

Air and Radiation Docket and Information Center
Environmental Protection Agency
Mailcode: 2822T
1200 Pennsylvania Avenue. NW,
Washington, DC 20460
Via: www.regulations.gov

Re: Consumers Union's Comments on Control of Air Pollution From Motor Vehicles:
Tier 3 Motor Vehicle Emission and Fuel Standards
[Docket ID No. EPA-HQ-OAR-2011-0135]

I. Introduction

The proposed regulation builds on the progress made under the Tier 2 program by setting new vehicle emissions standards and lowering the permitted sulfur content of gasoline, beginning in 2017. For an estimated cost of less than one cent per gallon of gasoline and less than \$150 per vehicle, the proposed standards would significantly lower nitrogen oxides, volatile organic compounds, carbon monoxide, and fine particulate and air toxics emissions, saving thousands of lives and reducing air pollution-related hospitalizations every year. Consumers Union, the policy and advocacy division of Consumer Reports,¹ supports the proposed Tier 3 standards because they benefit vehicle owners, air quality, and public health. Consumers Union collected 31,068 signatures in support of the rule.²

II. Benefits for Vehicle Owners

In addition to the tremendous public health benefits discussed below, vehicle owners will also see direct financial benefits from the proposed rule. Lowering the sulfur content in gasoline cleans up exhaust from older cars. It also reduces corrosion of emissions control systems for existing vehicles and increases the lifespan of catalytic

¹ Consumers Union is the public policy and advocacy division of Consumer Reports. Consumers Union works for automotive safety, telecommunications reform, health reform, food and product safety, financial reform, and other consumer issues. Consumer Reports is the world's largest independent product-testing organization. Using its more than 50 labs, auto test center, and survey research center, the nonprofit rates thousands of products and services annually. Consumer Reports conducts comprehensive tests of approximately 80 new vehicles every year, which it buys anonymously at retail. Consumer Reports provides consumers with objective comparative ratings about performance, fuel efficiency, comfort, handling, safety, and reliability of these vehicles. Consumer Reports does not accept outside advertising. Founded in 1936, Consumer Reports has over 8 million subscribers to its magazine, website, and other publications.

² See Appendix.

converters, which can cost hundreds to thousands of dollars to replace. The national average replacement cost of a catalytic converter is about \$1,400.³

New car buyers will also benefit. Starting in 2017, new cars will have tighter limits on tailpipe emissions, including carbon monoxide and benzene, which can linger in garages and even attached residential living space.⁴ The proposed rule also offers automakers an incentive to go beyond the minimum 8-year/ 80,000-mile warranty currently required for emissions control systems, and extend it to 15-years/150,000 miles for new vehicles. This move could improve reliability and lower costs to maintain emissions control systems.

Addressing sulfur levels in gasoline and vehicles together as a “system” further improves the cost-effectiveness of reducing emissions, and it allows automakers to maximize efficiencies in emission reduction technologies. According to analyses by the EPA and by independent economists, when the standards are fully implemented by 2025, they will likely add less than \$150 to the cost of a vehicle and less than 1 cent per gallon to gasoline costs.⁵ Consumers Union urges the EPA to finalize this rule as soon as possible, not only to avoid delay of the rule’s health benefits, but so that Tier 3 implementation begins in 2017. Thereby, automakers can reduce compliance costs by harmonizing technology selection and development for the Tier 3 standards and Model Year 2017-2025 fuel economy standards.

III. Public Health Benefits

Exposure to air pollution from vehicles is widespread, and reducing sulfur in gasoline and cutting tailpipe emissions will provide tremendous benefits to public health. Over 130 million Americans (more than 40% of the country) breathe unhealthy air,⁶ and a major source of this pollution is passenger and heavy-duty vehicles.⁷ On average,

³ Based on analysis of about 11,000 data points from RepairPal. National average part price: \$1,193 (\$831 - \$1,556). National average labor price: \$210. National average price: \$1,403. These are national average prices, and they can vary significantly based on the vehicle, geographic location, and how many converters need replacement, as some vehicles have more than one.

