

Louisiana Chemical Association
Comments on EPA Proposal to Retain
Current Ozone National Ambient Air Quality Standards
Docket No. EPA-HQ-OAR-2018-0279¹

I. Overview

The Louisiana Chemical Association (“LCA”) is a nonprofit Louisiana corporation, composed of 63 members with over 100 chemical manufacturing plant sites in Louisiana. LCA was formed in 1959 to promote a positive business climate for chemical manufacturing that ensures long-term economic growth for its member companies. LCA members are committed to excellence in safety, health, security and environmental performance, and understand that their continuing “license to operate” depends on their ability to keep their employees and their neighbors safe. The Louisiana chemical industry is the one of the largest segments of the Louisiana economy, employing approximately 29,000 people and contributing over \$1.1 billion in state taxes each year to be used to finance state services for all.

Every LCA member conducts activities emitting ozone precursors and is subject to regulations to implement the ozone National Ambient Air Quality Standards (“NAAQS”). LCA member companies believe that regulatory requirements should be based upon sound science and realistic consideration of risks. Such requirements, including the NAAQS, should be developed through a process that includes scientifically sound, objective and unbiased information.

LCA supports Environmental Protection Agency’s (“EPA’s”) proposal to retain the primary NAAQS for ozone of 0.070 parts per million (“ppm”) (fourth-highest daily maximum 8-hour concentration, averaged across three consecutive years) set by the Obama administration in 2015. Over objections by industry that the standard was too stringent and by environmental groups that it was too lenient, the 2015 ozone standard was upheld by the D.C. Circuit in *Murray Energy Corp. v. Environmental Protection Agency*, 936 F.3d 597 (D.C. Cir. 2019). The court found that the primary ozone standard rested firmly on good science and was within the range for EPA’s exercise of policy discretion. No new information in the most recent review provides a basis to

¹ 85 Fed. Reg. 49830, August 14, 2020, available at: <https://www.govinfo.gov/content/pkg/FR-2020-08-14/pdf/2020-15453.pdf> (last accessed September 30, 2020).

change that determination. LCA also supports EPA's proposal to retain compliance with the primary standard as also being the appropriate ozone NAAQS secondary public welfare standard. The court, in *Murray Energy*, directed EPA to closely examine the adequacy of this secondary standard, and EPA has done so in the current review.

II. Background of Ozone Standards and Attainment

The Clean Air Act ("CAA") directs EPA to establish and periodically review primary and secondary NAAQS for air pollutants that "may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. § 7408(a)(1)(A). The primary NAAQS are to be set at levels that "in the judgment of the Administrator, . . . allowing an adequate margin of safety, are requisite to protect the public health." *Id.* § 7409(b)(1). The secondary NAAQS are to be established at a level "which in the judgment of the Administrator, . . . is requisite to protect the public welfare from any known or anticipated adverse effects." *Id.* § 7409(b)(2). Once established, the NAAQS are to be reviewed every five years. *Id.* § 7409(d)(1).

During the 5-year review process, EPA is to consider new information or improvements on prior information developed since the prior review. In reviewing each NAAQS, EPA completes an Integrated Science Assessment ("ISA"), a Health Risk and Exposure Assessment ("HREA"), and a Policy Assessment ("PA"). The CAA also provides for the Clean Air Scientific Advisory Committee ("CASAC") to evaluate the evidence and to submit recommendations to EPA for "revisions of existing criteria and standards as may be appropriate." *Id.* § 7409(d)(2)(A)-(B). The CAA requires EPA to consider the CASAC's recommendations and to explain its reasons if it departs from CASAC's advice. However, the Administrator of EPA is responsible to make the ultimate judgment concerning whether and how to revise the NAAQS. 42 U.S.C. § 7407(d)(3).

Following this process, the ozone NAAQS has been gradually strengthened over time to protect public health and public welfare. Table 1 below summarizes the history of the primary ozone standard along with the current EPA proposal, as well as the status of nonattainment designations and areas.

