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Northeast States for Coordinated Air Use Management
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Arthur N. Marin, Executive Director

February 13, 2012

U.S. Environmental Protection Agency
EPA Docket Center (EPA/DC)
Air and Radiation Docket
Attention Docket ID No. EPA-HQ-OAR-2010-0799
Mail Code
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Re: *2017 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards*

To Whom It May Concern:

The Northeast States for Coordinated Air Use Management (NESCAUM) provides these comments on the *2017 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards* joint Notice of Proposed Rulemaking by the U.S. Environmental Protection Agency (EPA) and the National Highway Transportation Safety Administration (NHTSA). NESCAUM is a non-profit association of the air pollution control agencies in Connecticut, Maine,[1] Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont. The following comments focus on a few key provisions in the proposal.

Annual Rates of Emissions Reductions

EPA's proposed rule would incorporate a carbon dioxide equivalent standard that requires annual average reduction rates of 5 percent for passenger cars and 3.5 percent for light trucks in model years (MY) 2017 to 2021 and 5 percent for all light-duty vehicles for MY 2022 to 2025. For reasons set forth herein and in our November 1, 2010 letter (attached), NESCAUM believes a 6 percent rate for passenger cars is technically feasible and economically practicable. We strongly encourage EPA to consider incorporating a more stringent rate of improvement in this rule.

EPA's technology analysis projects that battery electric vehicles (BEVs) and plug-in hybrid electric vehicles (PHEVs) will account for as little as 1 percent of sales in 2021 and 3 percent of sales in 2025. EPA and the NHSTA previously estimated that a 6 percent annual rate of improvement for the combined passenger car and truck fleet could be achieved with as little as 4 percent combined sales share of BEVs and PHEVs in 2025, provided that sales of conventional

[1] The Maine Department of Environmental Protection does not necessarily endorse all of the comments provided in this letter.

hybrids continue to increase.[2] Given the proposed rule initially establishes a less stringent standard for light trucks (3.5 percent reduction rate from MY 2017 to 2021), achieving a 6 percent reduction rate for passenger cars alone would likely require even lower penetration rates than EPA's previous estimates. The majority of major auto manufacturers will be selling BEVs or PHEVs as part of their offering of passenger cars, beginning with MY 2013.[3] Forecasts of significant reductions in the weight and cost of electric vehicle technologies further support our conclusion that the modest increase in sales of these advanced technology vehicles required to achieve a fleet-wide 6 percent annual rate of improvement for passenger cars is viable.[4]

Flexibility Mechanisms & Credits

NESCAUM supports EPA's proposal to include flexibility mechanisms to provide manufacturers with the means to incorporate a range of technologies to meet the requirements of the proposed standards. Allowing credit transfers between a manufacturer's passenger car and light truck fleet will likewise facilitate compliance without reducing the GHG benefits of the program, as do provisions for carry-forward and carry-back of generated credits. The inclusion of credits for air conditioning system improvements provides an opportunity for the program to effectively address emissions of hydrofluorocarbons that have a very high global warming potential.

Technology Incentives

NESCAUM supports EPA's proposed zero gram per mile incentive for EVs and PHEVs as a reasonable short-term accommodation that recognizes the initial barriers to adoption of these technologies. While the zero emission factor for electricity used to power these advanced vehicles does not account for upstream emissions from electricity generation, application of this zero factor for MY 2017-2021 will provide auto manufacturers with greater incentives to deploy these technologies. We in turn support, in principle, EPA's proposed sales cap, above which upstream emissions are included for MY2022-2025. The sales cap will help the program to achieve greater GHG emission reductions in the long term.

EPA should continue to evaluate the GHG effects of these technology incentives to ensure preservation of the overall goals of the program. We also expect that EPA will monitor upstream emissions from the power grid to ascertain whether the improvements assumed to occur do in fact occur. In that regard, we strongly support the proposed mid-term review that will provide the opportunity to consider appropriate revisions to these incentives and to other aspects of the program.

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[2] U.S. Environmental Protection Agency and U.S. Department of Transportation. *Notice of Upcoming Joint Rulemaking to Establish 2017 and Later Model Year Light Duty Vehicle Greenhouse Gas Emissions and CAFE Standards*. October, 2010.

[3] Manufacturers include BMW, Chrysler, Ford, GM, Honda, Mercedes Benz, Mitsubishi, Nissan, Toyota, and Volkswagen.

[4] MIT Energy Initiative. *Electrification of the Transportation System.* April, 2010.

Transportation Program Funding

The overall reduction in fuel consumption resulting from this rule will affect fuel tax revenues and by extension, transportation funding that relies on per-gallon fuel taxes. While such revenue losses are a legitimate concern, this issue should not be a determinant of the final GHG standards adopted under this rule. For many reasons, federal and state agencies responsible for transportation infrastructure are faced with having to consider non-traditional mechanisms to ensure sustained funding into the future. Funding for transportation infrastructure should be addressed in a broader context outside of this regulatory proceeding.

