State of California
AIR RESOURCES BOARD

Resolution 07-48

October 25, 2007

Agenda Item No.: 07-10-7

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

WHEREAS, in section 43000 of the Health and Safety Code, the Legislature has found and declared that the emission of air pollutants from motor vehicles is the primary cause of air pollution in many parts of the state, and in sections 39002 and 39003 of the Health and Safety Code, has charged the Board with the responsibility of systematically addressing the serious air pollution problem caused by motor vehicles;

WHEREAS, in section 43000.5 of the Health and Safety Code, the Legislature has further found and declared that the attainment and maintenance of air quality standards will necessitate the achievement of substantial improvements in the durability of vehicle emissions systems;

WHEREAS, section 43011 of the Health and Safety Code authorizes the Board to establish criteria for the evaluation of the effectiveness of motor vehicle pollution control devices;

WHEREAS, sections 27156, 38391, and 38395 of the California Vehicle Code prohibit the installation, sale, offer for sale or advertisement of any device, apparatus, or mechanism intended for use with, or as part of any required motor vehicle pollution control device or system which alters or modifies the original design or performance of any such motor vehicle pollution control device or system unless the Board finds that the device, apparatus, or mechanism either does not reduce the effectiveness of any required motor vehicle pollution control device or does not result in emissions from a modified vehicle which exceed the applicable emission standards for the vehicle;

WHEREAS, on August 19, 1988, the Board adopted regulations regarding new and used aftermarket catalytic converters offered for sale and use in California that incorporated specific evaluation procedures for new aftermarket non-original equipment catalytic converters ("California Evaluation Procedures for New Aftermarket Non-Original Equipment Catalytic Converters," adopted August 19, 1988), clarifying that used original equipment catalytic converters may not be sold or used in California without first receiving an exemption from the anti-tampering prohibitions of Vehicle Code

section 27156 and 38391, and incorporating specific evaluation procedures for used original equipment oxidation catalytic converters that were consistent with those set forth in the interim enforcement policy "Enforcement Policy for the Sale and Use of Aftermarket Catalytic Converters," (51 Fed. Reg. 28114 (August 5, 1987) of the U.S. Environmental Protection Agency (U.S. EPA));

WHEREAS, California's current aftermarket converter regulations require that new aftermarket converters demonstrate the ability to meet fixed conversion efficiencies for exhaust pollutants for a period equivalent to 25,000 miles of usage;

WHEREAS, the performance and durability of motor vehicle emission controls have significantly improved, and emissions standards for light- and medium-duty vehicles have decreased dramatically through ARB's low emission vehicle (LEV I and LEV II) requirements since the Board adopted the current aftermarket converter regulations, and the performance requirements for new aftermarket converters likewise need to be updated;

WHEREAS, staff has proposed the adoption of amendments to California's existing aftermarket converter regulations that would change the new aftermarket converter performance requirements from standards based on converter efficiency to standards based on vehicle tailpipe emission levels for a period equivalent to 50,000 miles of use, that would require manufacturers to demonstrate that new aftermarket converters are compatible with catalytic converter malfunction detection monitoring that is part of the on-board diagnostic system (OBD II system) on 1996 and newer model year vehicles, that would extend the current warranty period for new aftermarket converters from 25,000 miles to 5 years or 50,000 miles, establish warranty data reporting requirements, require more informative labeling on the shell of the catalytic converter, and establish requirements for quality control checks on the converter manufacturing process;

WHEREAS, staff has also proposed the adoption of amendments that would sunset existing provisions allowing the sale of used original equipment catalytic converters for California vehicles effective July 1, 2008 or 30 days after the amendments are filed with the Secretary of State's office, whichever date is later;

WHEREAS, the proposed amendments to title 13, CCR, section 2222, are set forth in Attachment A hereto;

WHEREAS, the Board routinely adopts test procedures in tandem with the regulations to alert parties of the manner in which ARB will determine compliance with standards and technical requirements;

WHEREAS, the staff proposes that the Board adopt new criteria and procedures to evaluate the compliance of new aftermarket catalytic converters with the criteria for receiving an exemption from the prohibitions of Vehicle Code sections 27156 and 38391, as set forth in Attachment B hereto;

WHEREAS, the Board has considered the effects of the proposed requirements on the economy of the State;

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

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

WHEREAS, the Board finds that:

