

Comments of the Attorneys General of California, Colorado, Connecticut, Delaware, Hawaii, Illinois, Maine, Maryland, Massachusetts, Michigan, Minnesota, New Jersey, New York, North Carolina, Oregon, Rhode Island, Washington, Wisconsin, the District of Columbia, and the Chief Legal Officers of the City of Chicago, Illinois; the City and County of Denver, Colorado; the City of New York, New York; and the City and County of San Francisco, California

on

Amendments and Nonconformance Penalties for Model Year 2027 and Later Heavy-Duty Highway Engines and Amendments to Inducement Provisions for SCR-Equipped Diesel Engines (July 14, 2026)

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I. INTRODUCTION

The States and Cities oppose the proposed Amendments and Nonconformance Penalties for Model Year 2027 and Later Heavy-Duty Highway Engines and Amendments to Inducement Provisions for SCR-Equipped Diesel Engines. 91 Fed. Reg. 43,154 (July 14, 2026) (the Proposal). The Environmental Protection Agency's (EPA) proposed rule would increase emissions of criteria pollutants and air toxics, substantially reducing the air quality and health benefits associated with the current heavy-duty vehicle emission standards, consequences that EPA failed to evaluate. The justifications supporting the Proposal, which include reducing costs for manufacturers and responding to user complaints, rest on flawed assumptions and rely on incomplete analyses that leave out crucial factors that the agency must consider. The Proposal is therefore both contrary to law and arbitrary and capricious.

EPA's Proposal fails to comply with the statutory requirements of the Clean Air Act (CAA) for at least two reasons. First, EPA may not undermine a state's ability to attain National Ambient Air Quality Standards (NAAQS), yet EPA failed to undertake a "general conformity" analysis in its Proposal to ensure that the proposed changes to the heavy-duty program will not undermine state NAAQS attainment. *See* 42 U.S.C. § 7506(c)(1). Second, EPA's rollback of crucial emission regulations contravenes the CAA's mandate to ensure certain criteria pollutant standards reflect the greatest degree of emission reductions achievable. 42 U.S.C. § 7521(a)(3)(A)(i).

EPA's Proposal is also arbitrary and capricious. Critically, EPA's Proposal fails to adequately consider the reductions in criteria pollutant emissions that are urgently needed to protect public health and welfare and instead proposes amendments that will increase emissions and harm the air quality of our States and Cities. Moreover, the justifications supporting EPA's proposed amendments to compliance provisions and test procedures are flawed and inadequately supported. And further, EPA's total failure to monetize health and welfare disbenefits of the Proposal makes any claim that the proposed amendments benefit rather than harms consumers indefensible.

Specifically, EPA first proposes to shorten emission-related warranty periods to reduce costs for manufacturers, but the agency fails to show that these reduced costs will be passed on to consumers, nor does EPA show that reduced costs outweigh higher consumer operating costs and health and welfare disbenefits. While EPA claims that the cost savings of the emission-related warranty provision outweigh the increase in operating costs for consumers, its failure to show that cost savings will be passed on to consumers means that the agency has shown only that manufacturers will save money and consumers will lose money. Second, EPA proposes to delay the extension of regulatory useful life provisions to give manufacturers more time to test their engines in real-world conditions, but the agency fails to explain why it is reaching a different conclusion on these timelines than it reached three years ago. Third, EPA proposes to modify the production volume allowance to increase flexibility for manufacturers on the basis that credit trading is insufficient to provide the requisite flexibility, but it fails to consider the evolution of the heavy-duty credit trading market in reaching this conclusion. Fourth, EPA proposes to establish nonconformance penalties, but its conclusion that such penalties are necessary rests on an unsupported contention that the regulations are technologically infeasible for some

manufacturers. Fifth, EPA proposes to eliminate engine derates as an inducement for operators to properly supply their vehicles with the diesel exhaust fluid they were designed to use to control harmful emissions, but the agency fails to show that this change is necessary or that its proposed alternative will be adequate.

EPA's cost-benefit analysis is also arbitrary and capricious. By considering only the cost-savings to vehicle manufacturers and failing to quantify the negative consequences to air quality, human health, and public welfare from the proposed changes, EPA has presented a deeply skewed cost-benefit analysis that improperly puts a thumb on the scale in favor of its Proposal. EPA's claim that the significant negative health impacts of its Proposal are too "uncertain" to quantify while simultaneously quantifying the uncertain (or outright illusory) benefits to industry from the Proposal, is nothing short of arbitrary and capricious. Critically, and inexcusably, EPA's faulty cost-benefit analysis altogether devalues the impact of the Proposal on public health and welfare, a decision that openly flouts the CAA's express objectives and cannot be supported.

EPA similarly fails to consider other key factors that it should have analyzed in its Proposal, such as the reliance interests of the States and Cities in meeting NAAQS goals for air quality, which are not only central to protecting the people in our States and Cities from harmful air pollution, but are also legal obligations. Finally, EPA's Proposal is procedurally defective for several reasons, including EPA's failure to provide an adequate opportunity for public comment, its failure to docket and make available for comment the data and information EPA considered, and its failure to disclose the use of artificial intelligence in this action.

The comments of the California Air Resources Board (CARB) in Response to EPA's Request for Comments on Notice of Proposed Rulemaking (hereafter cited as CARB App'x.), submitted as an appendix to these comments, are incorporated by reference hereto. The technical reports and comments of Mark Jacobsen, Ph.D (Jacobsen Report), Colin Cunliff, Ph.D (Cunliff Report), and Thomas J. Luben, Ph.D., MSPH and Jonathan Buonocore, Sc. D. (Luben-Buonocore Report) are also submitted as appendices to these comments and incorporated by reference hereto. For the reasons outlined herein and in these attached appendices, EPA should not finalize the Proposal and should preserve the compliance provisions and test procedures finalized in the 2023 Heavy-Duty Engine and Vehicle Standards. 88 Fed. Reg. 4296 (Jan. 24, 2023).

II. BACKGROUND

A. States and Cities Continue to Confront Growing Public Health Challenges and Poor Air Quality.

Our States and Cities face immense public health challenges caused by emissions of criteria pollutants such as smog-forming nitrogen oxides (NOx) and particulate matter (PM).¹

¹ See, e.g., EPA, *Current Nonattainment Counties for All Criteria Pollutants* (July 31, 2026), <https://www3.epa.gov/airquality/greenbook/ancl.html> (listing, for example, 7 counties in Wisconsin, 9 counties in Colorado, and 11 out of 23 counties in Maryland as nonattainment areas); EPA, *8-Hour Ozone (2008) Nonattainment Areas* (July 31, 2026),

While our States and Cities are committed to reducing emissions of these harmful air pollutants, federal involvement is necessary to help States attain and maintain the NAAQS² and to reduce emissions due to the heavy-duty transportation sector, cross-state air pollution, and upwind air emissions that harm our residents but that are outside of our control. EPA's proposed amendments to compliance and enforcement provisions related to pollution control for model year (MY) 2027 and later heavy-duty vehicles will result in increased emissions of harmful air pollutants. *See infra* Section IV.I. These increases will hinder our States and Cities' ability to meet our public health, air quality, and environmental justice goals as well as our ability to protect our residents from the harmful consequences of the increased air pollutants that will result from this Proposal, if finalized.

1. Particulate Matter, Nitrogen Oxides, and Ozone Pollution Harm Human Health.

The transportation sector is one of the largest sources of emissions of NO_x, PM, and other harmful air pollutants in the United States.³ In some states and urban areas, mobile sources are the primary contributors of emissions of these harmful air pollutants.⁴ In promulgating the final rule "Control of Air Pollution from New Motor Vehicles: Heavy-Duty Engine and Vehicle Standards," (2023 Rule), EPA projected that the proposed heavy duty emission standards (that it later adopted) would significantly reduce emissions of NO_x, a precursor to ozone formation, as

<https://www3.epa.gov/airquality/greenbook/hnc.html> (listing, for example, New York, Northern New Jersey, and Long Island area as Severe 15 for 8-hour ozone nonattainment); EPA, *8-Hour Ozone (2015) Nonattainment Areas* (July 31, 2026),

<https://www3.epa.gov/airquality/greenbook/jnc.html> (listing Los Angeles areas as Extreme and Severe for 8-hour ozone nonattainment; also listing 3 areas in Wisconsin, including Milwaukee, as Serious for 8-hour ozone nonattainment); NYC.gov, *Environment and Health Data Portal*, <https://a816-dohbep.nyc.gov/IndicatorPublic/data-explorer/health-impacts-of-air-pollution> (last accessed Aug 26., 2026) (tracking over 4,000 average asthma emergency department visits due to ozone per year from 2017 to 2019).

² E.g., California Air Resources Board (CARB), *Revised Draft 2020 Mobile Source Strategy* (Apr. 23, 2021), at 14, 68, https://ww2.arb.ca.gov/sites/default/files/2021-04/Revised_Draft_2020_Mobile_Source_Strategy.pdf.

³ Calvin A. Arter, et al., "Mortality-based damages per ton due to the on-road mobile sector in the Northeastern and Mid-Atlantic U.S. by region, vehicle class and precursor," 16 *Env't Rrsch. Letters* 1–2, 5 (June 2021), <https://doi.org/10.1088/1748-9326/abf60b> ("The mobile source sector remains one of the largest contributors to PM_{2.5} and O₃ [ozone] globally and in the U.S."); 88 Fed. Reg. 29,184, 29,214 (May 5, 2023) ("The primary source of NO₂ is motor vehicle emissions . . .").

⁴ See, e.g., Vt. Dep't of Env't Conservation, Agency of Nat. Res., *Mobile Sources*, <https://dec.vermont.gov/air-quality/mobile-sources> (onroad mobile sources contribute 49% of the NO_x emissions in Vermont); CARB, *2020 Mobile Source Strategy* (Oct. 28, 2021), at 19–20, https://ww2.arb.ca.gov/sites/default/files/2021-12/2020_Mobile_Source_Strategy.pdf ("Every year, over 5,000 premature deaths and hundreds of illnesses and emergency room visits for respiratory and cardiovascular disease in California are linked to PM_{2.5} pollution, of which more than half is produced by mobile sources.").

well as PM. 88 Fed. Reg. at 4,299. The Proposed Rule would substantially limit these reductions, which are crucial to avoid the serious adverse health consequences associated with these pollutants, thereby denying the States and Cities the benefits of such reductions.

