confined engine applications. As is the case with other engine applications, the key to applying catalyst technology to OHRV engines is to take a systems approach optimizing the engine and the catalyst to work together. **[MECA]**

Agency Response to Comment #8: We appreciate the information on exhaust control technology but setting new exhaust emissions standards for OHRVs is beyond the scope of this current rulemaking effort.

Comment #9: Space on some OHRVs, and specifically on OHMC, is limited. Riders are concerned that emissions control components may be damaged if a motorcycle falls over and also their additional weight may reduce performance. So with that in mind, I would like to see a regulation that specifies the emissions reduction and the compliance date, but does not mandate the technology to meet that emissions standard. We've heard a number of statements about different technologies that are available but we never know what future emissions control technology is going to be developed. If we incentivize people to go out and find solutions there will be a real long-term benefit. **[AMA]**

Comment #10: The cost of control technology for OHRVs should be compared with controlling other sources of emissions. For example ARB should look at controlling emissions from gasoline powered small off-road engines and fuel storage containers before they look at OHRVs.

Taken directly from the record “Simple solutions are better, for example there's already a product available for an OHRV’s fuel tank air vent, which is a one-way valve that would cheaply solve the fuel leakage when tipped issue. Twenty percent of OHRVs are red stickers; that's a pretty good chunk of vehicles where we're not having emission standard problems.” **[MSC]**

Agency Response to Comment #9-10: The adopted regulations set a diurnal performance standard and does not require any specific technology. The intent of this type of regulation is to allow manufacturers the flexibility to control evaporative emissions in the most practical and cost effective manner. To estimate cost and feasibility some assumptions were made about possible evaporative control technology. Some of the innovative solutions considered involved space saving designs. However, it is worth noting that OHMCs have had to comply with evaporative emissions standards since 1983 and manufacturers have found space-saving ways to integrate emissions control components.

In prioritizing control measures contained in the SIP, staff evaluated and compared uncontrolled ROG emissions from multiple mobile sources. Evaporative emissions from OHRVs are one of the few uncontrolled mobile sources of ROG. Evaporative ROG emissions emitted from small off-road engines and fuel storage containers are already controlled.

The lack of emissions control requirements for red sticker OHRVs was not addressed because of a continued exemption from the regulation in a 15-day change. Emissions from red sticker OHRVs will be addressed in a future staff proposal that was requested by the Board by December 2015.

5. GENERAL

Comment #11: OHRV fuel tanks are drained when the vehicle is stored for long periods between uses. **[MSC, ASI, AMA]**

Agency Response to Comment #11: In 2008, a survey of approximately 1200 OHRV owners was conducted by California State University, Sacramento for ARB. The survey found that only one third of OHRVs are drained when stored. The fuel drainage rate was incorporated into the emissions inventory model developed for this regulation.

Comment #12: OPEI suggests changing the term “emergency repair” to “temporary repair” in the warranty section, allowing the tampering statement to be on the first page of the owner’s manual, removing the duplicative definition of useful life in the test procedure and other minor edits to improve clarity. **[OPEI]**

Agency Response to Comment #12: The term “emergency repair” was replaced with “temporary repair”, the duplicative definition of useful life was removed, and the clarity edits were incorporated. The suggestion to allow the tampering language to be on the first page of the owner’s manual was not incorporated. It is essential to the success of the regulation that end users see the tampering statement and understand that emissions control technology tampering is not allowed.

Comment #13: DMV registrations have increased due to a new law that allows DMV to garnish wages and place liens on outstanding unregistered OHRVs. The new fuels in California contain ten percent ethanol (E10) and can cause issues with fuel tank swelling. Were emissions rates from fuel containing ethanol accounted for in this regulation? Standard deviation was not recorded or documented, which shows the accuracy of the test results, graphs, charts, estimations, etc. **[ASI]**

Agency Response to Comment #13: All of ARB’s emissions projections are based on DMV data for new OHRV registrations and exclude re-registered vehicles. The DMV data for new OHRVs is in line with sales data provided by manufacturers.