Table 1: History of Ozone Standards and Designations

NAAQS	Standards	Status
1979	0.12 ppm – 1-hour	Revoked in 2005, except in 8-hr Early Action Compact States
1993	0.12 ppm – 1-hour retained	
1997 Ozone	0.08 ppm – 8-hour average	Revoked in 2008
2008 Ozone	0.075 ppm – 8-hour average	Initial designations completed in 2012; attainment deadlines range from 2015 to 2032
2015 Ozone	0.070 ppm – 8-hour average	Initial designations completed in 2018; attainment deadlines range from 2021 to 2038
2020 Ozone	0.070 ppm – 8-hour average	Proposed by EPA in August 2020 to retain current standard

EPA’s National Ozone Trends data show that air quality has also greatly improved as these standards were lowered. Ozone concentrations decreased nationally as follows:²

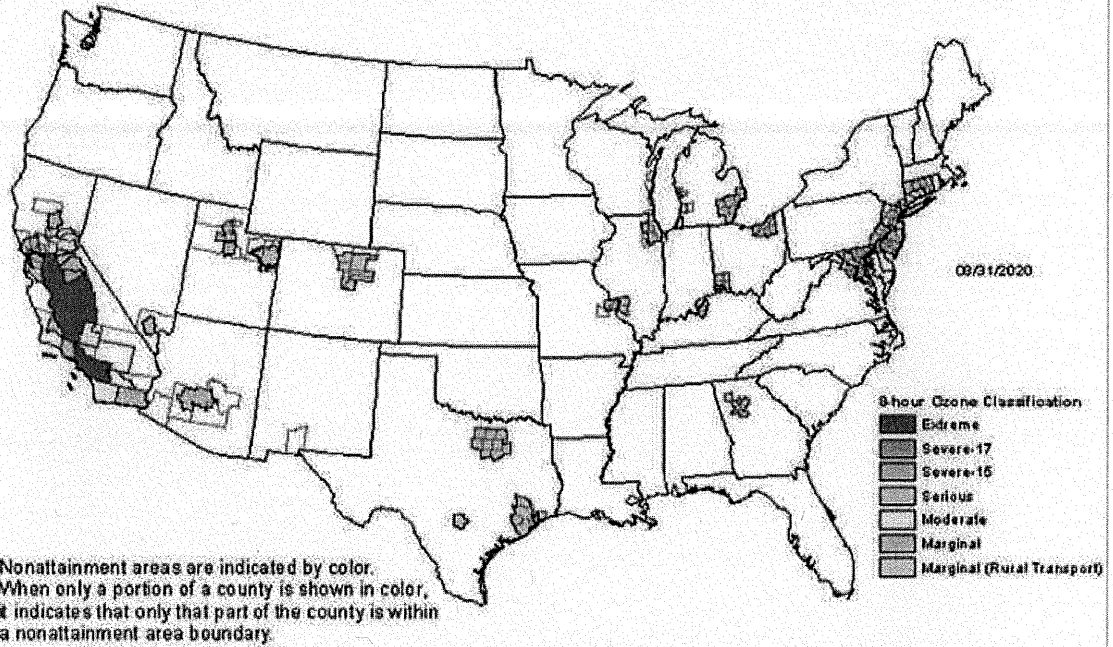
1980-2019	decreased 35%
1990-2019	decreased 25%
2000-2019	decreased 21%
2010-2019	decreased 10%

These reductions have come at considerable effort and expense. As reflected by the above data, the “low hanging fruit” has largely been picked – affordable reduction measures have been implemented in order to achieve these stringent standards.

