



February 11, 2021

Mr. Evan Belser
Air Enforcement Division
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance
Mail Code 2242A
U.S. Environmental Protection Agency
William Jefferson Clinton Building
1200 Pennsylvania Avenue, NW
Washington, DC 20460

*Re: Notice of Availability of EPA Tampering Policy and Request for Information Regarding
1986 Catalyst Policy*

Dear Mr. Belser:

The Northeast States for Coordinated Air Use Management (NESCAUM) and the Ozone Transport Commission (OTC) are pleased to submit the following comments on the U.S. Environmental Protection Agency's (EPA's) "Notice of Availability of EPA Tampering Policy and Request for Information Regarding 1986 Catalyst Policy." [85 Fed. Reg. 80782-80785 (December 14, 2020)] (hereinafter "Tampering Policy" and "1986 Catalyst Policy"). NESCAUM is the regional association of state air pollution control agencies representing Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont. NESCAUM provides technical advice and policy guidance to its member states. The OTC members are Connecticut, Delaware, District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, and Virginia. In addressing their collective regional ozone problem, the OTC members are responsible for developing and implementing initiatives to reduce nitrogen oxides (NO_x) and volatile organic compounds (VOCs), the emitted precursor air pollutants that contribute to the formation of ground-level ozone pollution.

The NESCAUM and OTC states have a long history of engagement on the issues of tampering and aftermarket catalysts, given the importance of tampering and aftermarket catalyst policy to NO_x emissions and ozone formation in the region. Tampering of emission control systems result in substantial excess emissions: A recent EPA analysis based on enforcement against tampering in class 2b/3 trucks estimated that emissions controls have been removed from more than 550,000 diesel pickup trucks in the last decade.¹ As a result of this tampering, excess emissions of more than 570,000 tons of NO_x and 5,000 tons of particulate matter (PM) may occur from

¹ EPA, "Tampered Diesel Pickup Trucks: A Review of Aggregated Evidence from EPA Civil Enforcement Investigations," November 20, 2020.

these tampered trucks over their lifetimes. The number of tampered trucks constitutes approximately 15 percent of the national population of diesel trucks that were originally certified with emissions controls. But, due to their severe excess NO_x emissions, these trucks have an air quality impact equivalent to adding more than nine million additional (compliant, non-tampered) diesel pickup trucks to our roads. Additional significant excess emissions may also be occurring from tampering of vehicles in other weight classes, but the extent of the problem has not yet been evaluated by EPA.

NESCAUM and OTC member states are devoting significant resources to deter vehicle aftertreatment tampering and to enforce against entities that sell tampered vehicles. States are conducting inspections at dealerships, auto auctions, and other facilities. In recent inspections in the region, more than 25 percent of vehicle aftertreatment systems were found to have been tampered.

Likewise, on the issue of aftermarket catalysts, NESCAUM and OTC states have been actively engaged in efforts to improve standards for aftermarket catalysts. In 2009, the OTC called on EPA to update its policy regarding the use, installation, and purchase of aftermarket catalytic converters.² In 2011, the OTC provided recommendations for a revised and updated federal aftermarket catalyst program.³ And in 2012, the OTC developed an estimate of emissions impacts of OTC's Recommended Federal Aftermarket Catalytic Converter Program.⁴ OTC's study forecasted benefits from implementing its recommended Federal Aftermarket Catalytic Converter Program in the OTR and estimated that 10,000 tons of NO_x per year and 2,000 tons per year of total hydrocarbons would be reduced through the implementation of the OTC's recommended program.

Given the substantial impact that the performance of aftermarket catalysts and tampering with emission control systems have on overall NO_x emissions and air quality in the NESCAUM and OTC regions, we are encouraged by EPA's Tampering Policy. We believe this policy has the potential to substantially reduce emissions from motor vehicles. These excess emissions often adversely affect disadvantaged communities that have been subjected to disproportionate amounts of diesel exhaust. We have the following specific recommendations that we believe are needed to ensure the Tampering Policy yields these emission benefits.

- 1. Establish an expeditious transition to the Tampering Policy and recall the 1986 Catalyst Policy⁵**

With the Tampering Policy, EPA is rescinding previous policies and replacing them with the Tampering Policy. Specifically, the Mobile Source Enforcement Memorandum 1A,⁶

² OTC, "Statement of the OTC Calling on the EPA to Update its Policy on Motor Vehicle Aftermarket Catalytic Converters," June 10, 2009.

³ OTC, "OTC Mobile Source Committee Recommended Federal Aftermarket Catalytic Converter Program (FACCP)," April 8, 2011.

⁴ OTC, "Emissions Impact of OTC's Recommended Federal Aftermarket Catalytic Converter Program, Discussion Paper," October 10, 2012.

⁵ EPA, "Sale and Use of Aftermarket Catalytic Converters," 51 Fed. Reg. 28114 and 51 Fed. Reg. 28132, August 5, 1986.

the Exhaust System Repair Guidelines,⁷ and the Engine Switching Fact Sheet⁸ have been rescinded and replaced by the Tampering Policy. Likewise, the 1986 Catalyst Policy should also be rescinded and replaced. Until this action is taken, the 1986 Catalyst Policy requirements will conflict with the Tampering Policy.

However, before the 1986 Catalyst Policy can be rescinded, EPA will need to establish a phase-in schedule for replacement catalysts that meet the requirements of the Tampering Policy. We recommend that EPA work with states and the aftermarket catalyst converter industry to establish a schedule for an expeditious phase-in of compliant catalysts. In establishing the phase-in schedule, EPA should consider phasing in the requirement by vehicle and engine model year and gradually increasing the percent of catalysts required to meet the Tampering Policy to ensure emissions reductions are realized as soon as possible. The NESCAUM and OTC states stand ready to work with EPA as it develops a transition plan for implementing the new policy.

Once a schedule for this transition is established, NESCAUM and OTC encourage EPA to recall the 1986 Catalyst Policy and instead apply the provisions from the Tampering Policy to replacement catalysts for light-duty gasoline motor vehicles that are beyond their emissions warranty. The 1986 Catalyst Policy has not been updated to reflect significant changes in automotive technologies and vehicle emission standards. The 1986 Catalyst Policy requires manufacturers to demonstrate that their converters will reduce engine-out NO_x emissions by at least 30 percent for 25,000 miles of vehicle use. However, aftermarket catalyst technology has advanced significantly since 1986 and new aftermarket catalysts can reduce emissions well beyond what is required by the 1986 Catalyst Policy. For example, aftermarket catalysts certified by the California Air Resources Board were shown to reduce NO_x 77 percent below federal aftermarket converters in a study conducted by the Manufacturers of Emission Controls Association.⁹

2. Establish a presumptive testing protocol for aftermarket catalysts and aftertreatment systems

One of the Tampering Policy bases for a replacement to be acceptable is through installation of an “aftermarket part certified or approved by EPA” (Reasonable Basis E). NESCAUM and OTC agree with this in theory, but in practice there is not currently an EPA certification process for aftermarket converters. We urge EPA to develop a presumptive testing protocol for aftermarket systems so that aftermarket aftertreatment manufacturers know with certainty what is expected of them with regard to emissions testing and documentation. As mentioned previously, in 2011, the OTC provided

⁶ EPA, “Mobile Source Enforcement Memorandum No. 1A,” June 25, 1974.

⁷ EPA, “Fact Sheet: Exhaust System Repair Guidelines,” March 13, 1991.

⁸ EPA, “Engine Switching Fact Sheet,” March 13, 1991.

⁹ Brezny, R. and Kubsh, J., Manufacturers of Emission Controls Systems, “Emission Performance of California and Federal Aftermarket TWC Catalysts,” 2013-01-1298, SAE International, April 4, 2013.

recommendations for a revised and updated federal aftermarket catalyst program. These recommendations could still provide a template for a presumptive set of standards to be considered a reasonable basis (under Reasonable Basis B-2). We recognize that other approaches could also be acceptable. The 2011 OTC recommendations are attached to this letter.

3. **Establish a robust enforcement program of the Tampering Policy**

Given the potential extensive tampering of vehicle aftertreatment systems, enforcement of the Tampering Policy will be essential to identifying entities engaged in marketing and selling tampering devices and in deterring tampering. This enforcement needs to be conducted in conjunction with the states, while also considering the limitations that exist under the Clean Air Act. In addition, we urge EPA to establish a consistent enforcement approach for all types of vehicle aftermarket aftertreatment system tampering: Common aftertreatment systems include catalytic converters, diesel particulate filters, selective catalytic reduction systems, and diesel oxidation catalysts.

4. **Continue to support state I/M programs**

EPA requests information on whether the agency has accomplished the goals of the 1986 Catalyst Policy, including continued support to state and local vehicle inspection programs.

We encourage EPA to continue to assist states in their introduction and implementation of new I/M programs and advancements in existing I/M programs. Specifically, we request EPA evaluate the potential to identify engine control module defeat device tampering through inspection and maintenance programs and/or OBD. We also encourage EPA to determine the extent of vehicle aftertreatment system tampering in all classes of vehicles and to include emissions due to tampering into the MOVES model. In addition, we request that EPA work with the states to evaluate the emissions effectiveness of anti-tampering programs, California aftermarket converter programs, and light-, medium-, and heavy-duty diesel (e.g., OBD, opacity) I/M programs. We encourage EPA to update the MOVES model with the conclusions of these evaluations. In the interim, we recommend that EPA include the emission reductions attributed to anti-tampering programs in the MOVES model that had previously been included in an earlier version of MOVES. EPA and states have extensive evidence that tampering exists so this would be an appropriate action.

We encourage EPA to make the above changes and to implement and enforce the Tampering Policy in collaboration with the states and aftermarket parts manufacturers. We appreciate the opportunity to comment and look forward to working with the Agency on the implementation of this important policy.

Sincerely,



Kelly Crawford
Associate Director
Air Quality Division
Department of Energy & Environment
Government of the District of Columbia
Chair, OTC Mobile Sources Committee



Coralie Cooper
Deputy Director
NESCAUM

Attachment: 2011 OTC Recommendations

cc: OTC & NESCAUM Air Directors
EPA OTAQ - Sarah Dunham, Bill Charmley

**Attachment A: 2011 OTC Mobile Source Committee Recommended Federal Aftermarket
Catalytic Converter Program (FACCP)**



April 8, 2011

Connecticut

Delaware

District of Columbia

Maine

Maryland

Massachusetts

New Hampshire

New Jersey

New York

Pennsylvania

Rhode Island

Vermont

Virginia

Mr. Karl Simon, Director
Compliance and Innovative Division Strategy
USEPA Headquarters
Ariel Rios Building
120 Pennsylvania Avenue, N.W.
Mail Code 6405J
Washington, DC 20460

Dear Mr. Simon:

In June 2009, the Ozone Transport Commission (OTC) formally called on the USEPA to amend its enforcement policy regarding the sale and use of aftermarket catalytic converters (see Attachment 1). Per your request, the Ozone Transport Commission undertook an effort to develop a recommendation for a program design.

The OTC's recommended program design for a federal program (see Attachment 2), which is based on the California program, would establish more stringent emission performance and durability requirements for new aftermarket converters, in recognition of the significant advances in performance and durability of original equipment catalytic converters. These advances have also made the improved technology readily available and affordable for aftermarket converters. We have discussed our proposed program design with key stakeholders.

The USEPA's current enforcement policy regarding the use, installation and purchase of aftermarket catalytic converters was established in 1986, and has not been updated to reflect the significant improvements in automotive technologies and vehicle emission standards.

On-road mobile sources are significant sources of emissions contributing to the formation of ozone. Implementation of the OTC's recommended program is expected to provide significant and highly cost-effective emission reductions from the existing vehicle fleet.

A revised federal aftermarket catalytic converter program implemented nationally will provide states with needed significant NO_x reductions to

William L. Driscoll
Executive Director

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help all areas attain and maintain the health-based ozone standards.

Sincerely,

A handwritten signature in black ink that reads "Wm. L. Driscoll". The signature is written in a cursive, flowing style.

William L. Driscoll
Executive Director

Attachments

cc: Lori Stewart, Associate Director, EPA OTAQ
Lee Cook, Manager, State Measures and Conformity Group, EPA OTAQ
Chet France, Director, Assessment and Standards Division, EPA OTAQ
Chris Salmi, OTC Mobile Source Committee Chair
OTC State Air Directors

Attachment-1: OTC Statement



Statement of the OTC Calling on the EPA to Update its Policy on Motor Vehicle Aftermarket Catalytic Converters

- Connecticut
- Delaware
- District of Columbia
- Maine
- Maryland
- Massachusetts
- New Hampshire
- New Jersey
- New York
- Pennsylvania
- Rhode Island
- Vermont
- Virginia

The Ozone Transport Commission (OTC) states call on the Environmental Protection Agency to update its policy regarding the use, installation and purchase of aftermarket catalytic converters. That policy was established in 1986 and has not been updated to reflect the significant changes in automotive technologies and vehicle emission standards.

Motor vehicles are significant sources of emissions that lead to the formation of ozone and to toxic air emissions. However, with the significant advances in emission control performance and durability of motor vehicles that have occurred since 1986, improvements to the performance requirements for non-original equipment aftermarket catalytic converters are needed to keep pace.

The updated policy should address conversion efficiency and durability for new aftermarket catalytic converters as well as compatibility with the vehicle's Onboard Diagnostics (OBD) system for 1996 and newer vehicles. The policy should also address the sale of used original equipment catalytic converters.

Adopted by the Commission on June 10,2009


Chair

Anna Garcia
Executive Director

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Attachment-2: OTC Recommendation

OTC Mobile Source Committee

Recommended Federal Aftermarket Catalytic Converter Program (FACCP)

EXECUTIVE SUMMARY

In June 2009, the Ozone Transport Commission (OTC) formally called on the USEPA to amend its enforcement policy regarding the sale and use of aftermarket catalytic converters designed for use on federally certified passenger cars and light-trucks (see Attachment-1). This document lays out a recommended program design that is based on the recent changes California adopted for aftermarket catalytic converters (ACCs). In developing this recommendation, comments were solicited from interested stakeholders (see Section V).

The recommended changes to the USEPA's current policy for approving after market catalytic converters establish more stringent emission performance and durability requirements for new aftermarket converters in recognition of the significant advances in catalytic converter performance and durability that have occurred for original equipment catalytic converters. These advancements have made the technology more readily available and affordable. The recommendations also modify the current provisions allowing the sale and usage of used catalytic converters.

The recommended program was discussed with key stakeholders including the Manufacturers of Emission Controls Association (MECA) and their associated industries as well as the USEPA and staff from the California Air Resources Board (CARB). MECA supports the recommended program.

The USEPA's current enforcement policy governing aftermarket catalytic converters, adopted in 1986, requires manufacturers to demonstrate that their converters will reduce engine out emissions by at least 30 to 70 percent for 25,000 miles of vehicle use. However, vehicles meeting current emission certification standards can require catalytic conversion efficiencies in excess of 95% in order to comply with the more stringent emission standards that have been adopted since the late 1980s. Further, catalytic converter technology has improved to the point where aftermarket converters can be designed to achieve a significantly higher level of performance in a cost-effective manner.

The recommended changes to the USEPA enforcement policy would replace the existing policy with performance standards for aftermarket catalytic converters based on reducing engine out emission levels to the point that in-use vehicles equipped with aftermarket catalysts can comply with certification emission standards. The required durability period for these aftermarket converters would be extended from 25,000 miles to 5 years or 50,000 miles of use. The amendments would also require manufacturers to demonstrate that their catalysts are compatible with vehicle on-board diagnostic (OBD) systems for 1996 and newer vehicles, warrant that the converters are free from defects, and

implement quality control procedures to ensure production components perform as expected in-use.

The USEPA policy currently permits the practice of reselling used original equipment catalytic converters provided that the reseller uses a process to ensure that the converters still have a reasonable level of performance. The recommended policy would eliminate the provisions permitting the sale of used converters for pre-ODB II vehicles (Model Year 1995 and older vehicles) and calls on the USEPA to study the appropriateness of allowing the reuse of OBD II era (Model Year 1996 and newer vehicles) catalytic Converters. If the reuse of OBD II era catalysts is to continue, verification of proper performance of the converter, and whether this would be accomplished through independent testing or reliance on the OBD II system, must be a component of the revised policy.