A majority of the emissions testing was conducted with E10 fuel after allowing the permeation rates to reach steady state by soaking the complete fuel system for 140 days with test fuel. All of the emissions tests were conducted in accordance with 40 CFR Part 86 requirements, except where minor modifications were needed because of an OHRV’s unique design. Repeat testing was performed to verify control technology feasibility. The results from the feasibility testing were used by the MIC, which represents all major manufacturers of OHRVs in California, to propose the adopted diurnal standard of one gram TOG per day. In addition, 40 CFR part 86 calibration procedures and quality assurance requirements were strictly followed throughout the test program.

Comment #14: MIC thinks the staff has done an excellent job of coming up with a test procedure that will minimize what otherwise would be extraordinary cost for low volume manufacturers. MIC thinks California will end up with cost effective controls on these vehicles using the test procedure that the staff has developed. **[MIC]**

Agency Response to Comment #14: The regulation and test procedure reflects the collaborative nature of the process and was carefully designed to limit cost and ensure emissions reductions over the useful life of an OHRV.

6. INSUFFICIENT NOTICE/TIMING

Comment #15: There was not enough stakeholder outreach and not enough time in the public comment period. Many major off-highway vehicle organizations up and down the state were not involved, other than the notice of meetings on the ARB website. Specifically the California Department of Motor Vehicles and the new California State Parks department directors were not direct participants in the process. Additional time (90 days) is needed for division scientists and resource professionals to "ground-truth" CARB staff assumptions. **[QWR, MSC, FP, ES]**

Agency Response to Comment #15: For the past six years ARB staff has invited public participation during the development of this regulation, test procedure, and analysis of underlying data. Approximately 2,500 stakeholders were contacted electronically via the "list serve" every time new material was added to the website. The rulemaking process was initiated in 2006 by mailing approximately 1,500 letters to dealers and manufacturers of OHRVs in California to invite participation. Since 2006, four public workshops and nearly 40 stakeholder meetings were held on all aspects of the regulatory proposal, which resulted in substantial changes to the proposal. Both the California Department of Motor Vehicles and California State Parks staff were part of the regulation development process. The Board adopted the regulation with a proposed 15-day change to exclude red sticker OHRVs. The Board also directed staff to conduct an evaluation of red sticker OHRVs with extensive stakeholder participation including state and federal agencies, the motorcycle manufacturing industry, rider groups, and unaffiliated individual riders.

B. COMMENTS RECEIVED DURING THE FIRST 15-DAY COMMENT PERIOD

Commenter	Date	Affiliation
McCarthy, Bill	January 29, 2014	None (BM)
Haris, Nicholas	January 28, 2014	American Motorcyclist Association (AMA)
Pickett, David	January 29, 2014	District 36 Motorcycle Sports Committee (MSC)

1. LIMITED MODEL AVAILABILITY AND ECONOMIC CONDITIONS

Comment #1: It is our understanding that the OHRV industry will do all it can to ensure that these proposed regulations will not limit product availability or significantly increase the cost to buyers. However, we share their concern that the drastic decline in OHRV sales nationwide over the past few years will make complying with these regulations economically unfeasible for some models in the California market. We are especially concerned with the potential elimination of youth-appropriate motorcycles and ATVs which are required by state law for younger riders. **[AMA, MSC]**

Comment #2: We have concern regarding the science supporting the regulations, and the long term financial impact it will have upon consumers, dealers, and manufacturers. California business will be forced to adapt to this, which could cause economic harm from lost sales, employee layoffs, reduced service revenue, and reduced product sales such as riding gear and maintenance items. ARB has projections that show sales returning to pre-economic boom levels but we are concerned that the assumptions used in the projections may not turn out to be accurate. These proposed regulations must include a minimum sales threshold or trigger to implement the regulation.

2018 is a very short time frame for which to enact regulations that could invoke economic harm to the people of California, and industry as well. The realistic amount of emissions, versus the cost involved, appears to be an extremely small gain in reduced air quality tonnage. We would ask you to extend the comment period on this proposal due to short lead time for comment, and further discussion between staff and the public, including industry. **[AMA, MSC]**

Agency Response to 15-day Comments #1-2: This regulation is the result of an extensive scientific evaluation of OHRV emissions, usage, and control technology. The projected cost per vehicle is based on manufacturer estimates and is dependent on sales volume. The detailed response to this comment is the same as the response to comments 5–6 provided during the 45-day comment period:
"The staff report includes a rigorous analysis of the cost of compliance for different types of OHRVs. The analysis is based on cost estimates provided to ARB by manufacturers. The analysis concluded that a potential outcome of this regulatory proposal is that OHRV families with low sales volumes may no longer be sold in California. To address this issue staff proposed a provision that allows a small volume evaporative emission design standard, which lowers costs and provides flexibility for manufacturers that produce fewer than 50 new OHRVs per MY. In the case where a model is not available from a particular manufacturer, similar OHRVs from other manufacturers will be available for consumers. However, they may have fewer options within a given OHRV class if manufacturers are unable to consolidate low volume models into higher volume evaporative families. In a situation where a specialized OHRV is no longer available, a consumer

could have a custom fabrication company build an OHRV using the small volume design standard.