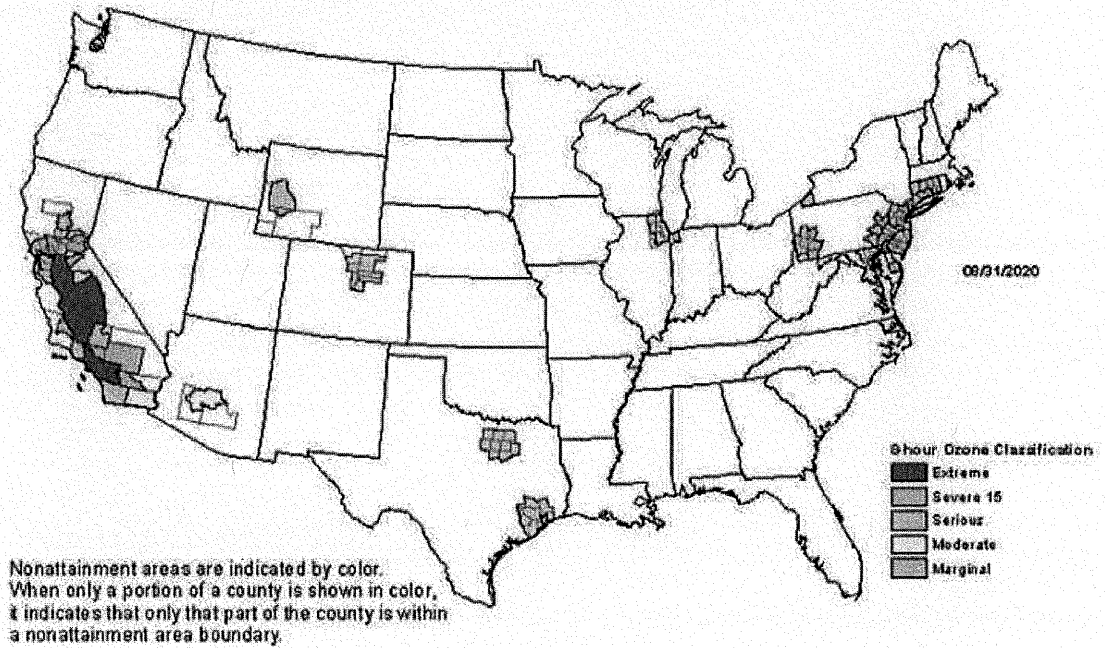
Currently, most areas of the nation outside of urban areas are in attainment with the 2015 and 2008 ozone NAAQS, as indicated below. Major urban areas are subject to requirements to make reasonable progress towards attainment and to achieve attainment by the deadlines noted in Table 1. Failure to achieve attainment by a deadline exposes the nonattainment area to severe sanctions, including loss of federal highway funding.

² Available at <https://www.epa.gov/air-trends/ozone-trends>, (last accessed September 29, 2020).

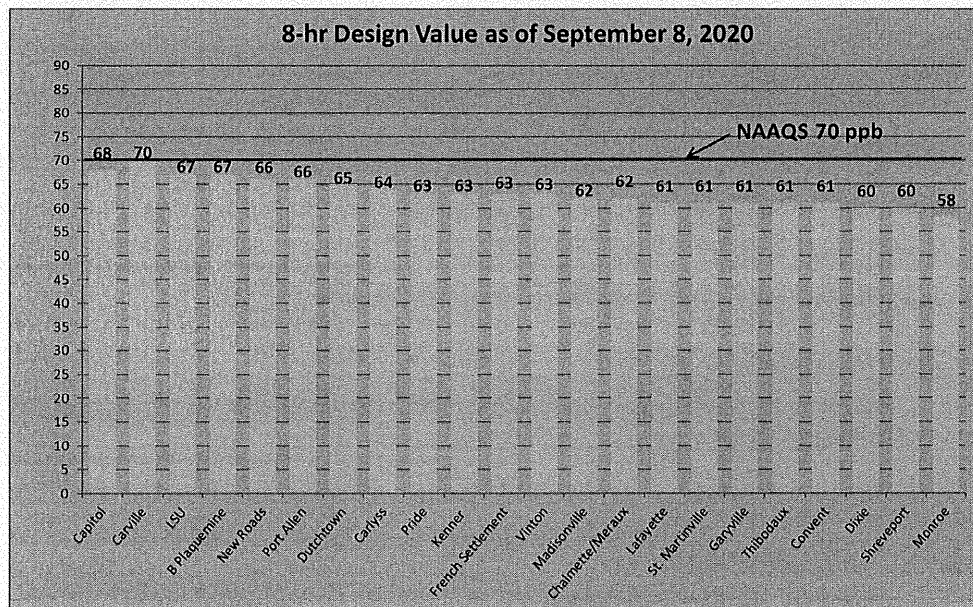
8-Hour Ozone Nonattainment Areas (2015 Standard)



8-Hour Ozone Nonattainment Areas (2008 Standard)



While many areas in the country, such as Louisiana, are in attainment, ozone design values (3-year average of the 4th highest value) in most areas are above 0.060 ppm, a level considered by EPA, but rejected in both the 2015 and 2020 reviews. Table 2, below, shows the ozone monitors and design values for all such monitors in Louisiana. As shown, all areas of the state, save Shreveport (Dixie and Shreveport monitors) and Monroe, have a design value greater than 0.060 ppm.³ The results in several other states are similar.⁴ The economic consequences of lowering the standard to a value below the 2015 standard would be severe. While EPA is not to consider the cost of compliance in establishing the level requisite to protection of human health with an adequate margin of safety, EPA should be mindful of such consequences when reviewing inconclusive or uncertain data.