As expected, a 6 percent annual rate of improvement in fuel economy would have a modestly greater impact on fuel tax revenues compared to the 5 percent rate proposed in the regulation. In either case, a reduction in tax revenue equates to a tax savings of the same amount for consumers. Over a span of 9 years (2017 – 2025) under the proposed 5 percent scenario, total tax revenue in the NESCAUM region from gasoline sales is estimated to be between $28 and $39 billion, depending on the discount rate applied to the net present dollar value. Under the 6 percent scenario in the same timeframe, this amount would be reduced by between $130 and $190 million, or around 0.5 percent of total revenues. By year 2025, the percentage reduction in revenues would be around 1.3 percent and from that point would gradually increase due to continued attrition of older vehicles in the fleet and top out in approximately 20 years at around a 3.5 percent reduction in revenues.

We would be pleased to further elaborate on any of these issues. If you have any questions, please feel free to contact Andrew Dick of my staff at (617) 259-2080. Thank you for this opportunity to comment on this important rulemaking.

Sincerely,

Arthur N. Marin
Executive Director

cc: NESCAUM Directors

Attachment

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Northeast States for Coordinated Air Use Management
89 South Street, Suite 602 Boston, MA 02111
Phone 617-259-2000 Fax 617-742-9162
Arthur N. Marin, Executive Director

November 1, 2010

U.S. Environmental Protection Agency
EPA Docket Center (EPA/DC)
Air and Radiation Docket
Attention Docket ID No. EPA-HQ-OAR-2010-0799
Mail Code
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Re: 1) *Notice of Upcoming Joint Rulemaking to Establish 2017 and Later Model Year Light Duty Vehicle GHG Emissions and CAFE Standards*

2) *Interim Joint Technical Assessment Report: Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards for Model Years 2017-2025*

Dear Docket:

The Northeast States for Coordinated Air Use Management (NESCAUM) is pleased to provide comments on the joint announcement by the U.S. Environmental Protection Agency (EPA) and the National Highway Transportation Safety Administration (NHTSA) *Notice of Upcoming Joint Rulemaking to Establish 2017 and Later Model Year Light Duty Vehicle GHG Emissions and CAFE Standards*. We are also pleased to comment on the agencies' *Interim Joint Technical Assessment Report: Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards for Model Years 2017-2025*. NESCAUM is an association of the air pollution control programs in Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont. Our organization strongly supports efforts to reduce motor vehicle GHG emissions and fuel consumption and commends the agencies on this step toward establishing standards for model years 2017-2025.

The electricity and transportation sectors are the dominant sources of GHG emissions in the northeast region, with transportation responsible for more than one-third of our region's total. States in the region have helped develop the Regional Greenhouse Gas Initiative (RGGI) to reduce emissions from electricity generation and have adopted the California motor vehicle GHG standards for reducing emissions from transportation. We strongly support the federal effort to develop more stringent standards for the years 2017 through 2025. Our comments focus on the levels of stringency evaluated in the rulemaking notice and technical assessment.

Levels of Stringency Evaluated:

The joint agency notice describes the initial assessment of potential levels of stringency for a national vehicle program for model years 2017-2025. The potential stringencies described include four different levels of annual improvement in GHG emissions and fuel consumption for model years 2017 through 2025: 3%, 4%, 5%, and 6% improvement per year. The 3% scenario corresponds to a fleet average of 47 miles per gallon (MPG) in 2025; the 6% scenario corresponds to a fleet average of 62 MPG in 2025. For reasons detailed below, NESCAUM strongly encourages the agencies to focus future analysis on the 6% annual improvement rate.

Rationale for focusing analysis on the 6% per year improvement scenario:

3% per year improvement (and a corresponding fleet average 47 MPG in 2025): Two of the four paths evaluated for the 3% scenario assume a modest penetration of gasoline-electric hybrid vehicles into the new vehicle fleet by 2025 (3% in the two scenarios), and all four paths assume vehicle mass reductions well within what was demonstrated in a recent Lotus study[1]. None of the paths assume introduction of plug-in hybrid or all-electric vehicles by 2025. In 2009, nearly 3% of new U.S. light-duty vehicles were gasoline-electric hybrids and thus the assumption that 3% of new vehicles will be gasoline-electric hybrids by 2025 could be considered a "do nothing" scenario. If gasoline-electric hybrid vehicle sales continue to gain market share, as projected by the Energy Information Administration[2], total market share would be significantly higher than 3% in 2025.

4% per year improvement scenario: In one of the paths evaluated for the 4% scenario, only 3% of vehicles are expected to be gasoline electric hybrids. In three of the paths, no plug-in hybrid or all electric vehicles are assumed to be in the fleet and the standards are assumed to be met through the introduction of gasoline electric hybrid vehicles and vehicle mass reduction alone. Because this scenario for the most part does not assume introduction of plug-in hybrid or all-electric vehicles and in some cases only modest penetration of gasoline electric hybrids, it understates the potential GHG reductions that can be achieved in the timeframe evaluated. For these reasons, NESCAUM recommends against further evaluation this scenario.