Youth models are not expected to have limited availability due to this regulation. Survey and sales data shows that youth models have small fuel tanks and high sales volumes. The combination of these two characteristics indicates that the cost of compliance for youth models is relatively low. Therefore, limited availability will not be an issue.

An extensive evaluation on the environmental benefit of the adopted regulation was conducted. The emissions inventory (RV2013) was revised to reflect new emission factors, and updated usage and activity patterns. A workshop focused specifically on the inventory was held to receive comments. Only minor comments were received and the inventory was revised as appropriate. The staff report contains the revised inventory that includes staff's analysis of the environmental benefit of the regulations. As the adopted regulations already mitigate the comments, no changes are needed."

2. GENERAL

Comment #3: "In regards to #2416. Applicability (B) [1,2,3,4] A separate section needs to be identified as it is not clear as listed in (4) because of incomplete designation to identify Cal. Code Regs., Title 13 §2412(f) because it is CCR 13, Chapter 9, Article 3, 2412 Emission Standards and Test Procedures, which outlines Test Procedures and Emission Standards. (f) Off-Road motorcycles and ATV's, and engines used in such vehicles, do not meet emission standards in subsection (B). I believe to the layman this means Red Sticker Restrictions. Concerning 2418. Evaporative Emission Standards and Test Procedures, as outlined in (d) is a complex issue, in which most of the public could not understand as presented.

We would ask you to EXTEND the comment period on this proposal due to short lead time for comment, and further discussion between staff and the public, including industry." **[MSC]**

Agency Response to 15-day Comment #3: A complete description of the 15-day changes and their effect on the regulations can be found in the "Notice of Public Availability of Modified Text and Availability of Additional Documents and/or Information" posted along with the modified regulatory text at the beginning of the 15-day comment period. Specifically, Cal. Code Regs., Title 13 §2416(b)(4) was added to continue the exemption, known as "red sticker," for this regulation as requested by the Board at the hearing. The added equation in Cal. Code Regs., Title 13 §2418(d)(2) is an alternative phase-in period for compliance that manufacturers requested. The 15-day comment

period is standard for all regulations. Contact information is available on ARB's web site.

3. COMMENTS REGARDING EXHAUST STANDARDS

Comment #4: "My only objection is to any proposed Regulations or Standards that exceed the Original Manufactured Exhaust performance of any Off Road or farm vehicle or product after such extended use. Ex. A dirt bike produced in 1970 and is still operating after 200,000 miles should only be judged on its orig. performance plus the expected reduction in performance common with that mileage. Using only the Level Highest expected Exhaust readings as a standard. To do otherwise is Dishonest! Invites cheaters." **[BM]**

Comment #5: "We believe more SCIENCE is needed here, especially in light of 4 stroke technology advancements, and minimal output of emissions BASED upon what appears to be a street legal mandate of emissions." **[MSC]**

Agency Response to 15-day Comments #4-5: These comments appear to be directed at exhaust emissions standards and in-use compliance. The adopted regulations and 15-day modification only relate to evaporative emissions control from OHRVs. Comments regarding exhaust emissions from OHRVs are beyond the scope of this regulation.

C. COMMENTS RECEIVED DURING THE SECOND 15-DAY COMMENT PERIOD

No public comments were received during the second 15-day public comment period.

V. PEER REVIEW

Health and Safety Code Section 57004 sets forth requirements for peer review of identified portions of rulemakings proposed by entities within the California Environmental Protection Agency, including ARB. Specifically, the scientific basis or scientific portion of a proposed rule may be subject to this peer review process. Here, ARB determined that the rulemaking at issue does not contain a scientific basis or scientific portion subject to peer review, and thus no peer review as set forth in Section 57004 was or needed to be performed.