



STATE OF MICHIGAN
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February 26, 2015

The Honorable Barack Obama
President of the United States
The White House
1600 Pennsylvania Avenue, NW
Washington, DC 20500

Dear Mr. President:

The United States Environmental Protection Agency's (USEPA) proposal to lower the National Ambient Air Quality Standards (NAAQS) for ground-level ozone raises concern on several levels for Michigan and the nation. I urge you to reevaluate changing the ozone standards at this time. The proposed change fails to acknowledge the gains in human health and air quality from regulatory actions already in play and does not take into account that imposing more stringent standards could slow reductions in ozone and thwart growth in business investment.

An antiquated law is driving this proposal, not uncontested scientific evidence. A more constructive action would be to call for an amendment to the Clean Air Act that mandates review of this standard every five years. With 50 years of experience in air quality regulation and greatly-improved air quality, we owe it to our citizens to assess environmental mandates and their impact on health, social, and economic aspects in today's world.

Existing Standards are Protective of Human Health. According to health experts, the studies upon which the USEPA has relied – that lowering the ozone standard from 75 parts per billion will improve protection against the adverse health impacts of ozone – are inconclusive. Moreover, given that six air pollutants are regulated independently as part of the USEPA's NAAQS program (particulate matter, nitrogen oxide, sulfur dioxide, lead, carbon monoxide, and ozone), we should be careful to recognize only the health benefits associated with a lower ozone standard. To do otherwise could result in inadvertently double-counting those benefits.

Before compelling industry to invest in additional pollution control equipment, the air quality impact of several existing regulatory programs should be evaluated. For example, the Mercury and Air Toxics Standards, the Regional Haze Program, the Cross-State Air Pollution Rule, the Boiler Maximum Achievable Control Technology (MACT) requirements, the Reciprocating Internal Combustion Engines MACT requirements, the proposed Clean Power Plan, and the Tier 3 Motor Vehicle Emission and Fuel Standards all have components that will affect ozone levels.

Regulatory Uncertainty Increases Costs and Delays Pollution-Control Investment. In an uncertain regulatory environment, businesses often will defer investments if they are unsure their investments will comply with future regulations. With less economic optimism, energy-efficient investments by businesses and purchases of more environmentally-friendly

appliances and motor vehicles by consumers may be delayed, causing a counterproductive result. Lower investments put drag on the economy, and delayed use of more environmentally-friendly appliances and vehicles curtails improvements in air quality. Public resources also become strained as state regulatory agencies must frequently revise air regulations and strategies to address standards in flux.

Furthermore, as areas become newly-designated as "nonattainment," both public and private resources are diverted to emission-reduction efforts, impeding growth of our economy. The siting of new natural gas plants, resulting from new requirements to reduce greenhouse gas emissions, will be more challenging and expensive – to the point of being prohibitive in "nonattainment" areas. In Michigan, we are taking action to establish policies balancing economic growth with environmental protection.

Enclosed is the technical submittal from Dan Wyant, Director, Michigan Department of Environmental Quality (MDEQ) in response to the proposed NAAQS for ozone published in the *Federal Register* on December 17, 2014 (79 *Federal Register* 75234).

I look forward to working together in a way that considers the long-term health of our state, the nation, the economy, and the environment.

Sincerely,



Rick Snyder
Governor

Enclosure
cc/enc:

Ms. Gina McCarthy, Administrator, USEPA
Ms. Janet McCabe, Acting Assistant Administrator, Office of Air and Radiation,
USEPA
Dr. Susan Hedman, Regional Administrator, USEPA, Region 5
Mr. Dan Wyant, Director, MDEQ

**THE MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY'S COMMENTS
ON THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY'S
PROPOSED RULE TO REVISE THE NATIONAL AMBIENT
AIR QUALITY STANDARDS FOR OZONE**

Docket ID No. EPA-HQ-OAR-2008-0699

February 26, 2015

The Michigan Department of Environmental Quality (MDEQ) respectfully submits the following comments on the United States Environmental Protection Agency's (USEPA) proposed National Ambient Air Quality Standards (NAAQS) for ozone published in the *Federal Register* on December 17, 2014 (79 *Federal Register* 75234). As the USEPA undertakes the challenging task of reviewing and potentially revising the ozone NAAQS, we believe there are some very important details that should not be overlooked in the final drafting of the rule and, thus, submit the following for your review and consideration.