Specifically, exposure to PM is causally related to premature mortality⁵ and cardiovascular impacts; consistently associated with asthma and chronic obstructive pulmonary disease exacerbation; and associated with negative birth outcomes, such as low birth weight and negative fetal growth outcomes.⁶ Exposure to NOx is causally related to asthma exacerbation; likely causally related to respiratory effects; and possibly causally related to cardiovascular effects, mortality, diabetes, cancer, and birth defects. 88 Fed. Reg. at 4,319–20. NOx is a significant contributor to fine particulate matter (PM_{2.5}) and to ground-level ozone formation. Exposure to ozone is causally related to respiratory effects, including lung function decrements, pulmonary inflammation, exacerbation of asthma, respiratory-related hospital admissions, and mortality; likely causally related to metabolic effects and complications due to diabetes; and possibly causally related to cardiovascular effects and central nervous system effects. *Id.*

2. Air Toxics Threaten Human Health.

The proposed amendments will also result in an increase in emissions of hazardous air pollutants or air toxics, such as benzene, acetaldehyde, and formaldehyde, compared to the currently applicable emission standards and requirements. EPA, Amendments and Nonconformance Penalties for Model Year 2027 and Later Heavy-Duty Highway Engines and Amendments to Inducement Provisions for SCR-Equipped Diesel Engines: Draft Regulatory Impact Analysis (DRIA) (July 2026) at 20–21, Tables 2-7, 2-8. Additionally, these air toxics are volatile organic compounds that react with NOx to form ground-level ozone, and therefore the Proposal will further increase harmful pollution. Those increased emissions will harm public health and welfare, given the link between toxic air pollutants and cancer and other serious health effects. *See* 88 Fed. Reg. at 4,316 (“[M]obile sources were responsible for 40 percent of outdoor anthropogenic toxic emissions and were the largest contributor to national average cancer and noncancer risk from directly emitted pollutants”); 72 Fed. Reg. 8,428, 8,430 (Feb. 26, 2007). Of all the outdoor air toxics, benzene contributes the most to nationwide cancer risk, based on quantitative estimates of risk, and most of the nation’s benzene emissions come from mobile sources. 72 Fed. Reg. at 8,432, n. 1. In New Jersey, for example, mobile sources are the largest contributors of air toxics emissions and responsible for over 50% of the state’s ambient benzene.⁷ In Allegheny County, Pennsylvania, mobile sources account for over 9% of the

⁵ Karn Vohra, et al., “Global mortality from outdoor fine particle pollution generated by fossil fuel combustion: Results from GEOS-Chem,” 195 *Env’t Rsch.* 1 (Apr. 2021) (Researchers “estimate[d] a global total of 10.2...million premature deaths annually attributable to the fossil-fuel component of PM_{2.5}.”).

⁶ *See* Comment of CARB on “Proposed Rule for National Ambient Air Quality Standards (NAAQS) for Particulate Matter” (June 29, 2020), EPA-HQ-OAR-2015-0072-0975.

⁷ N.J. Dep’t of Env’t Protection, *2024 New Jersey Air Quality Report* (Oct. 2025), at 101, 10-9, <https://dep.nj.gov/wp-content/uploads/airmon/annual-reports/2024-air-quality-report-1.pdf>.

estimated cancer risk from hazardous air pollutants, largely due to gasoline-powered vehicles.⁸ This increase in cancer, respiratory, and related illness will also result in additional health care costs for our States and Cities.

3. Criteria Pollutant Emissions from Heavy-Duty Vehicles Disproportionately Impact Communities with Environmental Justice Concerns.

Criteria and toxic pollutant emissions from heavy-duty vehicles disproportionately endanger residents of communities with environmental justice concerns by exposing them to harmful air pollution that causes significant health impacts. Communities with environmental justice concerns bear a disproportionate burden of environmental harms and adverse health outcomes from hazardous air pollution, including criteria pollutants emitted from vehicles. These impacts impede communities' ability to recover from the historic and ongoing disproportionate siting of pollution sources, underinvestment, and lack of access to essential goods and services, including food, clean water, and health care. The populations disproportionately exposed to hazardous air pollution include communities of color, low-income communities, Tribal Nations and Indigenous Peoples, people with low educational attainment, and children. Moreover, vehicle criteria and air toxics' emissions are concentrated along transportation corridors. 88 Fed. Reg. at 4,321–24. Aggravating historical injustices, decision-makers have disproportionately sited highways and other transportation infrastructure in lower-income communities and communities of color. The burden of vehicle emissions therefore falls inequitably on environmental justice communities, which also face cumulative impacts from industrial pollution.⁹

⁸ Cancer & Env't Network of Sw. Penn. & Clean Air Task Force, *National Air Toxics Assessment and Cancer Risk in Allegheny County Pennsylvania* (updated May 2021), <https://cdn.catf.us/wp-content/uploads/2021/07/21092216/NATA-Factsheet-Final-May-2021.pdf>.

⁹ See, e.g., EPA, *Estimation of Population Size and Demographic Characteristics among People Living Near Truck Routes in the Coterminous United States* (Feb. 16, 2022), EPA-HQ-OAR-2019-0055-0982, at 11–12, Fig. 3, 17–19, Fig. 9 (finding that individuals living near major truck routes are more likely to be people of color and lower-income); see also M. Meyer & T. Dallmann, The Real Urban Emissions Initiative, *Air quality and health impacts of diesel truck emissions in New York City and policy implications* (2022), at 7 Fig. 5 (concluding that Black and Latino individuals in New York City are disproportionately exposed to PM_{2.5} along freight corridors); G.H. Kerr, et al., “COVID-19 Pandemic Reveals Persistent Disparities in Nitrogen Dioxide Pollution,” 118 PNAS 30 (2021); M.A.G. Demetillo, et al., “Space-Based Observational Constraints on NO₂ Air Pollution Inequality from Diesel Traffic in Major US Cities,” *Geophysical Rsch. Letters* 48:17, at 9 (2021); P. Allen, et al., *Newark Community Impacts of Mobile Source Emissions: A Community-Based Participatory Research Analysis* (2020); M.C. Pinto de Moura & D. Reichmuth, Union of Concerned Scientists, *Inequitable Exposure to Air Pollution from Vehicles in Massachusetts* (2019); I. Kheirbek, et al., “The Contribution of Motor Vehicle Emissions to Ambient Fine Particulate Matter Public Health Impacts in New York City: a Health Burden Assessment,” 15 *Env't Health* 89 (2016).

For example, EPA modeling has shown that, nationally, race and income are significantly associated with living near major roadways, even when controlling for other factors.¹⁰ EPA research has also indicated that people of color are more likely to live within 300 feet of major transportation facilities.¹¹ Environmental justice communities bear the effects of these land use patterns. In the Northeast and Mid-Atlantic Region, average concentrations of exposures to PM are 75%, 73%, and 61% higher for Hispanic and Latino residents, Asian-American residents, and African American residents, respectively, than they are for white residents.¹² PM and nitrogen dioxide (NO₂) concentrations are also highest for Black and Hispanic communities in the Commonwealth of Massachusetts, in part because of their proximity to industrial facilities and highways, and these concentrations have increased over time even though overall exposure to those pollutants has decreased in the Commonwealth.¹³

More granular data from California illustrate this phenomenon. The census tracts in California with the highest levels of exposure to ozone, PM, and air toxics are communities of color bordering major transportation corridors—such as Highway 99 in the San Joaquin Valley and Highways 10 and 60 in the Inland Empire:

Census Tracts in California with Highest Levels of Ozone, PM, and Diesel PM Exposure¹⁴

Census Tract	Location	People of Color	Ozone	PM	Diesel PM
6071001600	Ontario	97%	95th	97th	93rd
6065030300	Riverside	66%	97th	86th	95th
6071003301	Fontana	95%	98th	87th	90th
6065031300	Jurupa Valley	94%	96th	70th	96th
6029001600	Bakersfield	68%	83rd	100th	99th
6029002002	Bakersfield	92%	83rd	100th	97th
6065031300	Bakersfield	94%	96th	70th	96th

¹⁰ EPA, *Estimation of Population Size and Demographic Characteristics among People Living Near Truck Routes in the Coterminous United States*, *supra* note 9, at 20–24.

¹¹ Chad Bailey, EPA, *Demographic and Social Patterns in Housing Units Near Large Highways and other Transportation Sources* (2011), EPA-HQ-OAR-2019-0055-0126, at 3.

¹² M.C. Pinto de Moura & D. Reichmuth, Union of Concerned Scientists, *Inequitable Exposure to Air Pollution from Vehicles in the Northeast and Mid-Atlantic* (2019), <https://www.ucsusa.org/sites/default/files/attach/2019/06/Inequitable-Exposure-to-Vehicle-Pollution-Northeast-Mid-Atlantic-Region.pdf>.

¹³ Office of Mass. Atty. Gen. Maura Healey, *COVID-19's Unequal Effects in Massachusetts* (2020), at 5, <https://www.mass.gov/doc/covid-19s-unequal-effects-in-massachusetts/download>.

¹⁴ Data from CalEnviroScreen 5.0, California Office of Environmental Health Hazard Assessment (Aug. 19, 2026), <https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-50>. Metrics for ozone, PM_{2.5}, and diesel particulate matter exposure are the census tract's percentile ranking as compared to all census tracts in California, demonstrating that these census tracts are among those with the greatest pollution exposure statewide. The raw data for these percentile rankings are available on the CalEnviroScreen 5.0 website. The seven census tracts shown here

Furthermore, communities with environmental justice concerns, including Indigenous Peoples and Tribal Nations, are already environmentally overburdened in general due to greater existing pollution exposure. This disadvantage manifests in higher rates of chronic disease, premature death, and other adverse public health outcomes.¹⁵ The pollutants emitted by motor vehicles have been shown to harm fetal development,¹⁶ increase the risk of asthma and wheezing among children,¹⁷ and in older adults have been linked to increased risk of neurodegenerative diseases and higher mortality rates from respiratory illnesses.¹⁸ Compounding these disparities, residents of these disproportionately burdened communities also have less access to health care: they are less likely to have health insurance and less likely to be able to afford necessary tests and procedures, and the health care facilities in many such communities are often poorly staffed and equipped.¹⁹ Heat further degrades air quality in historically redlined neighborhoods, leading to heat-related deaths, asthma diagnoses, and lost work.²⁰

Accordingly, reducing emissions from heavy-duty vehicles is a critical step to begin dismantling historical patterns of environmental injustice burdening communities near transportation infrastructure.

are examples of census tracts in California that rank above the 70th percentile statewide for exposure to fine particulate matter and ozone, and above the 90th percentile for diesel particulate matter. These are all communities in Bakersfield or the Inland Empire near major transportation thoroughfares.

¹⁵ Allison Crimmins, et al., U.S. Global Change Research Program, *The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment* (2016), at 253, https://health2016.globalchange.gov/low/ClimateHealth2016_FullReport_small.pdf.

¹⁶ M.D. Willis et al., “A population-based cohort study of traffic congestion and infant growth using connected vehicle data,” 8 *Sci. Advances* 1 (2022), <https://perma.cc/4KJ6-PMBW>.

¹⁷ J. Gasana et al., “Motor vehicle air pollution and asthma in children: A meta-analysis,” 117 *Env’t Rsch.* 36 (2012).

¹⁸ R. Thama & T. Schikowski, “The Role of Traffic-Related Air Pollution on Neurodegenerative Diseases in Older People: An Epidemiological Perspective,” 79 *J. Of Alzheimer’s Disease* 949 (2021); M. Simoni et al., “Adverse effects of outdoor pollution in the elderly,” 7 *J. Of Thoracic Disease* 34 (2015).