⁴ International Journal of Ventilation Volume 2 No 3 , “Air and Pollutant Transport from Attached Garages to Residential Living Spaces – Literature Review and Field Tests,” National Institute of Standards and Technology, available at: <http://fire.nist.gov/bfrlpubs/build03/PDF/b03067.pdf>.

⁵ National Association of Clean Air Agencies (NACAA), “Cleaner Cars, Cleaner Fuel, Cleaner Air: The Need For and Benefits of Tier 3 Vehicles and Fuel Regulations,” October 2011, available at: <http://www.4cleanair.org/documents/NACAATier3VehandFuelReport-EMBARGOED-Oct2011.pdf> at 15.

⁶ American Lung Association, “State of the Air” report for 2013, available at: <http://www.stateoftheair.org/2013/key-findings/>.

⁷ Vehicles are an especially large contributor of NOx and VOCs, which are precursors to ozone. NACAA study at 9.

Americans spend over an hour traveling along roads every day.⁸ Time spent in the car (especially in congested traffic) increases pollutant exposure, and cars provide little protection against gas-phase pollutants (especially VOCs).⁹ Living, working, or going to school near major roadways increases exposure to ozone and particle pollution that worsens lung and heart health and causes thousands of premature deaths every year.¹⁰

Although the proposed rule has clearly identified costs, pollution has costs of greater magnitude. Average costs of hospital care due to pollution-related illness alone range from \$400 for an emergency room visit to \$12,000 for a hospital admission for asthma and from \$11,000 to \$30,000 to treat other respiratory and heart conditions.¹¹ Such admissions can be especially expensive or fraught with complications for the elderly or those with other health problems. All polluting sectors should contribute their fair share to reducing pollution, and Tier 3 standards are one of the more economical and cost-effective ways to get meaningful reductions to help make air safe to breathe.¹²

Numerous studies have linked roadway-related air pollution with increased risks and rates of asthma and other respiratory illnesses. American Lung Association and many other health experts have compiled and summarized dozens of studies, and the following studies represent a few highlights.

A study in Los Angeles County found, “a substantial proportion of asthma-related morbidity is a consequence of near-roadway pollution, even if symptoms are triggered by other factors.” The study also concluded that reducing pollution from vehicles would significantly reduce asthma rates.¹³ This is especially important as urban populations increase. While population density improves environmental outcomes and lowers pollution in many respects, density also increases the number of people in close proximity to roads. Vehicles must become cleaner to accommodate these lifestyle changes without creating additional harm to public health.

⁸ U.S. Department of Transportation, Federal Highway Administration, “Summary of Travel Trends, 2009 National Household Travel Survey,” Figure 6, available at: <http://nhts.ornl.gov/2009/pub/stt.pdf>

⁹ California Air Resources Board, “Measuring Concentrations of Selected Air Pollutants Inside California Vehicles (June 10, 1999), Available at: <http://www.arb.ca.gov/research/indoor/in-vehsm.htm>

¹⁰ American Lung Association, “A Penny for Prevention, The Case for Cleaner Gasoline and Vehicle Standards,” available at: <http://www.lung.org/healthy-air/outdoor/resources/clean-gasoline-and-vehicles/> at 4.

¹¹ Draft Regulatory Impact Analysis: Tier 3 Motor Vehicle Emission and Fuel Standards, available at: <http://www.epa.gov/otag/documents/tier3/420d13002.pdf> at 8-25 to 8-26.

¹² NACAA report at 15.

¹³ Environmental Health Perspectives, “Near-roadway Pollution and Childhood Asthma: Implications for Developing ‘Win-win’ Compact Urban Development and Clean Vehicle Strategies,” 2012 November 120(11):1619-26, available at: <http://www.ncbi.nlm.nih.gov/pubmed/23008270>

