

**State of California  
California Environmental Protection Agency  
AIR RESOURCES BOARD**

**PUBLIC HEARING TO CONSIDER AMENDMENTS TO REGULATIONS  
REGARDING NEW AFTERMARKET AND USED CATALYTIC CONVERTERS  
OFFERED FOR SALE AND USE IN CALIFORNIA**

**FINAL STATEMENT OF REASONS**

**March 2008**

State of California  
AIR RESOURCES BOARD

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

PUBLIC HEARING TO CONSIDER AMENDMENTS TO REGULATIONS  
REGARDING NEW AFTERMARKET AND USED CATALYTIC CONVERTERS  
OFFERED FOR SALE AND USE IN CALIFORNIA

Public Hearing Date: October 25, 2007

Agenda Item No.: 07-10-7

**I. General**

The Staff Report: Initial Statement of Reasons for Rulemaking ("Staff Report"), entitled "Public Hearing to Consider Amendments to Regulations Regarding New Aftermarket Catalytic Converters and Used Catalytic Converters Offered for Sale and Use in California", released September 7, 2007, is incorporated by reference herein.

In this rulemaking, the Air Resources Board (ARB or Board) adopted amendments to existing procedures for evaluating and approving aftermarket catalytic converters designed for use on California passenger cars and trucks. These amendments establish more stringent emissions performance and durability requirements for new aftermarket converters offered for sale in California, beginning January 1, 2009, and would eliminate current provisions allowing the sale and use of used catalytic converters in California effective July 1, 2008, or 30 days after these amendments are filed with the Secretary of State's office, whichever date is later.

On September 7, 2007, ARB published a notice for an October 25, 2007 public hearing to consider the proposed amendments. The Staff Report was also made available for public review and comment beginning September 7, 2007. The Staff Report provides the rationale for the proposed amendments. The text of the proposed amendments to title 13, California Code of Regulations (CCR) section 2222 and the test procedure incorporated by reference therein, "California Evaluation Procedures for New Aftermarket Catalytic Converters" were included as attachments to the Staff Report. These documents were also posted on the ARB's Internet site for the rulemaking at:  
<http://www.arb.ca.gov/regact/2007/amcat07/amcat07.htm>

On October 25, 2007, the Board conducted the public hearing and received oral and written comments. At the conclusion of the hearing, the Board adopted Resolution 07-48, in which it approved the proposed amendments without modification.<sup>1</sup>

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<sup>1</sup> Through an oversight, Resolution 07-48, as distributed at the October 25, 2007 public hearing, contained text directing the Executive Officer to adopt the proposed amendments as approved, with such other conforming modifications and technical revisions as may be appropriate, and to make the

This Final Statement of Reasons contains a summary of the comments received by the Board on the proposed regulatory amendments and ARB's responses to those comments, and clarifies minor issues that arose during this rulemaking.

**Incorporation of Test Procedures.** The regulatory amendments approved by the Board incorporate by reference new evaluation and test procedures for new aftermarket catalytic converters. Title 13, CCR section 2222(h)(2) incorporates by reference "California Evaluation Procedures for New Aftermarket Catalytic Converters" as adopted October 25, 2007. This incorporated evaluation and test procedure was identified by title in the informative digest of the notice of proposed action (no date of publication or issuance was specified as the test procedure was proposed for adoption in the notice) and is identified by title and date in Section 2222(h)(2). This incorporated evaluation and test procedure is readily available from the ARB upon request, and was made available in the context of this rulemaking in the manner specified in Government Code Section 11346.5(b).

The evaluation and test procedure is incorporated by reference because it would be cumbersome, unduly expensive, and otherwise impractical to print it in the CCR. Existing ARB administrative practice has been to incorporate test procedures by reference rather than printing them in the CCR because these procedures are highly technical and complex. They include the "nuts and bolts" engineering protocols and laboratory practices required for certification of regulated engines and equipment, and have a very limited audience. Because ARB has never printed complete test procedures in the CCR, the affected public is accustomed to the incorporation format utilized therein. Printing portions of the ARB's test procedures that are incorporated by reference would be unnecessarily confusing to the affected public.