Despite advances in reducing emissions from mobile sources, stationary sources, and area sources, California still has the most severe air pollution problems in the United States;

To meet federal and California Clean Air Act emissions reductions requirements, ARB must continue to seek reductions from all sources under its authority, including in-use passenger cars and light- and medium-duty trucks;

Since the Board's adoption of the current aftermarket converter regulations, the performance and durability of motor vehicle emission controls have significantly improved, and the emissions standards for light- and medium-duty vehicles have become significantly more stringent as a result of the Board's adoption of the LEV I and LEV II requirements;

Since the mid-1970s, catalytic converters have become critical components of the emissions control system for gasoline-fueled motor vehicles; original equipment manufacturer (OEM) catalyst performance has significantly increased since the Board's adoption of the current aftermarket converter regulations because of improved washcoat formulations, precious metal loading, and substrate designs that provide for higher conversion efficiencies and faster warm-up times; these improvements, in conjunction with more sophisticated vehicle fuel control systems, are the primary factors that have allowed vehicle manufacturers to comply with California's LEV I and LEV II requirements;

The current aftermarket converter regulations require manufacturers to demonstrate that new aftermarket converters will reduce engine out emissions by at least 60 to 70 percent for 25,000 miles of vehicle use; however, vehicles currently being sold in California can require catalyst conversion efficiencies in excess of 95 percent in order to comply with the more stringent emission standards that have been adopted since the late 1980s;

Current OEM catalytic converters are designed and certified to last for at least 100,000 to 150,000 miles on newer models, but their control efficiencies can deteriorate with usage due to heat, vibration, and poisoning to levels such that vehicles may not be able to meet Smog Check emission limits and will therefore require replacement; however, OEM replacement converters are typically expensive, costing from $500 to over $1000;

After the Board adopted the current aftermarket converter regulations, it adopted regulations requiring 1996 and subsequent model-year light and medium-duty vehicles to incorporate On-Board Diagnostic II (OBD II) systems that use the vehicle's on-board computer to monitor the performance of its emission control systems, including the catalytic converter; new and used aftermarket catalytic converters exempted under the existing criteria are generally not compatible with vehicle OBD II systems because their level of performance, even when relatively new, can fall below the levels at which the OBD II system will indicate a malfunction;

The current aftermarket converter regulations do not contain provisions requiring new or used aftermarket converters to demonstrate compatibility with OBD II systems, and a need presently exists in the marketplace for such compatibility;

Staff has drafted interim specifications and test procedures for new aftermarket converters that are intended to ensure they are compatible with OBD II system equipped vehicles, and most aftermarket converter manufacturers have agreed to use these procedures to produce new aftermarket converters capable of allowing OBD II-equipped vehicles to meet emission standards for a period of 5 years or 50,000 miles; these converters are also designed to ensure that vehicle OBD II systems do not falsely indicate a malfunction based on replacement of the OEM converter; the proposed amendments for new aftermarket catalytic converters are largely based on the same concepts initially developed in the context of these agreements;

The current aftermarket converter regulations need to be amended to ensure that the in-use emission performance of light- and medium-duty vehicles is not adversely compromised by the use of non-OEM replacement catalysts;

Ensuring that approved aftermarket converters are properly installed in vehicles is also critical for realizing the full expected benefits of the proposed amendments, and the proposed procedures therefore set forth requirements applicable to installers of approved aftermarket converters;

The proposed amendments would require manufacturers to extend the warranty on new aftermarket converters from the current 25,000 mile warranty period to a period of either 5 years or 50,000 miles;

The proposed amendments would also establish warranty data reporting requirements, require more informative labeling on the shell of the catalytic

converter, and establish requirements for quality control checks and reporting on a quarterly basis to ensure that production components actually meet the specifications upon which ARB approval is based;

New aftermarket converters meeting the proposed amendments would be designed to be twice as durable as those meeting the existing requirements, which will likely reduce vehicle owners' needs to purchase a second or third aftermarket catalyst during the vehicle's lifetime;

The proposed amendments would likely result in increased prices for new aftermarket converters, but in light of the corresponding increases in converter durability and emissions performance, costs will likely remain reasonably consistent with historical costs, when considering average increases in vehicle values over time;

The current aftermarket regulations allow used catalytic converters to be sold in California provided they are first individually screened for significant deterioration and chemical poisoning, but the extended emission performance of each used converter is otherwise largely unknown;