Based on the estimated emission reductions for the aftermarket catalytic converter rule amendments in California, the emission reductions that may be achieved in the OTR from the recommended new Federal Aftermarket Catalytic Converter Program (FACCP) policy will be significant. New aftermarket catalytic converters designed to meet the recommended requirements would cost up to \$200 more per unit than those currently available for older vehicles. However, due to the substantially better emissions performance and durability requirements of these converters, it is estimated that the recommended requirements would be cost effective emission reductions.

I. Purpose

Under the recommended program, the USEPA would update its enforcement policy regarding the use, installation and purchase of aftermarket catalytic converters. The USEPA's enforcement policy was established in 1986 and has not been updated to reflect the significant changes in automotive technologies and vehicle emission standards.

The updated policy would address conversion efficiency and durability for new aftermarket catalytic converters as well as compatibility with the vehicle's Onboard Diagnostics II (OBD II) system for 1996 and newer vehicles. The policy would also address the sale of used original equipment catalytic converters.

II. Background

Catalytic converters reduce vehicle exhaust emission levels by chemically converting engine-out emissions before the exhaust gas leaves the tailpipe. A converter contains a substrate that directs exhaust gases through narrow channels coated with precious metals that initiate the conversion of pollutants into primarily carbon dioxide, water vapor and nitrogen.

Since the introduction in mid-1970, catalytic converters continue to be the single most important technology for the control of emissions from gasoline powered motor vehicles. Current catalytic converter designs are more than 95% efficient in removing the

hydrocarbons (HC), carbon monoxide (CO), and oxides of nitrogen (NOx) from engine exhaust before they reach the atmosphere. Improvements in catalytic converter washcoats, precious metal loading, and substrate designs over the years, in combination with better vehicle fuel control systems, are the primary factors that have made compliance with Federal and State Inspection/Maintenance (I/M) programs' emission standards possible.

Original equipment manufacturer (OEM) catalytic converters are designed and certified to last for at least 100,000 to 150,000 miles on newer model vehicles. Heat, vibration, and poisons can eventually reduce catalytic converter efficiencies to the point that older vehicles will not be able to meet federal and state emission requirements and Onboard Diagnostics (OBD) test limits. Such converters need to be replaced; however, OEM replacement converters are typically expensive, costing from \$500 to over \$1000. Compounding the problem, many vehicles requiring a replacement converter have considerably less than 100,000 miles of expected life remaining, making such large repair costs difficult to justify.

Another significant advance that occurred in the 1990's was the implementation of On-Board Diagnostic II (OBD II) systems on light- and medium-duty vehicles. These systems use the vehicle's on-board computer to monitor the performance of its emission control systems, including the catalytic converter. Aftermarket catalytic converters meeting the current converter conversion efficiency requirements 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.

Because some OBD II equipped vehicles are now more than 14 years old, the need already exists in the marketplace for aftermarket catalytic converters that are compatible with these vehicles. As such, the USEPA policy on the use of aftermarket catalytic converters, last updated in 1986, clearly needs to be updated.

III. Main Components of the Recommended Aftermarket Catalytic Converter Program

Table-1 provides a summary and comparison of the recommended program to current Federal Aftermarket Catalytic Converter Program enforcement policy

1. Tightens durability and emissions requirements for pre-OBD (pre-1996) aftermarket converters.
 - The current policy requires 25,000 mile durability and 70%/70%/30% HC/CO/NOx conversion efficiencies.
 - The recommended policy requires 50,000 mile durability and meeting vehicle certification emission standards (mass-based).

- Simplify certification procedures by allowing for “worst-case” vehicle certification for pre-OBD to reduce certification costs while maintaining emissions reduction performance.
2. Requires OBD aftermarket converters demonstrate full functionality with OBD II system at emissions level of 1.5 x tailpipe OEM thresholds. To ensure that the in-use emissions from vehicles are not adversely compromised by the use of aftermarket catalysts, the recommended program would include new evaluation procedures for new aftermarket catalytic converters that would 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
 3. Sunsets “remanufactured” or used converters:

Under the recommended program, the use of remanufactured or used OEM converters would sunset for pre-OBD II (Model Year 1995 and earlier) vehicles. For OBD II vehicles, the recommendation calls for the USEPA to evaluate the reuse of the catalytic converters, including a determination of whether additional verification testing and certification is necessary or if the OBD II system itself is sufficient to ensure continued compliance with emission standards. If the former, the USEPA would need to develop appropriate testing protocols to ensure the catalytic converter systems will continue to meet the applicable emission standards and goals of this recommendation. For example, the productive re-use of relatively new used OEM converters for vehicles that were scrapped for other reasons, e.g., accidents, may offer lower cost compliance mechanisms.

4. Other Recommended Components of the OBD II Compliant Federal Aftermarket Catalytic Converter Program

- OBD MIL demonstration required for OBD equipped vehicles: The recommended procedures would also require a demonstration of OBD II compatibility. Manufacturers would demonstrate through the emission testing that their new aftermarket catalytic converters would not cause a test vehicle’s Malfunction Indicator Light (MIL) to illuminate when the catalyst is functioning properly. The manufacturers would then severely age a prototype converter to demonstrate that the test vehicle’s OBD II system will detect the converter as malfunctioning by the time its conversion efficiency deteriorates to the point that vehicle emissions exceed the manufacturers’ limits for malfunction detection by no more than a factor of 50 percent
- Allows for limited aggregation of similar vehicles for worst-case vehicle certification for OBDII vehicles

- Allow engine dynamometer aging for pre-OBD and OBD converters.
 - Converter quality reporting requirements: The recommended program would require aftermarket catalytic converter manufacturers to monitor the aftermarket catalytic converter production process to ensure that production components actually meet the approved specifications. Manufacturers would check for adequate precious metal content, base metal content, and wash coat loading. Inspections to ensure proper application of the wash coat, installation of matting materials, and the absence of leaks in the converters shell would also be required. The recommended procedures would require manufacturers to report the results of their quality control checks to the USEPA on at least a quarterly basis.
5. Vehicles Applicability Guide requirement and installation requirements to be supplied by the aftermarket converter manufacturer
 6. Labeling of aftermarket catalytic converters with permanent, visible labeling

IV. Estimated Emission Reduction Benefits

Estimate of Emission Benefits

- Emission Reductions Based on California Assumptions (source: Initial Statement of Reasons for Rulemaking, Public Hearing To Consider Amendments To Regulations Regarding New Aftermarket Catalytic Converters And Used Catalytic Converters Offered For Sale And Use In California, September 7, 2007).
 - 880,000 aftermarket converters sold in California per year
 - 74% of sales are pre-OBD aftermarket catalytic converters
 - 8,000 miles per year vehicle miles traveled (VMT)
 - Pre-OBD converter has 3 year average life
 - EMFAC estimates 3.5 M pre-OBD vehicles in California in 2012 and 1.26 million with aftermarket converters
- Based on measured emission rates and vehicle populations, CARB estimated their rule would result in a reduction of 5.3 tpd HC and 31.3 tpd NOx
- Simple ratio of California versus federal fleet populations (10%) would predict a potential 49 state benefit of:
 - 47.7 tpd HC and 282 tpd NOx
 - Added potential benefit of 462 tpd CO
- Actual emissions reductions are likely to be greater since California pre-OBD converters had to achieve 60% NOx conversion (vs. 30% for Federally certified converters) and 100% of federal aftermarket converters are pre-OBD technology.

- OBD compatible converters with advanced catalyst technology were being sold in California under an MOU since 2002.

V. Increased Prices for New Aftermarket Catalytic Converters under the Recommended Program

Aftermarket catalytic converters for pre-OBD II vehicles currently average \$100 each. It is estimated that the average price of an aftermarket converter for pre-OBD II vehicles under the recommended program will initially increase by \$100 to \$200 as a result of the recommended changes. For OBDII equipped vehicles, the average price increase would range from \$250 to \$450.

VI. Public Process

The outreach process used in developing these recommendations included meetings and conference calls with interested parties including representatives from the California Air Resources Board (CARB), the USEPA's Regional Offices 1 and 2 as well as the Office of Transportation and Air Quality (OTAQ), the Manufacturers of Emissions Control Association (MECA), and state environmental representatives from states within the Ozone Transport Region (OTR) and the Northeast States for Coordinated Air Use Management (NESCAUM). A reverse chronologically ordered listing of those calls/meetings is as follows:

April 7, 2010 – Subcommittee Call – Final Recommendations review

April 1, 2010 - Subcommittee Call with the USEPA Regions 1 and 2, OTAQ, MECA and Umicore to review recommendations

February 17, 2010 - Subcommittee Call - Revising Recommendation

December 14, 2009 - Call with Mike McCarthy (California ARB) - pros and cons of the CA program

October 22, 2009 - Subcommittee Call - Developing recommendation

August 31, 2009 - Call with Chris Salmi and Karl Simon (EPA) - elements of a recommendation for Fed program

June 10, 2009 - OTC Statement at Annual Meeting Signed - request for federal program

February 26, 2009 - Call with MECA - MECA presentation on potential reductions

VII. Summary

- Significant advances in catalyst performance and durability for original equipment applications have made the technology more readily available today.
- Testing conducted by the CARB on used vehicles has demonstrated readily achievable, cost effective, reductions in emissions with advanced aftermarket converter technology on pre-OBD and OBD equipped vehicles.
- If the CARB requirements for aftermarket catalytic converters are implemented federally, the NOx reductions could be greater than CARB's estimates for California because current federal aftermarket catalytic converters are less effective than CARB-certified converters.
- Cost effectiveness is estimated to be under \$4,000 per ton of VOC and NOx reduced
- Federal program could be based on streamlined version of CARB program and incorporate learning from the California experience to lower costs and improve vehicle coverage for ACCs under the revised program.
- A revised federal aftermarket program would provide states significant NOx reductions to help with future ozone attainment efforts

<u>Table-1: Summary of a Recommended Revisions to the Federal Aftermarket Catalytic Converter (FAMCC) Program</u>		
Proposed Requirements for Non – OBD Equipped Vehicles		
<i>Criteria</i>	<i>Current Federal Program¹</i>	<i>Recommended Federal Program</i>
Performance	Efficiency based: 70%, 70%, 30% conversion efficiencies (HC, CO & NOx) must be maintained at end of 25k miles or 5 years.	Mass Based (grams/mile): Performance Standards based on meeting the vehicle certification tailpipe emission levels for vehicle being tested for 50k, 5 yrs.
Warranty	25K, 5yrs.	50K, 5yrs.
Used or remanufactured converters permitted?	Yes	Yes, a reseller would be able to certify a used OEM converter using an approved emissions testing protocol that can evaluate whether the used converter meets the applicable standards.
Certification Procedure	Must demonstrate compliance with the <u>worst case vehicle</u> in the application category, i.e., the vehicle with the highest weight and largest engine in the category to which the converter is intended to apply	Must demonstrate compliance with the worst case vehicles within <u>four general classes</u> of vehicles, i.e., passenger cars and light-duty trucks each with single and dual exhaust configurations
FAMCC Aging Procedure	On-vehicle mileage accumulation	Would allow for the use of accelerated aging of converters using a RAT-A engine dynamometer cycle rather than actual on-vehicle mileage accumulation for durability demonstration (RAT-A refers to a defined engine dynamometer-based converter aging cycle)
Estimated Price	\$100	\$200 - \$300

¹ Based on the USEPA’s 8/5/86 policy document

Recommended Requirements for OBD Equipped Vehicles		
<i>Criteria</i>	<i>Current Federal Program²</i>	<i>Recommended Federal Program</i>
Performance	<p>Efficiency based (70-70-30) and must meet 1 of these 2 Options:</p> <p>Option 1: AMCCs that meet the requirements of the current USEPA AMCC policy, provided the AMCC warranty is honored when the OBDII system indicates a catalyst malfunction during the 25000 mile warranty period or;</p> <p>Option 2: AMCCs that meet the requirements of the California AMCC/OBDII procedures provided the AMCC warranty is honored when the OBDII system indicates a catalyst malfunction during the 25,000 mile warranty period, and provided that the information described above is submitted to the USEPA.</p>	<p>Mass Based (grams/mile) Performance Standards based on meeting the vehicle certification tailpipe emission levels for vehicle being tested for 50k, 5 yrs. <u>with full OBD compliance.</u></p>
Warranty	25K, 5yrs	5yrs or 50,000miles & 50,000 miles emissions performance warranty
Used or remanufactured converters permitted?	Yes	Yes, a reseller would be able to certify a used OEM converter using an approved emissions testing protocol that can evaluate whether the used converter meets the applicable standards.
Certification/Applicability Procedures	Worst case vehicle	Aggregation of similar vehicles permitted for a limited worst case AMCC certification process for OBD-equipped vehicles. Criteria for worst case vehicle aggregation to be defined based on vehicle engine and emissions control similarities (note: this provision is not part of California's AMCC rules).

² Based on 8/2/00 and 9/30/04 letters from the USEPA to MECA

		<p>2 Proposed Options for certifying an AMCC in the FAMCC Program:</p> <p>1. AMCC must have a CARB Executive Order for the analogous California- certified vehicle with the AMCC manufacturer providing full OBD warranty on the Federally certified equivalent vehicle model or;</p> <p>2. AMCC must meet California’s AMCC/OBDII standards including durability and warranty requirements for the applicable federally emissions certified vehicle. The AMCC manufacturer must submit to the USEPA the same information that they would send to the CARB under their procedures.³</p>
AMCC Aging Procedure	On-vehicle mileage accumulation	Would allow for the use of accelerated aging of converters using a RAT-A engine dynamometer cycle rather than actual on-vehicle mileage accumulation for durability demonstration (RAT-A refers to a defined engine dynamometer-based converter aging cycle)
Estimated Price	\$100	\$350 - \$550

³ The information to be submitted to the USEPA would include a list of applicable vehicles for each new converter; the USEPA would select vehicles from the list for the manufacturer’s compliance determination.

Also, the AMCC manufacturer must conduct an OBDII compliance check, ie, aging of converter with demonstration that during emissions testing the converter will cause the MIL to illuminate while not exceeding the emissions limit (2.6 times the certification emission limit).

February 11, 2021

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tampering@epa.gov

Dear Mr. Belser:

The National Association of Clean Air Agencies (NACAA) offers the following response to the U.S. Environmental Protection Agency's (EPA's) "Notice of Availability of EPA Tampering Policy and Request for Information Regarding 1986 Catalyst Policy,"¹ which was published in the *Federal Register* on December 14, 2020 (85 Fed. Reg. 80,782). NACAA is the national, nonpartisan, non-profit association of air pollution control agencies in 41 states, including 115 local air agencies, the District of Columbia and four territories. The air quality professionals in our member agencies have vast experience dedicated to improving air quality in the U.S. These comments are based upon that experience. The views expressed in these comments do not represent the positions of every state and local air pollution control agency in the country.

On November 29, 2018, NACAA sent a letter to EPA² providing comments on the September 2018 "Preview of the Draft 'EPA Tampering Policy' for Stakeholder Awareness."³ In that letter, NACAA outlined several problems and concerns associated with replacement of original equipment manufacturer (OEM) catalytic converters on light-duty vehicles (LDVs) and, in particular, the inadequacy of the agency's August 5, 1986 enforcement discretion policy (51 Fed. Reg. 28,114), titled "Sale and Use of Aftermarket Catalytic Converters (1986 Catalyst Policy),"⁴ which relates to replacement of catalytic converters on gasoline-fueled LDVs that are beyond their emissions warranty. The 2020 EPA Tampering Policy⁵ restates and replaces currently applicable statements of

¹ <https://www.govinfo.gov/content/pkg/FR-2020-12-14/pdf/2020-27433.pdf>

² http://www.4cleanair.org/sites/default/files/Documents/NACAA_Comments-EPA_Tampering_Policy-Sept2018_Preview_Doc-112918.pdf

³ http://www.4cleanair.org/sites/default/files/Documents/EPA-Preview_of_draft_Tampering_Policy_for_Stakeholder_Awareness-Sept2018.pdf

⁴ <https://www.govinfo.gov/content/pkg/FR-1986-08-05/pdf/FR-1986-08-05.pdf> (see pp. 28,114-28,119)

⁵ <https://www.epa.gov/sites/production/files/2020-12/documents/epatamperingpolicy-enforcementpolicyonvehicleandenginetaampering.pdf>

enforcement discretion policies with the exception of the 1986 Catalyst Policy. Instead, EPA requests information on the 1986 policy to inform a future decision on whether and how to update or withdraw that policy.