**Fiscal impacts.** The Board has determined that this regulatory action could theoretically result in a mandate to those local governments that operate motor vehicle fleets comprised of vehicles older than ten years or that have accumulated over 100,000 odometer miles, in an amount of \$17 per year per vehicle. However, this additional cost would only be incurred for that subset of older vehicles that have the catalyst fail and subsequently need a new catalyst. Further, because most local governments replace fleet vehicles before ten years or 100,000 miles, the overall cost impact of this regulatory action is anticipated to be near \$0. In any event, the Board finds that such costs are not reimbursable pursuant to part 7 (commencing with section 17500), Division 4, title 2 of the Government Code, because these costs are the same as those that will be incurred by the general public (*County of Los Angeles v. State of California* (1987) 43 Cal.3d 46, 57).

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modified text available for a supplemental comment period of at least 15 days, as required by Government Code section 11346.8. However, the Board adopted the amendments without any modifications. This point was clarified in testimony of the Board's public hearing the next day. See the transcript of the Board's October 26, 2007 public hearing, 5:16 to 6:6.  
<http://www.arb.ca.gov/board/mt/2007/mt102607.txt>

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 regulatory action could result in the elimination of between 5 to 10 jobs from businesses that currently sell used catalytic converters within the State of California, but would not likely result in the creation of new businesses, the elimination of existing businesses within the State of California, or the expansion of businesses currently doing business within the State of California.

The Executive Officer has determined, pursuant to title 1, CCR, section 4, that this regulatory action will affect those small businesses that distribute used catalytic converters for sale in California. The amendments that eliminate current provisions permitting the sale of used converters in California would reduce their nationwide market. However, retail providers of replacement catalytic converters would not be significantly impacted because the majority of their business involves the sale of new aftermarket catalytic converters. The small portion of their business that involves the sale of used catalytic converters would likely be replaced by increased new aftermarket converter sales.

The Board rejected proposed alternatives to this regulatory action that would have extended the current provisions allowing the sale and use of used catalytic converters in California. The Board rejected an alternative of not changing current requirements because this would result in an inequity between the newly adopted requirements applicable to new converters and the existing requirements applicable to used converters, which would undermine the emissions benefits of this regulatory action. California emission standards for light- and medium-duty vehicles have dramatically increased in stringency since the Board last adopted aftermarket converter regulations in 1988, and consequently, current vehicles can require catalyst conversion efficiencies greatly exceeding the limits in the current evaluation procedures to comply with those emission standards.

To ensure that the in-use emissions from vehicles are not adversely compromised by the use of aftermarket catalysts, the Board approved new evaluation procedures for new aftermarket catalytic converters that will replace the existing performance requirements based on converter efficiency to standards based on vehicle tailpipe emission levels, require a demonstration of compatibility with the vehicle's on-board diagnostic II (OBD II) system, and extend the durability and warranty periods from 25,000 miles to a 5 year or 50,000 mile period. The Board found that the existing procedures for used converters cannot be modified to reliably evaluate if a used converter can achieve the substantially higher levels of conversion efficiency required by the newly adopted requirements for new converters, that the current test methods cannot evaluate converter performance during transient or cold-start conditions, and that no economically feasible screening method can reliably evaluate

whether a used converter will perform at levels equivalent to those required by new converters.

The Board rejected an alternative of using a vehicle's OBD II system to evaluate a used converter's performance because it found this alternative would not provide an affirmative determination that a used converter would reduce a vehicle's emissions to its certification emission standards (as required of new converters by this regulatory action), or that the converter had significant life remaining. The loss of important emission benefits would likely result from allowing the use of used converters that, from the time of installation, cannot properly control vehicle emission levels.

Similarly, the Board rejected an alternative of establishing performance requirements for used converters that are only somewhat more stringent than existing requirements because the converters would not, from the time of installation, be able to control vehicle emissions to levels comparable to in-use vehicle emission standards. Important emission reduction benefits would be lost as a result. This alternative would also create an inequity between the newly adopted requirements applicable to new converters and the requirements applicable to used converters

The Board has further 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 and less burdensome to affected private persons or businesses than the action taken by the Board.