¹⁹ Latoya Hill et al., Kaiser Family Foundation, *Health Coverage by Race and Ethnicity, 2010-2024* (2026), <https://www.kff.org/racial-equity-and-health-policy/health-coverage-by-race-and-ethnicity/>; Benjamin Sommers, et al., “Beyond Health Insurance: Remaining Disparities in US Health Care in the Post-ACA Era,” 95 *The Milbank Quarterly* 1 (2017), <https://pubmed.ncbi.nlm.nih.gov/28266070/>.

²⁰ J. Hoffman, et al., “The Effects of Historical Housing Policies on Resident Exposure to IntraUrban Heat: A Study of 108 US Urban Areas,” 8 *Climate* 1 (2020), <https://perma.cc/K7UW-ZDPH>.

B. History of EPA Regulation of Heavy-Duty Criteria Pollutant Emissions

1. Prior Rulemakings

More than half a century ago, Congress established a statutory regime to reduce motor vehicle emissions in light of evidence that “[t]he automobile has had a devastating impact on the American environment” and “automotive pollution constitutes in excess of 60% of our national air pollution problem.”²¹ Under this regime, Congress has directed the EPA Administrator to promulgate “standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.” 42 U.S.C. § 7521(a)(1). EPA’s standards “shall take effect after such period as the Administrator finds necessary to permit the development and application of the requisite technology, giving appropriate consideration to the cost of compliance.” 42 U.S.C. § 7521(a)(2).

From 1966 through 1970, EPA’s predecessor²² promulgated three sets of emissions standards to control crankcase emissions, exhaust emissions of hydrocarbons and carbon monoxide, and evaporative fuel emissions. 31 Fed. Reg. 5,170 (Mar. 30, 1966); 33 Fed. Reg. 8,304 (June 4, 1968); 35 Fed. Reg. 17,288 (Nov. 10, 1970). Since it was formed in 1970, EPA has finalized more than fifty rules setting or amending emissions standards for various classes of vehicles and myriad air pollutants that EPA determined may endanger public health or welfare. *See e.g.*, 36 Fed. Reg. 12,652 (Jul. 2, 1971) (EPA’s first emission standards for NO_x), 45 Fed. Reg. 14,496 (Mar. 5, 1980) (EPA’s first emission standards for PM).

For more than fifty years, EPA has been translating technological progress into increasingly stringent and more protective standards for various pollutants. In general, EPA’s standards have anticipated a wider use of existing emission control technologies and the application of new or emerging emission control technologies across vehicle classes. *See, e.g.*, 44 Fed. Reg. 6,650, 6,552 (Feb. 1, 1979) (trap-oxidizers), 66 Fed. Reg. 5002, 5049–54 (Jan. 18, 2011) (NO_x adsorbers), 75 Fed. Reg. at 25,454–55 (hybrid technologies); *see* 89 Fed. Reg. at 27,844. This long-standing practice is consistent with Congress’s “expect[ation that EPA] press for the development and application of improved technology rather than be limited by that which exists today.” *NRDC v. EPA*, 655 F.2d 318, 328 (D.C. Cir. 1981); *see* 42 U.S.C. § 7521(a)(2). Accordingly, EPA has routinely analyzed a wide array of technologies—from catalyst and filter technologies to hybrid and zero-emission-vehicle technologies—in its rulemakings to simulate manufacturers’ compliance with alternative stringency levels.

2. 2023 Rule

The 2023 Rule introduced methods to further reduce harmful air pollution, including ozone and PM, from heavy-duty vehicles. Specifically, it included new, more stringent NO_x,

²¹ *Int’l Harvester Co. v. Ruckelshaus*, 478 F.2d 615, 622 (D.C. Cir. 1973); Pub. L. No. 89-272 § 201, 79 Stat. 992, 992–93 (1965).

²² At the time, the federal body responsible for carrying out the statutory mandate was the U.S. Department of Health, Education, and Welfare.

PM, hydrocarbon, and carbon monoxide emission standards for MY 2027 and later heavy-duty engines. The rule lowered the emissions standards for NO_x from 200 mg/hp-hr (milligrams per horsepower-hour) to 35 mg/hp-hr. 88 Fed. Reg. at 4305. In addition to setting these strong emissions standards, the 2023 Rule also includes key regulatory provisions to support the reduction of tailpipe pollution from commercial trucks over more of their operational life.

a. Regulatory Useful Life Extension

Regulatory useful life represents the minimum amount of time and/or distance that manufacturers must demonstrate compliance of their new vehicle emissions control systems. The 2023 Rule extended the durability requirements for heavy-duty engines (e.g., heavy heavy-duty engines' useful life increased to 650,000 miles, 32,000 hours, or 11 years) to "better reflect real-world usage . . . and improve long-term emission performance." 88 Fed. Reg. at 4307, 4359. This number generally corresponds with the average mileage at which diesel engines undergo the first "in-frame rebuild." *Id.* at 4360. The EPA reasoned that even after taking into consideration the uncertain impacts of variability and real-world operation on emission levels at the longest mileages, the "test programs' data supports that mileages at least as long as Option 2 [the useful life periods finalized] are appropriate, and the final standards are feasible at those mileages." *Id.* at 4361. A longer useful life period ensures that emission control technology on large vehicles will continue to function properly, allowing emission standards to be met and maintained.

b. Warranty Extension

The emission-related warranty period is the period over which CAA section 207 requires the engine manufacturer to ensure the engine complies with the applicable regulations. If an emission-related component fails during the warranty period, the manufacturer is required to pay for its repair or replacement. *Id.* at 4362. The 2023 Rule strengthened warranty periods for MY 2027 and later heavy-duty engines to 10 years and mileages ranging from 160,000 to 450,000 miles, which are more consistent with the updated useful life period of heavy-duty engines. *Id.* at 4363–64. The previous warranty period was set in 1983 and had not changed even as useful life periods were lengthened. *Id.* at 4362.

The 2023 warranty extensions were projected to ensure longer-term benefits of emission controls. First, they were designed to encourage owners to maintain their engines and vehicles over a longer period of time and discourage tampering. *Id.* at 4363. Second, longer warranty periods incentivize manufacturers to simplify repair processes and improve technician training. *Id.* Finally, longer periods increase manufacturers' access to information about emission-related defects over a longer period of time. *Id.*

c. Inducements

Inducements are measures designed to induce drivers to address problems with the emission control system that, if not addressed, would prevent the system from meeting the applicable emissions requirements. In particular, engines that employ selective catalytic reduction (SCR) emissions technology require diesel exhaust fluid (DEF) to properly function,

and the vehicle operator must periodically “supply the system with quality DEF for it to work properly.” 91 Fed. Reg. 43,194.

EPA guidance issued between 2007 and 2013 identified inducements manufacturers could use to ensure that operators maintained an adequate supply of DEF and did not tamper with their engines. 87 Fed. Reg. 17,414, 17,536 (Mar. 28, 2022). These included measures that triggered engine derates, such as speed or torque reduction, when the SCR was not functioning properly due to inadequate levels of DEF or tampering. *Id.* The 2023 Rule required manufacturers to incorporate inducements “to demonstrate that timely replenishment with high-quality DEF is reasonably likely to occur” and to prevent tampering with SCR systems. 88 Fed. Reg. at 4377. The requirements in the 2023 Rule are relaxed relative to the requirements in the guidance documents, and were relaxed further by two EPA guidance letters issued in 2025 and 2026. CARB App’x at 11–12. To “[a]ddress operator frustration with false inducements and low inducement speed restrictions that occur quickly,” the Rule also “limit[ed] inducements” to three “well-defined fault conditions that focus appropriately on DEF supply, DEF quality, and tampering.” 88 Fed. Reg. at 4377, 4380.

d. Production Volume Allowance

Finally, the 2023 Rule included a production volume allowance that allowed manufacturers to use their NO_x emission credits to certify a limited number of their MY 2027 through MY 2029 heavy heavy-duty engines as compliant with pre-MY 2027 requirements. 88 Fed. Reg. at 4400. The allowance applied to up to “five percent of the average U.S.-directed production volumes of Heavy HDE over three model years.” *Id.* at 4401. EPA reasoned that the allowance would provide manufacturers with lead time and flexibility to redesign low-sales-volume products to meet the new engine emission standards. *Id.* at 4400. By requiring manufacturers to use their NO_x credits to take advantage of the production volume allowance, the agency provided this flexibility while “protect[ing] the expected emission reductions from the final rule” and “inherently result[ing] in the production of lower-emitting engines to generate the necessary credits.” *Id.* at 4401.

EPA’s Proposal would revise these key compliance and enforcement provisions that were put in place by the 2023 Rule. Overall, EPA has failed to adequately support its proposed amendments to the 2023 Rule, and its Proposal is contrary to statute and arbitrary and capricious in the way outlined below.

III. The Proposal is Contrary to Statute.

EPA’s Proposal fails to comply with the clear statutory requirements of the CAA. The Proposal will result in increased emissions of harmful pollutants, which impair the ability of designated nonattainment areas to comply with federal air quality standards, in violation of the CAA. In addition, the rollback of crucial emissions-related requirements also violates the CAA’s express requirement for EPA to ensure emissions standards reflect the greatest degree of emission reductions achievable.

A. The Proposal Violates the CAA's General Conformity Requirement.

The CAA prohibits federal agencies from engaging in any activity that does not conform with state implementation plans (SIPs) for the attainment of national ambient air quality standards (NAAQS), or that may cause or contribute to violations of those standards. 42 U.S.C. § 7506(c)(1).²³ In particular, this general conformity requirement specifies that EPA may not engage in activities that:

- (i) cause or contribute to any new violation of any standard in any area;
- (ii) increase the frequency or severity of any existing violation of any standard in any area; or
- (iii) delay timely attainment of any standard or any required interim emission reductions or other milestones in any area.

Id. § 7506 (c)(1)(B). Moreover, the implementing regulations further specify that a federal agency must clearly demonstrate conformity when an action's emissions impacts "[i]nterfere with provisions in the applicable SIP for maintenance of any standard." 40 C.F.R. § 93.153(g)(1)(ii).

SIPs are central to reducing harmful air pollution through the CAA's NAAQS program, "the engine that drives nearly all of Title I" of the CAA. *Whitman v. Am. Trucking Ass'ns*, 531 U.S. 457, 468 (2001). SIPs are federally enforceable plans designed and implemented by states that identify how a state will attain and maintain NAAQS. SIPs for nonattainment and maintenance areas must identify both the magnitude of reductions needed and the actions necessary to achieve those reductions to maintain or attain the NAAQS. SIPs for nonattainment areas also must include a demonstration that the area: (i) will make reasonable further progress toward attainment, (ii) is implementing reasonably available control technology on all major sources, (iii) has a program in place to address emissions from new stationary sources, and (iv) meets transportation conformity requirements. SIPs, once approved by EPA, are incorporated into the Code of Federal Regulations and become enforceable as federal law under CAA section 304, 42 U.S.C. § 7604(f). *See Trs. for Alaska v. Fink*, 17 F.3d 1209, 1210 n.3 (9th Cir. 1994) (noting approved SIPs have "the force and effect of federal law" and are enforceable in federal court).