The comments and recommendations provided in this letter are intended to reaffirm NACAA's core issues related to the sale and use of aftermarket catalytic converters for our nation's light-duty fleet – concerns that have been raised by many state and local air agencies and organizations, including NACAA, for a number of years – and provide an updated set of high-level key points and recommendations.

It bears repeating that the effectiveness of aftermarket converters is important to state and local air pollution control agencies in every state in the country due to their role in maintaining the emissions performance of vehicles. States and localities are counting on these parts to control emissions so they can achieve a variety of clean air goals including, among others, attaining and maintaining compliance (upwind and downwind) with health-based National Ambient Air Quality Standards for ozone and fine particulate matter (PM) and continuing to reduce levels of hazardous air pollutants. Federal regulations and enforcement policies and adequate enforcement mechanisms are necessary to ensure that aftermarket catalytic converters entering the marketplace consistently provide at least the same level of emission control as provided by the OEM converters they replace. Otherwise, the benefits of the clean cars program will be severely compromised and substantial potential emission reductions will be lost. Given the scale of effort and financial investments behind the clean cars program, as well as the continued critical need for mobile source emission reductions nationwide, it is imperative that EPA address these fundamental issues.

Moreover, effective aftermarket catalytic converters are essential to ameliorating adverse air quality impacts in overburdened communities. A robust policy to stem tampering with emission controls and replacement of them with inferior devices supports NACAA's key strategic priority, and recommendation to the new Administration, to "Center Environmental Justice," as reflected in our January 15, 2021 document, "Improving Our Nation's Clean Air Program: Recommendations from the National Association of Clean Air Agencies to President-Elect Biden's and Vice President-Elect Harris' Administration."⁶

EPA recently illustrated the serious effects of tampering and aftermarket catalytic converters with its November 20, 2020 report, "Tampered Diesel Pickup Trucks: A Review of Aggregated Evidence of EPA Civil Enforcement Investigations."⁷ In this report, EPA's Air Enforcement Division estimates that over the past decade emission controls have been removed from more than half a million diesel pickup trucks – about 15 percent of the diesel trucks nationally that were originally certified with emission controls. The result will be over 570,000 excess tons of nitrogen oxide emissions and 5,000 tons of PM emissions over the lifetime of these trucks, which is equivalent to adding more than 9 million additional diesel trucks to our nation's roads.

NACAA commends the agency on the 2020 EPA Tampering Policy, which we believe holds promise for significantly reducing motor vehicle emissions. A shortcoming of the policy, however, is that it does not address problems posed by 1986 Catalyst Policy, but we appreciate EPA's request for comments and recommendations so that the agency can take meaningful action to resolve this in the near future. Toward this end, we offer the following recommendations.

First, EPA should recall the antiquated 1986 Catalyst Policy, which undermines the clean cars program and conflicts with the 2020 EPA Tampering Policy. The 1986 Catalyst Policy has not kept pace with

⁶ <http://www.4cleanair.org/sites/default/files/Documents/NACAA2021PresidentialTransitionDocument-01152021.pdf>

⁷ <https://www.epa.gov/sites/production/files/2021-01/documents/epaaedletterreportontampereddieselpickups.pdf>

numerous advances in automotive emission control technology and vehicle emission standards over the years, nor does it reflect the increased mileage accumulation of vehicles over their useful life. For example, cars and light trucks now have a useful life ranging from 120,000 to 150,000 miles, however, the catalytic converters with which they are equipped are warranted for only 80,000 miles and, under the 1986 Catalyst Policy, the aftermarket parts used to replace them have only a 25,000-mile warranty. Further, the 1986 policy requires that converter manufacturers certify that their devices to reduce engine-out emissions by 30 to 70 percent for a 25,000-mile useful life.

Compare this to requirements for today's vehicles which, to comply with the far more rigorous current emission standards, must meet certification standards requiring catalytic converter efficiencies in excess of 99 percent. EPA has rescinded other prior policies and replaced them with the 2020 Tampering Policy and it should do the same with the 1986 Catalyst Policy. Before recalling the 1986 Catalyst Policy, however, EPA should expeditiously establish a phase-in plan and schedule that will ensure rapid transition from the 1986 Catalyst Policy to compliance with the 2020 Tampering Policy in a way that avoids confusion. The agency should work in close cooperation with state and local air agencies and industry stakeholders to do so. NACAA would be pleased to be part of such an initiative.

Second, in conjunction with recalling the 1986 policy EPA should establish a clear and viable federal certification program for aftermarket catalytic converters under the 2020 Tampering Policy.

Third, EPA should establish a consistent enforcement policy for all types of replacement aftertreatment (e.g., catalytic converters, diesel particulate filters, diesel oxidation catalysts and selective catalytic reduction systems) to safeguard intended emission reductions from all vehicle classes and types, and also establish a rigorous enforcement program for the 2020 Tampering Policy, to be carried out in conjunction with states, taking into consideration limitations under the Clean Air Act. In both cases, such action should ensure collaboration and data sharing between federal, state and local regulators.

Finally, EPA should continue to support state inspection and maintenance programs, including by determining the degree of vehicle aftertreatment tampering across all vehicle classes and accounting for excess emissions that result from tampering in the MOVES model.

We would welcome an opportunity to meet and discuss these recommendations in further detail and look forward to working with you and other stakeholders as the agency takes action on the 1986 Catalyst Policy. If you have questions, please contact either of us or Nancy Kruger, Deputy Director of NACAA.

Sincerely,



Eric C. White
(Placer County, CA)
Co-Chair
NACAA Mobile Sources and Fuels Committee



Tracy R. Babbidge
(Connecticut)
Co-Chair
NACAA Mobile Sources and Fuels Committee

cc: Sarah Dunham (EPA OTAQ)
Byron Bunker (EPA OTAQ)



COLORADO
Air Pollution Control Division
Department of Public Health & Environment

February 11, 2021

Mr. Evan Belser
Air Enforcement Division
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance
Mail Code 2242A
U.S. Environmental Protection Agency
William Jefferson Clinton Building
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Re: Notice of Availability of EPA Tampering Policy and Request for Information Regarding 1986 Catalyst Policy

Dear Mr. Belser:

The state of Colorado appreciates the opportunity to provide comments to the U.S. Environmental Protection Agency's (EPA) "Notice of Availability of EPA Tampering Policy and Request for Information Regarding 1986 Catalyst Policy." [84 Fed. Reg. 80782-80785 (December 14, 2020)]. Colorado's Air Pollution Control Division (APCD) has been monitoring the performance and durability of federal aftermarket catalytic converters for over a decade and has had serious concerns about these devices.

Based on research from the California Air Resources Board (CARB), Manufacturers of Emissions Controls Association (MECA), and APCD's internal studies, Colorado's Air Quality Control Commission (AQCC) adopted a new requirement that only CARB exempted aftermarket catalysts are allowable within Colorado effective January 1, 2021. This was in direct response to performance and durability problems identified in the federal aftermarket catalyst studies.

Therefore, Colorado recommends the following actions related to the 1986 selective enforcement policy:

- 1) **Withdraw the 1986 policy as soon as practical.** The policy likely did accomplish the goals of supporting early state vehicle inspection programs including providing an inexpensive catalyst option that had acceptable performance characteristics as compared to original equipment (OE) catalysts at the time.

However, catalyst design and performance has significantly evolved since 1986 and the existing policy does not provide an appropriate aftermarket option as compared to the current OE catalytic converters in both performance and durability. This has caused a number of catalyst operational issues and motorist frustration.



As an example, the Colorado APCD maintains six emissions technical centers located within the Colorado ozone non-attainment area to help motorists and shops with vehicles experiencing multiple emissions failures. Between November 2010 and November 2013 there were 1,078 contacts for vehicles failing IM240 exhaust emissions and involving aftermarket catalytic converters. These represented about one third of all contacts for that time period. Of those, 596 were new federal aftermarket catalyst installations with 22% (129) of them being the direct cause of the exhaust emissions failure and another 21% (127) of indeterminate catalyst performance because of additional needed repairs. Therefore, between 21%, and up to 40%, of the new federal aftermarket catalytic converters were directly causal to the excessive emissions.

In a related study by the APCD's Aurora Emissions Laboratory (AEL) 17 vehicles were given an initial federal test procedure (FTP), repaired with federal aftermarket catalysts, then returned at a later date for a follow up test. Two of the 17 failed the initial after-repairs FTP (new aftermarket federal catalyst just installed) and, upon return, an additional eight vehicles failed the follow-up FTP test at an average accumulated time of 241 days and 8,622 miles.

The sampling methodology does not allow propagation to the entire fleet, but given these ratios, and the fact that more than 1,700,000 federal aftermarket catalysts were sold in the U.S. for 2019, it seems clear this is a major obstacle to the nation's clean air goals.

- 2) **Establish a new policy in harmony with elements of CARB's aftermarket program.** The EPA asks for comments related to patchwork differences between states that have adopted CARB catalyst rules, and those that have not. The existing EPA tampering policy (November 23, 2020) likely has most elements necessary for an effective aftermarket program, however, without adopting similar language as CARB's there may be significant differences.

For instance, both the 1986 policy and the California program include specific requirements for the installation of aftermarket catalysts such as location, legitimate need established for the replacement, other converters remain in place, and recordkeeping, which are absent in the current policy, or not clearly identified.

As a specific example, Reasonable Basis A (OE replacement) does include "original configuration" language. However, Reasonable Basis B (older vehicles) does not. Therefore, it could be interpreted location does matter for an OE replacement, but not an aftermarket replacement. Finally, CARB rules and the 1986 policy both mention "worst-case" or representative applications for testing so that aftermarket catalyst manufacturers can consolidate resources to similar vehicles. Yet this specific allowance does not seem to be available in the current tampering policy.

If EPA is unable to produce a replacement for the 1986 policy, it is still preferable to withdraw the 1986 policy without a replacement.

Removing the 1986 policy will be a significant improvement for federal aftermarket catalyst performance and durability and we look forward to following this process. For questions or additional information please contact Jim Kemper at jim.kemper@state.co.us





February 10, 2021

Acting Administrator Jane Nishida
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

Subject: Comment on U.S. EPA's 1986 Policy for After-Market Catalytic Converters

Dear Administrator Nishida:

Thank you for providing an opportunity to comment on the *EPA Tampering Policy: The EPA Enforcement Policy on Vehicle and Engine Tampering and Aftermarket Defeat Devices under the Clean Air Act*, published in the December 14, 2020 Federal Register.

The Metropolitan Washington Air Quality Committee (MWAQC) is certified by the governors of Maryland and Virginia and the mayor of the District of Columbia to develop plans demonstrating attainment of federal ozone and other criteria pollutant standards for the Washington, DC-MD-VA non-attainment area. We have done so successfully for more than twenty-five years through a partnership among the state and local governments in metropolitan Washington.

The National Capital Region Transportation Planning Board (TPB) is the metropolitan planning organization (MPO) for the National Capital Region, jointly established by the governors of Maryland and Virginia and the mayor of the District of Columbia and so designated by the federal government. As an MPO, the TPB is mandated to conform with and integrate regional air quality plans in its transportation plans.

The Metropolitan Washington Region has been designated as a Marginal non-attainment area for the 2015 ozone National Ambient Air Quality Standards (NAAQS). Despite local and regional actions that have helped meet the previous ozone standards, the region could not meet the 2015 ozone NAAQS by the required deadline. Consequently, the region places a high priority on actions that help reduce precursors of ground-level ozone, particularly actions that enforce existing requirements.

Nitrogen Oxides (NO_x) are a precursor pollutant of ground-level ozone. In addition, NO_x is a precursor to secondary particulate matter (PM_{2.5}) formation. Exposure to PM_{2.5}, along with ground-level ozone, is associated with premature death, increased hospitalizations, and emergency room visits due to exacerbation of chronic heart and lung diseases and other serious health impacts. Some communities in the Metropolitan Washington Region face higher rates than the national average of illnesses like asthma, which are aggravated by these pollutants. As such, reductions in NO_x emissions will not only assist in meeting federal clean air standards, but they will also provide health benefits from both reduced ozone and PM_{2.5} pollution.

For these reasons, MWAQC and TPB support EPA's efforts to review and evaluate its policy published in 1986 concerning after-market catalytic converters (AMCC) in light of significant technical advancements made related to AMCCs and emission standards implemented since then.

MWAQC and TPB specifically support the following provisions to be part of an update of the 1986 Catalyst Policy:

- Establish a consistent, robust, nationwide enforcement policy for all types of replacement after-treatment systems for vehicles and engines.

After-treatment systems that treat exhaust from the engine, including gasoline and diesel products for the on-road and nonroad sectors, vary in their applications and technologies. As such, a consistent and stringent enforcement policy supporting section 203(a)(3) of the Clean Air Act, which prohibits the tampering with or removal of federally required emissions control devices, is necessary.

- Develop more stringent emission performance and durability requirements for new after-market converters to reflect the significant advances that have been made for catalytic converters since EPA first published its after-market policy in 1986. These advances have also made the improved technology readily available and affordable for after-market converters.
- Establish a clear certification process for Federal Aftermarket Converters compliant with the updated policy.
- Address the compatibility of after-market converters with the vehicle's Onboard Diagnostics (OBD) system for Model Year 1996 and newer vehicles.
- Eliminate the provisions permitting the sale of used converters for pre-ODB II vehicles (Model Year 1995 and older vehicles) and requesting EPA to study the appropriateness of allowing the reuse of OBD II era (Model Year 1996 and newer vehicles) catalytic converters.
- Implement the updated Catalyst Policy as expeditiously as possible.
- Continue to assist states in their introduction and implementation of Inspection/Maintenance programs.

Thank you for the opportunity to comment.

Sincerely,



The Honorable Robert Day
Chair, Metropolitan Washington Air Quality Committee (MWAQC)



The Honorable Charles Allen
Chair, National Capital Region Transportation Planning Board (TPB)



Manufacturers of Emission Controls Association

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February 12, 2021

submitted via e-mail to tampering@epa.gov

**MECA Comments on U.S. EPA Request for Information
Regarding the 1986 Catalyst Policy**

The Manufacturers of Emission Controls Association (MECA) appreciates the opportunity to provide input in response to United States Environmental Protection Agency's (EPA) Request for Information Regarding the 1986 Catalyst Policy.

MECA is a non-profit association of the world's leading manufacturers of emission control, combustion efficiency, and greenhouse gas reduction technologies for mobile sources. Our member companies have over 45 years of experience and a proven track record in developing and manufacturing new clean vehicle technologies as well as supplying the majority of light-duty aftermarket converter and heavy-duty replacement filters in North America. Our industry has played an important role in the air quality success story associated with mobile sources in the U.S., and we have continually supported efforts to develop innovative, technology-neutral, emission control policies to mitigate air pollution problems.

- **Should the agency update or withdraw the 1986 Policy?**

MECA commends the agency for issuing the updated Tampering Policy of November 23, 2020 that establishes a uniform, fuel-neutral enforcement stance for all aftermarket components.

MECA concurs that the applicability of the 1986 policy to today's advanced gasoline vehicle emission controls is in continual decline. Further, the policy does not apply to the broad range of gasoline, diesel and alternative fuel highway and non-road vehicles and engines which employ emissions controls today and in the future. Therefore, MECA supports the initiation of a suitable transition period for withdrawal of the 1986 catalyst policy and implementation of a new more inclusive policy for all highway vehicles and non-road engines.

With respect to specific questions that OECA asks in the Federal Register notice, MECA respectfully provides the following information.

- **Has the agency accomplished the goals of the 1986 catalyst policy?**

Over the past 35 years, the policy has successfully supported state and local vehicle inspection programs to ensure air quality. MECA was involved in the testing and technical input that was used to establish the requirements in the enforcement policy leading up to 1986. MECA members are of the position that the 1986 catalyst policy has accomplished its' original goals of establishing a cost-effective aftermarket parts program for in-use vehicles that have exceeded their emissions warranty and may no longer have available OEM parts. Furthermore, the policy provided manufacturers performance and durability guidelines that gave clear methodologies of how acceptable performance and durability is to be measured.

- **Should EPA establish a consistent enforcement policy for all types of replacement after-treatment systems for vehicles and engines?**

MECA supports the establishment of a consistent enforcement policy that should address all replacement components which have an impact on exhaust emissions and durability. These would include not only catalytic emission control components, particulate filters and sensors but also evaporative emissions controls and other emission related add-on components.