**Consideration of Alternatives.** The amendments and new evaluation and test procedures proposed in this rulemaking were the result of numerous discussions and meetings between staff and the affected aftermarket catalyst manufacturers and business associations. In the Staff Report, released and made available to the public on September 7, 2007, and in the subsequent rulemaking process, staff evaluated and ultimately rejected five potential alternatives which included: (1) leaving the requirements for new aftermarket catalytic converters unchanged, (2) requiring all replacement catalytic converters to meet original equipment converter specifications, (3) leaving the requirements for used aftermarket catalytic converters unchanged, (4) establishing performance requirements for used catalytic converters that are slightly more stringent than existing used catalytic converter performance requirements, and (5) using a vehicle's OBD II system to evaluate a used converter's performance.

For the reasons stated in the Staff Report, and based on staff's comments and responses at the hearing and in this Final Statement of Reasons (FSOR), 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 and less burdensome to affected private persons than the action taken by the Board.

## **II. CLARIFICATION TO ORIGINAL PROPOSAL**

The staff has identified a minor error in the References section (Section VIII) of the Staff Report. The citation to Health and Safety Code section 27156 in reference 7 should instead be to Vehicle Code section 27156. The fact that the pertinent language resides in the Vehicle Code is widely known by the regulated community, and the correct citations are incorporated in the informative digest of the notice of proposed action, the “California Evaluation Procedures for New Aftermarket Catalytic Converters” as adopted October 25, 2007, and in Resolution 07-48.

## **III. SUMMARY OF COMMENTS AND AGENCY RESPONSE**

The ARB received written and oral comments during the 45-day comment period in response to the September 7, 2007 public hearing notice. At the October 25, 2007, Board Hearing, ARB received written comments and/or oral testimony from:

Jim Mattesich, DEC/Tested Products (DEC)  
Kelly Boyd, Brown Recycling (Brown)  
David Miller, Miller Catalyzer Corporation (Miller)  
Rasto Brezny, Manufacturers of Emission Controls Association (MECA)  
Joseph Kubsh, MECA

Written comments in response to the 45-day notice were received during the comment period prior to the hearing from:

Christopher Blood  
Mike Howe, ASCCA ASA Napa Auto Care  
Lawrence Lynch, Paso Robles Democratic Club  
Mike Maberry  
Dale Warmuth, Leon’s Car Care Center  
John Cabaniss, Association of International Automobile Manufacturers (AIAM)  
Barry Wallerstein, South Coast Air Quality Management District (SCAQMD)

Set forth below is a summary of each objection or recommendation made regarding the specific regulatory action proposed, together with an explanation of how the proposed action was changed to accommodate each objection or recommendation, or the reasons for making no change. The comments have been grouped by topic whenever possible. AIAM, SCAQMD, MECA, and Mike Howe provided comments and/or testimony in support of the regulation without making any objections or recommendations for changes. Their comments, therefore, are not included in the summary.

## A. NEW AFTERMARKET CATALYTIC CONVERTER AMENDMENTS

1. **Comment:** Instead of requiring manufacturers of new aftermarket catalytic converters to use the new test and evaluation procedures, the Board should “grandfather in” aftermarket converters for OBD II equipped vehicles that have been approved by staff under the earlier interim agreements, to provide manufacturers more time to expand product lines for more vehicle models. The new test and evaluation procedures would then only apply to newer vehicle models. **(Miller)**

**Agency Response:** No change was made in response to this comment. Aftermarket catalytic converters that are currently approved for use for 1996 and newer model year vehicles have been tested to ensure that vehicle OBD II systems will not incorrectly indicate a converter malfunction while the converters are operating properly. However, prior to this rulemaking, manufacturers have not been required to fully demonstrate that the OBD II system will detect a malfunctioning converter by the time such converter reaches a specific level of deterioration. ARB staff and converter manufacturers agreed that the lack of experience regarding the interaction between aftermarket converters and vehicle OBD II systems would have overly complicated initial efforts at developing OBD II compatible aftermarket converters.