Because of the chief importance of SIPs and NAAQS attainment to the statutory scheme of the CAA, the statute and EPA's implementing regulations require federal agencies to make a general conformity determination (i.e., a determination of conformity with relevant, approved SIPs for criteria pollutants) whenever a federal action increases the "total of direct and indirect emissions" of a criteria pollutant above a certain threshold in areas currently or previously designated as in nonattainment with air-quality standards. 40 C.F.R. §§ 93.153(b), 93.158. Under this requirement, the threshold of emissions increases above which a conformity determination is

²³ Under CAA section 176, "[n]o department, agency, or instrumentality of the Federal Government shall engage in, support in any way or provide financial assistance for, license or permit, or approve, any activity which does not conform to an implementation plan after it has been approved or promulgated under section 7410 of this title." 42 U.S.C. § 7506(c)(1).

required is 100 tons/year of NO_x in nonattainment areas; 50 tons/year of VOC in nonattainment areas; 100 tons/year of carbon monoxide in all maintenance areas; 100 tons/year of PM_{2.5} in moderate nonattainment areas; and 70 tons/year of PM_{2.5} in serious nonattainment areas. 40 C.F.R. §§ 93.153(b)(1). These thresholds are even lower in nonattainment areas with higher nonattainment classifications; for example, the threshold for NO_x is only 50 tons/year in serious ozone nonattainment areas, 25 tons/year in severe ozone nonattainment areas, and only 10 tons/year in extreme ozone nonattainment areas. *Id.* Agencies are required to conduct a conformity analysis when the emission impacts are “reasonably foreseeable,” 40 C.F.R. § 93.153(c)(3), and, for indirect emissions, when they are of the type the agency can “practically control” and over which they have a “continuing . . . responsibility,” 40 C.F.R. § 93.152.²⁴ The CAA’s clear mandate is such that any agency with authority over programs with “air-quality related transportation consequences” must give “priority” to the successful implementation of SIPs. 42 U.S.C. § 7506(d). To this end, most federal actions affecting levels of pollutants in nonattainment regions, including this Proposal, require that the responsible agency make a “conformity determination.” 40 C.F.R. §§ 93.150–.160.

Here, EPA was required to make a conformity determination analyzing the Proposal’s impact on nonattainment areas and its ability to comply with any relevant SIPs, and it failed to do so in plain violation of the CAA. First, an increase in criteria pollutant emissions clearly is reasonably foreseeable because the EPA quantified those emissions increases.²⁵ 91 Fed. Reg. at 43,210; DRIA at 20. Given EPA’s estimate that the Proposal will increase the emission of NO_x and other criteria pollutants from heavy-duty vehicles by a significant amount, there is no argument supporting the proposition that the Proposal will have *no* impact on criteria pollutant emissions. Second, EPA can practicably control the emissions at issue because it possesses ultimate regulatory authority over these compliance and enforcement provisions that impact the ability of manufactures to meet the NO_x emission standard for heavy-duty vehicles, as well as the standard itself. EPA, as mandated by the CAA, has a continuing interest in regulating such emissions. Finally, the Proposal will almost certainly result in increased emissions above the CAA’s de minimis thresholds in nonattainment areas, as EPA projected that just *some* of the Proposal’s revisions would add 36,673 short tons of NO_x, 116 short tons of volatile organic compounds, 46 short tons of primary total PM_{2.5}, and 8,084 short tons of carbon monoxide to the atmosphere by 2055. 91 Fed. Reg. at 43,211, Table VII-1. These estimates do not account for the emissions impacts of the Proposal’s amendments to inducements and the NCP provision, which further inflate these numbers. CARB projects that in California alone, amending inducements and establishing NCPs will result in an additional cumulative 539,694 tons of NO_x emissions by 2050. CARB App’x at. 41 (Table 9-2). With such large increases of key criteria pollutant emissions, particularly when the de minimis regulatory thresholds for these pollutants in serious, severe, and extreme nonattainment are far below these levels, EPA should have conducted further analysis to determine to what degree nonattainment areas would be impacted.

²⁴ See also EPA, General Conformity Training Module 2.1: Applicability Process (May 28, 2026), <https://www.epa.gov/general-conformity/general-conformity-training-module-21-applicability-process#table2>.

²⁵ As discussed in Section IV. G, *supra*, EPA’s emissions analysis likely significantly underestimates the true emissions impacts of the Proposal, most notably because the agency fails to model the impact of eliminating derates.

It is thus reasonably foreseeable that these emissions increases would directly affect nonattainment and maintenance areas. EPA's current list of nonattainment counties shows numerous counties currently designated nonattainment for PM and ozone.²⁶ In counties with serious or extreme nonattainment concerns, even what EPA claims would be “relatively small[]” increases in emissions could cause dramatic deviations from SIPs. 91 Fed. Reg. at 43,211. And as discussed, *see supra* Section II.A.3, criteria pollutant emissions from vehicles disproportionately affect overburdened communities near transportation corridors in major air basins, many of which are in nonattainment, and further, heavy-duty trucks represent one of the largest on-road contributors to such emissions in many of our States and Cities, including California. CARB App'x. at 28, 42.

Moreover, it is reasonably foreseeable that a significant percentage of the total emissions increases projected by EPA will directly impact nonattainment regions due to the uneven distribution of heavy-duty trucks across transportation corridors, which are often located in or near serious or severe nonattainment areas. For example, in New Jersey, Class 3 and larger trucks account for 49% of medium- and heavy-duty vehicle registrations, but are responsible for 82% of NOx emissions and 78% of PM emissions from these vehicle classes, and 17% of the NOx emissions in Union County, part of the New York-Northern New Jersey-Long Island, NY-NJ-CT serious ozone nonattainment area, can be traced specifically to truck traffic at the Port of New York/ New Jersey, showing the outsize impact of heavy-duty traffic on emissions.²⁷ Similarly, existing emissions data in California shows that 32% of on-road traffic occurs in the South Coast Air Basin, and 22% occurs in the San Joaquin Valley Air Basin, both of which are extreme nonattainment areas for the 70-ppb ozone standard.²⁸ In fact, total NOx emissions in 2026 from the trucks and buses addressed by the proposed rule are estimated at 35.8 and 29.2 tons per day, i.e., over 11,000 and 9,000 tons per year, in the South Coast and San Joaquin Valley, respectively. CARB App'x at 42. Since the threshold at which a consistency determination for NOx is required in these areas is extremely low—only 10 tons/year—there is no reason to doubt that EPA's Proposal will result in increased emissions above this threshold in those areas. *Id.* Therefore, although EPA failed to conduct a regional analysis of the emissions impacts of its Proposal, it is clear, and certainly foreseeable, that the Proposal, if finalized, will result in emission increases far greater than the minimum thresholds outlined in the CAA. See 40 C.F.R. §§ 93.153(b)(1).

Although EPA has exempted from its conformity regulations some actions involving “[r]ulemaking and policy development and issuance,” 40 C.F.R. § 93.153(c)(2), this Proposal is not one of them. That provision only applies to “[a]ctions which would result in no emissions increase or an increase in emissions that is clearly de minimis.” *Id.*; *see Pub. Citizen v. Dep't of Transp.*, 316 F.3d 1002, 1029–32 (9th Cir. 2003), *rev'd on other grounds*, 541 U.S. 752 (2004)

²⁶ EPA, *Current Nonattainment Counties for All Criteria Pollutants*, *supra* note 1.

²⁷ NJ DEP, *A Roadmap to Zero-Emission Medium- and Heavy-Duty Vehicles in New Jersey* (May 2024), <https://dep.nj.gov/wp-content/uploads/drivegreen/pdf/mhd-roadmap.pdf>, at 7-9.

²⁸ CARB, EMFAC2025 (v2.1.1) Emissions Inventory (Accessed Aug. 25, 2026) <https://emfac.arb.ca.gov/emissions-inventory/>.

(holding that DOT's claim that rulemakings are categorically exempt from general conformity requirements was an incorrect interpretation of the statute).²⁹ EPA expressly acknowledges that a number of relaxed emission-related requirements in the Proposal would result in increased emissions of criteria pollutants across the board, and these increases would carry forward potentially indefinitely if EPA finalizes the Proposal. DRIA at 20. EPA has not claimed, much less demonstrated, that these emissions increases would be *clearly* de minimis in nonattainment areas, and in fact, the available evidence suggests the impacts would in fact be greater than a de minimis level. *See* CARB App'x at 42.

Even if EPA were to conclude that the emissions impacts of the Proposal would be clearly de minimis, it would be required to conduct at least that part of the conformity analysis to make a determination that general conformity does not apply.³⁰ EPA failed to do that, too, instead neglecting to mention the general conformity rule at all. *See Pub. Citizen*, 316 F.3d at 1030 (holding that the CAA requires an agency to consider its regulations' environmental impact on a local or regional basis in order to disclose the possibility of a conformity issue); *Env't Def. Fund, Inc. v. EPA*, 82 F.3d 451, 466 (D.C. Cir. 1996), *as amended*, 92 F.3d 1209 (D.C. Cir. 1996) (per curiam) (holding that while de minimis exemption to conformity determinations are permissible, "a de minimis exemption cannot stand if it is contrary to the express terms of the statute")(citation omitted).

Ultimately, the plain language of the CAA expressly prohibits federal agencies, including EPA, from taking discretionary actions that interfere with or undermine approved SIPs. 42 U.S.C. § 7506(c). The Proposal fails to make a conformity determination in the first instance, and EPA's own emissions analysis, *see* DRIA at 20–21, suggests that this agency action would lead to emissions increases in nonattainment areas that could "cause or contribute to" violations of the NAAQS, "increase the frequency or severity" of existing violations, or "delay timely attainment" of the standards. *See* 42 U.S.C. § 7506 (c)(1)(B). The Proposal's relaxation of numerous requirements that would support the achievement of essential heavy-duty vehicle standards for harmful pollutants and EPA's failure to assess the impacts of these increased emissions on nonattainment areas therefore violate the CAA's general conformity provision.

B. The Proposal's Rollback of Crucial Emission Regulations Contravenes the CAA's Mandate to Ensure That Criteria Pollutant Standards Reflect the Greatest Degree of Emission Reduction Achievable.

Section 202 of the CAA requires EPA to set criteria pollutant standards, including standards for NO_x and particulate matter, that "reflect the greatest degree of emission reduction achievable through the application of technology which the Administrator determines will be available for the model year to which such standards apply." 42 U.S.C. § 7521(a)(3)(A)(i). The

²⁹ The de minimis thresholds applicable to general conformity determinations are outlined in 40 C.F.R. § 93.153(b)(1).

