State of California
AIR RESOURCES BOARD

STAFF REPORT: INITIAL STATEMENT OF REASONS
FOR PROPOSED RULEMAKING

PUBLIC HEARING TO CONSIDER PROPOSED CALIFORNIA EVALUATION PROCEDURES FOR AFTERMARKET CRITICAL EMISSION CONTROL PARTS ON HIGHWAY MOTORCYCLES

Date of Release: October 24, 2008
Scheduled for Consideration: December 11, 2008

TABLE OF CONTENTS

EXECUTIVE SUMMARY

The Air Resources Board (ARB) has been regulating emissions from highway motorcycles since 1978. Beginning with the 2004 model year, ARB's highway motorcycle emission standards became more stringent, and this standard was further increased in stringency beginning with the 2008 model year. Motorcycle manufacturers have been able to comply with these increasingly more stringent standards by using cost-effective technologies in engine design, fuel injection, closed-loop control systems, and more recently, catalytic converters. Eighty-seven (87) percent of new 2008 model year highway motorcycles certified in California are equipped with catalytic converters incorporated in their original exhaust systems.

Highway motorcycle owners have commonly customized their motorcycles as a way of expressing their individuality and lifestyle. One of the more popular modifications today is replacement of the original exhaust system with aftermarket exhaust systems and parts. A 2003 Motorcycle Industry Council survey revealed that 38 percent of all highway motorcycles had modified exhaust systems. According to a recent ARB survey of 2003 to 2007 model year highway motorcycles, 85 percent of newer motorcycles in Southern California have had some type of exhaust modification before the original emission warranty had expired. Aftermarket exhaust systems on highway motorcycles can range from straight pipes without any catalysts to systems with catalysts that have not demonstrated durability and/or the ability to effectively control emissions.

California Vehicle Code sections 27156 and 38391 prohibit the sale, offer for sale, advertisement, or installation of any device that alters the design or performance of any required motor vehicle pollution control device or system unless that device has been exempted by ARB. In the past, most highway motorcycle aftermarket parts have not been considered to affect emissions, but that is no longer the case for aftermarket parts for newer highway motorcycles that are equipped with catalysts.

Highway motorcycle aftermarket part manufacturers and retailers have a significant presence in California. Approximately 30 of the 60 aftermarket parts manufacturers and more than 1,000 part retailers are located in California. These companies are primarily small businesses, and have a long history of providing exhaust systems to their customers. In the past, these manufacturers were able to provide unique exhaust systems that served as replacements to original manufacturer systems because they did not affect emissions. However, with the introduction of exhaust catalytic converters and related emission control components, the sale and installation of replacement exhaust systems not equivalent in performance to the original exhaust system is considered tampering and result in non-compliant motorcycles. Manufacturers of aftermarket parts for highway motorcycles have requested that ARB establish exemption procedures that would allow them to legally sell aftermarket exhaust systems by demonstrating that the aftermarket exhausts do not increase emissions.

ARB's present aftermarket parts regulation contain provisions applicable to aftermarket catalytic converters, but these were developed to address issues raised in the context of passenger cars and light- and medium-duty vehicles; there are no regulations addressing aftermarket catalytic converters and exhaust systems for highway motorcycles. These parts are considered aftermarket critical emission control parts (defined as parts that are primarily designed to reduce emissions and are necessary for vehicles to comply with emission standards). Other examples of aftermarket critical emission control parts for highway motorcycles include oxygen sensors and hydrocarbon adsorbers.

To help maintain the emission benefits of certified highway motorcycles, while also providing aftermarket part manufacturers a means to sell legally exempted aftermarket parts, staff is proposing the adoption of new exemption procedures for evaluating and exempting aftermarket critical emission control parts on highway motorcycles in California. The proposed procedures contain requirements that are similar to those applicable to the certification of new highway motorcycles. These include durability demonstration and emission testing, emission defects warranty and recordkeeping, audit testing, warranty defects reporting, and recall procedures. The proposed procedures would require that an exempted aftermarket critical emission control part demonstrate equivalent durability, functionality, and emissions compliance characteristics as the original emission control part it replaces.

Part manufacturers are estimated to only incur costs if they choose to voluntarily comply with the regulation. The proposed procedures are intended to allow them to legally enter into an existing sales market if they believe profits can be generated. Therefore, the only associated costs required by the procedures would be $100 for the preparation and submittal of each exemption application. However, due to associated development costs, motorcycle owners would likely see the price of an average aftermarket exhaust system increase by $100 to $150. Non-compliant aftermarket exhaust systems currently sell for $500 and up. Dealers and retailers that sell aftermarket critical emission control parts would also incur annual costs of $60 per year to document the sale of aftermarket critical emission control parts. The total statewide dollar costs to businesses and individuals as a result of the proposal would be $358,000 over a five year period.