During the rulemaking’s development, manufacturers stated that they now believe they have gained enough experience to demonstrate that their products will not be falsely detected as malfunctioning by vehicle OBD II systems, and also that the systems will be capable of detecting when a converter has in fact failed. Therefore, the rulemaking requires both demonstrations for new converter designs approved after January 1, 2009. For designs that are approved prior to that date, the ARB and the aftermarket converter manufacturers agreed on a three year schedule for retesting them and making design changes if necessary. This testing of existing designs is necessary to minimize in-use vehicle emissions by ensuring that going forward, all aftermarket converter designs are fully compatible with OBD II systems.

## B. USED AFTERMARKET CATALYTIC CONVERTER AMENDMENTS

2. **Comment:** Currently, new aftermarket catalytic converters are not available for many vehicle models, so prohibiting used converters will force many motorists to purchase much more expensive new original equipment replacement converters. **(Brown, DEC, Leon’s Car Care)**

“[Brown’s] converters sell for \$200-400, compared to new manufactured converter prices of \$1,000-1,400+ for a comparable product.” **(Brown)**

“The total California OBD II catalytic converter replacement market is approximately 230,000 converters per year. Of this, approximately 50,000 are tested, recycled OEM converters. Almost 95% are replaced on vehicles which do not have a California legal aftermarket product available to them. ... [¶] In other words, 81% of the OBD II California marketplace does not have a CARB certified aftermarket catalytic converter available to consumers.”  
**(DEC)**

“Our business often sees remanufactured units retail from \$300-\$400; the same new units from [OEM]s sell for \$800-\$1200.” **(Leon’s Care Care Center)**

**Agency Response:** The current limitations in the availability of new aftermarket catalytic converters exist because converter manufacturers have only relatively recently become familiar with the process of developing products for 1996 and later model year vehicles under interim agreements with the ARB. However, manufacturers have now obtained the necessary experience, and because the test procedures and evaluation provisions applicable to new aftermarket converters are essentially identical to those utilized under the interim agreements, ARB staff expects that new aftermarket catalytic converters will soon be available for most vehicle makes and models.

1996 and newer model year vehicles are equipped with On-Board Diagnostic II (OBD II) systems that monitor the conversion efficiency of catalytic converters as the vehicles are being driven. The aftermarket catalytic converter provisions adopted in 1988 do not contemplate the existence of these systems on motor vehicles. As a result, products developed solely in compliance with these procedures are likely to be quickly identified as malfunctioning by vehicle OBD II systems, and in many cases, would perform at levels lower than the worn converters that they replace. Therefore, ARB staff has considered the 1988 procedures to be inadequate for the evaluation of products intended for use on OBD II equipped vehicles.

As an interim solution while updates to the evaluation procedures were being formulated for consideration by the Board, the ARB entered into voluntary Memoranda of Understanding (MOU) with any aftermarket catalytic converter manufacturers that wished to develop OBD II compatible products for sale in California. It is on this basis that aftermarket catalytic converters are currently available at all for 1996 and newer California vehicles. The first MOUs were signed in 2003. Initially, only a few manufacturers signed MOUs, and the scope of their product applications was relatively narrow (i.e., coverage was limited to only a few vehicle makes and models). As manufacturers gained experience in developing product and in working with staff to satisfy the terms of the agreements, the number of OBD II vehicle



models for which an aftermarket converter is available has significantly increased. Because the adopted amendments formalize the evaluation procedures used in the interim agreements, manufacturers are now provided clear, long-term direction on the requirements needed for approval. ARB staff believes that this fact, coupled with the continually increasing experience that aftermarket catalytic converter manufacturers are obtaining in the design and manufacture of OBD II compatible converters, will result in a wide-spread availability of new aftermarket catalytic converters for the large majority of vehicles models within a relatively short time.