A study on school children found, “Lung function growth was approximately 10% slower among children living in communities with higher NO₂ levels and other traffic-related pollutants,” and that “the effect was observed among both normal and asthmatic children.”¹⁴ The study also determined that school absence rates due to acute respiratory illness increased with daily fluctuations in ozone levels, and that “children with asthma experienced more bronchitis and persistent phlegm production if they lived in communities with more NO₂ or particulate pollution.”¹⁵ Vehicle-related air pollution also negatively impacts children’s ability to engage in sports and outdoor activities, as exercise increases breathing ventilation rates and pollution intake. The study found that those who played team sports outdoors in “communities with high ozone levels had a higher incidence of newly diagnosed asthma,” while in “communities with low ozone levels, playing team sports was not associated with an increased risk of asthma.”¹⁶

Lung health is not the only casualty of vehicle-related air pollution. While the exact mechanism is not yet fully understood, there is a growing body of evidence linking air pollution with heart disease. In a three-year study, the University of Washington and the University of Michigan found that “PM_{2.5} levels may have a 2% increased risk of stroke compared to people living in less polluted regions of the same metropolitan area,” and that “these findings support the hypothesis that long-term exposure to PM_{2.5} is associated with the progression of atherosclerosis and consequently with an increased risk of CVD [cardiovascular disease], even at PM_{2.5} levels below existing regulatory standards.”¹⁷

IV. Comments on Specific Sections of the Proposed Rule

A. E15 certification fuel (Section IV.D of proposed rule)

While Consumers Union supports EPA’s intention to match the certification fuel with the fuel in the market, we recommend an alternative plan in case the market for E15 does not overcome the significant barriers to its development and materialize by 2017. Even if E10 continues to be the dominant fuel in the market, testing vehicles for fuel economy purposes at E15 would be more accurate than the current E0 certification fuel. Adjustment factors can always be used to account for predicted differences (as they are now). However, uniform adjustment factors after the fact are never as precise as using the market fuel to begin with; automakers that maximize efficiency for E15 may distort fuel economy expectations of consumers using E10 at the pump. Therefore, we would recommend that E10 be the default fuel, unless E15 comes to dominate the market, at

¹⁴ American Journal of Public Health, “Breathless in Los Angeles: The Exhausting Search for Clean Air,” 2003 September; 93(9): 1494–1499, available at: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1447999/>.

¹⁵ Id.

¹⁶ Id.

¹⁷ PLOS Medicine “Fine Particulate Air Pollution and the Progression of Carotid Intima-Medial Thickness: A Prospective Cohort Study from the Multi-Ethnic Study of Atherosclerosis and Air Pollution Available at : <http://www.plosmedicine.org/article/info%3Adoi%2F10.1371%2Fjournal.pmed.1001430>

which point a reasonable lead time could be provided to switch the certification fuel again.

B. Downstream cap (Section V.A.3 of proposed rule)

EPA's modeling indicates that regardless of the downstream sulfur cap selected between the two options being considered (95 ppm or 65 ppm), nearly all gasoline that ends up at the pump would be close to the 10 ppm average required of refineries. Automakers will provide insight into any burdens that a higher downstream cap may place on them to design vehicles that can tolerate the higher upper limit. Although sulfur-induced corrosion of catalytic converters is largely reversible if lower sulfur gasoline is used with regularity (justifying the averaging approach), if there are retail hot spots or regional high-sulfur clusters that consistently sell gasoline towards the upper limit, car owners in these areas may find their catalytic converters fail at a higher rate, and emissions may be significantly higher in such locales. EPA should consider issuing a prospective reporting or data collection requirement that could help it identify whether such hot spots emerge and whether they warrant a lower downstream sulfur cap in the future.

V. Conclusion

It would be "pennywise, tons foolish" to save a cent on gasoline, only to have to pay even more with our health as a result of additional tons of pollution. To put the cost in perspective, over the last four years, gasoline prices fluctuated over \$2.25 dollars per gallon, with weekly increases of 10 cents happening with regularity.¹⁸

In summary, this common-sense rule is good for our health and good for car owners. We urge the EPA to finalize the rule, so it can apply to 2017 models and sync with 2017-2025 fuel economy standards.

Respectfully,

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¹⁸ U.S. Energy Information Administration, Weekly Retail Gasoline and Diesel Prices, Data available at: http://www.eia.gov/dnav/pet/pet_pri_gnd_dcus_nus_w.htm.