If the proposed provisions are not adopted, motorcycle owners may continue to purchase and install non-exempted aftermarket parts that result in higher emissions. For example, a 2008 model motorcycle with fuel injection and catalytic converter that has been tampered will emit approximately 10 times more emissions than a non-tampered motorcycle.[1]

[1] EMFAC2007, Technical Support Document section 4.11 On-road Motorcycle Activity, Technology Groups, and Emission Rates, http://www.arb.ca.gov/msei/onroad/doctable_test.htm
Appendix 4.11-D, comparing FTP Bag 1 HC emission zero mile emission rates.

I. Introduction

California Vehicle Code sections 27156 and 38391 prohibit the sale, offer for sale, advertisement or installation of any device that alters the design or performance of any required motor vehicle pollution control device or system. Air Resources Board (ARB) is authorized to exempt non-original equipment components from this prohibition if it finds that such components will not reduce the effectiveness of any required pollution control device or will not cause vehicle emissions to exceed applicable standards. Pursuant to this authority, ARB has adopted regulations that establish criteria for exempting add-on and modified parts such as fuel injection systems, superchargers, and controllers from the anti-tampering prohibitions, so they can be sold and used in California.

ARB first adopted regulations applicable to aftermarket parts in 1977. In 1989, ARB adopted regulations for aftermarket catalytic converters, to address issues regarding durability, lifetime and effectiveness that were specific to aftermarket converters. The aftermarket converter regulations were driven by the fact that converters had become (and continue to be) the single most important technology for controlling emissions from motor vehicles. ARB recently amended the aftermarket converter regulations in 2007 to address increases in vehicle emission control durability, more stringent emission standards, and the implementation of on-board diagnostic systems in vehicles. However, both the 1989 and 2007 regulations were developed to address converters used on passenger cars and light- and medium-duty vehicles, and are not applicable to catalytic converter-equipped exhaust systems used on motorcycles.

Consequently, no exemption procedures currently exist for non-OEM aftermarket catalytic converters for highway motorcycles. These parts are considered to be aftermarket critical emission control parts. Other examples of aftermarket critical emission control parts for highway motorcycles include oxygen sensors and hydrocarbon adsorbers. These parts are primarily designed to reduce emissions and are necessary for vehicles to comply with emission standards.

Manufacturers have requested ARB to adopt provisions allowing the sale and installation of aftermarket critical emission control parts on highway motorcycles. They have also asked ARB to allow sale of exempted aftermarket parts within the motorcycle's emission warranty period, which is not allowed for aftermarket catalysts used on passenger cars and trucks. They cite the current practice and high rate of exhaust system replacement while the motorcycle is relatively new as a reason to allow exempted exhaust systems and related emission control parts to be sold within the warranty period. The absence of an exemption process for aftermarket critical emission control parts would result in the continued illegal use and sale of aftermarket exhaust systems that do not contain catalytic converters, while also preventing part manufacturers who wish to develop aftermarket exhaust systems that do not degrade emissions from doing so.

II. Background

Owners of highway motorcycles have historically engaged in customizing their motorcycles. In American popular culture, motorcycle ownership is synonymous with personal freedom, individual expression, and sometimes a rebellious attitude. Motorcycle owners are usually very passionate about their lifestyle, and this passion is expressed not only in the technological choices they make for their bikes, but is also reflected in the comfort and aesthetic aspects related to them. Motorcycle modifications visibly reflect this enhanced attitude of becoming "one with the road," and many motorcycle owners therefore desire aftermarket parts that are lighter, better performing, and better looking than the originals. Owners want this connection from the start, and therefore perform part modifications while their motorcycles are brand new, or at least relatively new.

The Motorcycle Industry Council (MIC), an association representing various motorcycle original manufacturers (OEMs), part manufacturers, and distributors, conducted a motorcycle owner survey in 2003 that revealed that exhaust and/or muffler modifications alone existed in 38 percent of all highway motorcycles.[2] Broken down by specific motorcycle type, these modifications occurred most in sport bikes (50 percent) and cruisers (44 percent). To determine the rate at which these modifications were occurring in newer motorcycles that are typically equipped at the time of sale with a catalytic exhaust system, staff conducted its own informal survey in Southern California of 79 owners of 2003-2007 model year highway motorcycles (primarily Harley-Davidson models). Staff's survey revealed that 85 percent of those motorcycles had at least some type of exhaust or engine modification.

Historically, exemption requests for aftermarket parts for highway motorcycles have not been common because such parts were not expected to affect emissions. Many aftermarket parts such as saddlebags, handlebars, foot pegs, and mirrors are purchased solely for utility or cosmetic reasons and have no emissions impact. ARB first adopted emission standards and associated test procedures applicable to 1978 and subsequent model year on-road motorcycles in 1975, and has amended these standards in 1984. Highway motorcycles could certify to the earlier emission standards through the use of relatively simple controls, such as engine modifications to carbureted fuel systems and ignition timing for exhaust emissions and carbon canisters for evaporative emissions compliance. Most aftermarket parts were not expected to affect the emission control-related parts of the motorcycle. Customized exhaust systems were, for the most part, considered replacement parts because most were slip-on type or replacement of existing exhaust pipes that did not contain catalytic converters in them.