- **Whether and how the 1986 catalyst policy affects the market for aftertreatment catalysts?**

The 1986 catalyst policy provided key specific minimum design and performance parameters of replacement three-way catalytic converters. This enabled companies to evaluate the market opportunity and make investments that resulted in the availability of suitable replacement parts to allow vehicle owners to maintain their vehicles ensuring air quality. By setting clear methods and limits for performance and durability, the 1986 policy gave manufacturers a level of certainty for assessing reasonable cause for complying with the 1986 catalyst policy.

MECA members assert that the availability of affordable and effective replacement emissions control components serves as an incentive for proper vehicle maintenance and prevents the tampering of vehicles and engines benefitting national ambient air quality goals.

- **What are the EPA enforcement policy impacts on catalyst costs?**

Cost considerations for manufacturers- Manufacturer traditional cost factors include overhead, marketing, labor, inventory and warranty for thousands of active part numbers. In addition, there would be potentially significant costs and needed time for research, product design and development, validation and needed tooling to produce parts to a new applicable emissions performance level needed to comply with a new enforcement policy. Further, manufacturers would have to consider regional, distribution and installer preferences to determine which parts to supply as distinct universal converters or direct fit assemblies.

One element outside of the manufacturer's control is the market pricing of the needed precious metals. Historically, replacement converters have employed lower amounts of precious metals due to the reduced durability requirements relative to an OEM part. As

emissions standards have tightened from Tier 1 thru 3 and include multiple lower emissions bin levels, there has typically been a corresponding increase in the amount and value of precious metals used in catalytic converters.

When researching and developing replacement catalytic converters, manufacturers have the opportunity to consider historic precious metal pricing and optimize formulations with respect to precious metal cost. However, once the design and product validation periods have been completed, manufacturers typically have to tolerate variable precious metal price fluctuations vs. the cost to re-engineer and re-validate catalyst formulations.

One last cost consideration is the value of the parts contained within the distribution system. It is common practice that distributors have the ability to return parts to match parts demand changes. A sudden withdraw of the 1986 catalyst policy, which applies nationally, would result in manufacturers incurring sizeable losses as there would be no remaining market to absorb the volume of parts being pulled from the inventory and distribution network.

Cost considerations for distributors and retailers- Automotive parts manufacturers work with U.S. parts distributors to ensure the timely supply of local automotive part retail stores and repair shops with replacement components. Costs for distributors and retailers typically consist of overhead, parts inventories, inventory management, marketing and shipping. At any given time, there is estimated to be between 6 months to 2 years of aftermarket converters sitting in inventories of the U.S. distribution system depending upon the regional preferences (universal vs. direct fits) and marketing strategies of the distributors.

Many retail parts stores are small local businesses whose costs include the full purchase value of the parts that they stock. These businesses typically have lower inventory levels but do not have the ability to return parts without incurring significant minimum re-stocking charges.

A suitable transition time which allows the turnover of the distribution and retail parts inventories will minimize the costs of meeting a change in applicable policy.

Frequency of the need for catalyst replacement- Original equipment emission control components have been required to meet increasingly longer warranties (currently as much as up to 150,000 miles and 15 years) resulting in most vehicles never requiring a catalytic converter replacement.

MECA's 2019 annual aftermarket converter sales survey suggests that only ca. 1% of the entire U.S. light duty fleet vehicle population has an aftermarket converter installed in a given year. This typically means that an OE converter (one or more) which is outside of the original vehicle manufacturer's warranty period has failed and is replaced with a suitable aftermarket converter replacement. Given the typical remaining lifetime of these out-of-warranty vehicles, our members report it is not common that these aftermarket converters are subsequently replaced.

Cost considerations for the ultimate purchaser- EPA enforcement policy does have direct impact on retail prices to the ultimate purchaser of replacement emissions control products. In addition, the ultimate purchaser sees the cost impacts of the entire supply chain from manufacturing through distribution and retail sale.

LD gasoline vehicles may have as few as one catalytic converter or as many as four or more distinct converters contained within the exhaust system. In failure modes in which only one distinct catalytic converter has failed, a universal converter or an individual direct fit converter may offer significant savings over replacing an entire direct fit assembly containing multiple converters. The use of a universal converter does offer the lowest parts cost but its use typically requires some additional on-site pipe fabrication with special equipment and training by the installer, which incurs additional cost to the end customer. In regions of the country with higher labor rates or where multiple converters require replacement in a given exhaust system, the direct fit option is often preferred because it offers quick turn around and fewer specialized tools and technician training.

At present there is a significant retail price difference between replacement catalysts that comply with the 1986 policy (a federal converter) and those that conform to the more stringent California state exemption requirements (a CARB converter). As a general example, the retail price differential between a federal and CARB exempt converter currently ranges from a low of approximately \$200 (i.e., an older 4-cylinder vehicle with a single converter or one side of an older V6 engine) to as much as \$1200 (i.e., direct fit converter assembly for a V8 powered LD pickup or SULEV certified hybrid vehicle) depending upon the factors previously discussed. The exact price differential for any vehicle is a function of the emissions level that vehicle was certified to, the size of the engine, the required performance and durability of the replacement, the number of converters needed and whether the failure requires a specific converter to be replaced (left/right/front/rear) or an entire assembly of converters (typically containing two to four converters).

Most of all, the incremental cost between federal and California exempt converters can fluctuate with the market prices of precious metals. Over the past three years, the market price of Palladium has increased by 2.6 times and the price of Rhodium has increased by over 8 times (February 1, 2021 prices: Pd \$2289.80/oz, Rh \$20880.00/oz). The increase in price is largely due to increasing demand due to the implementation of US Tier 3, California LEV III, EU 6 and China 6 emissions standards. The precious metal price escalation represents the majority of the average incremental price increase from the values reported by CARB in their regulatory impact documents for their 2007 aftermarket rule.

- **What is an appropriate timeline for an orderly transition to a new enforcement policy?**

The aftermarket converter industry sells approximately 3 million converters annually representing an estimated \$1 billion in revenue over thousands of part numbers. As the inventory explicitly covers out-of-warranty North American production vehicles, it cannot be re-directed to other markets in response to a rescission of the 1986 catalyst policy. As a result, a suitable transition period is needed for parts manufacturers and distributors to phase-out existing inventory as well as make the necessary investments to develop, validate and supply parts to distribution channels to meet the requirements of a new policy. The transition period also needs to take into account the current pandemic, which presently hinders the ability of the industry to conduct new product development and validation.

In addition, as the 1986 policy serves as a minimum requirement for all 50 states, successful transition to a new tampering policy will require thoughtful planning, execution, education

and outreach in order to minimize confusion and frustration within the supply chain and state environmental agencies and inspection stations. MECA recommends that EPA organize a workgroup, including state air agencies, EPA regional offices, industry associations, and other stakeholders, to review the implications and to develop an outreach plan to communicate the details of the new policy, including specific information targeted to parts manufacturers, distributors, service technicians, state I/M programs, consumers, and other impacted parties.

For these reasons, MECA recommends a minimum transition period of 36 months between the determination of a new policy and rescinding the existing 1986 policy. This would provide time for the EPA to work with catalyst manufacturers through a series of workshops to develop the timelines for new product introductions and turnover of current aftermarket catalyst inventories.

MECA appreciates the opportunity to provide these comments to the U.S. EPA. We believe our suggestions will be vital in the transition to a new policy. The needed transition time will allow for parts manufacturers to get cost-effective aftermarket technology into the marketplace and for the supply chain to be educated on the new requirements and implications of vehicle emission control tampering. We look forward to working with EPA's Office of Enforcement and Compliance Assurance on this critically important effort.

If you have any questions, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, reading "Rasto Brezny". The signature is written in a cursive style and is contained within a thin black rectangular border.

Rasto Brezny
Executive Director
(202) 296-4797 x106
rbrezny@meca.org

cc: Evan Belser, Chief, Vehicle and Engine Enforcement Branch, U.S. EPA
Sarah Dunham, Director Office of Transportation and Air Quality, U.S. EPA
Byron Bunker, Director Compliance, Office of Transportation and Air Quality, U.S. EPA

February 12, 2021

Via Email: tampering@epa.gov

RE: U.S. EPA Request for Information Regarding 1986 Catalyst Policy

To Whom it may concern:

The Auto Care Association (the association) is grateful for the opportunity to provide comments on the U.S. Environmental Protection Agency's (EPA) Request for Information Regarding the 1986 Catalyst Policy.

The Auto Care Association has more than 3,000 member companies that represent some 150,000 independent automotive businesses that manufacture, distribute and sell motor vehicle parts, accessories, tools, equipment, materials and supplies, and perform vehicle service and repair.

At the onset, the association wishes to remind the EPA that we undertook an effort to replace the 1986 Guidance with a Model Program developed with core stakeholders and the Agency. This effort of over half a decade included numerous meetings with stakeholders and also with the EPA's various divisions with jurisdiction over the 1986 Guidance. These meetings involved extensive travel and planning and made slow but effective progress towards a replacement policy for the 1986 Guidance. Ultimately, the final draft of the Model Program was supported by industry stakeholders and many state air administrators, including the Ozone Transport Commission. Therefore, we are disappointed that despite the strong effort by all stakeholders, the Agency has not given consideration to the Model Program. We hope that the Agency will reconsider this decision and will take a closer look as to how the Model Program could provide significant positive impacts on consumers and the environment.

Accomplishment of Original Goals

With respect to the question of whether the Agency has accomplished the goals of the 1986 catalyst policy, the association has to acknowledge that this policy was responsible for the creation of the aftermarket catalytic converter industry that has benefited the consumer and the environment by making repairs of critical emissions systems affordable. The availability of aftermarket converters has played a significant role in ensuring that vehicles can continue to meet emissions standards throughout their useful life. Unfortunately, the fact that this policy has not been updated in over three decades has meant that it is no longer relevant to the current vehicle emissions control technology.

Should EPA establish a consistent enforcement policy for all types of replacement aftertreatment systems for vehicles and engines?

In general, the association feels that that a consistent enforcement policy for all replacement aftertreatment components would be beneficial to the overall industry. However, we continue to believe that the complex nature and cost of catalytic converter manufacturing, and the size of the market - estimated to be at \$800M-\$1B annually – makes a strong argument for a separate policy governing aftermarket catalytic converters. The development of a new converter enforcement is clearly worthy of effort by the Agency considering the cost and emissions benefits that aftermarket converters provide both consumers and the environment.

What are the EPA enforcement policy impacts on catalyst costs?

Some of the primary considerations of policy impacts should be the consumer, their income level and the age of their vehicle. The average age of the U.S. vehicle fleet in operation is close to twelve-years-old. This identifies a segment of the vehicle population as being fifteen to twenty-years-old. While there are many variables, the average cost of an aftermarket catalytic converter under a new EPA guidance, likely to mimic California Air Resources Board (CARB) standards, will be approaching \$1,200.00. When one considers the income of the U.S. population in the first, second and lower-third quartile, it becomes a very real question of whether they will be able to afford a replacement for the catalytic converter on their twelve to twenty-year-old vehicle, and if they do replace it, what impact will it have on their family budget?

What is an appropriate timeline for an orderly transition to a new enforcement policy?

The determination of an appropriate timeline must be a stakeholder-driven effort in cooperation with the Agency. The association, in considering the complex distribution system involving manufacturing, warehousing, retailing and installation, believes somewhere between three to six years will be necessary. The very real possibility of hundreds of millions of dollars in stranded inventory, must be avoided.

As the Automotive Warehouse Distributors Association (AWDA) is a core segment of the Auto Care Association, we look forward to assisting in any effort to gather all parties in the development of an implementation timetable.

Additionally, we would like to emphasize the need for enforcement. We recognize that the Agency has struggled with the costs involved in enforcement, but have remained frustrated that the tremendous investment the industry has made in emissions reduction by catalytic converters over the last four decades is continuously eroded by a steady increase of counterfeit and flawed product being imported into the U.S. with only a minimum of enforcement efforts. This absence of enforcement has only grown worse in the last decade by the inability to effectively police the internet.

The association suggests that the enforcement issue may be another opportunity for the aftermarket catalytic converter stakeholders to work with the Office of Enforcement Compliance Assurance in a search for sensible solutions to mitigate the problems.

The Auto Care Association appreciates the opportunity to follow up with the Agency and applauds the effort to engage with the stakeholders while considering the regulation of catalytic converters and the relevance of the 1986 Catalyst policy.

Sincerely,



Aaron Lowe
Senior Vice President of Regulatory and Government Affairs

cc: Evan Belser, Chief, Vehicle and Engine Enforcement Branch, U.S. EPA



February 12, 2021

Via email to tampering@epa.gov

Evan Belser

Air Enforcement Division

Office of Civil Enforcement

Office of Enforcement and Compliance Assurance (MC 2242A)

U.S. Environmental Protection Agency (EPA)

1200 Pennsylvania Avenue, NW

Washington, DC 20460

Re: Notice of Availability of EPA Tampering Policy and Request for Information (RFI) Regarding 1986 Catalyst Policy; FRL-10015-93-OECA

Dear Mr. Belser:

The National Automobile Dealers Association (NADA) represents over 16,000 franchised automobile and truck dealers who sell new and used motor vehicles and engage in service, repair, and parts sales. They employ upwards of 1,200,000 people nationwide. The majority are small businesses as defined by the Small Business Administration.

Last year, EPA issued an RFI soliciting comments on its new vehicle and engine emissions Tampering Policy¹, on its 1986 catalyst policy, and on potential future enforcement regarding replacement catalytic converters for light-duty gasoline motor vehicles that are beyond their emissions warranty.² In part, EPA is specifically considering whether to withdraw the 1986 catalyst policy and instead apply provisions from the new Tampering Policy.³ In response to the RFI, NADA offers the following comments and suggestions.

I. Introduction

NADA applauds EPA for issuing its Tampering Policy. Updating the Agency's time-honored Memorandum 1A and consolidating its Exhaust System Repair Guidelines and Engine Switching Fact Sheet was long overdue. Given the highly sophisticated nature of today's on-road motor vehicle emissions control strategies, stringent anti-tampering policies and enforcement are necessary to ensure that emissions control benefits are realized in-use. To be clear, the Clean Air Act regulates the act of tampering as well as those aftermarket devices, systems, and

¹ [EPA Tampering Policy: The EPA Enforcement Policy on Vehicle and Engine Tampering and Aftermarket Defeat Devices under the Clean Air Act](#). Nov 2020.

² 85 Fed Reg. 80782-5 (December 14, 2020).

³These provisions are primarily found in "Reasonable Basis B" and in "Reasonable Bases A and F".

software that, when installed, degrade a vehicle's emissions performance. It is NADA's hope that EPA will periodically update its Tampering Policy, as necessary. In addition, EPA should conduct an outreach effort aimed at educating motor vehicle service facilities and technicians, aftermarket parts and software suppliers, and vehicle owners and operators regarding the importance of avoiding emissions tampering.

Regarding aftermarket catalysts, NADA has long recognized the duty of its members to comply with the 1986 catalyst policy to the extent that they install aftermarket catalytic converters in addition to original equipment replacement parts. NADA has always recognized the need for and fully supports EPA's compliance and enforcement efforts to stop the sale and installation of less effective replacement catalysts as such devices undercut air quality improvement efforts, erode customer trust, and negatively impact vehicle resale value. NADA supports EPA's proposal to withdraw its 1986 catalyst policy and to instead apply provisions in its Tampering Policy to replacement catalytic converters. But, as discussed below, EPA should provide for a reasonable transition period that prioritizes clarity and certainty, fosters enforcement consistency, and incorporates compliance assistance initiatives.

II. What should be EPA's aftermarket catalyst policy moving forward?

The goals of 1986 catalyst policy were reasonable⁴ and it has served well to accomplish them. A new policy focus is now called for. Consistent with the significant advances in catalytic converter performance and durability that have occurred for original equipment replacement catalytic converters, EPA should establish more stringent emission performance and durability requirements for new aftermarket converters. EPA should also continue to stress that new aftermarket converters may only be installed post-warranty unless a vehicle's manufacturer specifically authorizes otherwise.