The Manufacturers of Emission Controls Association (MECA) testified during the hearing that its member companies are already working to expand the availability of new aftermarket converters to applications for which an approved converter may not currently be available. To this extent, staff expects the number of vehicle models for which a lower cost catalytic converter replacement option is not available will be minimal. Also, whether a used converter is currently available for a particular vehicle model is dependent upon whether a used aftermarket converter manufacturer has been able to recover a properly operating converter from a salvaged vehicle of the same make and model. Therefore, even with the used converter provisions that currently exist, some vehicle owners only have the option to purchase an original equipment converter when a replacement is needed.

Staff also wishes to point out that, as stated in the Staff Report, it estimates the average price of an aftermarket converter for pre-OBD II equipped vehicles will initially increase by up to \$200 (compared to current aftermarket converters) because of the adopted amendments (Staff Report, Section V.B).

Finally, ARB's evaluation procedures allowing the sale and use of non-original equipment catalytic converters are intended to provide for the availability of lower cost replacement catalytic converters for older California vehicles, making the maintenance of vehicle emission control systems more economical without significantly impacting air quality. This balance between the availability of lower cost converters and maintaining emissions from in-use vehicles must be maintained in order for the aftermarket converter provisions to be effective. Therefore, as motor vehicle technology advances, temporary impacts on the availability of aftermarket converters for some vehicle models are possible.

3. **Comment:** The elimination of provisions allowing the sale and use of used converters should be postponed for at least two more years, to provide new aftermarket converter manufacturers more time to develop products to fill the void that will be created by banning used converters. Demonstrating OBD II compatibility is difficult, and will likely require more time than the staff estimates. A postponement would also allow converter manufacturers to gain

more feedback regarding the in-use performance of their products before product lines are expanded. **(Miller)**

**Agency Response:** The Agency's response to Comment 2 is incorporated herein. Aftermarket converter manufacturers are already rapidly developing new catalytic converter designs to achieve broad coverage over many vehicle models; providing an additional two years of leadtime is therefore unnecessary, and would prolong the use of converters for which adequate performance levels cannot be verified. Although additional OBD II compatibility testing will be required for some products already approved for use on 1996 and newer model year vehicles, ARB reached an agreement with the industry to phase-in the new testing requirements applicable to new aftermarket converters through the end of 2011. MECA, which represents the vast majority of catalytic converter manufacturers, testified both at the hearing and in writing in support of the adopted regulations, including its implementation timeframes.

4. **Comment:** Eliminating the current provisions that allow the sale and use of used aftermarket catalytic converters will disproportionately burden economically disadvantaged consumers. If used aftermarket converters are not available for given vehicle models, these consumers will then need buy new original equipment converters that are more expensive than remanufactured converters. **(Brown, DEC, Leon's Car Care Center)**

"[R]emanufactured units retail for \$300-\$400; the same new units from the auto manufacturer sell for \$800-\$1200." **(Leon's Car Care Center)**

**Agency Response:** The Agency's response to Comment 2 is incorporated herein. As explained in that response, ARB believes that new aftermarket catalytic converters will soon be available for most vehicle applications. In those instances where purchasing a new original equipment replacement converter is the only available option, the Bureau of Automotive Repair's (BAR's) Compliance Assistance Program (CAP) is available to minimize the fiscal impact on low income motorists. The CAP program provides financial assistance for emission-related repairs needed to pass Smog Check. California motorists with an income less than 225% of federal poverty levels can qualify for up to \$500 towards repairs. These funds will greatly offset the cost of purchasing an original equipment replacement converter should no aftermarket converter be available for a particular vehicle model.

Moreover, any price increase resulting from the adopted amendments regarding new aftermarket catalytic converters will be mitigated by the increased durability requirements. The adopted amendments require manufacturers of new aftermarket catalytic converters to increase both the performance and durability of new aftermarket converters. Manufacturers will therefore need to increase the loading of noble metals in aftermarket

converters, which is expected to raise the average cost of a new aftermarket catalytic converter by approximately \$200. However, because these converters will be twice as durable as current converters, the price impact is estimated at 10 and 28 cents per 100 miles driven. Thus, this regulatory action should not pose a significant adverse economic impact on private persons or businesses as consumers.