Beginning with the 2004 model year, ARB's motorcycle emission standards became more stringent (an exhaust emission standard of 1.4 grams/kilometer for hydrocarbons plus oxides of nitrogen, the first major reduction since the 1988 model

[2] "MIC 2003 Motorcycle/ATV Owner Survey," Table 144-1, Motorcycle Industry Council, 2004.

year). The emission standard for 2008 and subsequent model year motorcycles was lowered to 0.8 grams/kilometer for hydrocarbons plus oxides of nitrogen. Motorcycle manufacturers have been able to comply with these more stringent standards through changes in engine design, and use of fuel injection, closed-loop control systems, and catalytic converters. Generally, this has meant the increased integration of critical emission control parts, such as oxygen sensors and catalytic converters for exhaust emissions compliance into motorcycle exhaust systems, and hydrocarbon adsorbers for evaporative emissions compliance into air intake systems. Certification sales data (Table 1 below) indicates that the use of catalytic converters alone in highway motorcycles increased by almost five times percentage-wise between the 1996 and 2008 model years (from 18 to 87 percent).

Table 1 – Projected Sales of Catalyst-Equipped Highway Motorcycles in California* (1996-2008 Model Years)

Model Year	Total Number of Highway Motorcycles Sold	Catalyst-Equipped	Non-Catalyst-Equipped	% of Highway Motorcycles with Catalysts
1996	38,558	6,821	31,737	17.7%
1997	42,107	8,479	33,628	20.1%
1998	42,553	10,751	31,802	25.3%
1999	59,346	14,148	45,198	23.8%
2000	44,238	15,561	28,677	35.2%
2001	48,156	16,369	31,787	34.0%
2002	66,141	26,789	39,352	40.5%
2003	84,842	31,312	53,530	36.9%
2004	80,399	52,941	27,458	65.8%
2005	79,166	54,395	24,771	68.7%
2006	117,844	76,996	40,848	65.3%
2007	199,943	130,297	69,646	65.2%
2008	106,309	92,503	13,806	87.0%

* Based on ARB new vehicle certification data.

Despite the increased usage of critical emission control parts on highway motorcycles, only limited numbers of aftermarket parts for highway motorcycles have been exempted by ARB. This was partly because enforcement of the emission standards in-use was not widespread due to a lack of an Inspection and Maintenance program, i.e., “Smog Check,” for motorcycles. Also, there was little or no visual inspection of motorcycle aftermarket parts by ARB staff at either the dealer or owner levels to verify that the parts had been exempted. In recent years, ARB has increased its inspections of dealers and retailers selling motorcycle aftermarket parts. These activities have resulted in more part manufacturers requesting aftermarket exemptions for their products.

The increasing usage of more complex emission control systems, combined with the increased presence of ARB enforcement actions, has led manufacturers of

motorcycle aftermarket parts to request that ARB develop a suitable evaluation process that would allow them to legally sell aftermarket exhaust systems that contain critical emission control parts such as aftermarket catalytic converters. ARB's current evaluation procedures are not well suited to evaluate the effectiveness of highway motorcycle catalytic converters.

ARB has exemption procedures for aftermarket catalytic converters used on light and medium-duty vehicles, but those procedures only allow aftermarket converters to be installed in vehicles that are beyond the coverage of the OEM catalyst warranty period (typically after 70,000 miles of operation) and where a legitimate need for the replacement converter has been established and documented, such as a defective or missing converter (which is usually detected through a Smog Check test failure.) Aftermarket catalytic converters for light-duty vehicles are typically approved for vehicles four model years old and older.

To address the need for an exemption procedure for aftermarket exhaust systems and related emission control parts for highway motorcycles, ARB is proposing new evaluation procedures. These procedures were developed after considering the issues unique to aftermarket part sales for highway motorcycles, and the procedures therefore allow exempted parts to replace fully functional OEM emission control systems within the original emission warranty period. The procedures also incorporate safeguards to ensure that any exempted parts do not reduce the effectiveness of any required pollution control device or cause motorcycles to exceed applicable emission standards, as required by Vehicle Code sections 27156 and 38391. Such safeguards essentially mirror the certification requirements applicable to OEM motorcycle manufacturers.

III. Comparable Federal Regulations

The United States Environmental Protection Agency (U.S. EPA) has adopted regulations applicable to aftermarket parts in Title 40, Code of Federal Regulations Part 85. However, these regulations only establish a voluntary self-certification program. In contrast, California law and ARB's program require aftermarket part manufacturers to receive and obtain an exemption before they can sell parts in California.

Aftermarket catalytic converters are legal for sale federally under an enforcement policy established by U.S. EPA in 1986, but the policy does not constitute a regulation. Moreover, U.S. EPA's policy was established to address issues regarding aftermarket converters for light-duty vehicles and light-duty trucks, not highway motorcycles. To date, U.S. EPA has not issued regulations specific to aftermarket catalytic converters, and has not announced any plans to do so in the future.