³ Louisiana Department of Environmental Quality, 2020.

⁴ See for example, 2017-2019 ozone design levels for Arkansas (<https://www.adeg.state.ar.us/home/pdfs/Ozone-Season-Summary-Report-2019.pdf>); Florida (<https://floridadep.gov/sites/default/files/2019%20Ozone%20Design%20Values.pdf>); Indiana (https://www.in.gov/idem/airquality/files/monitoring_summary_ozone_2019.pdf); Kansas (<https://www.kdheks.gov/bar/air-monitor/2020-five-yr-monitoring-network-assessment-FINAL.pdf> at p. 22); Michigan (https://www.michigan.gov/documents/deq/deq-aqd-mm-ozone-o3maxallow_256108_7.pdf); Mississippi (<https://www.mdeq.ms.gov/wp-content/uploads/2020/03/2019-Air-Quality-Data-Summary.pdf>); Nebraska ([https://www.nebraska.gov/Nebraska_2020_Air_Quality_Network_Plan_and_5-Year_Assessment\(1\).pdf](https://www.nebraska.gov/Nebraska_2020_Air_Quality_Network_Plan_and_5-Year_Assessment(1).pdf) at p. 32); New Mexico (<http://www.cabq.gov/airquality/documents/2020-city-of-albuquerque-annual-network-review.pdf> at p. 19); North Carolina (<https://deq.nc.gov/about/divisions/air-quality/air-quality-monitoring/historical-data-summaries/design-value-summaries>); Oregon (<https://www.oregon.gov/deq/FilterDocs/AQmonitoringplan.pdf> pp. 22-23); and Wisconsin (<https://dnr.wi.gov/topic/AirQuality/documents/O3DVMap.pdf>).

III. EPA Proposal

A. Primary Standard

EPA has proposed to retain the current 2015 primary ozone NAAQS (0.070 ppm, 3-year average of the annual fourth-highest daily maximum 8-hour average ozone concentrations). LCA supports this EPA proposal. LCA concurs with EPA that the current scientific information reviewed in the ISA and PA continues to support the conclusion that the primary standard established in 2015 protects public health with an adequate margin of safety. EPA's review specifically focused on the health of at-risk populations, including the elderly, persons who work outdoors, and children with asthma. EPA evaluated more than 1600 newly available studies in the ISA, which included more than 1000 health studies (ISA, Appendix 10, Figure 10-2). 85 Fed.Reg. at 49844. EPA placed more emphasis on evidence from controlled human exposure studies that document respiratory effects in people exposed for short periods (6.6 to 8 hours) during quasi-continuous exercise. *Id.*

Information in the ISA review did not provide any new clinical studies that would change the conclusion that a standard of 0.070 ppm is protective of at-risk populations, with an adequate margin of safety. EPA stated with regard to respiratory effects of ozone exposure:

The strongest evidence of O₃-related health effects, as was the case in the last review, continues to be that for respiratory effects of O₃ (ISA, section ES.4.1). Among the newly available studies, there are several controlled human exposure studies that investigated lung function effects of higher exposure concentrations (e.g., 100 to 300 ppb) in healthy individuals younger than 35 years old, with findings generally consistent with previous studies (ISA, Appendix 3, section 3.1.4.1.1.2, p. 3-17). No studies are newly available in this review of 6.6- hour controlled human exposures (with exercise) to O₃ concentrations below those previously studied.

85 Fed.Reg. at 49846.

EPA noted that there is a greater degree of uncertainty with regard to health effects other than respiratory effects. The ISA review resulted in consideration of newly available evidence that impacts on "cardiovascular effects and mortality... is no longer considered sufficient to conclude that the relationships of short- term exposure with these effects are likely to be causal (ISA, sections IS.4.3.4 and IS.4.3.5)" *Id.* at 49847. However, EPA acknowledged that there was

newly available evidence of ozone exposure resulting in metabolic effects, which had previously not been evaluated.