³⁰ EPA guidance outlines the steps any agency must take to comply with general conformity when an agency believes emission impacts may be de minimis. *See* General Conformity Training Module, *supra* note 24.

ordinary meaning of “reflect,” *i.e.*, “to make (something) manifest or apparent,”³¹ captures Congress’s intent that the emission standards EPA adopts for heavy-duty vehicles must realize or effectuate the reductions possible with advanced technologies. But by undercutting the real-world efficacy of its heavy-duty NOx standards, the Proposal breaks that crucial correspondence between the standard and the technological potential it was designed to make manifest, and thus violates Section 202(a)(3)(A)(i).

The 2023 Rule set a strong standard for heavy-duty vehicles that EPA determined met the statutory requirement to reflect the greatest degree of emission reduction achievable based on the technology available for MY 2027. 88 Fed. Reg. at 4,305. EPA has not proposed to reconsider that determination or offered any evidence that would suggest its prior determination was unreasonable. To the contrary, EPA has left the emission standards established in the 2023 Rule in place, thus affirming that they remain achievable. However, in this Proposal, EPA proposes amendments to the NOx standards’ compliance and enforcement regulations that severely undermine the efficacy of the NOx standards. In particular, the Proposal would allow manufacturers to “comply” with the standards using NCPs; shorten the regulatory useful life of heavy-duty vehicles such that they are only required to “achiev[e]” the prescribed emissions reductions for a much shorter period of time; and significantly reduce the warranty period applicable to emissions technology. Each of these proposed changes would result in significant emission increases, and as such, each would have the effect of weakening the efficacy of the standard that EPA set to reflect the greatest degree of emission reduction achievable. Therefore, by stripping the regulations necessary to implement the standards and accepting significant emission increases not contemplated when the standards were set, the Proposal contemplates heavy-duty NOx standards that no longer reflect the greatest degree of emission reduction achievable and is therefore contrary to the CAA.

The statutory mandate that standards “reflect the greatest degree of emission reduction achievable through the application of technology” which “will be available for the model year to which such standards apply,” 42 U.S.C. § 7521(a)(3)(A)(i), requires EPA to set standards at least as stringent as, if not more stringent than, what the current state of the art technology allows. *See Nat’l Petrochemical & Refiners Ass’n v. EPA*, 287 F.3d 1130, 1140 (D.C. Cir. 2002) (noting that the statute does not require “present availability” of technology at issue). To bring about critical air quality improvements, Congress authorized EPA to set technology-forcing standards that require manufacturers to develop entirely new technologies or significantly improve existing ones. *See NRDC*, 655 F.2d at 328 (stating that “Congress intended the agency to project future advances in pollution control capability”); *Crete Carrier Corp. v. EPA*, 363 F.3d 490, 491 (D.C. Cir. 2004) (stating that section 202 “is a technology-forcing provision; it mandates regulations with which manufacturers can comply only by adopting new technologies as they become available”).

³¹ *Webster’s New Collegiate Dictionary*, “Reflect,” (Springfield, Mass.: G. & C. Merriam, 1977), https://archive.org/details/webstersnewcolle0000unse_c7w5/page/970/mode/2up (“To make manifest or apparent”). This definition is contemporary to the Clean Air Act’s 1977 Amendments, which added Section 202(a)(3)(A)(i).

While the statutory language also requires EPA to “giv[e] appropriate consideration to cost, energy, and safety factors associated with the application of technology” that “will be available,” *id.*, EPA must place primary importance on achieving the greatest degree of emissions reduction. *See Husqvarna AB v. EPA*, 254 F.3d 195, 200 (D.C. Cir. 2001) (concluding that “EPA did not deviate from its statutory mandate or frustrate congressional will by placing primary significance on the ‘greatest degree of emission reduction achievable’ and by considering cost, noise, energy and safety factors as important but secondary factors”). Courts have continually held that the “overriding goal” of the congressional mandate to set emissions standards is achieving emissions reductions, and the other statutory factors “are subordinate to that goal.” *See, e.g., id.; Am. Petroleum Inst. v. EPA*, 52 F.3d 1113, 1120 (D.C. Cir. 1995). As such, EPA’s failure to prioritize achieving the greatest degree of emission reduction possible violates the statutory requirement.

EPA’s Proposal fails to meet this “overriding goal” that the standards reflect the greatest degree of emission reduction achievable. *See Husqvarna AB*, 254 F.3d at 200. The Proposal would allow manufacturers to use NCPs in lieu of meeting the emission standard for 2027 and later MY heavy-duty vehicles, 91 Fed. Reg. at 43,184, despite the fact that the criteria for establishing NCPs have not been met, *see supra* IV.E. This is fundamentally at odds with the CAA’s mandate that EPA set standards that reflect the greatest degree of emission reduction achievable, as it creates a pathway for manufacturers to disregard that standard in the first instance. *See id.; see also* CARB App’x. at 14 (“The proposed NCPs in the [Proposal] are basically a pay-to-pollute scheme, as the criteria for establishing NCPs are not met here, and could significantly undermine the effectiveness of the emission standards.”).

EPA’s proposed weakening of the regulatory useful life period for heavy-duty vehicles will similarly undermine the efficacy of the emission standard, such that it will no longer reflect the greatest degree of emission reduction achievable. By reverting to a shorter useful life period, EPA is shortening the amount of time that manufacturers must ensure the emission standard is met, thereby weakening the standard itself. EPA has consistently interpreted regulatory useful life requirements as “making it clear that Congress was concerned about the effects of air pollution from motor vehicles and other sources for a reasonable time after their commencement of use.” *Anderson Shipping Co. v. EPA*, 852 F.2d 1387, 1390–91 (D.C. Cir. 1988). As such, the goal of the regulatory useful life requirement is to ensure the emission standard itself reflects the degree of emission reduction achievable as required by statute; EPA failed to meet this mandate.

EPA’s Proposal would also reduce the emission-related warranty periods for MY 2027 and later heavy-duty vehicles by over 75 percent, further shortening the amount of time that the emission standards may be effective. The Proposal’s shortened warranty provision is expected to significantly increase emissions of NO_x, as EPA indicates that almost all excess NO_x emissions from the Proposal are attributable to the elimination of the longer warranty periods. *See* DRIA at 21; CARB App’x. at 33. As such, this aspect of the Proposal further undermines the real-world efficacy of the emission standard, and therefore that standard fails to reflect the greatest degree of emission reduction achievable.

In sum, EPA’s proposal to weaken crucial emission reduction requirements leads to an emission standard that does not “reflect the greatest degree of emission reduction achievable

through the application of technology” that “will be available,” in violation of the CAA’s plain mandate. 42 U.S.C. § 7521(a)(3)(A)(i).

IV. The Proposal is Arbitrary and Capricious and Therefore Unlawful.

In addition to contravening numerous statutory requirements of the CAA, EPA’s proposed amendments to the heavy-duty vehicle standards are also arbitrary and capricious, and wholly lack proper explanation or justification. EPA remains obligated under the CAA and the APA to exercise its regulatory discretion reasonably, including by considering “responsible alternatives to its chosen policy,” *Am. Radio Relay League, Inc. v. FCC*, 524 F.3d 227, 242 (D.C. Cir. 2008), serious reliance interests in a policy before departing from or upending that policy, *FCC v. Fox Television Stations, Inc.*, 556 U.S. 502, 515 (2009), and all other “important aspect[s] of the problem,” *Motor Vehicle Mfrs. Ass’n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983). Ultimately, EPA fails to justify the proposed amendments. EPA’s explanations for the proposed amendments are unsupported by the facts and fail to take many important factors into account, and EPA repeatedly fails to justify its change in position or consider reasonable alternatives. This skewed, short-sighted analysis is therefore arbitrary, capricious, and an abuse of EPA’s discretion.

A. EPA’s Proposal is Arbitrary and Capricious Because it Fails to Reduce or Eliminate Threats to Public Health and Welfare.

Under section 202(a)(1) of the CAA, EPA “shall by regulation prescribe . . . standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles . . . , which in [its] judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.” 42 U.S.C. § 7521(a)(1). The word “shall” vests a non-discretionary duty in EPA to reduce or eliminate the threats to public health and welfare of deleterious air pollutants. 42 U.S.C. § 7521(a)(1); *see also id.* § 7401(b)(1) (declaring a goal of the CAA “to protect and enhance the quality of the Nation’s air resources so as to promote the public health and welfare and the productive capacity of its population”); *Massachusetts v. EPA*, 549 U.S. 497, 532 (2007) (explaining that “EPA has been charged with protecting the public’s ‘health’ and ‘welfare’” in section 202(a)). This core directive has remained the same, with only minor edits, since Congress first enacted it in the Motor Vehicle Pollution Control Act of 1965. Pub. L. No. 89-272, 79 Stat. 992 (1965).

EPA’s adoption of the 2023 Rule comported with its statutory mandate in section 202(a) and furthered the CAA’s statutory objective by reducing the threats from vehicle pollution to public health and welfare. The adverse health effects caused by heavy-duty vehicle pollution include death, respiratory illness, and cardiovascular problems. 88 Fed. Reg. at 4298. The EPA estimated that without the 2023 Rule, “heavy-duty engines would continue to be one of the largest contributors to mobile source NO_x emissions nationwide,” representing 32 percent of mobile source NO_x emissions and 90 percent of the on-road NO_x inventory in calendar year 2045. *Id.* The 2023 Rule was projected to reduce NO_x emissions from heavy-duty vehicles by more than 40 percent by 2040 and almost 50 percent by 2045, causing “widespread decreases in ambient concentrations of pollutants” and health benefits worth billions of dollars. *Id.* at 4299.

By proposing to amend those standards without considering the impact on public health and welfare, explaining adequately the basis for its change in position, or otherwise providing an adequate justification, EPA's Proposal is arbitrary and capricious. EPA's Proposal, if finalized, will worsen air pollution, contributing to, rather than eliminating, threats to public health and welfare. EPA itself acknowledges that "[m]otor vehicle emissions contribute to ozone, PM2.5, and air toxics, which are linked to premature death and other serious health impacts, including respiratory illness, cardiovascular problems, and cancer." 91 Fed. Reg. at 43,212. EPA itself projects that the Proposal will *increase* emissions of those pollutants relative to the 2023 Rule, adding 36,673 short tons of NOx, 116 short tons of volatile organic compounds, 46 short tons of primary total PM2.5, and 8,084 short tons of carbon monoxide to the atmosphere by 2055. *Id.* at 43,211, Table VII-1. And this estimate doesn't even purport to include the emissions impacts of EPA's proposed amendments to inducements and establishment of nonconformance penalties. CARB App'x at Chapter 9; Cunliff Report at 5. EPA's blatant disregard for its statutory duty to enact rules that reduce "air pollution which may reasonably be anticipated to endanger public health or welfare," 42 U.S.C. § 7521(a)(1), is arbitrary and capricious.

