State of California
AIR RESOURCES BOARD

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

PUBLIC HEARING TO CONSIDER THE AMENDMENTS TO THE CURRENT SMALL OFF-ROAD ENGINES REGULATIONS.

Public Hearing Date: November 21, 2008
Agenda Item No.: 08-10-03

I. GENERAL

The Air Resources Board (ARB or Board) regulates the emissions from new small off-road engines (SORE) sold in California. Within the regulations, ARB provides emission compliance flexibility to the manufacturers of these engines by allowing the earning and expending of emission credits. However, staff found some manufacturers were excessively banking the credits before more stringent emission standards were implemented, and then expending their accumulated credits over a long period of time afterwards to avoid or delay using more advanced emission controls on their engines. Accordingly, staff proposed modifications to the regulations to remedy this situation.

The Staff Report: Initial Statement of Reasons for Proposed Rulemaking, Public Hearing to Consider Amendments to the Current Regulations for Small Off-Road Engines ("Staff Report"), released on October 3, 2008, is incorporated by reference herein. This Final Statement of Reasons (FSOR) updates the Staff Report, summarizes the public comments received, and presents the Board's responses to those comments.

On November 21, 2008, the Board conducted a public hearing to consider staff's proposed amendments to the regulations and test procedures. After consideration of the written comments received during the 45-day public comment period prior to the hearing, and the testimony received at the public hearing, the Board adopted Resolution 08-41 to amend the regulations. The amendments affect the regulations in title 13, California Code of Regulations (CCR), sections 2403, 2405, 2406, 2408, and 2409, which incorporate by reference the, "California Exhaust Emission Standards and Test Procedures for 2005 and Later Small Off-Road Engines." These documents were posted on ARB's website for the rulemaking at: http://www.arb.ca.gov/regact/2008/sore2008/sore2008.htm .

After the regulatory action is finalized, the amended test procedures will be available on ARB's website, as well as in printed form upon request from Small Off-Road Engine program staff.

In developing the regulatory proposal, ARB staff evaluated the potential economic impacts on representative private persons or businesses. The Executive Officer is not aware of any costs that representative private persons or businesses would necessarily incur in reasonable compliance with the proposed action. Although not quantifiable, any costs that manufacturers may incur would have been incurred by the manufacturers if they had complied with the emission standards at the time of the emission standard change.

Pursuant to Government Code sections 11346.5(a)(5) and 11346.5(a)(6), the Executive Officer has determined that this 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 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.

The Executive Officer has determined that this regulatory action will not have a significant statewide adverse economic impact directly affecting businesses, including the ability of California businesses to compete with businesses in other states, or on representative private persons.

In accordance with Government Code section 11346.3, the Executive Officer has determined that this amendment will not affect the creation or elimination of jobs within the State of California, the creation of new businesses and the elimination of existing businesses within the State of California, and the expansion of businesses currently doing business within the State of California.

The Executive Officer has also determined, pursuant to title 1, CCR, section 4, that this regulatory action will not affect small businesses. The regulatory action only affects manufacturers of small off-road engines with emission credit balances. None of these engine manufacturers are considered to be small businesses. Manufacturers of small off-road equipment, who may be considered to be small businesses, would not be affected by this regulatory action change because they can use engines from engine manufacturers that either have or don’t have emission credit balances.

At the hearing the staff presented and the Board adopted the amended regulations as proposed in the Staff Report. No substantive modifications to the proposed amendments were directed by the Board. Pursuant to Board Resolution 08-41, the Board has 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 than the action taken by the Board.

II. SUMMARY OF COMMENTS AND AGENCY RESPONSE

Provided below is a list of commenters that provided written and/or oral testimony.