IV. Proposed Regulatory Provisions

A. Applicability

The proposed procedures would establish exemption criteria applicable to aftermarket critical emission control parts for use on highway motorcycles in California. An aftermarket critical emission control part is any add-on or modified part that is intended to modify or replace any original part designed and used primarily for the reduction of emissions. Examples of such parts are catalytic converters, oxygen sensors, and hydrocarbon adsorbers. The proposed procedures would not apply to non-critical aftermarket add-on and modified parts, such as superchargers, fuel injectors, controllers, etc. as these parts will continue to be considered for exemption under ARB's existing exemption procedures for aftermarket parts.[3]

B. Emissions Testing & Durability Requirements

The proposed procedures establish emissions testing and durability requirements that are very similar to those in the new highway motorcycle certification requirements. An aftermarket parts manufacturer would be required to identify each highway motorcycle engine family that may use its aftermarket critical emission control part. The manufacturer would then install its part in a "worst case" motorcycle, and accumulate mileage in accordance with the service accumulation requirements applicable to new motorcycle certification to demonstrate durability and generate deterioration factors from the emission test results. To be eligible for an exemption, the modified motorcycle's exhaust emissions, with the deterioration factors applied, would have to meet the applicable useful life emission standards. Both exhaust and evaporative emission testing would be required, but the evaporative emission requirement may be waived if the manufacturer can provide technical justification that the part does not affect evaporative emissions. No issues were raised by parts manufacturers during the two public workshops held by ARB on April 9, 2008, and August 20, 2008, respectively, or in individual meetings regarding these testing requirements.

The proposed procedures would allow ARB to conduct confirmatory tests within 30 days of the submittal of the emission data. To reduce testing burdens, the procedures would also allow carry-over and carry-across of emissions data to other similar applications, subject to an advance approval by the Executive Officer.

C. Emissions Defect Warranty & Recordkeeping

Aftermarket critical emission control part manufacturers would be required to warrant that their parts are designed and manufactured to comply with the requirements of the proposed procedures, and are free from defects in materials and workmanship

[3] "Procedures for Exemption of Add-On and Modified Parts," Air Resources Board, adopted November 4, 1977, and as amended on June 1, 1990.

which cause the part to fail to conform with the requirements of these procedures or to cause damage to any original part on the highway motorcycle. This warranty is similar to the emissions defect warranty that new highway motorcycle manufacturers are required to provide in title 13, CCR section 2036(c).

The proposed emission defects warranty for an aftermarket part installed on a highway motorcycle within four years of its original purchase would extend to a maximum of five years or original warranty period mileage specific to the motorcycle class in question, whichever occurs first. For a class I motorcycle, the warranty period mileage is 12,000 kilometers (km) (7,456 miles), class II is 18,000 km (11,185 miles), and class III is 30,000 km (18,641 miles). The emission defects warranty for an aftermarket part installed on a highway motorcycle more than four years from its date of original purchase would extend to three years or half the original warranty period mileage, whichever occurs first.

The proposed procedures would also require installers of aftermarket critical emission control parts to warrant that they have installed the part according to the part manufacturer's specified instructions and that the installation will not cause the part to fail to conform with the requirements of the procedures or to cause damage to any original part on the highway motorcycle. The installation warranty would extend two years or 12,000 km (7,456 miles) whichever occurs first. This coverage was reduced from staff's original proposal after industry pointed out that installation defects are usually detected shortly after an aftermarket part is installed.

Finally, the proposed procedures would require manufacturers to supply a warranty registration card with each aftermarket critical emission control part. The registration card would include the general terms and conditions of applicable emission warranties, and request information from the purchaser that is needed to notify the purchaser in the event of a warranty claim or a recall action. Manufacturers would be responsible for ensuring that at least 50 percent of registration cards are returned by customers, and would be required to implement measures, such as offering product incentives and inserting various tags or labels with the aftermarket critical emission control part reminding purchasers to complete their cards, to increase the return rates. Staff proposed the 50 percent warranty card return requirement in response to industry comments that part manufacturers only sell their products to distributors and because parts manufacturers do not directly deal with parts purchasers, they would not be able to trace and locate purchasers in the event of a recall action. Manufacturers would also be allowed to alternatively comply with the 50 percent return rate requirement if they could demonstrate they could accurately locate 50 percent of the part purchasers irrespective of the number of warranty cards returned.

Manufacturers and installers would be required to retain records of sales and/or installation of aftermarket critical emission control parts for a minimum of five years after sale or installation of the part.

Issues related to the 50 percent warranty card return and recordkeeping requirements were raised at ARB's second public workshop, and are discussed in section V. of this report.