Primary and Secondary Standards

The USEPA has requested comment on a range between 60 and 75 (the current standard) parts per billion (ppb) for the primary ozone standard. In support, the proposal references studies that indicate there are impacts on human physiology at all levels for which comment is being sought. The MDEQ has reviewed the referenced studies, and acknowledges that there are measurable effects of ozone in the form of lung function decrement at exposure levels ranging from well above the current standard (120 ppb) to well below (40 ppb); however, the evidence of adverse effects with exposures below 75 ppb seems much too tenuous to justify lowering the standard, given the effect a lower standard would have on the regulated community as well as Michigan's economy. For example, many of the studies cited, when given the margin of error, indicate the possibility of no measureable effect. Hence, the MDEQ believes the evidence is inadequate to justify modifying the ozone standard from its current level of 75 ppb. Further support for this argument can be found in literature. Smith, *et al.* (Inhalation Toxicology, 2009; 21(S2): 37-61), contends that "estimates of the association between ozone and mortality, based on time-series epidemiologic analyses of daily data from multiple cities, reveal important still unexplained inconsistencies and show sensitivity to modeling choices and data selection." In addition, Goodman, *et al.* (J Appl Toxicol, 2014 May; 34(5): 516-24), indicated that evaluation of controlled ozone exposure studies "do not demonstrate a causal association between ozone concentrations in the range of the current NAAQS and adverse effects on lung function."

At a minimum, the studies referenced above, and others like them, indicate the science is not settled on this issue. Moreover, it appears that many of the studies referenced in the proposal were already considered when determining the 2008 ozone standard, with few since 2008. The proposal does not explain why a reinterpretation of previously-relied upon studies is justified. Additionally, the number of studies rationalizing a more-stringent ozone standard remains low and, therefore, unconvincing. There is also

insufficient evidence indicating the averaging times and methods currently employed are inadequately protective. The MDEQ encourages the USEPA to rely on sound science when finalizing the primary standard and to not modify the current standard of 75 ppb unless a significant number of pertinent, quality studies have been conducted since the 2008 ozone standard was evaluated and established.

The MDEQ believes the secondary standard should be kept equal to the primary standard and does not support the use of the W126 index. The W126 index would be much more difficult to effectively implement, and the added complexity of using the index has not been adequately shown to be necessary. The proposal indicates the W126 index can be related to a secondary standard using the same units (ppb) as the primary standard. In that case, leaving the primary and secondary standard equal will result in less confusion for stakeholders, including the general public, and will allow for a more effective implementation of the standard.

Background

Background ozone concentrations are of legitimate concern when considering revising the standard to a more stringent level, especially bearing in mind that ozone occurs naturally and can also be transported from other countries. The USEPA's proposal indicates that volatile organic compound (VOC) emissions from natural sources "comprise around 70 percent of total VOC emissions nationally, with a higher proportion during the ozone season and in areas with more vegetative cover." Of man-made VOC emissions, the USEPA estimates that industrial processes account for 57 percent and mobile sources account for 39 percent. Further, 60 percent of man-made nitrogen oxides (NO_x) emissions are estimated (by the USEPA) to be attributed to on- and non-road mobile sources. To establish a standard lower than 75 ppb when the states have little or no ability to control greater than 50 percent of VOC and NO_x emissions, would make compliance with the standard using regulatory mechanisms available to the states nearly impossible.

Guidance Time Frames/Submittals

The timeliness of the USEPA-issued guidance with regard to the final ozone rule, including implementation and designation guidance, is of great concern to the MDEQ. Due to the deadlines and process requirements placed on state agencies, we believe that the proposed time frames for guidance issuance are too long, leaving inadequate time for states to complete their obligations under the Clean Air Act (CAA). If the USEPA does not issue guidance documents until one year after promulgation of the rule, it will be much more difficult for states to complete their CAA obligations—especially the Section 110 requirements. The MDEQ urges the USEPA to issue implementation guidance as soon as possible and certainly not more than six months after promulgation of the final rule.