Organization and Person Providing Comments	Written Testimony	Oral Testimony
Barry Wallerstein, South Coast Air Quality Management District (SCAQMD)	11/14/08 (SCAQMD1)	_
Henry Hogo, SCAQMD	_	11/21/08 (SCAQMD2)
James McNew, Outdoor Power Equipment Institute (OPEI)	11/18/08	11/21/08
Roger Gault, Engine Manufacturers Association (EMA)	11/21/08	11/21/08
Neil Maguire, Lion Cells	-	11/21/08
Joe Kubsh, Manufacturers of Emission Controls Association (MECA)	11/20/08 (MECA1)	_
Rasto Brezny, MECA	_	11/21/08 (MECA2)

Set forth below is a summary of each objection or recommendation made regarding the specific adoption, amendment, or repeal proposed, together with an explanation of how the proposed action has been changed to accommodate each objection or recommendation, or the reasons for making no change. The responses below pertain only to the comments related to objections or recommendations directed at the agency's proposed action or to the procedures followed by the agency in proposing or adopting the action. Repetitive comments have been aggregated and summarized while irrelevant comments have been dismissed. For the purposes of this paragraph, a comment is "irrelevant" if it is not specifically directed at the agency's proposed action or to the procedures followed by the agency in proposing or adopting the action.

A. General

1. Comment: The catalyst technologies available today benefit the entire range of small spark-ignited engines to achieve the current standards without emission credits. The technology is based on years of experience with spark-ignited engines. And in fact for small engines, these catalysts fit right inside the exhaust muffler. We support the proposed changes, and we thank the staff for their work in bringing forth this proposal. (MECA 2)

Agency Response: The Board agrees that the technology to meet emission standards is readily available without any major design changes to manufacturers' existing designs. The changes to the emission credit program as laid out in the amendments should not affect industry's ability to comply with the current emission standards. In fact, many manufacturers already build engines which contain catalysts.

B. Production Emission Credits

2. Comment: AQMD staff supports CARB staff's proposal to eliminate production credits, as we strongly believe that the production credits are not necessary. The credits were never used as designed to offset compliance problems and, in addition, their use has resulted in higher emissions by allowing manufacturers to delay compliance with the current standards, while cost-effective technology is available to meet the standards. (SCAQMD1, SCAQMD2)

Comment: We support the proposed changes to the current tier 3 regulation that will further enhance alignment with the recently released U.S. EPA Phase 3 standards. We support the 2009 sunset date for production emission credits and requiring the conversion of any banked production credits by 2010. The fact that there has been no instance to date where a manufacturer has required the use of production credits to comply with the emission standards attests to the robustness of existing manufacturing processes for small engines. (MECA1)

Comment: OPEI recommends that ARB fully align their Averaging, Banking, and Trading (AB&T) credit program with EPA by eliminating their Production Line Testing (PLT) credit program. (OPEI)

Agency Response: The Board agrees that eliminating the production emission credit program will better align ARB's small off-road engine emissions program with U.S. EPA's non-road small spark-ignition engine program. In addition, setting a limited life of one year on the existing production emission credits is a balanced approach for eliminating these credits while providing time for either their use or conversion to certification credits.

C. Certification Credit Life

3. Comment: AQMD staff believes it is essential that the life of certification credits be limited to five years (the useful life of SORE equipment) to ensure that the necessary reduction needed to meet the 2015 PM2.5 and 2024 8-hour ozone attainment deadlines are realized. AQMD staff strongly supports CARB staff's recommendation to limit the certification credits to a five-year lifetime. (SCAQMD1)

Comment: MECA also supports the proposed 5 year limit on the use of certification emission credits as this is consistent with the new full useful life timelines for equipment under this regulation. Limiting credit life will motivate manufacturers to apply well-established exhaust control technology to small off-road engines to ultimately exceed the current emission standards and achieve further reductions in HC+NOx. (MECA1)

Comment: OPEI recommends that ARB fully align their AB&T credit program with EPA by imposing a 5 year credit life on manufacturer AB&T credits generated prior to the current standard levels. (OPEI)

Agency Response: The Board agrees that the 5-year credit life limit provides industry with compliance flexibility options without sacrificing projected gains in air quality. The credit life limit will also prevent excessive emission credit balances in the future.