5. **Comment:** The adopted amendments that sunset the current provisions allowing the sale and use of used aftermarket catalytic converters will adversely impact air quality.

“Tens of thousands of California drivers who currently replace defective, polluting catalytic converters ‘because the light came on’, with recycled OEM converters, will instead drive their cars without a properly functioning converter until their next smog check requires a different decision. That period of time for adverse air quality impact may be several months to even years. [¶] To our knowledge, the Board has not evaluated the environmental impact this proposal will thus have on air quality under the requirements of the California Environmental Quality Act (CEQA), Public Resources Code §§ 21000 et. seq. For that reason alone, this proposal should not be adopted.”  
**(DEC)**

**Agency Response:** The ARB disagrees with the assertion that it has not evaluated the environmental impact of the regulatory amendments for used aftermarket catalytic converters on air quality. An analysis has been performed, and is set forth in Section VI.A of the Staff Report. Moreover, the Board specifically found in Resolution 07-48 that “Emission benefits would be lost from allowing the use of used converters that cannot adequately control vehicle emissions to the same levels being proposed for new aftermarket converters”, and that “[t]he proposed amendments will not have any significant adverse impact on the environment *and is projected to positively impact air quality* (emphasis supplied).”

Staff agrees that a portion of the motoring public will wait until emission-related repairs are required by California’s Smog Check program before taking their vehicles into service. This is especially likely for catalytic converters, because in most cases their failure will not impact driveability or fuel economy. It is for this reason that ARB’s emission-benefit estimate already assumes that California’s Smog Check program is the impetus for owners of older vehicles to have their converters replaced (Section VI.A, p.14 of the Staff Report).

There is no evidence to support a claim that delays in seeking repairs would significantly increase if owners have to bear the cost of a new original equipment converter as opposed to a used aftermarket converter. Used aftermarket converters typically cost in excess of \$300. Staff believes that

this price level will already motivate motorists to wait until as long as possible before seeking repairs, if they are inclined to do so for large expenses. Therefore, no significant negative air quality benefit is expected to occur. To the extent that a few motorists would actually be motivated to delay repairs because of the cost differential between new and used converters, the improved performance and durability of a new aftermarket converter over years of use (compared to the performance of a used aftermarket converter) is expected to more than compensate for any emissions disbenefit resulting from any delayed repairs.

6. **Comment:** Staff has not provided adequate factual support for the reasons behind its proposal to sunset provisions for the sale of used aftermarket catalytic converters.

“ ‘Raising the screening requirements to test used converters for comparable levels of performance regardless of costs is a regulatory possibility; however, staff believes the used converter provisions would be economically infeasible. Moreover, merely having such requirements might mislead the public that a used OEM converter business is viable in California.’” (citing Staff Report, Section V.A, p.9.) [¶] “Staff ‘beliefs’ without factual support in the record of this proceeding is merely speculation and does not meet the requirements of Government Code sections 11349 and 11349.1 wherein the ‘necessity’ for this proposal must be demonstrated by facts.” **(DEC, Brown)**

**Agency Response:** The ARB disagrees with the assertion that it has not provided factual support for staff’s statement that the cost of testing individual used catalytic converters for the levels of performance comparable to those adopted for new aftermarket converters would be prohibitively expensive (i.e., the testing costs will exceed the value of the used converters).

First, ARB provided the factual basis supporting its rationale for adopting amendments applicable to *new* aftermarket catalytic converters in Section II of the Staff Report. As explained in greater detail there, those amendments are primarily needed to control the in-use emissions from current vehicles. The adopted amendments for new aftermarket converters therefore replace the prior evaluation criteria based upon catalyst conversion efficiencies with criteria requiring that vehicle tailpipe standards comply with applicable new vehicle certification emission limits.