B. EPA Fails to Adequately Justify its Proposal to Shorten the Emission-Related Warranty Period.

EPA purports to justify its proposal to shorten the emissions-related warranty period based on "new information" it has received "on costs and potential impact on purchase price." 91 Fed. Reg. at 43,162. As to "new information on costs," however, EPA fails to present any meaningful new evidence that contradicts the evidence it previously relied upon, instead citing to representations from manufacturers, most of which were already before the agency when it promulgated the 2023 Rule. EPA presents no actual data, such as data regarding the rate of warranty claims or the expenditures made by manufacturers to comply with the current warranty provisions. The agency similarly fails to justify its reference to a "potential impact on purchase price": EPA assumes, without sufficient evidence, that a reduction in costs for manufacturers will be passed on to customers and that this decrease in purchase price will not be outweighed by an increase in operating costs. *Id.* Even more critically, EPA fails to monetize or otherwise account for the increased air pollution and health consequences of shortening the warranty period, making its claim that the proposed amendment will benefit consumers even less defensible.

EPA's reference to "new information on costs" is supported only by a nonspecific claim that EPA "has met with manufacturers and has learned that the emission-related warranty costs could be significantly higher for certain applications." 91 Fed. Reg. at 43,162. EPA provides no evidence indicating how many applications are affected, what is considered a "significantly higher" cost, or indeed whether costs *will* be higher or simply "could" be higher. Instead, EPA presents a *single, speculative* example: "In the case of the Heavy HDE category, OEMs have shared that the cost increase for just the emission-related warranty could exceed \$15,000 for some engines intended for use in low-mileage vocational vehicles for which the engine would be covered by warranty until the 10-year limit." *Id.* But EPA provides no evidence regarding how many "low-mileage vocational vehicles" would be affected or how often the warranty would or "could" exceed \$15,000. Further, it is not clear to what extent this example represents "new" information, given that it "is consistent with the 2023 Final Rule emission-related warranty cost analysis that estimated warranty costs are approximately \$1,000 per year." *Id.* at n.22. EPA does

not explain why, if its “new information” is consistent with the information that was before the agency when it promulgated the 2023 Rule, this amendment is necessary at all. Regardless, the fact that warranty costs for a certain sub-type of vehicle *could* exceed \$15,000 is not an adequate justification to amend the Rule as to *all* vehicles. *See State Farm*, 463 U.S. at 43 (agency must provide a “satisfactory explanation” for its action). In particular, EPA does not appear to have considered shortening or waiving the warranty period only for the limited types of vehicles that its evidence indicates may be affected. Nor does EPA consider shortening the warranty year limit while retaining the mileage limit, such as reducing the warranty for heavy heavy-duty vehicles from 10 years or 450,000 miles to 5 years or 450,000 miles, rather than 5 years or 100,000 miles. Such an alternative would fully address the sole example of a warranty-driven cost increase that EPA discloses in any detail. The agency’s failure to consider reasonable alternatives is itself arbitrary and capricious. *Spirit Airlines, Inc. v. U.S. Dep’t of Transp.*, 997 F.3d 1247, 1255 (D.C. Cir. 2021) (“[T]he failure of an agency to consider obvious alternatives has led uniformly to reversal.”).

Except for the single piece of purportedly “new information” discussed *supra*, EPA’s justification for shortening the emission-related warranty periods relies entirely on information that was before the agency when it promulgated the 2023 Rule. *See* 91 Fed. Reg. 43,162–63 (conclusion that “emission-related warranty costs are generally passed on to customers” based on “[c]ommenters on the proposal to the 2023 Final Rule”; conclusion that “[l]onger emission-related warranties may not align with the preferences or usage patterns of all purchasers” based on “comments on the proposal to the 2023 Final Rule”). EPA fails to show that “there are good reasons” for reaching a new position based on the same data. *Fox Television Stations*, 556 U.S. at 515.

EPA also fails to sufficiently justify its claim that shortening the emission-related warranty period will reduce vehicle purchase price, relying solely on statements of “[c]ommenters on the proposal to the 2023 Final Rule.” 91 Fed. Reg. at 43,162. The claim that “emission-related warranty costs are generally passed on to customers in the vehicle purchase price” at 100% (as EPA implies in its modeling, DRIA at 55) is contrary to the relevant literature and “[b]asic economic theory.” Jacobsen Report at 2. The rate at which a cost reduction is passed through to customers is uncertain, may be much less than 100%, and cannot be estimated without “a careful assessment of the heavy-duty vehicle industry.” *Id.* at 2–3. Further, evidence indicates that a cost reduction—like the purchase price reduction that EPA assumes without analysis here—is passed from manufacturers to customers much more slowly than a cost increase. *Id.* at 3. EPA also fails to consider the role of adverse selection: if warranties are no longer mandated, the customers most incentivized to buy extended warranties will be those with the most risk, in turn driving warranty prices up. *Id.* In addition to raising warranty purchasers’ total costs, this effect will also raise costs for small businesses and owner-operators with higher risks and less negotiating power, effectively transferring wealth from small trucking companies to larger ones. *Id.* Finally, EPA also does not consider the “classic result in economics” that products with shorter warranties tend to be less durable than products with longer warranties, such that customers paying lower purchase prices now may find themselves with dirtier, less functional vehicles and higher repair costs down the line. *Id.* at 3–4; *see also* CARB App’x at 32–33 (the proposed warranty periods “remove the incentive for manufacturers to produce appropriately durable emissions components,” such that “the failure rates may no longer follow the simplified

linear projection to useful life but could increase at exponential rates, leading to a substantial increase in emissions and repair costs”). EPA’s failure to justify the key assumptions underlying its analysis is arbitrary and capricious. *U.S. Sugar Corp. v. EPA*, 830 F.3d 579, 650 (D.C. Cir. 2016).

EPA’s failure to support its assumption that lower manufacturer costs will be passed through to customers also undermines the purported “Net Cost Savings” of the shortened warranty period, which EPA calculates by comparing 100% of the decrease in emission-related warranty savings to the increase in consumer operating costs. DRIA at 54–56. Because EPA has not shown how much—if *any*—of the emission-related warranty savings will be passed on to consumers, it remains entirely possible that any purchase price decrease will be offset or outweighed by the increase in operating costs, such that the Proposal represents a net zero or cost *increase* for consumers while increasing emissions and associated harms to public health. Nor does EPA’s calculation of “Net Cost Savings” incorporate any price increase to consumers from its proposed nonconformance penalties, even though the agency “expects that at least some portion of the NCPs will be passed on to the customer in the final vehicle price.” 91 Fed. Reg. at 43,190. EPA’s justification for shortening the emissions warranty period totally ignores the possibility that consumer prices will go up, not down. *See* 91 Fed. Reg. at 43,163 (claiming that the longer emission-related warranty under the 2023 Rule “will significantly increase . . . consumer prices”).

As further discussed below, *see* Section IV.I, EPA does not monetize or otherwise account for the impact that its Proposal will have on human health and welfare, despite acknowledging that it will lead to increased emissions of criteria pollutants that endanger human health. *See* 91 Fed. Reg. 43,212. This failure itself invalidates EPA’s cost-based justification for shortening emission-related warranty periods. *See Genuine Parts Co. v. EPA*, 890 F.3d 304, 307 (D.C. Cir. 2018) (agency decision arbitrary and capricious where it “failed to consider an important aspect of the problem”).

C. EPA Fails to Adequately Justify its Proposal to Delay the Regulatory Useful Life Extension.

EPA proposes to delay the implementation of the 2023 Rule’s increased useful life periods by three years to provide manufacturers with “more time to evaluate their new technologies in the real world and more confidence in the in-use durability over the longer useful life periods.” 91 Fed. Reg. at 43,164. As with its modification of the emission-related warranty provision, EPA bases this proposed amendment solely on “meetings with manufacturers,” some of whom “expressed concern with the uncertainty of in-use performance of their new technologies over the full useful life for the range of vehicle applications.” *Id.* at 43,163–64. EPA does not identify how many manufacturers raised the issues, what proportion of OEMs they represent, or any information about their concerns, beyond a vague reference to “credible information.” *Id.* at 43,164. Without this information, it is impossible for commenters to evaluate the reasonableness of the Proposal. 42 U.S.C. § 7607(d)(3) (agency publishing notice of proposed rulemaking must include “the factual data on which the proposed rule is based”). It is possible, from the information EPA provides, that a small number of manufacturers expressed a mild, generic concern with the current useful life period, in which case EPA’s proposal is

disproportionate to the problem it purports to solve, or that manufacturers expressed a legitimate concern exclusively about a specific sub-class or type of vocational vehicle, in which case the obvious solution is to postpone the extended useful life only for that type of vehicle. Without this information, an informed evaluation of the Proposal is impossible.

Rather than explain the exact concerns it is responding to and how its proposal addresses those concerns, EPA proposes an arbitrary three-year delay as to *all* heavy-duty vehicles. EPA bases its proposed delay on the fact that a three-year delay will allow manufacturers to gain real-world experience of the useful life of their vehicles, as no company yet has “real-world data on MY 2027 production hardware over the range of applications in which these engines may be used.” 91 Fed. Reg. at 43,164.

As with the emission-related warranty provision, however, EPA already considered these concerns at the time of promulgating the 2023 Rule and reached a different conclusion. The 2023 Rule noted that engine manufacturers had “claimed that some uncertainties relating to real world use would limit the feasibility of” the most stringent useful life periods presented in the proposed rule. 88 Fed. Reg. at 4361. The agency concluded that although “there are uncertainties associated with implementing new technology to meet new emission standards,” the useful life periods it was selecting were still feasible. *Id.* For the heaviest heavy-duty engines, the agency chose the less-stringent of two options it had presented in the proposed rule, explaining that manufacturers already had “experience with their engines at this mileage through their extended warranty offerings, thus reducing uncertainties of real world operation compared to the longest useful life mileage we proposed.” *Id.* Indeed, “both of EPA’s engine test programs successfully demonstrated that” a regulatory useful life period as long as the selected mileage or longer was appropriate and feasible, “[e]ven after taking into consideration uncertainties of the impacts of variability and real-world operation on emission levels at the longest mileages.” *Id.* For other classes of heavy-duty engines, the agency found that “manufacturers can adequately ensure the durability of their smaller engines over useful life periods that match [the regulatory standards] both for meeting emission standards in the laboratory at certification and in the laboratory and applicable in-use testing after operation in the real world.” *Id.*

As with the proposed shortened warranty period, EPA fails to show that “there are good reasons” for reaching a different position based on the same data that was before it when it promulgated the 2023 Rule. *Fox Television Stations*, 556 U.S. at 515. Nor does it provide the “more detailed justification” required when an agency’s new factual findings—here, that the uncertainties associated with real-world operation warrant a delay in the implementation of the regulatory useful life—contradict the findings that underlay the prior policy. *Nat’l Ass’n of Home Builders v. EPA*, 682 F.3d 1032, 1037 (D.C. Cir. 2012). EPA also ignores the evidence that supported its conclusion in the 2023 Rule, including EPA engine test program data supporting its conclusion that the regulatory life periods were appropriate. *See Genuine Parts Co.*, 890 F.3d at 313 (agency action is arbitrary and capricious where it ignores portions of the record that do not support its position). EPA’s position that manufacturers need additional time to obtain data on their vehicles’ durability is particularly unpersuasive given that EPA is also proposing to shorten precisely the warranty requirements that would provide this data. *See* 88 Fed. Reg. at 4363 (“A longer warranty period would allow manufacturers to have access to better defect information over a period of time more consistent with engine useful life.”). EPA does not explain this

inconsistency. *Gen. Chem. Corp. v. United States*, 817 F.2d 844, 846 (D.C. Cir. 1987) (agency action was arbitrary where its analysis was “internally inconsistent and inadequately explained”). Finally, EPA fails to consider any alternatives to its proposed policy, such as a delay of less than three years, a delay applicable to fewer than all regulated vehicles, or an enforcement grace period rather than a relaxation of the regulatory useful life period itself. *See Spirit Airlines, Inc.*, 997 F.3d at 1255 (“The failure of an agency to consider obvious alternatives has led uniformly to reversal.”).