It should be noted that the OPEI comment refers to the emission credits earned under the tier 2 emission standards. Although OPEI would like to have unlimited lifetime for credits generated under the tier 3 standards (See comment 4 below.), they are in favor of limiting the life of emission credits earned under the previous emission standards.

4. Comment: OPEI recommends allowing unlimited life of credits generated by engines that emit at lower levels than required by the current standard levels. (OPEI)

Comment: By putting a credit life on products that overachieve, you're creating a disincentive that is unintended. (EMA)

Agency Response: Staff found that while the certification emission credit did provide flexibility, it had mixed results with regard to driving the use of advanced technology. At the time that the existing credit program was implemented, staff expected that manufacturers would continue their normal production practices until their emission credit balances were exhausted. However, manufacturers instead changed their production practices to produce engines that "overachieved" in the short term in order to earn credits. Thus, as an alternative to using catalysts, which are a technically feasible and cost-effective means to comply with the tier 3 standards (as mentioned in Comment 1 above), manufacturers have used their banked credits. Since these credits had an unlimited lifetime, manufacturers were allowed to continue certifying "dirtier" engines.

In addition, certification credit lifetime is limited to five years because the limit coincides with the useful lifetime of SORE equipment. Staff believes that limiting the credit life to five years does not introduce an unintended disincentive, but instead strikes a reasonable balance between not allowing credits at all and keeping credits from accumulating indefinitely.

D. Zero Emission Equipment – Regulations

5. Comment: In regard to the zero emission product proposal, this was really not invented very well in the workshop process. I think it has a long way to go before it's really ready to be adopted as a rule making. (EMA)

Comment: The Board should direct staff to add more specificity in the final regulations that address the following potential ambiguities and loopholes. First, section 2408(f)(7)(A) does not specify the information that is required to verify the power of zero emission products compared to that of gas units. Second, ARB needs to define what it meant in (A)(1) – by battery-powered product "performing at a level equivalent to that of professional equipment (i.e., power, cutting width, etc)." Third, ARB needs to clarify what is meant by the Section (A)(3) – in terms of the battery (without recharging) allowing the equipment to perform at a continuous "professional performance level for at least 4 hours." (OPEI)

Comment: You need a fully vetted zero emission product standard including a test procedure to figure out what the equivalence is in order to properly assign the emission benefits that you're going to give credits for. (EMA)

Comment: The Board should direct ARB staff to either come back to the Board with a more refined proposal, or work through a "15 day" regulatory comment process with the affected stakeholders, including OPEI, to develop the needed technical amendments and procedures. Credits should only be generated for electric products that achieve a comparable level of operation/performance as professional gas equipment. ARB should ultimately define, and require (as one minimum criteria) the quantification of the equivalent, required "energy content" of batteries – that would be used to achieve "professional performance levels" for different products to benchmark the required performance. These standards should require the equivalent, sustained power (produced throughout the engine-powered products) be demonstrated as a condition of certification. (OPEI)

Agency Response: Based on these comments, staff realized that some further development work was necessary on the Zero Emission Equipment (ZEE) regulations. Staff had expected that the necessary modifications could be adopted under a 15-day comment Notice. However, this course of action was not possible once the Board officially closed the Hearing Record on the day of the Hearing. Therefore, any additional modifications to the ZEE regulations, such as those expressed in the comments, will be proposed for adoption at a future Hearing. In this effort, staff will work to develop comprehensive modifications in collaboration with engine and equipment manufacturers, and other stakeholders. In the interim, staff does not expect that manufacturers will submit any certification applications requesting ZEE credits until these modifications have been adopted.