Second, ARB explained in Section V.A of the Staff Report (page 9) that it would be inequitable to adopt requirements for used aftermarket converters that were less stringent than those for new aftermarket converters, especially since this would undermine the benefits resulting from the new aftermarket converter requirements.

Third, ARB explained that used aftermarket converter manufacturers presently utilize test equipment that measures steady-state conversion efficiencies to screen each used converter for compliance with the current used converter criteria, and that although those methods can evaluate conversion efficiencies from 60 to 70 percent, they cannot be modified to reliably evaluate conversion efficiencies in excess of 90 percent, which is necessary to demonstrate that vehicles equipped with the used converter can meet emission standards, as is required for new aftermarket converters by the adopted amendments (Staff Report, Section V.A, p. 8). Staff also pointed out that the performance of catalytic converters when the engine is cold and during transient operations is critical to determining whether the converter is capable of adequately reducing emissions from newer technology vehicles certified to emit at very low emission levels. (Ibid).

The current test methods used for screening used aftermarket converters use a warmed-up engine running at steady state conditions and therefore cannot evaluate converter performance under these cold or transient conditions. Testing for converter performance when the engine is cold requires the test engine to be cooled for several hours between tests, dramatically decreasing the number of tests that can be run on an engine per day. Several additional test engines would be required (at substantial cost) to maintain a reasonable converter testing volume. Further, testing a converter during transient engine operating conditions requires a transient engine or chassis dynamometer, which cost typically in excess of \$250,000 to purchase and install, and more sophisticated emission measurement equipment, which is also expensive. These equipment costs are a matter of common knowledge by the regulated industry. Further, the Staff Report states that official test methods to quantify cold start and transient emission characteristics using such equipment typically cost in excess of \$1500 per test (Ibid). In light of the fact that the nature of reselling used converters requires that each converter must be tested for its remaining level of performance, the testing costs alone would multiply the cost of a converter by a factor of three to five (\$1500 in projected testing costs for used converters that currently retail for approximately \$400) (see comment 2).

Finally, staff and DEC discussed specific converter screening concepts that DEC proposed prior to the issuance of this regulatory action's rulemaking notice. A summary of the proposed concepts, and of staff's reasons for not incorporating them into its proposed rulemaking are provided in the Staff Report.

7. **Comment:** The Board should leave open a regulatory pathway that would allow used aftermarket catalytic converter manufacturers to demonstrate that they can test used converters for performance levels comparable to those applicable to new aftermarket converters. **(DEC, Brown)**

**Agency Response:** The Board's adoption of regulatory amendments that sunset the current provisions allowing the sale and use of used aftermarket catalytic converters does not constitute a permanent ban of used converters, but only establishes that any economically feasible testing concepts that may be developed in the future must be considered for adoption by the Board itself (as opposed to possible approval by the Executive Officer through authority granted by the Board).

The ARB staff is always willing to discuss and to consider new proposals by businesses wishing to offer used converters for sale in California at some point in the future. If and when new and economically viable test methods are developed, staff would consider whether to make a proposal to the Board for their adoption.

8. **Comment:** The [steady-state] conversion efficiency levels for used converters can be raised to 75 percent without significantly increasing test costs, and the warranty for such converters can be extended to 5 years or 50,000 miles. These enhancements will allow used catalytic converters to meet the proposed rules and therefore companies should not be denied the opportunity to sell these products in California. **(Brown)**

**Agency Response:** As explained in Section II of the Staff Report, catalytic converters need to be at least 95 percent efficient (higher in many cases) to bring most vehicles into compliance with their emission standards. A 75 percent efficient catalytic converter would cause tailpipe emissions to be five times higher than a 95 percent efficient converter, which means the vehicle would be emitting at 5 times its certified emission standards after a replacement part is installed. The Board adopted the regulatory amendment to sunset the sale and use of used catalytic converters based on the fact that while improving the required level of performance from 70 to 75 percent may be possible without adding significantly to costs, there is no known economically viable test procedure that would allow for converter efficiency testing in the range of 95 percent (see Agency Response to Comment 6).