For this new category of metabolic effects, EPA stated:

The ISA finds the evidence for metabolic effects sufficient to conclude that the relationship with short-term O₃ exposures is likely to be causal (ISA, section IS.4.3.3). The evidence of metabolic effects of O₃ comes primarily from experimental animal study findings that short-term O₃ exposure can impair glucose tolerance, increase triglyceride levels and elicit fasting hyperglycemia, and increase hepatic gluconeogenesis (ISA, Appendix 5, section 5.1.8 and Table 5–3). The exposure conditions from these studies generally involve much higher O₃ concentrations than those commonly occurring in areas of the U.S. where the current standard is met. For example, the animal studies include 4-hour concentrations of 400 to 800 ppb (ISA, Appendix 5, Tables 5–8 and 5–10). The concentration in the available controlled human exposure study is similarly high, at 300 ppb; this study reported increases in two biochemicals suggestive of some liver biomarkers and no change in a number of other biochemicals associated with metabolic effects (ISA, sections 5.1.3, 5.1.5 and 5.1.8, Table 5–3). A limited number of epidemiologic studies is also available (ISA, section IS.4.3.3; Appendix 5, sections 5.1.3 and 5.1.8).

Id. EPA determined that the primary impact of ozone exposure, however, are respiratory effects and that levels protective of respiratory effects also provide protection from metabolic effects.⁵

The CASAC reviewed documents in this review and provided advice and comments to EPA. The CASAC members unanimously agreed that the currently available scientific evidence was generally similar to that available in the last review when the 2015 standard was set.⁶ Further, the EPA Administrator recognized the advice from the CASAC, which indicated support for retaining the current standard without revision, and specifically noted that “the CASAC advice did not convey support for a less stringent standard.”⁷

⁵ 85 Fed. Reg. at 49874:

In summary, the Administrator recognizes the newly available health effects evidence, critically assessed in the ISA as part of the full body of evidence, to reaffirm conclusions on the respiratory effects recognized for O₃ in the last review. He additionally notes that the evidence newly available in this review, such as that related to metabolic effects, does not include information indicating a basis for concern for exposure conditions associated with air quality conditions meeting the current standard. Further, the Administrator notes the quantitative exposure and risk estimates for conditions just meeting the current standard that indicate a high level of protection for at-risk populations from respiratory effects. Collectively, these considerations (including those discussed above) provide the basis for the Administrator’s judgments regarding the public health protection provided by the current primary standard of 0.070 ppm O₃, as the fourth-highest daily maximum 8-hour concentration averaged across three years.

⁶ 85 Fed. Reg. at 49873: “In reaching his proposed conclusion, the Administrator additionally takes note of the comments and advice from the CASAC, including the CASAC conclusion that the newly available evidence does not substantially differ from that available in the last review, and the associated conclusion expressed by part of the CASAC, that the current evidence supports retaining the current standard.”

⁷ 85 Fed. Reg. at 49873.

B. Secondary Standard

EPA has proposed to retain the existing secondary (welfare-based) ozone standard as was adopted by EPA in 2015. In reaching this conclusion, EPA properly reviewed new evidence, prior evidence, the directives of the court in *Murray Energy*, and the recommendations of the CASAC. Regarding the secondary standard, all seven members of CASAC agreed that the current evidence supported retaining the current standard without revision.⁸

LCA supports EPA's decision to retain the existing secondary ozone NAAQS. The ISA, PA, and the Preamble to the proposed rule support that EPA complied with all procedural requirements for making this determination and that the existing standard provides protection against adverse public welfare effects, including the effects of ozone exposure on vegetation growth rates, foliar damage, and other impacts on plants and trees. While information newly available in the current standards review provides a greater understanding of these impacts, such information did not support lowering of the current standard or changing the form of the standard.

IV. Conclusion

The Louisiana Chemical Association supports the EPA's proposals to retain the 2015 primary and secondary ozone NAAQS. LCA appreciates the opportunity to comment on these proposals.

⁸ 85 Fed. Reg. at 49906: "The CASAC provided its advice regarding the current secondary standard in the context of its review of the draft PA (Cox, 2020a).¹⁹³ In so doing, the CASAC concurred with the PA conclusions, stating that it "finds, in agreement with the EPA, that the available evidence does not reasonably call into question the adequacy of the current secondary ozone standard and concurs that it should be retained" (Cox, 2020a, p. 1)."