E. Zero Emission Equipment – Emission Credits

6. Comment: Relative to the proposed ZEE credit, AQMD staff strongly supports the overall concept of incentivizing, through emission credit generation, the use of professional and commercial level ZEE to encourage earlier adoption of future technologies and to further reduce emissions from the SORE category. The commercial and professional sector is responsible

for the majority of the SORE emissions and early introduction of ZEE would yield substantial emission reductions. (SCAQMD1, SCAQMD2)

Comment: In recognition that this criterion may pose challenges in accelerating the introduction of future ZEE technologies into the market, we recommend that some intermediate form of credit generation be allowed for an interim period of time for equipment that may not entirely meet the proposed performance standards (similar to the partial zero-emission vehicle category in the CARB LEV program). This would allow manufacturers to gain critical real-world experience and ensure successful introduction of ZEE technology with its associated emission reductions. We would stress that this partial zero-emission crediting be allowed for a brief period of time to allow the ZEE technologies to mature. (SCAQMD1, SCAQMD2)

Agency Response: Staff will include a review of the potential benefits and feasibility of both a general, and a partial, ZEE emission credit incentive approach as part of the regulatory development work to modify the ZEE provisions (see Response to Comment No. 5.).

F. Zero Emission Equipment – Battery-Based Credits

7. Comment: AQMD staff recommends that CARB include an additional requirement to the proposed ZEE performance standard (that they must perform at the same level as commercial gasoline-powered equipment before receiving credits). (SCAQMD1, SCAQMD2)

Comment: OPEI is concerned that new, high-risk manufacturers could bank battery-based credits and then use them to import low-cost, higher-emitting gas product using these credits. (OPEI)

Comment: Battery-based credits should be limited to prior "carry-over" engine families. This would assure the gas-powered products were CARB certified prior to credit use and the user of credits has legitimately entered the market. CARB would have greater compliance assurances and greater enforcement authority over these established manufacturers. (OPEI)

Agency Response: Staff will take these suggestions into consideration when developing the ZEE credit provisions of the future proposal.

G. Zero Emission Equipment – Battery Characteristics

8. Comment: The one requirement I do think we should update is the requirement that it runs for the duration of a gas can. When we go to our lab, it takes about two seconds to replace, pull one battery out and replace another one. It would be cost prohibitive to require that the battery need to be so big it needs to run for four hours duration or the day. In terms of recharge, these batteries recharge in about 30 minutes to about 85 percent of their capacity. So the typical process is you have two batteries, one recharging and one ready to go. (Lion Cells)

Comment: The language concerning credits for zero-emission products in section 2408(f)(7) should specifically address the following issues: 1) Horsepower ratings of electric and gas motors run on opposite curves. 2) ARB should clarify if a "backpack battery" source is included in paragraph (2). 3) In paragraph (3), ARB indicated the product must perform for 4 hours on each refueling or recharge. We generally agree the product should operate for a substantial period (producing the same performance level during all this time) before battery replacement or recharge is required. (OPEI)

Agency Response: As explained in the Response to Comment No. 5, the ZEE regulations require some additional development work. Accordingly, it is not possible to respond to the technical specifics of these comments at this time. However, staff will review and consider the merits of this information during the development of these ZEE regulatory modifications.

H. Provision for Executive Officer Discretion for Technical Changes

9. Comment: It is our understanding that if the Board adopts this provision, the following process would still apply. ARB staff would informally provide advance notice to OPEI and other stakeholders and would work with these stakeholders to help draft MAC's (Manufacturers Advisory Correspondence) or similar technical amendments or guidance. As long as this process is implemented in this matter so that there is an informal stakeholder input process, OPEI generally supports this amendment. (OPEI)

Agency Response: The Executive Officer-initiated change would proceed as described in the comment. The intent is that advanced notice would be provided to all manufacturers and stakeholders in order to allow a full and complete discussion about the possible change. Also, it should be remembered that the main consideration in any possible decision to make a change to the test procedures, for whatever reason, is that the change can not compromise the stringency of the California emission standards.

I. U.S. EPA Alignment

10. Comment: Here are several examples of needed amendments that ARB should adopt to harmonize with the new EPA Phase 3 regulations:

1) EPA's new engine test procedure (Part 1065) needs to be an option for certification ASAP (by 2013 at the latest when EPA mandates it for new families).