D. Exemption Labeling

The proper labeling of an aftermarket critical emission control part is essential to facilitate identification that a part is legal for use in California. The proposed procedures would require part manufacturers to stamp or emboss the following information on the part: the part manufacturer's name, the device name and model number, and the Executive Order number. All information must be visible and readable. If the part is too small for the required information to be stamped or embossed, the manufacturer would be required to supply a legible identification plate or label with instructions on the location on which the label will be permanently affixed.

E. Application Submittal

Manufacturers initiate ARB approval process for aftermarket critical emission control parts by submitting an application for exemption. The proposed procedures specifically list the information and data that must be included in the application. An exemption Executive Order will be issued after the submitted test data and information have been reviewed and determined to comply with all the requirements in the procedures. Once a manufacturer is issued an Executive Order for an aftermarket critical emission control part that is designed or intended for installation on specified motorcycle models, that manufacturer can sell and install that part until and unless it needs to update the Executive Order to incorporate changes in part design that could affect emissions or to add other motorcycle models. Although the proposed procedures do not require them to do so, part manufacturers are encouraged to submit a "Letter of Intent" to the Executive Officer before submitting an application for exemption and before conducting any emissions testing or service accumulation. The letter should list the names and types of aftermarket critical emission control parts that the manufacturer intends to seek exemptions for, the applicable motorcycle engine families, and the recommended test vehicle selections. This advance notification will allow staff to provide feedback whether the test vehicles are properly selected and whether the test plan is consistent with the requirements in the procedures, and could therefore prevent manufacturers from unnecessarily accruing test expenses. Advance notification will also allow ARB to allocate adequate staff resources to review the forthcoming applications in a timely manner.

F. Audit Reporting and Testing

Manufacturers would be required to submit quarterly reports that provide the total number of exempted parts produced, and the total number of parts sold or installed in California with the corresponding vehicle identification numbers as determined by

warranty registration cards or other satisfactory methods. ARB could then use these reports to determine if and when audit testing of an aftermarket critical emission control part should be conducted.

Audit testing would be ARB's primary means of ensuring that production parts are identical in all material respects to an exempted part, and that production parts comply with applicable emission standards. The proposed procedures would allow staff to select up to five production parts per part manufacturer per year for audit testing. These limits were set in recognition that the majority of manufacturers are small businesses and have limited economic resources. Further, to minimize the cost impacts to manufacturers ARB would conduct audit tests at its own laboratory or at contracted facilities, and would bear all audit-testing related expenses, including motorcycle procurement and maintenance, if the part complies with all applicable emission standards. If a part fails to meet applicable emission standards, the part manufacturer would be required to compensate ARB for the audit test costs.

To ensure that the audit testing results accurately reflect the emissions performance of the aftermarket critical emission control part being tested, all highway motorcycles selected for testing would be baseline tested in stock, emission-certified configuration and have baseline emissions that are typical for that make, model and year of highway motorcycle before the motorcycle can be selected for testing. Manufacturers would be invited to observe any audit testing performed by ARB.

G. Warranty Reporting and Recall/Corrective Action

The proposed procedures establish warranty claims reporting requirements that are analogous to those applicable to new highway motorcycle OEMs. The warranty reporting requirements require manufacturers to review all emission-related warranty claims on a regular basis to determine the number of repairs or replacements made for each component. When an emission control component's reporting rate becomes excessive, the defect is considered to be systemic in nature and additional activity is required of the manufacturer. Reporting of warranty claims is only required when unscreened claims reach four percent or 10 highway motorcycles, whichever is greater. Once unscreened claims reach ten percent or 20 highway motorcycles, whichever is greater, the part manufacturer would have to submit a supplemental report. The supplemental report would require screening of non-valid emission claims. Non-valid claims would include claims related to cosmetic defects, improper maintenance, neglect, and abuse. If the number of valid claims reaches or exceeds four percent or 10 motorcycles, whichever is greater, then a recall action would be triggered.

The proposed procedures would also establish in-use recall provisions that are again analogous to those applicable to new highway motorcycle OEMs. However, the proposed recall provisions contain provisions to accommodate those manufacturers that do not have a dealer network to perform replacement or repair of defective aftermarket critical emission control parts. First, because owner

installation of motorcycle aftermarket parts is common (many parts utilize simple "screw-in" or "bolt-on" type of assemblies that typically require little technical expertise), the recall provisions allow a manufacturer to supply free replacement parts to motorcycle owners and to have the owners perform the replacement of the part themselves. Second, in light of the fact that there is currently no Smog Check program requirement applicable to highway motorcycles, and that it is therefore difficult to verify that motorcycle owners have properly performed required replacements, manufacturers that elect to and are approved to utilize this type of corrective action would have to provide ARB with plans on how they intend to ensure that owners will perform the replacement within a designated time (such as providing incentives and requiring the return of the defective parts.)

V. Issues Regarding the Proposal

The following issues were raised at ARB's second public workshop held on August 20, 2008. Issues raised during the first public workshop on April 9, 2008, were generally resolved through discussions with the affected aftermarket parts industry and by presenting subsequent modifications to the proposal at the second workshop.