Finally, EPA also requests comment on a scenario in which the 2023 Rule’s extended useful life provision is eliminated entirely and the agency “keep[s] the MY 2026 and earlier regulatory useful life periods for MYs 2027 and later.” 91 Fed. Reg. at 43,165. The points above apply with even greater force to this proposal. Having decided, based on a certain factual record, to extend useful life periods by a certain amount, EPA may not now decide—based on that same record, plus unspecified manufacturer concerns—to eliminate those extensions entirely. It certainly may not do so without any meaningful justification, as is the case here, and without considering *any* of the evidence supporting the feasibility of the useful life periods promulgated in the 2023 Rule. *See Genuine Parts Co.*, 890 F.3d at 313. Nor is it even clear whether manufacturers have expressed concerns that would be addressed by eliminating the extended useful life periods or EPA simply imagines that they may harbor such concerns. 91 Fed. Reg. at 43,165 (“The EPA understands stakeholders *could potentially* have concerns that products meeting the longer useful life periods have not yet entered the market and thus there is still some uncertainty in the feasibility of the standards through the longer useful life periods for all real-world applications.” (emphasis added)). Accordingly, any EPA action maintaining the MY 2026 and earlier regulatory useful life periods indefinitely for MY 2027s and later would be arbitrary and capricious.

D. EPA Fails to Adequately Justify its Proposal to Modify the Production Volume Allowance.

EPA’s primary justification for its proposal to eliminate the requirement that manufacturers use NOx credits to offset the production volume allowance included in the 2023 Rule is that it has “heard from multiple engine manufacturers that they do not have sufficient NOx credit balances to use the existing flexibility.” 91 Fed. Reg. at 43,165. EPA proposes that credit trading will not help solve this problem because “the industry has made little use of the trading provisions” of the averaging, banking, and trading credit program. *Id.*

EPA’s cursory analysis of this proposal fails to consider all significant factors and is therefore arbitrary and capricious. *See Genuine Parts Co.*, 890 F.3d at 307 (agency decision arbitrary and capricious where agency “entirely failed to consider an important aspect of the problem”). First, manufacturers have operated under the existing NOx credit regime since 1990 and have made business decisions accordingly. *See* 55 Fed. Reg. 30,584 (July 26, 1990). EPA has not considered manufacturers’ reliance interests as to NOx credits, particularly for manufacturers that have pursued a strategy of banking or accumulating credits. *See Fox Television Stations*, 556 U.S. at 515 (agency must consider reasonable reliance interests). Second, EPA’s summary dismissal of the NOx trading provisions fails to consider the maturation of the NOx credit market. The rise of heavy-duty zero-emission vehicles is projected to increase the number of

manufacturers generating credits,³² while the increase in the stringency of NOx standards beginning in MY 2027 will increase the demand for credits by making compliance more difficult, *see* 88 Fed. Reg. 4296. EPA's decision to rely solely on the *history* of the NOx credit market, rather than the rapidly evolving nature of that market itself, fails to consider a key aspect of the problem and is therefore arbitrary and capricious. *See Am. Lung Ass'n v. EPA*, 985 F.3d 914, 993 (D.C. Cir. 2021), *rev'd on other grounds*, *West Virginia v. EPA*, 597 U.S. 697 (2022) (failure to even mention important aspect of the problem was arbitrary and capricious).

E. EPA Fails to Adequately Justify its Proposal to Establish Nonconformance Penalties.

EPA proposes to establish nonconformance penalties based on its finding that all three statutory criteria have been met: the emission standard is more stringent than the previous standard, substantial work is required to meet the emission standard, and a manufacturer is likely to noncomply for technical reasons. 91 Fed. Reg. at 43,184. But EPA's conclusion as to the third factor is solely based on "meetings the EPA has had with individual engine and vehicle manufacturers over the past year." *Id.* That's it: EPA provides no data or other information with which commenters can review to test EPA's rationale or determine whether noncompliance for technical reasons is in fact likely. *See Prometheus Radio Project v. FCC*, 652 F.3d 431, 449 (3rd Cir. 2011) (adequate notice required to ensure fairness to affected parties). This failure is particularly concerning given that EPA concluded just three and a half years ago that the MY 2027 standards *are* feasible. 88 Fed. Reg. 4340. Further, recent statements by the manufacturers themselves indicate that manufacturers *are* ready to comply and there is no technological laggard. CARB App'x at Chapter 5A. EPA's conclusory reference to private meetings is hardly sufficient to satisfy the heightened standard that an agency must meet when its "new policy rests upon factual findings that contradict those which underlay its prior policy." *Fox Television Stations*, 556 U.S. at 515.

Further, as with its analysis of relaxing the production-volume allowance, *supra* at Section IV.D, and its cost-benefit analysis, *infra* at Section IV.I, EPA fails to consider the impact of credit trading in its analysis of technological feasibility. It does not raise the possibility that the manufacturers it suspects of being technological laggards could use credits to comply with the standards. By failing to consider the role of credits in the feasibility of the standards, EPA has failed to consider a key aspect of the problem and acted arbitrarily and capriciously. *Genuine Parts Co.*, 890 F.3d at 307.

Finally, EPA again fails to consider a key aspect of the problem and acts arbitrarily and capriciously by declining to perform any analysis of the emissions impact of its proposal to establish nonconformance penalties. *Id.* A CARB analysis indicates that in California alone, establishing NCPs is projected to increase NOx emissions by a cumulative 23,280 tons by 2050,

³² *See, e.g.,* Jack Ewing, *Tesla's Newest Electric Vehicle Could Jolt the Trucking Industry*, NEW YORK TIMES (May 19, 2026); International Energy Agency, *Global EV Outlook 2026: Trends in other EV modes*, <https://www.iea.org/reports/global-ev-outlook-2026/trends-in-other-ev-modes>.

causing an estimated 196 additional incidents of premature mortality in the State. CARB App'x at 29–30.

F. EPA's Calculation of Nonconformance Penalties is Arbitrary and Capricious.

EPA bases its maximum penalty on the highest cost that a complying manufacturer would incur to meet the standard. CARB App'x at 28. This approach fails to incorporate, compensate, or even acknowledge the health damages the NCPs will cause—such as 196 projected premature deaths by 2050 in California alone. *Id.* at 29–30. By failing to consider the emission or health impacts in setting NCPs, EPA is violating its statutory mandate to “take into account the extent to which actual emissions of any air pollutant exceed allowable emissions under” the standards. 42 U.S.C. § 7525(g)(3)(C). The agency is also arbitrarily and capriciously ignoring an important aspect of the problem. *State Farm*, 463 U.S. at 43.

EPA also requests comment on an alternate method of calculating NCPs that “includ[es] DEF costs for only the initial two to four years of an engine's life instead of the full lifetime costs.” 91 Fed. Reg. at 43,190; *see* Cunliff Report at 16. The total absence of any analysis of this suggestion, including any indication of how it would affect the overall penalty amount, does not comply with statutory requirements. *Small Refiner Lead Phase-Down Task Force v. U.S. EPA*, 705 F.2d 506, 547 (D.C. Cir. 1983) (“[N]otice and the opportunity to be heard are an essential component of ‘fairness to affected parties.’”); 42 U.S.C. § 7607(d)(3)(A), (B), (C) (agency must include “the factual data on which the proposed rule is based,” “the methodology used in obtaining the data and in analyzing the data,” and “the major legal interpretations and policy considerations underlying the proposed rule” with the notice of proposed rulemaking). Any final rule that includes only two to four years' worth of DEF costs would be procedurally defective. *See Int'l Union, Mine Workers of Am. v. Mine Safety & Health Admin.*, 626 F.3d 84, 95 (D.C. Cir. 2010) (final rule is not a logical outgrowth of the proposed rule if a new round of notice and comment would provide commenters with their first occasion to offer new and different criticisms to agency). Further, lifetime DEF cost is one of the factors a buyer weighs when choosing between a complying and noncomplying truck. Under the current NCP formula, lifetime DEF accounts for roughly 30% of the maximum heavy heavy-duty engine and 10% of the maximum medium heavy-duty engine penalty. Cunliff Report at 16. Including only the initial 2 or 4 years of DEF in the formula reduces the per-engine maximum penalty for a nonconforming heavy heavy-duty engine from \$6,781 to \$5,671 or \$5,275. *Id.* at 16–20. Accordingly, including only two to four years' worth of DEF in the NCP amount would violate statute by disadvantaging manufacturers for complying. 42 U.S.C. § 7525(g)(3)(E).

G. EPA Fails to Adequately Justify its Proposed Amendments to Inducements.

EPA proposes to modify the inducements used to ensure that heavy-duty vehicle operators maintain appropriate levels of high-quality diesel emission fluid (DEF) in their vehicles and do not tamper with vehicles' selective catalytic reduction (SCR) systems. 91 Fed. Reg. 43,194. Under the current system, manufacturers program engines to derate engine performance and vehicle speed when the DEF tank is almost empty. *Id.* at 43,196. EPA now proposes replacing derates with visible and/or audible notifications alerting drivers of the need to

replenish DEF or the possibility of tampering. *Id.* at 43,194. EPA’s analysis supporting this proposal is arbitrary and capricious.

First, EPA’s reassessment is based primarily on “feedback and concerns” from vehicle operators. *Id.* at 43,197. But as the agency itself acknowledges, “vehicle owners and operators have not yet experienced the inducement requirements finalized in the 2023 Final Rule.” *Id.* It is therefore clear that the feedback in question addresses the *prior* inducement regime and is an inappropriate basis to modify the 2023 Rule, which already significantly relaxed the inducement requirements in the prior guidance documents. CARB App’x at Chapter 3B; *see, e.g., Am. Rivers v. Fed. Energy Regul. Comm’n*, 895 F.3d 32, 50 (D.C. Cir. 2018) (evidence must be relevant to conclusion it is intended to support). Further, much if not all of this “feedback” was before the agency at the time it promulgated the 2023 Rule. 91 Fed. Reg. at 43,197 (“Comments received in response to the proposal of the 2023 Final Rule were also reviewed as part of this reassessment of inducements.”). EPA fails to provide an adequate explanation for how it has reached new conclusions based on the same data.