NADA supports EPA's suggestion that it withdraw its 1986 catalyst policy and instead apply appropriate provisions of its Tampering Policy. As applied, the EPA would endeavor to find a reasonable basis for concluding that an aftermarket catalyst is as effective as the vehicle's original catalyst and that it will remain as effective for at least half of the vehicle's "useful life" as defined in EPA regulations.⁵ This performance standard will serve to harmonize catalyst policies across the country, to foster enforcement consistency, and to better account for improvements in catalytic converter performance and durability.

NADA has long suggested that the 1986 catalyst policy should have been issued as a regulation rather than as an enforcement policy. Regardless, NADA is pleased that EPA is now carefully identifying and considering areas of potential policy improvement based on lessons learned,

⁴ Supporting fledgling state and local vehicle inspection programs by encouraging them to require their citizens to replace catalysts that were missing, lead poisoned, or otherwise ineffective; and encouraging the development of inexpensive, multiple-application catalysts, and to confirm the effectiveness of these products.

⁵ See Reasonable Basis B of [EPA Tampering Policy: The EPA Enforcement Policy on Vehicle and Engine Tampering and Aftermarket Defeat Devices under the Clean Air Act](#). Nov 2020.

industry feedback, and enforcement experience. Doing so should serve to, among other things, help eliminate gray areas in policy and enforcement interpretation across states.

III. Should EPA establish a consistent enforcement policy for all aftermarket emissions-related after-treatment parts and systems?

The RFI discusses the establishment of a consistent enforcement policy for all replacement after-treatment systems for vehicles and engines. After-treatment systems are devices that treat exhaust from the engine to reduce the amount of pollution emitted into the ambient air. These include catalytic converters, diesel particulate filters, selective catalytic reduction systems, and diesel oxidation catalysts. NADA fully supports the establishment of a consistent enforcement policy for all replacement vehicle and engine after-treatment systems, consistent with the catalyst performance standard discussed above. Of course, EPA should endeavor to update this new policy on an ongoing basis. As noted elsewhere herein, implementation of this policy should involve both a reasonable transition period and adequate outreach to potentially impacted stakeholders.

IV. What is the effect of changes to EPA's enforcement policy on catalyst costs?

Presumably, manufacturers, distributors, and installers of aftermarket after-treatment systems would incur the costs of managing stranded investments in systems that will not conform with EPA's updated policy. As with many new enforcement policies, an appropriate phase-out period should be afforded to enable old system inventory to "clear the market." A gradual phaseout transition period will minimize burdens on all stakeholders and minimize higher repair costs on vehicle owners and operators by providing manufacturers and suppliers more time to develop cost effective and policy-compliant products. By working to avoid excessive system cost increases, EPA will help avoid a situation where consumers are deterred from making necessary repairs. A reasonable transition will mitigate disruptions to businesses and consumers alike and will help serve the shared goal of improved air quality.

V. Issue involving work on previously tampered vehicles or engines.

In its Tampering Policy, EPA states that:

Where a person is asked to perform service on an element of an emissions control system that has already been tampered with, the EPA will generally take no enforcement action against that person for their subsequent conduct if the person restores the element to its certified configuration or declines to perform the service.

NADA urges EPA to modify this provision to as it fails to correctly recognize that service facilities can and often do work on tampered vehicles in a manner that neither causes further tampering nor "makes matters worse" with respect to the vehicle's emissions performance. While restoration of a tampered system is always a preferred option, the Clean Air Act neither mandates that a service facility working on a previously tampered vehicle restore that vehicle to its original certified condition nor, in the case of vehicle resellers, requires that previously

tampered vehicles be restored to their certification condition prior to resale. To be sure, NADA has consistently urged its members to adopt a practice of documenting when they discover signs of emissions tampering and to attempt to sell their customers on the value of having their tampered systems restored. Moreover, NADA has consistently urged its members to attempt to identify potential instances of emissions tampering prior to purchasing used vehicles for resale with the idea of potentially restoring tampered vehicles to their original certified condition prior to sale. However, it is simply inaccurate for EPA to suggest that, as a matter of law, a service facility that works on a vehicle without restoring its tampered condition is somehow violating the Clean Air Act by doing so, or that used vehicles purchased in a condition suggestive of emissions tampering *must* be restored prior to resale.

NADA looks forward to the opportunity to collaborate with EPA on the implementation of its new anti-tampering policies, outreach and education efforts designed to support such policies. On behalf of NADA, I thank EPA for the opportunity to comment on this matter.

Respectfully submitted,

/s/

Kaye Lynch-Sparks
Associate Director,
NADA Regulatory Affairs



**Comments of the
Motor & Equipment Manufacturers Association (MEMA)
to**

**U.S. Environmental Protection Agency
RE: Notice of Availability of EPA Tampering Policy and
Request for Information Regarding 1986 Catalyst Policy**

ID: EPA_FRDOC_0001-26252; FRL-10015-93-OECA

February 12, 2021

The Motor & Equipment Manufacturers Association (MEMA) submits these comments to the U.S. Environmental Protection Agency (EPA) on the “Notice of Availability of EPA Tampering Policy and Request for Information Regarding the 1986 Catalyst Policy.”¹ MEMA appreciates that EPA is issuing a Request for Information (RFI) and providing an important opportunity for stakeholders to provide early feedback on whether to update or withdraw the 1986 Catalyst Policy. MEMA supports EPA withdrawing the 1986 Catalyst Policy and instead using provisions in the EPA Tampering Policy for replacement catalytic converters. However, it is essential that EPA provides a reasonable transition period for this enforcement policy.

MEMA represents more than 1,000 companies that manufacture new original equipment (OE) and aftermarket components, systems and materials for use in passenger cars and heavy trucks. MEMA represents its member companies via the Automotive Aftermarket Suppliers Association (AASA); Heavy Duty Manufacturers Association (HDMA); MERA – The Association for Sustainable Manufacturing; and, Original Equipment Suppliers Association (OESA). The motor vehicle components manufacturing industry is the nation’s largest sector of manufacturing jobs – employing more than 900,000 workers in all 50 states.

Motor vehicle suppliers develop and produce a multitude of technologies and wide-range of products including complex, highly integrated vehicle systems to make vehicles more efficient and lower emissions. Suppliers are committed to providing affordable innovative technologies needed to increase fuel efficiency and continue to reduce vehicle emissions – including greenhouse gases (GHG), oxides of nitrogen (NOx), and particulate matter (PM).

Summary of MEMA Comments

MEMA supports a reasonable transition period to withdraw the 1986 Catalyst Policy and apply provisions of the EPA Tampering Policy instead for replacement catalytic converters. It is critical, however, that EPA provides a transition period of at least 3 years but ideally 5 to 6 years. A transition timeframe to the new enforcement policy that is too short could make replacing a

¹ 85 Fed Reg 80782

catalytic converter prohibitively expensive for most consumers. In turn, this could deter consumers from making necessary repairs. A reasonable, gradual transition to a new standard would mitigate increased costs to consumers by providing suppliers more time to develop and engineer products that meet the new standard; source cost-efficient critical materials; and allow for the sell through of legacy products and avoid stranding inventory. Providing a lengthened transition period would align with recent agency directives to consider environmental justice impacts when developing policies.²

Cost Implications of New Enforcement Policy

EPA requests stakeholder comment on cost implications if EPA applies the EPA Tampering Policy instead of the 1986 Catalyst Policy to replacement catalytic converters for gasoline light-duty motor vehicles that are beyond their emissions warranty. EPA explains in the RFI that more effective catalysts cost more than less effective catalysts because there is better design, better materials and higher amounts of expensive precious metals needed to reduce air emissions.³

MEMA supports the initiation of a reasonable transition period for withdraw of the 1986 Catalyst Policy and implementation of general provisions in the EPA Tampering Policy. However, EPA is correct to acknowledge that suppliers would incur significant costs. These costs include research and development, testing and validation, and retooling to produce parts to a new emissions performance level that is compliant with the new enforcement policy.

Further, it is important to highlight that the biggest cost driver with a catalytic converter is the precious metal content. Increased levels of precious metals will be needed for replacement converters that meet the new enforcement policy. As global emissions standards have tightened significantly, there has been a corresponding increase in the price of precious metals due to increased demand. Unfortunately, after the product has been designed and gone through the testing and validation periods, suppliers are forced to tolerate the volatile precious metal costs. This increasing imbalance between supply and demand for these precious metals will impact the cost to produce new catalytic converters compliant with EPA's new policy, causing the average price for catalytic converter replacements to rise. This rise in cost will impact the U.S. consumer.

Distributors and retailers will also face increased costs in a transition to a new enforcement policy for replacement catalytic converters. At any given time, there is an estimated 6 months to 2 years of aftermarket converters in inventories through the distribution system. Distributors and retailers could face increased costs. This is due to retailers and distributors being responsible for the full purchase of the value of the parts that they need to sell before the new enforcement policy implementation date. Distributors and retailers will also face added cost for inventory management, marketing and shipping of the new converters.

As a result of all these elements, EPA's enforcement policy does have a direct impact on the retail price and cost to consumers. The consumer will see the cost impacts from the increased price from the entire supply chain.

A good illustrative example is evaluating the significant retail price difference between the replacement catalysts that comply with the 1986 policy (federal converter) and a catalytic

² January 27 Executive Order: [Tackling the Climate Crisis at Home and Abroad](#)

³ 85 Fed Reg 80784

converter that meets California's state exemption requirements (CARB converter). The retail price differential between the federal converter to CARB converter can range anywhere between \$200 to \$1200 depending generally on the emissions level of the vehicle, the size of the engine, the required performance and durability of the replacement, among many other elements. Further, this incremental cost between federal converters and CARB converters can fluctuate even further due to the market prices of precious metals.

Consequently, unless there is a reasonable transition time for the industry, the price of new compliant catalytic converters could make replacing a catalytic converter prohibitively expensive for most U.S. consumers. A gradual transition to a new standard would mitigate increased costs to consumers.

MEMA's Recommended Timeline for Transition to a New Enforcement Policy

EPA requests stakeholder feedback on an appropriate timeline for an orderly transition to a new enforcement policy in the event the EPA replaces the 1986 Catalyst Policy.⁴ While MEMA supports a withdraw of the 1986 Catalyst Policy, MEMA urges EPA to provide a transition period of 3 to 6 years. A reasonable, gradual transition period could greatly mitigate the increased cost impact to suppliers, retailers, and most importantly consumers. This would provide the most benefit for the environment with the least disruption to consumers and the U.S. economy.

A reasonable, gradual transition to a new standard would mitigate increased costs to consumers by providing suppliers more time to develop a cost-efficient design of new converters that meet the new standard. A longer transition time would also allow suppliers to resource cost-efficient critical materials thereby mitigating large fluctuations in the precious metals market prices. A suitable transition period could also allow for a phase-out and an efficient turnover of the distribution and retail parts inventories avoiding stranding legacy products. Further, a transition time also needs to consider the current pandemic which impacts the ability of the industry to conduct product development and testing.

A transition time that is too short could make replacing a catalytic converter prohibitively expensive for most consumers, especially low-income Americans. Consequently, increased cost of catalysts could deter consumers from making necessary repairs. MEMA supports affordable access to clean vehicles for all Americans. The average age of a vehicle on the road today is 12.1 years and that number increases every year. If the transition time for this policy is too quick, it could disproportionately impact lower income Americans that rely on their vehicles to get to their jobs.

A reasonable transition time could mitigate disruption to consumers and go a long way to promoting equity. Importantly, this would align with the spirit of the Biden administration's agency directives to evaluate environmental justice impacts when developing policies.⁵

Because the 1986 Catalyst Policy serves as a baseline requirement nationwide, MEMA recommends a carefully planned transition to a new enforcement policy with thoughtful planning, outreach, education, and eventual execution. EPA should form a stakeholder work group that includes state air agencies, EPA regional offices, and industry to review implications and design an outreach plan. This outreach plan should communicate details of a new policy specific for motor

⁴ 85 Fed Reg 80784

⁵ January 27 Executive Order: [Tackling the Climate Crisis at Home and Abroad](#)

vehicle suppliers, supply chain, service technicians, state inspection and maintenance programs, and consumers. Careful planning will help to mitigate confusion throughout the supply chain, state environmental agencies and service technicians for inspection stations. The EPA and industry should establish important intermediate steps to develop a transition period ensuring progress is made in each step.

For the above reasons, a reasonable transition period of 3 to 6 years could greatly mitigate the increased cost impact to suppliers, retailers and most importantly U.S. consumers.

Conclusion

MEMA supports EPA withdrawing the 1986 Catalyst Policy as long as EPA provides a reasonable transition period to the new policy. MEMA requests a transition time of at least 3 years but ideally 5 to 6 years. This timeframe will allow for motor vehicle suppliers to develop and provide cost-effective aftermarket technology and allow retailers and distributors to turnover older aftermarket converter products and become educated on the new requirements for the products. A reasonable timeframe will aid in mitigating significant increased cost for U.S. consumers.

Thank you for consideration of these comments. MEMA looks forward to providing EPA further feedback on the transition to a new policy and working with EPA on this important effort. For more information, please do not hesitate to contact Laurie Holmes, MEMA senior director of environmental policy at 202-422-6182 or lholmes@mema.org.

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Bruce A. Ronning
Group Vice President and General Manager
Americas Aftermarket



Tenneco Inc.
One International Drive
Monroe, Michigan 48161
Tel 734-243-8333 ▪ Fax 734-384-7572

February 12, 2021

VIA EMAIL

Evan Belser
Air Enforcement Division, Office of Civil Enforcement
Office of Enforcement and Compliance Assurance, Mail Code 224A
Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington DC 20460

Re: Catalyst Policy: Comments in Response to the EPA's Request for Information Relevant to the Agency's Ongoing Evaluation of the 1986 Catalyst Policy

Dear Mr. Belser:

Tenneco is proud to be a global leader in the manufacturing of emission control systems for Original Equipment (OE) customers and the Aftermarket. Indeed, our Walker Exhaust product line has supplied exhaust systems and parts to the aftermarket for more than a century. We are also innovators of technologies which are designed to lower harmful emissions, while improving vehicle performance and fuel efficiency. We thus understand and support the EPA's efforts to implement enforcement policies which help to maintain clean air.

Pursuant to EPA's request for comment, Tenneco is providing comments related to EPA's request for information regarding the *Sale and Use of Aftermarket Catalytic Converters*, 51 Fed. Reg. 28, 114 and 51 Fed. Reg. 28132 (Aug. 5, 1986) ("1986 Catalyst Policy"). With respect to EPA's request for information, Tenneco has concerns regarding the feasibility of applying the *EPA Tampering Policy: The EPA Enforcement Policy on Vehicle and Engine Tampering and Aftermarket Defeat Devices under the Clean Air Act* ("Tampering Policy") to aftermarket catalytic converters.

Initially, the policy's proposed standard for a "reasonable basis" would require a higher level of precious metal loading on substrate bricks used in aftermarket catalytic converters, than is currently required under the 1986 Catalyst Policy. While this change in formulation may contribute to cleaner air, it will also make replacing a catalytic converter prohibitively expensive for many Americans, particularly in light of the short timeline for implementation and rapidly

increasing prices for precious metals. Applying the Tampering Policy to aftermarket catalytic converters could have the unintended consequence of deterring consumers from completing necessary repairs. A more gradual implementation of the new standard would help to mitigate these costs by providing manufacturers more time to: stage the required testing and validation, search for a cost-effective supply of critical materials, and, replace legacy products currently on the market with systems that are compliant with the new enforcement policy. In addition, implementation of this change in policy may, in turn, require changes to policy oversight and enforcement at the agency level, including expansion of manufacturing compliance efforts, as well as increased vehicle inspection requirements at the state level.