5% per year improvement scenario: In the 5% reduction range, none of the paths evaluated assume plug-in hybrid vehicles will be in the U.S. fleet in 2025 and three scenarios assume no or only 1% of vehicles will be all-electric vehicles. Given that there are already 12 Clean Air Act (CAA) §177 states that have adopted the Zero Emission Vehicle requirement (which requires the introduction of all-electric, fuel cell, and plug-in hybrid vehicles in significant percentages)

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[1] Lotus Engineering, "Vehicle Mass Reduction Opportunities," presentation given at the Mobile Source Technical Review Subcommittee meeting on October 5, 2010. The Lotus study demonstrated that a 44% reduction in mass could be achieved in one type of vehicle.

[2] U.S. Energy Information Administration, *Annual Energy Outlook 2010, Appendix A: Reference Case.*

NESCAUM believes this scenario also underestimates the potential of these technologies.[3] The assumptions about advanced technology vehicle introduction in the 5% case are too conservative and further evaluation should be focused on the 6% reduction case.

6% per year improvement scenario (which corresponds to a fleet average mpg of 62 in 2025): Only in the 6% annual improvement scenario are advanced technology vehicles assumed to be introduced in significant numbers – paths A, B, and C assume battery-electric vehicles comprise between 4% and 7% of new vehicle sales and up to 2% of the fleet is assumed to consist of plug-in hybrids in 2025. These assumptions are reasonable given the number of all-electric and plug-in hybrid vehicle models that will soon be available on the market, the Zero Emission Vehicle program requirements, and projections by industry representatives about the production of all-electric and plug-in hybrid vehicles.[4] In the 6% scenario, the level of gasoline electric hybrids is highest (43% to 68% of new vehicles) and assumes that the projected rate of growth for gasoline-electric hybrids will continue through 2025.[5] This assumption is supported by recent statements made by automobile industry executives and their suppliers.[6]

In summary, NESCAUM encourages EPA and NHTSA to focus their future technical and cost assessments on the 6% scenario, given that this scenario assumes a technically feasible GHG and fuel consumption reduction level for 2025. Focusing future analysis on this scenario would allow for a number of additional combinations of technologies to be evaluated for the 2017-2025 timeframe. For example, scenarios that assume significantly higher percentages of plug-in hybrid vehicles could be evaluated.

Cost Benefit Analysis:

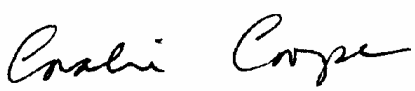
With implementation of any of the scenarios evaluated by EPA and NHTSA, consumers will benefit immediately from lower monthly operating costs. Consumers will benefit most if the agencies adopt and implement either the 5% or the 6% improvement scenarios. In these cases, consumers will realize a lifetime cost savings between $5,500 and $7,300 per vehicle.[7] In no

[3] The Zero Emission Vehicle program requires the introduction of plug-in hybrid, all-electric or fuel cell vehicles in 12 states. Vehicle sales in the 12 states exceed 30% of total U.S. vehicle sales.
[4] Ford's Director of Global Electrification stated that in 2020 10% to 25% of the Ford North American fleet will be electrified, with one quarter of those vehicles being plug-in electric hybrids (EE&E News, January, 2010). Nissan's chief executive Carlos Ghosn, stated all electric vehicles will comprise 10% of vehicle sales by 2020 (Bloomberg News, "Electric DeLorean Foretells Hurdles for Ghosn's Nissan Leaf Car," August 25, 2009).
[5] The U.S. Department of Energy (AEO 2010) projects that sales of hybrid electric vehicles will double by 2015. JD Power also projects a doubling of hybrid electric sales over the next 5 years.
[6] In 2009 the Chairman of Bosch predicted that global HEV sales would reach 5 million in 2020 (http://www.hybridcars.com/news/bosch-electric-cars-decade-or-more-away-25872.html), and a Toyota executive has stated that by 2020 100% of its powertrains would be some form of hybrid (http://www.nytimes.com/2007/05/10/business/worldbusiness/10iht-hybrids.1.5648611.html).
[7] EPA and NHTSA "Notice of Upcoming Joint Rulemaking to Establish 2017 and Later Model Year Light Duty Vehicle GHG Emissions and CAFE Standards," page 17, September 2010.

case evaluated will the payback period exceed 4.2 years – representing a short payback period with substantial savings for consumers.

NESCAUM looks forward to working with EPA and NHTSA in the development of the proposal for GHG and fuel economy standards for light duty vehicles in the 2017-2025 timeframe. California and the CAA §177 states have pursued a dynamic program for cleaner cars that continually re-visits and re-assesses the state of technology innovation for motor vehicles. We stand ready and willing to assist EPA and NHTSA in ensuring that as new clean vehicle technologies are developed, they are quickly introduced into the vehicle fleet. If you would like more information on efforts by our states, please contact me at ph: 617-259-2022, email: ccooper@nescaum.org.

Sincerely,



Transportation Program Manager