A. Warranty Registration Card Returns

Although many manufacturers did not express concerns regarding the proposed requirement for manufacturers to ensure a 50 percent return rate of warranty cards (as described in section IV.C. of this staff report), some manufacturers were concerned that this return rate could be difficult to meet, especially in an industry where a 10 percent return rate is currently considered a success. MIC expressed that even if a 50 percent return rate was achievable, the information on the cards would be ineffective to locate owners in the event that an owner moved or sold the modified motorcycle to a subsequent owner. Several part manufacturers remarked that including motorcycles in the Smog Check program would be a more effective means of identifying and locating motorcycles and owners, and of verifying the presence and proper installation of aftermarket parts during a visual inspection. However, Smog Check currently does not extend to motorcycles and moreover, is not responsible for identifying or locating owners for manufacturers.

A 50 percent warranty return rate is already a significant reduction from the 100 percent return rate presently required for new aftermarket catalytic converters for cars and trucks. Notwithstanding this, ARB solicited suggestions from the affected industry regarding alternatives for effectively meeting the proposed return rate. MIC suggested language that would allow a manufacturer to alternatively comply with the return rate requirement if it demonstrates it can accurately and effectively locate 50 percent of its purchasers irrespective of the number of warranty cards received. MIC's proposal would allow a manufacturer to avoid incurring expenses and expending resources on ensuring the return of warranty cards for aftermarket critical emission control parts that may never be recalled. Instead, by concentrating on the

parts that are indeed recalled, a manufacturer would be able to prioritize its spending efforts on contacting those specific owners affected by the recall rather than diluting its costs upfront by trying to collect warranty cards in advance of an anticipated recall that may never occur.

MIC's proposal relies heavily on the cooperation of part dealers and retailers. However, manufacturers have consistently stated they have almost no direct contact with or influence over such dealers and retailers. MIC's proposal essentially shifts the burden of collecting purchaser information from manufacturers to dealers and retailers. Although dealers and retailers are already subject to accurate recordkeeping regarding their purchasers (which itself presents an issue as described in section V.B. below), MIC's proposal would require dealers and retailers to essentially provide part manufacturers with all information regarding the aftermarket critical emission control parts sold. In contrast, part manufacturers would only be required to request information from dealers and retailers for parts that are actually recalled. Since the burden of collecting purchaser information does not appear to be reduced for dealers and retailers, staff believes that MIC's proposal provides no advantage because manufacturers would still need to provide dealers and retailers with incentives to collect the requested purchaser information for all of their offered aftermarket critical emission control parts due to the fact that any part could potentially be subject to recall. Attempting to collect this information during an actual recall would be very difficult if a manufacturer did not provide a concerted effort to collect it at the time of the part's sale through the use of a warranty registration card. Additionally, staff intends to use the warranty card reports from manufacturers to assist in selecting appropriate parts for audit testing.

Despite these concerns, staff is still willing to provide flexibility in complying with the proposed return rate, and has added provisions in the warranty requirements that would allow part manufacturers to propose effective methods in place of the 50 percent warranty return rate. These recommendations would be submitted to the Executive Officer for review at the time the exemption application is submitted.

B. Recordkeeping Requirements

Another issue raised during ARB's second public workshop concerned the ability of dealers and retailers to effectively document sales of aftermarket critical emission control parts. MIC claimed that parts manufacturers do not have the same type of business agreements with their dealers and retailers as motorcycle OEMs generally have, and that most shops do not have standardized recordkeeping forms or even keep records if a purchase is made in cash.

However, parts dealers and retailers are presently required under title 13 CCR section 2222(f) to maintain records for the sale or installation of non-exempted parts:

> "Each person engaged in the business of retail sale or installation of an add-on or modified part which has not been exempted from Vehicle Code section 27156 shall maintain records of such activity which indicate date of sale, purchaser name and address, vehicle model and work performed if applicable. Such records shall be open for reasonable inspection by the Executive Officer or his/her representative. All such records shall be maintained for four years from the date of sale or installation."

Staff therefore believes it is not unreasonable for dealers and retailers to also document and maintain similar information regarding the sale of legally exempted aftermarket critical emission control parts for highway motorcycles.

VI. Air Quality, Environmental, and Economic Impacts

A. Air Quality and Environmental Impacts

The proposed regulatory action will have a positive impact on air quality by ensuring that the emission benefits attributable to California's emission standards for highway motorcycles are realized and not diminished by exhaust system tampering.

As previously discussed, recent surveys from MIC and staff indicate that tampering occurs on approximately 38 percent to 85 percent of highway motorcycles, and that many owners perform part modifications while their motorcycles are at low mileages and are still covered under the motorcycle OEM's emission control warranty period. Because the proposed regulatory action would establish exemption procedures that are specifically developed to encourage the development of emission compliant aftermarket critical emission control parts for on highway motorcycles, the use of non-complying exhaust systems will decline and the excess emissions due to tampering will decrease.