For designation recommendations, the MDEQ requests that the USEPA reconsider the four-month delay in guidance issuance referred to in the proposed rule and instead issue designation recommendation guidance simultaneously with promulgation of the NAAQS final rule. Delay in guidance availability makes meeting the time frame for submittal of designation recommendations much more burdensome for states.

If a secondary standard is promulgated that is different from the primary, the MDEQ recommends that the attainment demonstration deadline for states under Section 110 be automatically extended by 18 months. In addition, we believe the guidance should be issued within six months of promulgation due to the complexities created by having a secondary standard that is different from the primary.

Designations

The CAA does not include a provision for the designation of "attainment/unclassifiable" areas. Therefore, for any future designations, the MDEQ requests that the USEPA make designations based solely on those classifications (nonattainment, attainment, or unclassifiable) specified in the CAA.

General

A revision of the ozone standard to lower the threshold level would most certainly result in more designated nonattainment areas in many regions of the country. Of concern is the effect a lower ozone standard would have on a state's ability to comply with other USEPA regulations, including the Mercury and Air Toxics Standards (MATS), the proposed Clean Power Plan (CPP), the Cross-State Air Pollution Rule (CSAPR), and others. An increase in nonattainment areas would create significant obstacles in siting and permitting new natural gas combined cycle (NGCC) plants due to new source review requirements that include offsets and Lowest Achievable Emissions Rate. Such plants will play an integral role in compliance with the CPP and MATS rules. A new NGCC plant must be sited both where there is adequate access to natural gas infrastructure and transmission lines and near population centers/larger cities, which, although designated attainment under the current ozone standard, would likely be designated nonattainment with a lower ozone standard.

In addition, the MDEQ has questions with regard to how the USEPA is counting the benefits of a revised ozone standard. According to the proposal, the cost-benefit analysis quantifies and monetizes the benefits of reducing particulate matter (PM). However, it appears that the benefits of PM reductions have also been counted in the Regulatory Impact Analysis for the PM_{2.5} NAAQS, CSAPR, sulfur dioxide NAAQS, MATS, Boiler Maximum Achievable Control Technology (MACT), CPP, reciprocating internal combustion engine MACT, and the Tier III vehicle and fuel standards. It is unclear whether these benefits are being double counted as the same reductions across multiple rules. Double counting would be disingenuous—drastically inflating the benefits of the rule. We, therefore, urge the USEPA to count only the benefits of ozone

reductions associated with a revised standard, not the incidental benefits of other pollutants, such as PM, or the reductions that have already been counted in other recent USEPA proposed or final rules.

Lastly, given the complex chemistry of ozone and the disparate impact of ozone precursor emissions within cities and downwind, the actual benefits and disbenefits of reducing precursor emissions should be weighed in terms of the effect on differing NO_x/VOC ratios in the various airsheds.

Air Quality Index

Forecasting the Air Quality Index (AQI) for ozone is not an exact science. With the current limitations, it is important to provide a range large enough to reasonably predict ozone concentrations for the following day. Ideally, each AQI category would have a 20 ppb or greater range; however, that is not possible with the constraints in the USEPA's proposed breakpoints. Within the revised standard as proposed, the MDEQ recommends that the ozone breakpoints be established as depicted in the last column of the table below; however, if the standard remains 75 ppb, we support retaining the current AQI.

Table 1

AQI Category	Values	Existing	USEPA Recommended Breakpoints (ppb)	MDEQ Recommended Breakpoints (ppb)
Good	0-50	0-59	0-49 or 54	0-49
Moderate	51-100	60-75	50 or 55-65 or 70	50-70 (21 ppb spread)
Unhealthy for Sensitive Groups	101-150	76-95	66 or 71-85	71-85 (15 ppb spread)
Unhealthy	151-200	96-115	86-105	86-105 (20 ppb spread)
Very Unhealthy	201-300	116-374	106-200	106-200
Hazardous	301-500	375+	201+	201+