Brown's proposal to extend the used converter warranty to 5 years or 50,000 miles likewise does not provide a basis upon which the proper in-use performance of used catalytic converters can be assured. The warranty would only ensure that the purchaser of a used catalytic converter would receive a free replacement if the vehicle's OBD II system indicated that the converter was malfunctioning or if the vehicle failed a tailpipe emission test during Smog Check. However, the point at which an OBD II catalyst monitoring system would detect a converter as malfunctioning would be 1.5 to 4 times higher than the emission standards, and the emissions cutpoint in the Smog Check program would be even higher. Therefore, vehicle emissions from a used converter with a 75 percent steady-state conversion efficiency will likely greatly exceed emissions from the same vehicle equipped with a

new aftermarket catalytic converter, which is designed to bring a vehicle into compliance with applicable emission standards for 5 years or 50,000 miles.

9. **Comment:** Prohibiting the sale of used catalytic converters will harm our business, but will not improve efficiencies because our products are comparable or better than new aftermarket or original equipment converters **(Brown, Miller)**

**Agency Response:** Businesses that sell used catalytic converters cannot determine how much remaining performance a used converter has when it is removed from a salvaged vehicle without testing its efficiency. Economically feasible testing methods cannot distinguish a used converter that is nearly new from one with a conversion efficiency that has deteriorated to 80 percent or less, a level that is inadequate to bring most vehicles into compliance with applicable emission standards. Therefore, companies that sell used catalytic converters cannot verify that their products do in fact perform as well or better than new aftermarket or original equipment converters.

In contrast, under the amendments adopted by the Board, manufacturers of new aftermarket catalytic converters will be building and selling products that have been demonstrated to bring vehicles into compliance with emission standards for a period of 5 years or 50,000 miles. These manufacturers will also audit their manufacturing process to ensure that production parts remain in compliance with design standards. New original equipment converter performance is demonstrated through ARB's certification process. Vehicle manufacturers must show that the converters are capable of bringing vehicles into compliance with emission standards for 100,000 miles or more. The staff therefore disagrees that used catalytic converters can control vehicle emissions as well as new aftermarket catalytic or original equipment converters.

10. **Comment:** ARB staff has underestimated the impact of eliminating used aftermarket catalytic converters on employment. As many as 500 people and ten companies would be affected when considering the impact on installers, distributors, testers, and recertifiers. **(Miller)**

**Agency Response:** ARB staff's estimate of the impact of its proposal on employment is based on the fact that ARB has currently only approved three companies to sell used converters, and their combined total sales volume is estimated at no more than two percent of the statewide market for replacement converters. The staff's estimates did not include used converter installers or distributors because these businesses typically sell and/or install new aftermarket converters in addition to used converters. The adopted regulatory amendments do not affect the overall number of California vehicles that will require a replacement converter. Without the availability of used converters, staff expects that installers and distributors will simply supplant

the portion of their work that involves used converters with new aftermarket or original equipment converters. Also, obtaining used catalytic converters for the purposes of recycling the noble metals is another business facet that would not be impacted by the adopted regulatory revisions.

### **C. OTHER COMMENTS**

Three comments were received from individuals that were not specifically directed at the proposed amendments or to the procedures used by ARB in proposing or adopting the proposed amendments. Specifically, one commenter requested the Board to consider requiring that “all motor oil sold in the state to contain F-ZDDP rather than ZDDP. This product (TechroBond is one example) reduces sulfur and phosphorous emissions, and extends the life of catalytic converters.” Because this rulemaking does not include any amendments to oil or oil additive specifications, the comment is beyond the scope of the rulemaking.

One commenter stated his disappointment with the Clean Car Buyer’s Guide that ARB posts on its internet website for purposes of public information, but made no objection or recommendation relevant to this regulatory action pertaining to new and used aftermarket catalytic converters.

One commenter requested ARB to review an internet web site that contained information on business opportunities purportedly related to motor vehicle fuels, but made no objection or recommendation relevant to this regulatory action pertaining to new and used aftermarket catalytic converters.