Because every used converter must be individually tested to determine if it performs satisfactorily, the test procedure used for screening must be inexpensive relative to the value of the converters or the testing costs will drive up the price of used converters beyond what the market will permit;

Resellers of used converters are presently using basic test methods to evaluate catalyst steady-state conversion efficiencies, but such methods cannot be modified to reliably evaluate whether a used converter is capable of achieving the substantially higher levels of conversion efficiency that new aftermarket catalytic converters would have to meet under the proposed amendments;

The test methods presently used by used converter resellers also cannot evaluate converter performance during transient or cold start vehicle operating conditions without correspondingly greatly increasing the cost of the test;

No economically feasible screening method has been identified that can reliably evaluate whether a used converter will perform at levels comparable to those required of new aftermarket converters produced in compliance with staff's proposed amendments;

Utilizing a vehicle's OBD II system to evaluate a used converter's performance would not provide an affirmative determination that a used converter would reduce a vehicle's emissions to its certification emission standards or that the converter has significant life remaining;

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;

The proposed amendments would therefore eliminate existing provisions allowing the advertisement, sale, offer for sale or installation of used catalytic converters;

The proposed prohibition of the advertisement, sale, offer for sale, or installation of used catalytic converters may result in situations where an owner seeking to replace a converter must purchase a new OEM converter, but the equitable considerations providing for significant and cost-effective emission reductions for the vast majority of California vehicles outweighs the impact of higher catalytic converter replacement costs that might occur for a relatively few vehicles;

The proposed amendments are necessary and appropriate in that they alert parties of the manner in which ARB will determine compliance with the aftermarket regulation and incorporated evaluation procedures for new aftermarket converters;

The proposed amendments are estimated to reduce hydrocarbon (HC) and oxides of nitrogen (NOx) emissions from on-road vehicles by approximately 36.6 tons per day by the year 2012;

The economic and fiscal impacts of the proposed amendments have been analyzed as required by California law, and the conclusions and supporting documentation for this analysis are set forth in the Initial Statement of Reasons, as supplemented by Staff's presentation at the hearing of this item;

The proposed amendments will not have any significant adverse impact on the environment;

WHEREAS, the Board further finds that:

The adoption of the proposed amendments will not have a significant adverse environmental impact and is projected to positively impact air quality;

The reporting requirements of the proposed amendments are necessary for the health, safety, and welfare of the people of the state;

The proposed amendments could result in the elimination of a small number of jobs within the state;

The proposed amendments will not result in the creation of new jobs or businesses within the State of California, or the ability of California businesses to compete with businesses in other states; and

No alternative considered by the Board would be more effective in carrying out the purpose for which the regulations are proposed or would be as effective and less burdensome to affected private persons.

NOW, THEREFORE, BE IT RESOLVED that the Board hereby adopts the proposed amendments to section 2222, title 13, CCR, as set forth in Attachment A hereto, and the incorporated "California Evaluation Procedures for New Aftermarket Catalytic Converters," as set forth in Attachment B hereto.

BE IT FURTHER RESOLVED that the Board hereby determines that the amendments adopted herein will not cause California motor vehicle emission standards, in the aggregate, to be less protective of public health and welfare than applicable federal standards, will not cause the California requirements to be inconsistent with section 202(a) of the federal Clean Air Act, and raise no new issues affecting previous waiver determinations of the Administrator of the Environmental Protection Agency pursuant to section 209(b) of the Clean Air Act.

BE IT FURTHER RESOLVED that to the extent it is necessary, the Executive Officer shall forward the amendments to the United States Environmental Protection Agency with a request for a waiver or confirmation that the regulations are within the scope of an existing waiver of federal preemption pursuant to section 209(b) of the federal Clean Air Act, as appropriate.

I hereby certify that the above is a true and correct copy of Resolution 07-48, as adopted by the Air Resources Board

Lori Andreoni

Lori Andreoni, Clerk of the Board

Resolution 07-48

October 25, 2007

Identification of Attachments to the Resolution

Attachment A: Proposed amendments to title 17, California Code of Regulations, section 2222, as set forth in Attachment 2 to the Staff Report: Initial Statement of Reasons, released September 7, 2007.

Attachment B: Proposed amendments to the "California Evaluation Procedures for New Aftermarket Catalytic Converters" as set forth in Attachment 1 to the Staff Report: Initial Statement of Reasons released September 7, 2007.