2) New 40 CFR §1054.670. ARB should add this language as an option to their current test procedure.

3) ARB should add language for the time to stabilize and the measurement period (for emissions) that is indicated in new section 1054.505(a)(1). EPA requires a 5-minute warm up at each mode (minimum) and a 1-minute measurement period.

4) EPA describes (in detail) the measurement speed of rated WOT (wide open throttle) and Idle. ARB should accept these test points as an alternate to the current specified test speeds in the ARB regulation.

5) Pursuant to (and with the same effective dates as) new 40 CFR §1054.135(c), ARB should revise its label language in section 2759(c)(4)(A) and 2404(C)(4)(A) to read "EMISSION CONTROL INFORMATION" (instead of the current "IMPORTANT EMISSION INFORMATION") in order to harmonize with EPA. ARB should avoid pulling ahead any labeling changes before it is required by EPA – typically in the 2011 and 2012 Model Year. (OPEI)

Agency Response: Some of these examples of "needed amendments" can probably be changed using the adopted provision for Executive Officer discretion. However, a determination of that applicability would require a more complete discussion with all manufacturers and stakeholders (see Response to Comment No. 9.). Guidance for such minor changes could also be distributed via MAC's or other documents.

The Board agrees with OPEI that allowing for Executive Officer discretion in making minor changes to the amendments would be a more efficient way of handling such issues. This is something that both staff and stakeholders desire. Staff was not able to include the changes suggested because these comments were not presented during the workshop process, but were submitted just prior to the Board Hearing. With an allowance for the Executive Officer discretion, this matter could be handled without the need to go through the full Board Hearing process.

11. Comment: ARB could further limit credit exchanges between ground-supported and handheld classes similar to the restrictions EPA has adopted in its final Phase 3 regulations. (OPEI)

Agency Response: The Board chose not to include this restriction in the credit program at this time because staff has found that manufacturers do not exchange emission credits between handheld and non-handheld equipment.

J. Ethanol Fuels

12. Comment: OPEI supports the addition of the EPA Phase 3 approach allowing exhaust certification with fuels up to 10 percent ethanol. We understand ARB staff's intent is to link the selected certification fuel with any confirmatory testing. OPEI requests ARB to add language that clarifies that any confirmation or auditing tests that ARB conducts or requires be conducted will use the same, selected certification fuel. (OPEI)

Agency Response: The Board appreciates OPEI's support of this portion of the amendments. The Board approved an allowance for the optional use of this fuel for certification testing. However, staff was not able to include a similar fuel allowance for confirmatory testing because the suggestion was received after the notice period had ended. This is another example of a minor technical change that ARB could possibly make to the test procedures, without returning to the Board, by using the Executive Officer discretion provision, as described in the Response to Comment Number 9.

K. Emission Control Warranty Statement

13. Comment: ARB staff has appropriately proposed to harmonize with the new EPA Phase 3 warranty provisions that require a live, English-speaking contact to promptly respond to warranty-service questions. However, the new ARB requirements need to specify when these new warranty-service obligations start to apply. OPEI suggests the 2010 Model Year. (OPEI)

Agency Response: Since the 2009 Model-Year production has already begun, applying this requirement retroactively may not be appropriate or fair to manufacturers. Accordingly, staff agrees that this requirement would best be enforced beginning with the 2010 Model-Year production.

L. Revisit Emission Standards

14. Comment: MECA asks ARB to consider reviewing their tier 3 SORE exhaust emission standards in the near future and determine if further exhaust emission reductions can be gained by combining recent improvements in small engine designs with the application of catalyst technology on all SORE engine classes. A further tightening of SORE emission standards could provide ARB with much needed, additional reductions in hydrocarbon and NOx emissions that are critical for California to comply with EPA's recently revised ambient ozone standards. (MECA1)

Agency Response: ARB staff will continue to review technical improvements that could be made to small off-road engines and will propose new emission standards when they become feasible and appropriate.