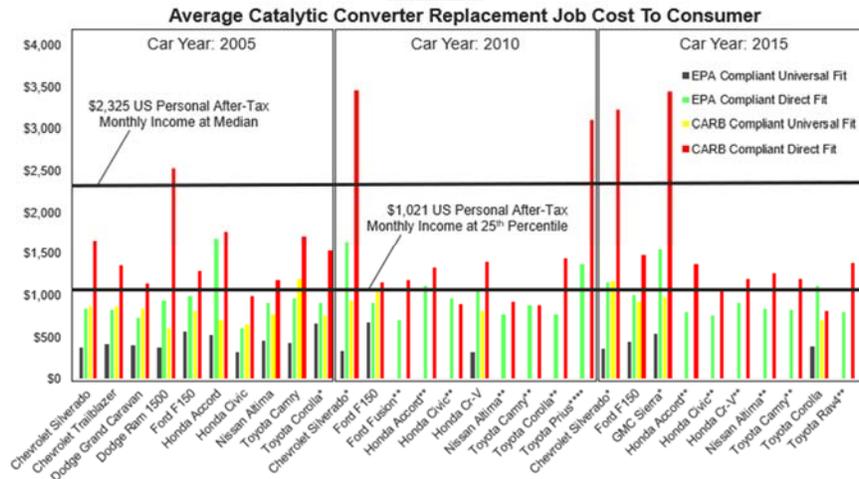
We have outlined these comments along with supporting data, and respectfully submit suggestions that would enable the EPA to reach its objectives for aftermarket catalytic converters – doing the most good for the environment with the least disruption to consumers and the economy. For the reasons described below, Tenneco requests that EPA either delay issuance of a new policy for aftermarket catalytic converters or delay application of the Tampering Policy to aftermarket catalytic converters until the completion of stakeholder meetings with aftermarket manufacturers and distributors in order to develop a transition process for application of the new policy. We appreciate your consideration of our submission and our efforts to help bring cleaner air to all Americans and future generations alike.

A. Cost Implications – Lower-Income Consumers Most Severely Impacted

First, the change in policy would force a significant increase in the price of replacement catalytic converters impacting lower-income consumers most severely, and would potentially result in more emissions as consumers forego required maintenance.

To weigh the possible impact that policy changes would have on average consumers, we used the cost to replace a California Air Resources Board (CARB) compliant aftermarket catalytic converter as a proxy for the cost of products that would be compliant with an updated Tampering Policy. We completed this analysis across the top 10 selling vehicles on a volume basis for 2005, 2010, & 2015 model years. Our findings, shown in figure 1, indicate that an individual with a median U.S. income who drives a 2005 model vehicle would spend an average of 50% of their monthly after-tax pay on replacing their CARB compliant aftermarket catalytic converter. If the consumer drives a 2010 model, this increases to 61% of their monthly take-home pay. These findings are even more concerning for individuals in the 25th income percentile, as a CARB compliant catalytic converter replacement cost could be 114% of the consumer's after-tax monthly income if they drive a 2005 model and increases to 140% of monthly take-home pay if they drive a 2010 model. Consumers at the median income and below could be forced to choose between either paying for essential items or paying for the catalytic converter replacement needed to legally drive their vehicle.

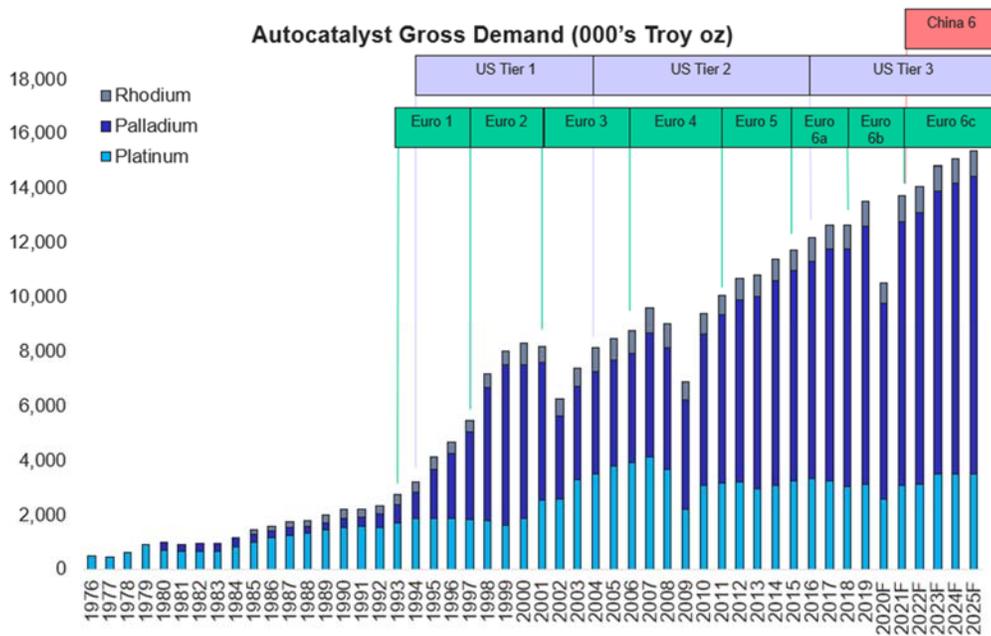
Figure 1¹



B. Cost Implications: Rising PGM Prices Drive Catalytic Converter Costs to Historic Highs

The amount of precious metal content within a given catalytic converter is the main cost driver. Platinum, palladium, and rhodium are the essential Platinum Group Metals (PGMs) used for this catalytic process. As global emission standards have become more stringent, demand for these metals has increased and will continue to do so, given the metals’ unique effectiveness at reducing emissions. See figure 2.

Figure 2²



¹ Source: United States Census Bureau; quotes from auto shops around the U.S. 4 EPA Compliant (2 Direct Fit + 2 Universal), 2 California Compliant (1 Direct Fit + 1 Universal) per model per year where applicable. * Direct fit models that have multiple converters; ** CARB only available as Direct Fit (i.e. no Universal), so EPA Direct Fit only used for comparability; *** Only available as Direct Fit, and these models have multiple converters in series; **** All Toyota Prius models have multiple converters in series and only option for CARB compliance is OES.

² Figures 2, 3 and 4 incorporate data from Precious Metals Commodity Management LLC; available at <https://www.preciousmetalscommoditymanagement.com/>.

A significant concern for environmentalists and industry alike is the inability of global mining and recycling to keep pace with demand for PGMs. Rhodium has seen the most significant price pressure in recent history due to this supply and demand imbalance. From 2018-2020 the average daily price of rhodium has increased from \$2,200 per troy ounce to \$11,231 per troy ounce. As of January 2021, rhodium prices have increased to over \$20,000 per troy ounce. This is over an 800% increase in price from 2018-2020. Further exacerbating this issue is the fact that the supply and demand imbalances for rhodium and palladium are projected to continue into the future. (See figures 3 and 4.) This increasing imbalance between supply and demand for PGMs will increase the cost to produce catalytic converters, causing the average price for catalytic converter replacements to continue rising, and hurting the average American consumer.

Figure 3

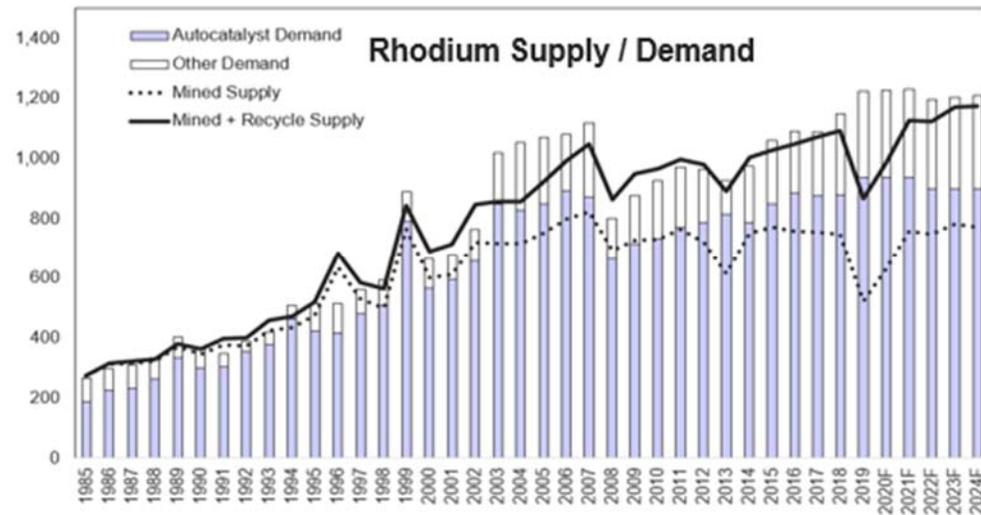
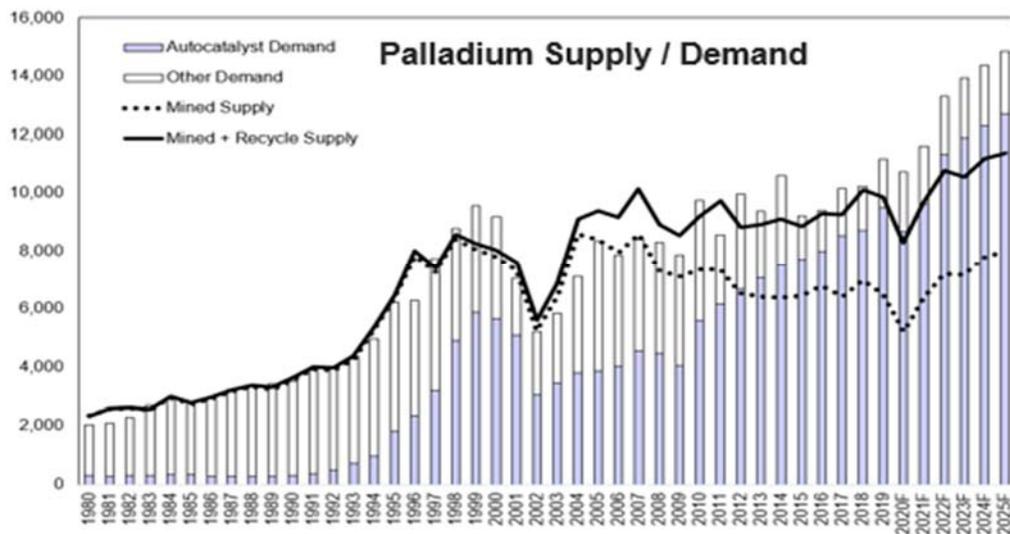


Figure 4



C. Phased Transition Timing Would Help Mitigate Impact on Consumers and the Economy

Tenneco estimates that an industry implementation of a new Tampering Policy could take up to six years when considering the time required for new design engineering and development, new design product launch, and transition of legacy and new design inventory through the entire supply chain.

Step	Est. Time
Engineering Development	1.5 Years
Supply Chain Ramp-up and Product Launch	1.0 – 2.0 Years
Inventory Transition	2-3 Years
Total	~5-6 Years

The pace of achieving CARB Executive Orders illustrates the time period required to engineer and validate new converters. Since 2008, CARB executive orders have been issued covering an average of 312 emissions test group numbers per year (excluding outliers). At this pace, it would take the industry approximately 1.4 years to complete the required engineering development work to cover the incremental emission test group numbers. It will take at least an additional one to two years for manufacturers to ramp up supply chains and produce the new products required.

It is difficult to predict how the industry will be able to transition from current inventory to the new converters, particularly if based on a single, fixed implementation date, but we estimate this transition could require 2-3 years. To illustrate, with a fixed implementation date, distributors would end up holding an inventory of legacy catalytic converters with a strict sell-by date. At the same time, distributors will need to start investing in an inventory of (more expensive) parts that will comply with the new Tampering Policy. The significant cash required for the compliant product will incentivize the distribution channels to delay purchasing until the last possible point in time, as they try to sell down on-hand inventory. This creates inefficiencies in production and distribution and creates the risk of substantial unusable legacy inventory on hand after the deadline. Based on public data, Tenneco estimates that over \$400M worth of legacy inventory may be stranded if the policy is enacted on a single fixed implementation date.

As the above illustrates, implementation of the proposed Tampering Policy is a complicated endeavor. Tenneco respectfully suggests that the EPA hold stakeholder meetings with manufacturers and distributors to formulate an optimal timeline and phasing strategy which could even enable an earlier utilization of products compliant with a new Tampering Policy, thus shortening the overall time required to complete the full transition of products in the market. Additionally, a phased implementation will reduce economic risks to both manufacturers and distributors of aftermarket catalytic converters, while also ensuring that consumers have access to catalytic converters they can afford to purchase.

D. New Tampering Policy Challenges – Aftermarket Product Compliance

Once a new Tampering Policy is established, sufficient oversight and compliance will be required to ensure a level playing field for all manufacturers and distributors. Product labeling requirements will be essential to the EPA's compliance efforts. We support the continued application of the same labeling standard (requiring identification of the part manufacturer), for all new aftermarket catalytic converters, as originally was established in the 1986 Catalyst Policy.

Without oversight –and product traceability –there will be a potential incentive for bad actors to produce products at a level below policy requirements. The ramifications of this are two-fold. First, emission standards may not be met, thus reducing the policy's effectiveness. Second, bad actors will reduce the precious metal load on the catalytic converters to levels below what is required to comply with the new Tampering Policy. These bad actors will be at a significant cost advantage compared to other manufacturers (such as Tenneco) that follow the policy, and these bad actors will be in a position to defraud consumers by slightly underselling the compliant producers. Ensuring a level playing field across all manufacturers and distributors, and avoiding fraud on consumers, is of paramount concern to Tenneco and others in the industry determined to meet and exceed standards put forth by the new Tampering Policy.

E. New Tampering Policy Challenges – State Emissions Inspection Standards

As of January 2021, 17 states with 67 million registered vehicles – 22% of all vehicles on the road in the United States – do not require emissions inspection. Without sufficient oversight, there may be an incentive to sell the non-compliant catalytic converters to customers in those states. Additionally, there may be an incentive to redistribute non-compliant vehicles to those states through used car networks. This would hamper the overall reduction in emissions that the proposed new Tampering Policy hopes to achieve. Another possibility to consider is that motorists may opt to skip replacing defective catalytic converters as products compliant with the new Tampering Policy will be more expensive. Continued EPA tampering enforcement will be necessary to ensure installers and distributors comply with the Clean Air Act.

F. Standardized Emission Test Group Data Publication Would Facilitate Aftermarket Adoption

Currently, EPA emission test group data publication is cumbersome for aftermarket manufacturers. Depending on the emission test group number, as many as four data sources must be searched to compile all the necessary information, and much of the data in earlier model years is incomplete. Tenneco recommends an emission test group data publication standard similar to CARB's current standard, where all the information required is in one location and readily obtainable. Streamlining complete emission test group data publication into one format or database would incentivize aftermarket coverage for more models sooner as

the engineering teams can evaluate technical requirements more effectively when all the information is accessible.

* * * * *

Tenneco looks forward to doing our part to optimize air quality for generations to come. To help achieve this common goal, Tenneco recommends collaboration between aftermarket industry stakeholders and the EPA to formulate an optimal timeline and phasing strategy. Tenneco requests that EPA delay issuance of a new policy for aftermarket catalytic converters or delay implementation of the Tampering Policy for aftermarket catalytic converters until the EPA holds stakeholder meetings with aftermarket stakeholders. Collaborative meetings between industry and the EPA would ensure that we achieve the highest possible clean air standards while minimizing the negative impacts on consumers and the economy alike. Finally, Tenneco suggests that the EPA's enforcement of any aftermarket catalytic converter policy EPA chooses to implement is critical to maintaining a level playing field in the industry and ensuring compliance.

Tenneco offers its continued support for the EPA's efforts, and we welcome the opportunity to discuss our comments with the agency in greater detail. We look forward to partnering with the EPA on this policy and in the future.