Monitoring and Photochemical Assessment Monitoring Station

Several monitoring revisions proposed as part of the new ozone standard merit a closer look prior to the standard's finalization. One such issue is whether enhanced photochemical assessment monitoring station (PAMS) measurements should be co-located at existing national core (NCore) sites. While we believe it is laudable to leverage sites where data is already being collected, it is unclear whether NCore sites adequately meet the objectives of the PAMS program. Depending on the modeling domain chosen, there may not be NCore sites located in areas of interest/need, and the current NCore network may not be adequate to depict boundary conditions or areas of

maximum emissions. For these reasons, the selection of PAMS sites should not be made until there has been formal consultation with the USEPA and state, local, and tribal modelers; and this consultation should not occur until nonattainment area modeling domains can be chosen. Even then, it is paramount that flexibility be given in the selection of PAMS sites. The proposed rule states that "To account for these situations, the EPA is also proposing to provide the EPA Regional Administrator the authority to approve an alternative location...." The MDEQ believes that this authority should come with an understanding that if alternative sites are still required to be fully outfitted, the cost would be dramatically more expensive than outfitting an NCore site where some infrastructure and instrumentation already exist. The Regional Administrator in exercising this authority should rely on the existing Annual Network Review process rather than a separate waiver procedure.

With regard to PAMS instrumentation, the USEPA proposes to require that PAMSS collect speciated VOC samples, either by employing a continuous, automatic gas chromatograph (auto-GC) or by utilizing summa canister measurements integrated over the course of a number of hours. The MDEQ supports the use of auto-GCs, provided the USEPA allocates adequate funding to purchase and operate the instruments. However, we strongly suggest that procedures be developed by the USEPA to ensure that the auto-GCs collect the full TO-15 suite of air toxic VOCs in addition to the PAMS suite. There are currently 13 VOC species that overlap the two suites, but the overlap does not include many of the higher-toxicity compounds, including methyl ethyl ketone and carbon tetrachloride. Including the measurement of the TO-15 suite of compounds would conform with PAMS rationale number six to provide additional measurements of selected criteria and non-criteria pollutants to be used for evaluating population exposure to air toxics. Given this objective and the cost of auto-GCs, it would be unwise/wasteful to sample only PAMS species or let the auto-GCs sit idle during the months not conducive for ozone formation. We agree with the USEPA's suggested methodology for carbonyls, as it is congruent with the established method for measuring air toxics, namely TO-11.

In addition, the ozone proposal solicits comment on monitoring NO_x at PAMS sites, specifically adding nitrogen dioxide (NO_2) monitoring to the total reactive nitrogen oxides (NO_y) already being conducted at NCore stations. The proposal states that the NO_2 monitoring should be based on new technologies and not based on NO_x minus the nitric oxide (NO) calculation. The USEPA does not give a compelling reason why the NO_x minus NO methodologies are inadequate. While the proposal includes information about interferences due to nitrous oxide (NO_2) compounds, one must recognize that given the resolution of photochemical grid models, that vary from 4 to 32 kilometers, the impact of NO_2 interferences would be very small compared to other modeling uncertainties such as emission inventories and mixing heights. The increased emphasis on NO_2 monitoring is especially puzzling given it was for photochemical modeling purposes that states were mandated to monitor NO_y in lieu of NO_2 at NCore sites. Regardless, given the close relationships between NO_x and NO_y , funding for enhanced

oxides of nitrogen monitoring might better be spent on other aspects of monitoring, including auto-GCs.

Regarding meteorological measurements, the photochemical modeling community has a long history of relying upon National Weather Service (NWS) measurements for mixing heights and precipitation as these parameters generally vary little over the distances that are typical to nearby airports. As such, the MDEQ does not see a wholesale need for ceilometers or rain buckets at PAMS. In the instance where modeling domains have meso- or micro-scale meteorological features that are not properly characterized by existing NWS measurements, instrumentation could be added to PAMS sites on a case-by-case basis.

The USEPA is also proposing to add nitrogen oxide-chemiluminescence methodology as a second federal reference method (FRM) for ozone. While the MDEQ does not have a strong opinion on this portion of the proposal, we believe that the current ozone monitors designated with federal equivalent method status should retain such status without requiring new performance testing against the new proposed FRM.