The current inventory including the adopted emission standards shows that highway motorcycles contribute approximately 53 tons per day of hydrocarbons plus oxides of nitrogen (HC+NOx) emissions statewide in 2010[4] and 2020. The true extent of the replacement of original catalyst exhaust systems with non-catalyst exhausts, and when during the life of the motorcycle this occurs, is not accurately known. The impact of removal of a catalyst exhaust, however, can increase the exhaust emissions by up to ten times. To illustrate the potential impact, if we assume typical annual sales of 2008 model year, fuel-injected, catalyst-equipped motorcycles are 90,000, and one-third operate throughout their life with a replacement, non-catalyst exhaust system, HC+NOx emissions will increase by about 2.6 tons per day for the one model year alone over a five year useful life. If exhaust tampering of these motorcycles were to rise to 85 percent, the HC+NOx increase would then jump to 6.8 tons per day. Implementation of the proposed regulation would be expected to

[4] ARB Almanac, Air Resources Board website, http://www.arb.ca.gov/app/emsinv/emssumcat.php, September 26, 2008.

reduce a substantial fraction of these excess emissions resulting from illegal tampering.

B. Environmental Justice

State law defines environmental justice as the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies (Senate Bill 115, Solis; Stats 1999, Ch. 690; Government Code § 65040.12(c)). The Board has established a framework for incorporating environmental justice into ARB's programs consistent with the directives of State law. The policies developed apply to all communities in California, but recognize that environmental justice issues have been raised more in the context of low income and minority communities, which sometimes experience higher exposures to some pollutants as a result of the cumulative impacts of air pollution from multiple mobile, commercial, industrial, areawide, and other sources.

The proposed procedures apply to aftermarket critical emission control parts installed in highway motorcycles that operate throughout the State. This proposal would greatly assist in reducing the sale of non-exempted parts because it establishes, for the first time, procedures for evaluating aftermarket parts on highway motorcycles that are primarily designed to reduce emissions and are necessary for motorcycles to remain in compliance with emission standards. To the extent that highway motorcycle operation is higher near certain communities, those communities would receive greater emission benefits due to those motorcycles being equipped with aftermarket critical emission control parts that are emission compliant and as durable as the stock components that they replace.

C. Economic Impacts

1. Costs to State Agencies

The only costs to state agencies would be those incurred by ARB to implement and enforce the proposed regulation. Staff has estimated that these costs could be as much as $340,000 over the first three years of the regulation’s implementation (based on one additional ARB staff). Related duties include reviewing submitted exemption applications, and overseeing audit testing or any ordered recall actions. The proposal is not expected to create additional costs to any other state agency, local district, or school district, including any federally funded state agency or program.

2. Costs to Part Manufacturers

Manufacturers of aftermarket critical emission control parts for highway motorcycles would incur additional costs resulting from this regulation only if they choose to enter

the existing California market for those parts. Therefore, costs that a part manufacturer may pay related to the regulation's specific provisions for durability emission testing, warranty, audit testing, and recall are not accounted for since they are considered normal costs that any part manufacturer would be required to pay in order to legally sell aftermarket critical emission control parts in the state. Part manufacturers voluntarily make a decision to comply with the regulation based on their ability to generate satisfactory profits and to compete with motorcycle OEMs that may already be selling similar, compliant parts in California. The only applicable costs then attributable to the regulation would be those associated with the preparation and submittal of exemption applications that demonstrate compliance with the provisions. ARB staff estimates that this cost would be approximately $100 per application. Over a five year regulatory life, the 60 potentially affected part manufacturers could be expected to spend up to $58,000 for those applications. The proposal is not expected to affect the ability of California part manufacturers to compete with part manufacturers in other states since it applies to all manufacturers that choose to sell parts in California.

3. Costs to Consumers

Part manufacturers may increase the purchase price of a typical exhaust system to cover the cost of developing an emission-compliant part. While actual price increases will be dependent on specific development costs and the typical market forces affecting part sales, MIC and several affected part manufacturers have estimated that they would likely range between $100 and $150. It is important to note that the choice to purchase an aftermarket critical emission control part is most often influenced by a motorcycle owner's desire for customization, and not because the stock component is failing emissions.

4. Potential Impacts on Other Businesses

The other portion of the costs attributable to the proposal would be incurred by the approximately 1,000 dealers and retailers that sell aftermarket critical emission control parts in the state. The proposed recordkeeping requirements associated with each part purchased are estimated to cost each retailer about $60 dollars annually, assuming that each dealer or retailer sells an average of 30 aftermarket critical emission control parts per year. Over five years, costs would total $300,000.

It is also possible for a retailer's profits from part sales to be negatively impacted if the incremental cost associated with each aftermarket critical emission control part would cause consumers to purchase fewer of them. However, this is impossible to determine at this time.