Sincerely,



Bruce Ronning
Group Vice President and General Manager
Americas Aftermarket

cc: Evan Belser, Deputy Director, Air Enforcement Division

Attachments

Appendix

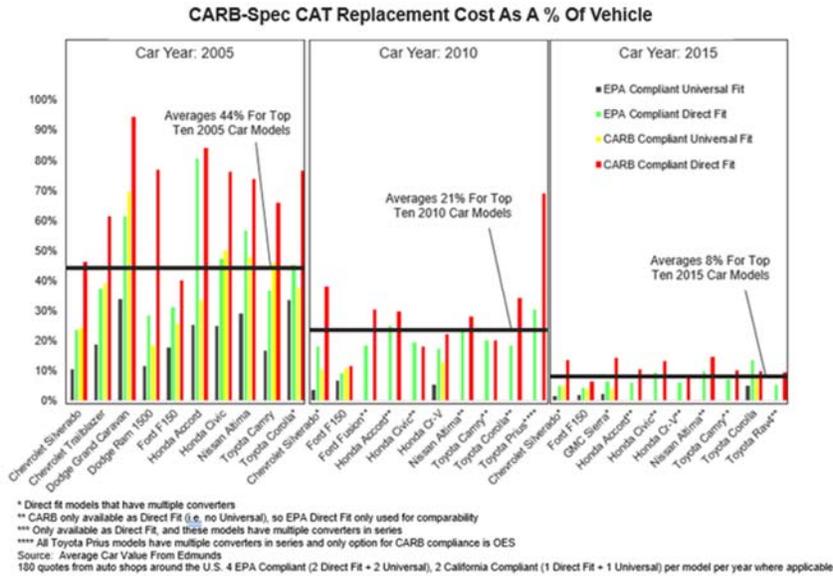
Average U.S. Income Data

2019 Median Annual American Personal Pre-Tax Income:	\$35,977
2019 Median Annual American Household Pre-Tax Income:	\$68,703
2019 Median Monthly American Personal Post-Tax Income:	\$2,325
2019 Median Monthly American Household Post-Tax Income:	\$4,174

2019 25% Annual American Personal Income:	\$14,000
2019 25% Annual American Household Income:	\$35,000
2019 25% Monthly American Personal Post-Tax Pay:	\$1,021
2019 25% Monthly American Household Post-Tax Pay:	\$2,370

Source: United States Census Bureau – Pennsylvania Rate Used with Median Effective State Income Tax Rate

Catalytic Converter Replacement Cost As A % Of Vehicle Value



2005 Average Car Value

Make	Model	Year	Vehicle Count	Average Car Value
Chevrolet	Silverado	2005	547,623	\$3,600
Ford	F150	2005	420,992	\$3,200
Toyota	Camry	2005	281,940	\$2,600
Honda	Accord	2005	265,131	\$2,100
Toyota	Corolla	2005	214,310	\$2,000
Dodge	Ram 1500	2005	198,169	\$3,300
Honda	Civic	2005	190,493	\$1,300
Nissan	Altima	2005	189,061	\$1,600
Chevrolet	Trailblazer	2005	158,521	\$2,200
Dodge	Grand Caravan	2005	152,226	\$1,200
Average:	N/A	N/A	N/A	\$2,310

Source: Average Car Value From Edmunds

2010 Average Car Value

Make	Model	Year	Vehicle Count	Average Car Value
Ford	F150	2010	489,171	\$10,000
Toyota	Corolla	2010	361,543	\$4,200
Honda	Accord	2010	249,867	\$4,500
Toyota	Camry	2010	249,623	\$4,400
Chevrolet	Silverado	2010	239,350	\$9,100
Ford	Fusion	2010	228,911	\$3,900
Honda	Civic	2010	220,544	\$5,000
Toyota	Prius	2010	209,600	\$4,500
Nissan	Altima	2010	187,337	\$3,300
Honda	Cr-V	2010	177,753	\$6,300
Average:	N/A	N/A	N/A	\$5,520

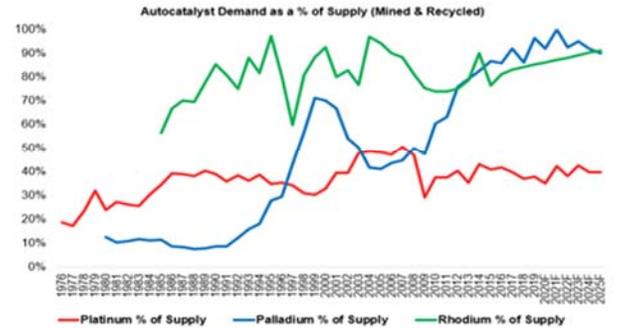
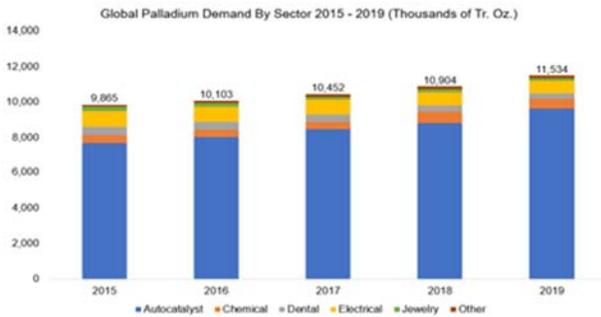
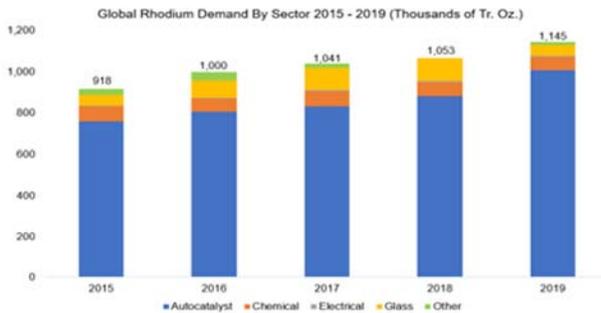
Source: Average Car Value From Edmunds

2015 Average Car Value

Make	Model	Year	Vehicle Count	Average Car Value
Chevrolet	Silverado	2015	686,178	\$24,000
Ford	F150	2015	615,769	\$23,000
Nissan	Altima	2015	427,741	\$8,700
Honda	Cr-V	2015	345,793	\$15,500
Honda	Accord	2015	335,619	\$13,200
Toyota	Rav4	2015	333,321	\$15,000
Honda	Civic	2015	331,502	\$8,300
Toyota	Camry	2015	326,659	\$12,000
Toyota	Corolla	2015	310,388	\$8,300
GMC	Sierra	2015	293,612	\$24,600
Average:	N/A	N/A	N/A	\$15,260

Source: Average Car Value From Edmunds

PGM Demand Data



Johnson Matthey PGM Report - February 2020

Source: Precious Metals Commodity Management LLC <https://www.preciousmetalscommoditymanagement.com/>
Johnson Matthey PGM Report - February 2020 / May 2020

Vehicle Emissions Inspections Map

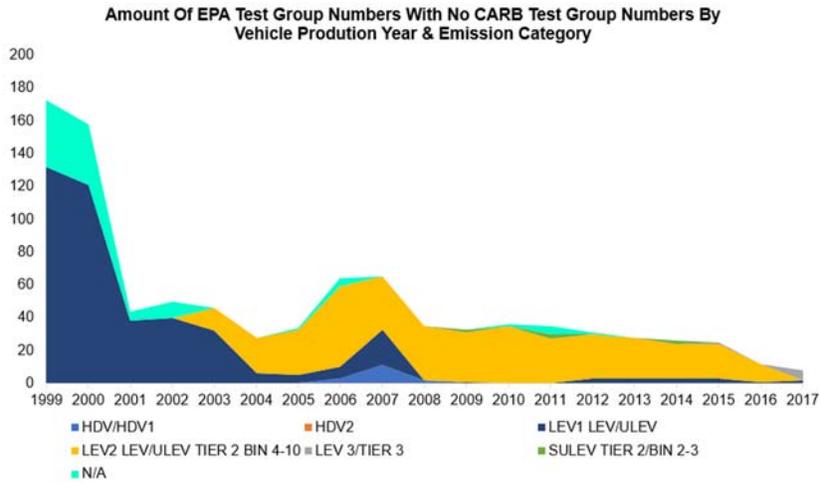
Vehicle Emissions Inspection Requirements By State



- Emissions Inspections Required
- Emissions Inspections Not Required

Source: <https://www.emissions.org>, VIO

CARB / EPA Current Figures





Via electronic delivery

February 12, 2021

EPA Headquarters
Office of Enforcement and Compliance Assurance
1200 Pennsylvania Avenue NW
Washington, DC 20460

Re: Notice of Availability of EPA Tampering Policy and Request for Information Regarding 1986 Catalyst Policy, FRL-10015-93-OECA

To Whom It May Concern in U.S. EPA's Office of Enforcement and Compliance Assurance:

The Automotive Recyclers Association appreciates the opportunity to submit the following comments for consideration by U.S. EPA's Office of Enforcement and Compliance Assurance (EPA) to assist in the agency's ongoing evaluation of the EPA's 1986 enforcement policy on the Sale and Use of Aftermarket Catalytic Converters (1986 Catalyst Policy).¹ ARA encourages the EPA to update the 1986 Catalyst Policy so that the agency can best support its environmental goals and the general public interest.

Since 1943, the Automotive Recyclers Association (ARA) has represented professional automotive recyclers, a vibrant and thriving part of the automotive supply chain. ARA's mission is to advance the automotive recycling industry and promote its beneficial effects on society. ARA and its members are dedicated to the efficient removal and re-utilization of ROE-Recycled Original Equipment® which are genuine original equipment manufacturer (OEM) automotive parts – and the safe disposal of inoperable motor vehicles.

Automotive recyclers process over 12 million vehicles per year, making automobiles the most recycled item in the world. The automotive recycling industry is in the top 20 largest in the U.S., valued at an estimated \$32 billion dollars annually. Professional automotive recycling facilities play an important role

¹ Sale and Use of Aftermarket Catalytic Converters, 51 Fed. Register 28114 (August 5, 1986).

in the economic marketplace, providing a counterbalance to more expensive new replacement parts and ensuring competition in the automotive vehicle replacement parts market.

In addition to the critical role they play in the automotive supply chain and automotive vehicle replacement parts market, professional automotive recyclers play a valuable role in the efficient, environmentally friendly disposal of inoperable motor vehicles. Automotive recycling preserves natural resources, reduces the demand for scarce landfill space, and plays an important role in reducing air and water pollution.

I. Summary

ARA recommends that the EPA update its 1986 Catalyst Policy so that the EPA's original policy goals can be more effectively achieved, which will lead to improved air quality. The policy goal behind the creation of the 1986 Catalyst Policy was to allow consumers to have access to **“less expensive yet still effective aftermarket converters [which would] give owners more incentive to replace their worn-out converters, [thus] keeping our air cleaner.”**² However, while the EPA's 1986 policy goals are capable of being effective in ensuring that vehicle owners are incentivized to replace worn-out or missing catalytic converters (catalysts) by permitting the installation of cost effective replacements, the 1986 Catalyst Policy has been unsuccessful in achieving these goals. The failure of the 1986 Catalyst Policy is particularly apparent as it relates to used aftermarket catalysts (used OEM catalysts). There are still too many vehicles on the road³ with worn-out or missing catalysts, which are causing an enormous amount of harmful pollutants to negatively affect air quality.

The 1986 Catalyst Policy has proven ineffective in providing vehicle owners with the ability to purchase used OEM catalysts, which are more affordable than new OEM and new aftermarket catalysts. As a general rule, recycled used OEM replacement parts typically cost 40 to 60 percent less than new OEM replacement parts. New OEM catalysts are expensive to replace and the replacement part alone (not counting labor costs) could cost well over \$1,000.00 depending on the year make and model of the vehicle.⁴ Due to automotive recyclers' being unable to resell used OEM catalysts as repair parts because of the stringent and impractical testing requirements in the 1986 Catalyst Policy, it is impossible to tell how much cheaper a used OEM

² U.S. Environmental Protection Agency, Office of Air and Radiation, EPA-420-F-00-101, *What You Should Know About Using, Installing, Or Buying Aftermarket Catalytic Converters* (September 2000).

³ The number of vehicles on U.S. roads with worn-out or missing catalysts could be in the millions based upon data finding that anywhere between 3 to 8 percent of vehicles are incapable of passing emissions tests and that in some jurisdictions up to 15.2 percent of vehicles are granted emissions test waivers.

⁴ The price of a new OEM replacement catalyst for a 2015 Chevrolet Silverado costs \$1,511.69 and the cost of only one catalyst (out of two) on a 2015 Ford F150 costs \$660.11.

catalyst replacement would be since automotive recyclers mostly sell their used OEM catalysts for scrap metal. By not being able to sell used OEM catalysts as repair parts and putting them to their best and highest use, automotive recyclers must sell their catalysts for scrap metal, which exacerbates catalyst thefts. If the EPA makes updates to the 1986 Catalyst Policy that would more easily permit vehicle owners to purchase used OEM catalysts for repair purposes, vehicle owners will be more incentivized to replace ineffective or missing catalysts on their vehicles.

The current EPA testing standards for used OEM catalysts in the 1986 Catalyst Policy are too stringent to achieve the air quality goals of the EPA. Therefore, the EPA should lower the testing standards for used OEM catalysts in the following ways because it would be better for overall air quality if vehicle owners could replace worn-out or missing catalysts with, higher-functioning, used OEM catalysts rather than not replacing the catalyst at all. To achieve better air quality, the EPA should: (1) update the 1986 Catalyst Policy as it relates to used aftermarket catalysts and implement a new framework to better allow for the resale of used OEM catalysts for vehicle repairs; (2) not withdraw the 1986 Catalyst Policy so that the EPA’s 2020 enforcement policy on vehicle and engine tampering⁵ governs the sale and installation of used OEM catalysts; and (3) modify its use of the term “aftermarket” to only include “new aftermarket” and not “used aftermarket.” “Used aftermarket” should be referred to as used OEM parts. By updating the 1986 Catalyst Policy in the aforementioned ways, which would lower the currently high standard to sell and install a used OEM catalyst as a replacement part, the EPA would be able to create a cleaner environment through increased air quality by incentivizing and making it easier for vehicle owners to replace worn-out or missing catalysts.

II. The EPA’s 1986 Catalyst Policy has failed to achieve its goal of increasing public access to affordable replacement used OEM catalysts that would improve air quality.

In 1986, the EPA realized that while “permitting only new OE converters to be used as replacements would ensure full effectiveness [and compliance with section 203(a)(3) of the Clean Air Act], these parts are generally quite expensive and some State and local vehicle Inspection/Maintenance (I/M) program officials are reluctant to require converter replacement for missing or damaged converters because of the expense.”⁶ The EPA wanted the 1986 Catalyst Policy to encourage the development of inexpensive catalysts while

⁵ U.S. Environmental Protection Agency, Assistant Administrator for Enforcement and Compliance Assurance, *EPA Tampering Policy: The EPA Enforcement Policy on Vehicle and Engine Tampering and Aftermarket Defeat Devices Under the Clean Air Act* (November 23, 2020).

⁶ Sale and Use of Aftermarket Catalytic Converters, 51 Fed. Register 28114 (August 5, 1986).

ensuring the effectiveness of the replacement catalysts.⁷ The 1986 Catalyst Policy, while correct in diagnosing the problem associated with the high cost of new OEM replacement catalysts, nevertheless failed by making the testing standards for used OEM catalysts too stringent and impractical. By making it cost prohibitive to replace a worn-out or missing catalyst, the 1986 Catalyst Policy is ultimately against the public interest and is counterproductive to the EPA's efforts to improve air quality. **The testing standard set by the EPA for used OEM catalysts has been too stringent and the catalyst replacement market envisioned in 1986 by the EPA⁸ for inexpensive effective catalysts has not materialized.**

As part of its goal to provide vehicle owners with access to inexpensive replacement catalysts, the EPA permitted two categories of aftermarket catalysts to be sold: new and used.⁹ The term "used aftermarket" is defined by the EPA as being "a previously used OE converter which does not meet the definition of a new converter."¹⁰ According to the 1986 Catalyst Policy, used OEM catalysts can only be used in a vehicle repair if it passes the following three tests: (1) container mechanical integrity check; (2) substrate mechanical integrity check; and (3) performance test.¹¹ While these three tests can help to determine whether or not a catalyst is operating effectively compared to new OEM catalysts to control emissions from combustion engines, they are difficult to conduct and are impractical for the professional automotive recycler – the main source for used OEM catalysts. As a result, professional automotive recyclers do not resell used OEM catalysts for repair because of the difficulties associated with running these three tests and the high standard the EPA set with regard to performance for the replacement part. **Professional automotive recyclers operate as if it were federally prohibited to sell a used OEM catalyst for repair purposes, which was never the intent of the EPA.**

Therefore, the 1986 Catalyst Policy, while well-intentioned with its goal to encourage vehicle owners to replace worn-out or missing catalysts, has failed to provide vehicle owners with adequate options to replace worn-out or missing catalysts with inexpensive, used OEM catalysts. The 1986 Catalyst Policy envisioned that the policy would "allow additional businesses to enter the converter replacement market to produce, market, or install acceptable quality replacement converters." However, the 1986 Catalyst Policy failed by making the testing standards for used OEM catalysts too stringent. **The EPA's policy goal should be reoriented to enable vehicle owners with worn-out and missing catalysts to purchase replacement**

⁷ *Id.*

⁸ *Id.* at 28116.

⁹ *Id.*

¹⁰ *Id.* at 28118.