Motorcycle OEMs may experience some loss of business as manufacturers of aftermarket critical emission control parts enter the market and competition subsequently increases. However, this effect is to be expected as consumers look

for aftermarket parts from competing companies that are not only less expensive, but also better looking and potentially more efficient than the original parts.

5. Potential Impacts on Business Competitiveness

The proposal is not expected to have a net effect on the ability of California businesses to compete with businesses in other states. Of about 60 affected part manufacturers, 30 are located in California. However, the proposal would apply to all aftermarket critical emission control parts sold, offered for sale, installed, or advertised in California, irrespective of where they are produced.

6. Potential Impacts on Employment

Staff does not estimate that the regulatory proposal would result in the loss of jobs. Some jobs may be created in California, based on the need for part manufacturers to develop new aftermarket critical emission control parts and also to comply with the provisions in the proposal. To the extent that motorcycle OEMs more extensively use critical emission control parts, such as catalyst mufflers, to meet ARB's new vehicle certification requirements, the sale of aftermarket critical emission control parts as replacements may also accordingly increase, possibly resulting in part manufacturers hiring additional staff to handle the demand.

Staff also believes that some new laboratory businesses may be created in the state because the proposed testing requirements in the regulation would increase the overall need by part manufacturers for emission testing services. Most of these part manufacturers do not possess in-house emission testing capabilities.

D. Regulatory Alternatives

ARB currently does not have evaluation procedures that are directly applicable to the exemption and sale of aftermarket critical emission control parts for highway motorcycles. Given the absence of such procedures, staff only considered two alternatives.

1. Require Certification as a New Motorcycle

The first alternative would require an aftermarket parts manufacturer to essentially recertify highway motorcycles with their aftermarket critical emission control part installed, and to be issued a new highway motorcycle Executive Order for the combination of the highway motorcycle and the aftermarket part. Under this alternative, part manufacturers would have to purchase highway motorcycles and then fully emissions test that motorcycle with any aftermarket critical emission control part(s) installed. This would subject part manufacturers to all of ARB's current new motorcycle certification provisions and applicable certification fees paid to the state. Part manufacturers would also be required to warrant the entire motorcycle instead of only their critical emission control part(s). Although this

alternative would have resolved the durability and emission-related concerns resulting from early replacement of original critical emission control parts, and would have allowed manufacturers to sell their critical emission control parts as replacement parts rather than add-on or modified parts, it would also have imposed very significant costs that essentially made it infeasible. Certifying highway motorcycles on an annual basis would greatly increase a part manufacturer's initial expenses and would exceed most part manufacturer's financial and other resources. Many part manufacturers could likely go out of business in California or would have to scale back their product offerings drastically. This alternative is not viable because of its high costs compared to the proposal, which provides much more compliance flexibility for the affected aftermarket industry.

2. Leave Existing Aftermarket Part Requirements Unchanged

The second alternative was to leave California's requirements for new aftermarket parts unchanged. This alternative was also rejected because the sale of illegal aftermarket critical emission control parts would likely still occur, and would result in increased emissions from illegally modified highway motorcycles. Inaction would also prevent part manufacturers from legally selling products that have been designed to ensure that highway motorcycles can comply with emission standards and that demonstrate durability comparable to OEM parts.

Staff has therefore determined that no feasible alternative considered would be more effective in carrying out the purpose of the proposed regulation. No other alternative would be as effective or less burdensome to affected businesses and private persons than the proposed regulatory action.

VII. Summary and Staff Recommendation

The proposed regulatory action would establish exemption procedures applicable to aftermarket critical emission control parts on highway motorcycles. These procedures were developed after considering the issues unique to highway motorcycles, and the procedures therefore allow exempted parts to replace fully functional OEM emission control systems within the original emission warranty period. The procedures also incorporate safeguards to ensure that any exempted parts do not reduce the effectiveness of any required pollution control device or cause motorcycles to exceed applicable emission standards, as required by Vehicle Code sections 27156 and 38391. Such safeguards essentially mirror the requirements applicable to OEM motorcycle manufacturers and help ensure that the emissions benefits of California's motorcycle standards are fully safeguarded.

Staff believes the proposal carefully accounts for the concerns of the affected part manufacturers, dealers, and retailers that would be subjected to it. The proposal would also allow ARB to continue to fully implement the anti-tampering requirements of Vehicle Code sections 27156 and 38391 in a manner consistent with the customization practices related to the use of aftermarket parts for highway

motorcycles. Therefore, staff recommends that the Board adopt the proposed regulatory action.

VIII. References

1. Mail-Out #93-45, Air Resources Board, September 28, 1993.

2. "MIC 2003 Motorcycle/ATV Owner Survey," Table 144-1, Motorcycle Industry Council, 2004.

3. Staff Report: Initial Statement of Reasons, "Proposed Amendments to the California On-Road Motorcycle Regulation," Air Resources Board, October 28, 1998.

4. ARB Almanac, Air Resources Board website, http://www.arb.ca.gov/app/emsinv/emssumcat.php, September 26, 2008.