¹¹ *Id.*

catalysts with effective, used OEM catalysts that perform at a level sufficient to meet acceptable performance standards.

For older, out-of-warranty vehicles with worn-out or missing catalysts, the public would benefit if vehicle owners were given an economic incentive to replace their worn-out or missing catalysts with inexpensive yet effective used OEM catalysts. **The EPA's goal of achieving cleaner air quality is frustrated by state and local policies that allow vehicles with worn-out or missing catalysts to remain on the road, emitting harmful pollutants. The EPA has been aware of this problem all along and it hoped that the 1986 Catalyst Policy would address it.**¹² When an older vehicle is missing a catalyst and/or fails a state or local emissions test due to a catalyst issue, many jurisdictions provide waivers to vehicle owners – thereby allowing vehicles emitting excessive pollutants back on public roads. For example, the Illinois Environmental Protection Agency found that 7 percent of light-duty vehicles failed emissions tests in 2014¹³ and that this number was even higher at 8.4 percent in 2000.¹⁴ While this is only one jurisdiction, it is likely that there are millions of vehicles on U.S. roadways with worn-out or missing catalysts, which is leading to a tremendous amount of air pollution. Therefore, it is not an insignificant issue that a large number of U.S. vehicles have faulty emissions systems that should be replaced to improve air quality. By allowing vehicle owners access to inexpensive, used OEM catalysts through a loosening of the high testing standards in the 1986 Catalyst Policy, the EPA would inevitably increase the number of vehicles passing or that are capable of passing an emissions test.

Equally concerning is the practice of many jurisdictions having to grant waivers to vehicles that have failed emissions tests in order to prevent individuals from failing to register their vehicles with state motor vehicle departments.¹⁵ While it is understandable that jurisdictions must grant waivers so that individuals are not overly burdened by the cost of repairing a vehicle to pass an emissions test, **the EPA should also be concerned with helping lower income individuals afford sufficient replacement parts. Jurisdictions that have felt the need to issue waivers undermine the purpose of emissions testing and the EPA's efforts to curb air pollution from vehicles.** Typically, waivers are conditioned on a vehicle owner making a minimum expenditure to resolve the emissions test failure. However, the minimum expenditure required

¹² Sale and Use of Aftermarket Catalytic Converters, 51 Fed. Register 28114 (August 5, 1986).

¹³ Marni Pyke, *More than 130,000 vehicles fail state emissions tests*, Daily Herald (March 28, 2016), <https://www.dailyherald.com/article/20160328/news/160329028/>

¹⁴ Office of the Auditor General, *IEPA's Vehicle Emissions Testing Program*, (2001), <https://www.auditor.illinois.gov/Audit-Reports/Performance-Special-Multi/Performance-Audits/FY01-IEPA-Emissions-MGMT-digest.html>

¹⁵ Some states and localities that offer emissions waivers are Utah, Connecticut, Missouri, Indiana, Colorado, Virginia, Rhode Island, Tennessee

varies greatly by jurisdiction, and in many cases the expenditure is less than the cost of a replacement new OEM or new aftermarket catalyst. State and local emissions test waivers run counter to the EPA's goal of providing cleaner air quality because they allow vehicles to stay on the roads despite having faulty emissions control systems. The EPA is aware of how widespread this issue is and has found that three states had waiver rates of 13 percent to 15.2 percent.¹⁶ Therefore, the 1986 Catalyst Policy's failure to create a market of inexpensive yet effective used OEM catalysts has contributed to a level of dysfunction that has made it harder to bring vehicles into emissions compliance, which is completely contrary to the intent of the 1986 Catalyst Policy and the goals of state and federal regulators. **The need for jurisdictions to issue waivers will be reduced if inexpensive used OEM catalysts are available for repair purposes.**

An additional problem is that vehicle owners failing state or local emissions tests due to catalyst issues may refuse to re-register their vehicles rather than pay for an expensive new replacement catalyst. While there are no exact numbers as to the total number of unregistered vehicles and vehicles unregistered due to failed emissions tests, the EPA would provide a greater incentive to these individuals to repair their vehicles if they could purchase inexpensive yet effective used OEM catalysts. **It would be better if the EPA permitted sufficiently effective catalysts to be used as replacement parts rather than continuing to restrict the market for replacement catalysts.**

The public would benefit from increased air quality if effective used OEM catalysts could be more easily resold for repair purposes. By relaxing the currently high testing standards for used OEM catalysts in the 1986 Catalyst Policy, the EPA will be able to achieve its goal of incentivizing vehicle owners to replace ineffective or missing catalysts throughout the country.

III. The EPA can achieve its goal of increasing U.S. air quality by updating its 1986 Catalyst Policy to better allow effective used OEM catalysts to be sold in cases where a vehicle has a worn-out or missing catalyst.

The EPA can achieve its goal of improving air quality in the U.S. by updating its 1986 Catalyst Policy on used OEM catalysts. For the last 35 years, the EPA has held that air quality will improve if vehicle owners have the ability to replace worn-out or missing catalysts with inexpensive replacement catalysts.¹⁷

¹⁶ U.S. Environmental Protection Agency, Office of Inspector General, Report No. 18-P-0283, *Improving Air Quality: Collecting Additional Performance Data from States Would Help EPA Better Assess the Effectiveness of Vehicle Inspection and Maintenance Programs* (September 25, 2018).

¹⁷ United States Environmental Protection Agency, Office of Air and Radiation, EPA-420-F-00-101, *What You Should Know About Using, Installing, Or Buying Aftermarket Catalytic Converters* (September 2000).

However, the EPA has not been able to create a market for inexpensive, yet effective, catalysts because of the high testing standard in the 1986 Catalyst Policy. **The EPA should update its 1986 Catalyst Policy by eliminating the three-part test that currently requires professional automotive recyclers and motor vehicle repairers to conduct a container mechanical integrity check, a substrate mechanical integrity check, and a performance test before selling or installing a used OEM catalyst for repair purposes.**¹⁸ Needless to say, used OEM catalysts should only be permitted to be used as a replacement catalyst for the same vehicle application for which it was originally manufactured.

The EPA has an interest in ensuring that any replacement used OEM catalyst can effectively reduce the amount of toxic nitrogen oxide and carbon monoxide being emitted from a vehicle. However, some of the concerns in the 1986 Catalyst Policy that necessitated the need for a high testing standard no longer exist. One of the EPA's biggest concerns in 1986 on the use of used OEM catalysts as replacement parts was lead poisoning.¹⁹ Leaded gasoline damages catalysts and causes them to be ineffective in reducing toxic vehicle emissions.²⁰ However, while leaded gasoline was prevalent in the 1980s, which caused a high volume of catalysts to be destroyed via lead poisoning, the EPA banned the use of leaded fuel in 1996.²¹ The EPA's concerns on the use of lead poisoned ineffective used OEM catalysts no longer applies.

Another issue that existed in 1986 that no longer exists is that it used to be difficult to tell whether or not a vehicle's emissions control equipment and catalysts were functioning properly. Since the 1990s, dramatic improvements in available technology and vehicle diagnostic testing have been made. Vehicle repairers and technicians are now privy to enormous amounts of diagnostic data on a specific vehicle and can identify emissions related problems in ways that were impossible in the 1980s. Therefore, the EPA should recognize the benefits of onboard diagnostic testing and use this as a method for ensuring that used OEM catalysts are sufficiently reducing toxic vehicle emissions. While not a perfect tool for performance testing, onboard diagnostic testing can help identify whether a used OEM catalyst can operate at a sufficient level of performance to reduce toxic pollutants.

As a result of the lower risks posed by the use of used OEM catalysts being insufficient as replacements, the EPA should update the 1986 Catalyst Policy by replacing the current three-part test with a simplified testing regime. A simplified testing regime that would enable the creation of a market for inexpensive used

¹⁸ Sale and Use of Aftermarket Catalytic Converters, 51 Fed. Register 28118 (August 5, 1986).

¹⁹ *Id.* at 28114.

²⁰ Environmental and Energy Study Institute, *Fact Sheet – A Brief History of Octane in Gasoline: From Lead to Ethanol*, March 30, 2016. <https://www.eesi.org/papers/view/fact-sheet-a-brief-history-of-octane#1>

²¹ *Id.*

OEM catalyts while still ensuring that the used OEM catalyts are sufficiently reducing toxic vehicle emissions is: (1) inspect vehicle damage on the donor vehicle's catalyts; (2) ensure that the replacement used OEM catalyts passes a vehicle's onboard diagnostic test; and/or (3) require a replacement used OEM catalyts installed on a vehicle to pass an applicable state or local emissions test or other practical test. By replacing the current testing requirements for used OEM catalyts with this proposed replacement test, the EPA will be able to accomplish its original goal of letting vehicle owners replace ineffective or missing catalyts with inexpensive and effective catalyts.

a. Professional automotive recyclers should inspect a vehicle to determine whether or not a catalyts is physically damaged before choosing to sell a catalyts for repair purposes.

ARA and its member automotive recyler facilities process over 12 million vehicles per year and resell the viable and safe original equipment manufactured (OEM) parts to consumers looking to repair their vehicles. As a result, automotive recyclers take ownership of approximately 22 million catalytic converters on an annual basis.²² In many cases, automotive recyclers purchase total-loss vehicles that have sustained no damage to its emissions control systems or to the rear of the vehicle. Therefore, to increase the market for inexpensive replacement catalyts, automotive recyclers should be able to sell undamaged catalyts – especially in cases where the only damage to a vehicle is cosmetic and the catalyts is effective and undamaged. As part of an updated catalyts policy, the EPA should first require automotive recyclers to conduct a visual inspection of a vehicle to determine whether or not a used OEM catalyts can be potentially used as a repair part. If, upon visual inspection, an automotive recyler sees that a catalyts on a vehicle has physical damage to its container, it should not be permitted to be resold as a replacement part. Once the catalyts passes this physical inspection, it should be available for resale for use in a repair subject to it passing inspection in the repaired vehicle.

²² Experts in the catalytic converter recycling industry reach these numbers based upon an equation. The total number of de-registered vehicles multiplied by two catalytic converters per vehicle. Vehicles average approximately two catalytic converters per vehicle but a vehicle could contain one to three catalytic converters depending on the exhaust system architecture. The 22 million catalytic converter number is reached by multiplying the total number of de-registered vehicles last year (11 million) by two (represents the average number of catalytic converters per vehicle).

- b. Due to increased technological advancements, vehicle repair facilities should only use a used OEM catalyst as a replacement part if the catalyst passes a vehicle's onboard diagnostic test.**

The second part of an updated test would be to allow a used OEM catalyst to be used as a replacement part only if it passes the vehicle's onboard diagnostic test once installed. Onboard diagnostic systems are designed to catch vehicle emissions problems before they become a major problem. Onboard diagnostic systems are capable of alerting vehicle owners that their vehicle is emitting excess pollutants due to emissions control problems.²³ As onboard diagnostic systems have become more advanced in the amount and quality of data they provide, onboard diagnostic systems essentially serve as a self-administered test on the vehicle itself. Therefore, as an additional safeguard to ensure that a used OEM catalyst is effective in eliminating excess vehicle produced pollutants, the EPA should allow used OEM catalysts to be used as replacement parts if they can also pass onboard diagnostic tests and the check engine light remains off. As policy, it is preferable that vehicles with worn-out or missing catalysts have catalysts that pass a vehicle's onboard diagnostic test than to have a vehicle being driven around with a worn-out or missing catalyst.

- c. State and local emissions tests should determine whether a used OEM catalyst can be used as a replacement part.**

Finally, if the used OEM catalyst passes both the visual inspection by the automotive recycler and passes an onboard diagnostic test, then the used OEM catalyst should be required to pass a state or local emissions test if applicable. State and local emissions tests are an important safeguard in protecting the quality of the air being breathed in the U.S. This third layer of protection would further help ensure that the used OEM catalyst is functioning in an effective manner to prevent harmful vehicle emissions pollution. If the vehicle receiving a replacement used OEM catalyst is in a jurisdiction that does not require an emissions test, then the EPA should consider replacing this requirement with another practical testing method.

- d. Why the EPA should adopt this updated testing standard.**

Overall, there are likely millions of vehicles on U.S. roadways that have worn-out or missing catalysts. The EPA has recognized this problem since 1986 and sought to remedy this issue by offering inexpensive replacement catalysts to the public. However, the 1986 Catalyst Policy created too high a testing standard

²³ Nevada Department of Motor Vehicles, *On-Board Diagnostics Testing*. https://dmvnev.com/emission_obd.htm

that did not allow for the creation of a market for inexpensive replacement catalysts. The EPA should update the 1986 Catalyst Policy by recognizing that it would be preferable to allow sufficiently effective catalysts that can pass state and local emissions tests and onboard diagnostic tests to be used as replacement catalysts rather than incentivize individuals to not replace worn-out or missing catalysts due to their high cost.

IV. The EPA should not withdraw its 1986 Catalyst Policy, which would subsequently cause the EPA’s 2020 Tampering Policy to govern the sale and installation of used catalysts.

In its request for information regarding the 1986 catalyst policy, the EPA contemplates withdrawing the 1986 Catalyst Policy entirely. The EPA explains in its notice²⁴ that if it were to decide to withdraw the 1986 Catalyst Policy entirely, that the agency may instead apply the general provisions of the 2020 Tampering Policy.²⁵ The EPA should not adopt the general provisions of the 2020 Tampering Policy to replacement catalysts for light-duty vehicles. Should the EPA decide to adopt the 2020 Tampering Policy for aftermarket catalysts, the EPA would not be furthering its 35-year goal of improving air quality by creating a market of inexpensive and effective catalysts. The agency would just continue to force vehicle owners with ineffective or missing catalysts to buy expensive new OEM or aftermarket catalysts, which ultimately causes vehicle owners not to replace their nonfunctioning catalysts altogether. The reasonable basis standard included in the 2020 Tampering Policy still makes it impractical if not impossible for an effective used OEM catalyst to be sold for repair purposes. Therefore, if the EPA decides to withdraw the 1986 Catalyst Policy in favor of the 2020 Tampering Policy, the agency would not make progress in achieving its goal of ensuring that the largest number of vehicles on the road have functioning catalysts, which would improve air quality.

V. The EPA should amend and update its guidance documents and regulations by discontinuing the use of the term “aftermarket” to include used OEM motor vehicle parts.

In the 1986 Catalyst Policy, the EPA uses the term “aftermarket” in a manner that has proven to be confusing to automotive recyclers, aftermarket parts manufacturers, and OEMs. In the 1986 Catalyst Policy,

²⁴ Notice of Availability of EPA Tampering Policy and Request for Information Regarding 1986 Catalyst Policy, 85 Fed. Register 80782 (December 14, 2020).

²⁵ U.S. Environmental Protection Agency, Assistant Administrator for Enforcement and Compliance Assurance, *EPA Tampering Policy: The EPA Enforcement Policy on Vehicle and Engine Tampering and Aftermarket Defeat Devices Under the Clean Air Act* (November 23, 2020).

the EPA categorizes “aftermarket” into two categories: “new aftermarket” and “used aftermarket.”²⁶ The EPA’s expansive definition of the term aftermarket has led to substantial confusion amongst ARA’s members because the term aftermarket as it relates to motor vehicle parts typically applies to third-party manufacturers of new motor vehicle parts that are not OEM or OEM supplier parts. Therefore, ARA recommends that the EPA revises its terminology in the following ways. Use the term new OEM parts to reflect OEM manufactured or OEM supplier manufactured parts sold by the OEM. Use the term aftermarket to refer to newly manufactured parts not manufactured by OEMs or their suppliers. Finally, use the term used OEM or recycled original equipment instead of used aftermarket. ARA believes that by consistently applying these recommended definitions, EPA guidance will be clearer.

VI. Conclusion

As the voice of the professional automotive recycling industry, the Automotive Recyclers Association (ARA) appreciates the opportunity to submit these comments concerning the EPA’s ongoing evaluation of the 1986 Catalyst Policy. We appreciate the opportunity to submit comments and welcome the cooperation between our organizations. Please feel free to call or e-mail if you have any questions, or if you would like any additional information concerning the issues raised in these comments.

Sincerely,

Sandy Blalock

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²⁶ U.S. Environmental Protection Agency, Office of Air and Radiation, EPA-420-F-00-101, *What You Should Know About Using, Installing, Or Buying Aftermarket Catalytic Converters* (September 2000).