Moreover, EPA relies on operator descriptions of situations in which technological failures prompt a derate even though the operator is properly maintaining the DEF supply and is not tampering. *Id.* But EPA includes no data from which to conclude that a large proportion—or *any* proportion—of derates are due to technological failures. EPA’s reference to unquantified operator complaints does not constitute a “satisfactory explanation,” *State Farm*, 463 U.S. at 43, and the lack of data by which commenters may evaluate the wisdom or necessity of this proposal fails to satisfy notice-and-comment rulemaking requirements, *Prometheus Radio Project*, 652 F.3d at 449 (adequate notice required to ensure fairness to affected parties). As is the case with the anecdotal evidence supporting EPA’s extension of the useful life provision, EPA does not provide enough information for commenters to evaluate the reasonableness of the Proposal; for instance, it is entirely possible that feedback about false derates is limited to a particular subclass or type of vehicle, in which case the obvious solution is to amend the inducement regulations only with regard to that type of vehicle. Regardless, as described above, the feedback EPA relies upon necessarily refers to the existence of false positives *before* the 2023 Rule, which is no longer relevant given that the 2023 Rule included measures to reduce the risk of false derates. 91 Fed. Reg. at 43,197; *see* 87 Fed. Reg. at 17,542–44, 88 Fed. Reg. at 4377, CARB App’x Chapter 3B (2023 Rule and 2025 and 2026 guidance letters relaxed derating requirements).

EPA acknowledges the measures in the 2023 Rule designed to respond to the possibility of false derates. 91 Fed. Reg. at 43,197. However, the agency now finds those measures inadequate because there “remains risk” that an engine’s diagnostic system “may not always accurately distinguish between tampering and defective components” due to the “limits of algorithm-based judgments.” *Id.* EPA does not explore the extensive implications of rejecting prior rulemaking based on the “limits of algorithm-based judgments.” Nor does it provide any data or other evidence that the measures included in the 2023 Rule or 2025 or 2026 guidance letters were inadequate. *Id.* EPA should explain why the measures included in the 2023 Rule and its subsequent guidance documents are insufficient before proposing to reverse course. *Fox Television Stations*, 556 U.S. at 515 (agency must provide “more detailed justification” when “new policy rests upon factual findings that contradict those which underlay its prior policy”).

Second, EPA fails to consider any alternatives to the wholesale replacement of derates with visible or audible notifications. An agency must consider “obvious” and “responsible” alternatives to its chosen policy. *Spirit Airlines, Inc.*, 997 F.3d at 1255; *Am. Radio Relay League*, 524 F.3d at 242. Obvious alternatives to EPA’s proposed inducements policy include the possibility of modifying or disabling derates in certain situations, such as under certain weather conditions, or, if the operator feedback regarding derates is specific to a particular type of vehicle, modifying or disabling derates as to that type of vehicle. Its failure to do so is arbitrary and capricious.

Third, EPA’s analysis of the efficacy of visible and audible notifications is based on “two recent studies on the success of visible and audible notifications used to prompt light-duty vehicle drivers to wear seatbelts.” 91 Fed. Reg. at 43,198. This situation is obviously disanalogous. Unlike supplying a vehicle with DEF, putting on a seatbelt is costless and requires almost no time or effort. Further, drivers are incentivized to put on a seatbelt to protect themselves from death or injury, which does not apply to DEF. *See id.* (acknowledging that “[t]here are clearly differences in the use of seatbelts and the use of DEF”). Because EPA’s analysis of the efficacy of visible or audible notifications relies on an apples-to-oranges comparison, it is arbitrary and capricious and cannot support EPA’s conclusion that visible or audible notifications are appropriate substitute inducement measures. *See, e.g., Amer. Rivers*, 895 F.3d at 50 (evidence must be relevant to conclusion it is intended to support). Nor does EPA explain how visible and audible notifications differ from on-board diagnostic systems, which EPA’s MOVES5 model already assumes are incorporated in a large number of heavy-duty vehicles.³³

EPA also fails to perform any analysis of the emissions impact of its proposed amendments to inducements. EPA’s modeling of the emission increase caused by the warranty rollback, useful-life delay, and production allowance assumes a consistent rate of tampering and mal-maintenance—an indefensible assumption given the proposed elimination of derates. Cunliff Report at 5–6. EPA also applies a 33% reduction to the tampering and mal-maintenance factor to account for engines equipped with on-board diagnostic systems, *id.* at 9, but fails to explain its assumption that detection leads to repair in the absence of derates, *id.* at 21. When these tampering and mal-maintenance assumptions are varied, the projected emissions impacts increase significantly. In particular, raising the tampering and mal-maintenance rate to 38%—the rate of tampering among Class 8 trucks in Alberta—yields 174,000 tons of NOx emissions in CY2055. *Id.* at 12–13. This is nearly five times EPA’s estimate. *Id.*³⁴ An analysis of the effect of

³³ EPA, Exhaust Emission Rates for Heavy-Duty Onroad Vehicles in MOVES5, <https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P101CU1O.pdf> at 275 (November 2024).

³⁴ As discussed in Section V.C, EPA’s call for comment on an indefinite delay of the regulatory useful life extension fails to comply with notice and comment requirements. *See* 91 Fed. Reg. at 43,165. The agency fails to include any data or meaningful justification supporting its haphazard request for comment, let alone any emissions modeling. In fact, when the emissions impact of an indefinite useful life extension *are* modeled, and assuming a 20% urea supply failure rate, NOx emissions rise by 330,059 tons per year relative to the no action case—more than the entire emissions savings of the 2023 Rule. Cunliff Report at 13.

eliminating derates for heavy-duty vehicles in California alone, assuming a tampering rate of 4.4%, yields an additional 141,658 cumulative tons of NOx emissions by CY2050, translating into an additional 1,211 premature deaths. CARB App'x at 14–15.³⁵

In fact, EPA's analysis is even more deeply flawed than the above paragraph suggests. Contrary to its own purported justification, EPA's modeling explicitly assumes that manufacturers *will* use derates. Cunliff Report at 7–8. EPA states in the Draft Regulatory Impact Assessment that it did not assign any emissions impacts from its proposal to eliminate derates because it “is not able to accurately project the degree to which SCR systems would be ineffective due to low DEF levels, low-quality DEF, or component-level tampering.” DRIA at 9–10. But EPA's modeling in MOVES5 incorporates explicit assumptions about the failure rate of SCR systems—assumptions that specifically rely on the agency's belief “that manufacturers will initiate engine power de-rate as incentive to keep the urea supply sufficient.”³⁶ Cunliff Report at 7. This blatant inconsistency alone renders EPA's emissions analysis arbitrary and capricious. In addition, despite requesting SCR-related data from engine manufacturers in February 2026, EPA instead relies on SCR failure frequencies dating from before urea-based SCR was widely used in the United States on-highway fleet, rendering its analysis even less meaningful. *Id.* at 8.

Finally, EPA fails to consider its proposed amendments in tandem, including failing to consider the combined effects of shortening the warranty period and eliminating derates. One of the rationales behind extending the warranty period is that operators are more likely to perform maintenance tasks and less likely to tamper with their engines when the alternative would void their warranty. 88 Fed. Reg. at 4362–63. Thus, shortening the warranty period and eliminating derates at the same time will have a more dramatic effect on operators' likelihood of maintaining their DEF levels than either amendment in isolation. EPA fails to consider this effect. *State Farm*, 463 U.S. at 43.

H. EPA Fails to Consider the Impact of the Proposal on Emission Credit Markets.

Although tradeable emission credits are important part of the federal pollution control scheme, EPA includes no analysis of the ways the Proposal will significantly impact the market for emission credits. These impacts will affect both the supply and the demand side of the trading market, ultimately reducing the value of credits and undermining the efficacy of the credit program. First, the delayed increase in regulatory useful life under the Proposal means that fewer credits will be needed to cover each vehicle's useful life. Jacobsen Report at 4. Both this effect and the elimination of the requirement to use credits for the production volume allowance will reduce demand for emission credits. *Id.* Meanwhile, the Proposal increases the supply of credits by allowing the use of previously expired credits for current model years and allowing

³⁵ The Proposal also states that the elimination of derates will apply to light- and medium-duty vehicles, 91 Fed. Reg. at 43,205, but this is directly contradicted by the DRIA, DRIA at 23 n.33, 34 n.34, and EPA does not analyze or model the impacts of this change on light- and medium-duty vehicles in any event, Cuniff Report at 15. This failure to model is particularly egregious given that EPA itself has previously found that 15% of the Class 2b and 3 diesel fleet have been tampered. *Id.* at 15–16.

³⁶ EPA, *supra* note 34.

manufacturers to use credits from less constrained segments in segments with more limited supply. *Id.* The decrease in demand and increase in supply both have the same effect: reducing the value of credits. *Id.*

The Proposal's impact on the value of credits will have at least two significant impacts, both of which EPA totally fails to analyze. First, reducing the value of credits will punish manufacturers who reduced pollution while rewarding those that did not. *Id.* Companies that invested in technology and engineering improvements in the expectation that they could later recoup their investments using credits will find the value of those credits significantly reduced. *Id.* Meanwhile, companies that relied on a strategy of buying credits rather than reducing pollution will find themselves able to do so at much lower cost. *Id.* EPA's failure to offer any kind of explanation, justification, or even acknowledgment of this effect is arbitrary and capricious. *Genuine Parts Co.*, 890 F.3d at 307 (failure to "consider an important aspect of the problem" is arbitrary and capricious).

Second, by undermining the stability of the credit market, EPA is impairing its present and future ability to use emissions credits as a pollution control mechanism. *Id.* Credit trading is a flexible means of pollution control that is well-supported by economic research. *Id.* However, unexpected changes to the credit market undermine manufacturers' trust in that market, reducing participation in credit trading. *Id.* EPA's Proposal poses a significant risk to one of the agency's most cost-effective tools for pollution reduction, yet EPA fails to acknowledge, consider, or analyze that effect. This is arbitrary and capricious. *Genuine Parts Co.*, 890 F.3d at 307.

I. EPA's Cost-Benefit Analysis Is Flawed and Arbitrarily Fails to Account for Increased Air Pollution or Health Consequences.

EPA justifies its Proposal in large part on what it perceives to be the cost savings to vehicle manufacturers from the changes to the emission-related warranty and useful life provisions of the 2023 Rule. 91 Fed. Reg. at 43,208. However, EPA's analysis overstates compliance costs, and EPA fails to conduct even a cursory evaluation of the disbenefits associated with the Proposal, including the cost to human health and public welfare. As such, EPA's purported cost-benefit analysis is not a cost-benefit analysis at all—merely a calculation of compliance cost savings that wholly ignores the myriad benefits of greater emissions reductions under the 2023 Rule. EPA has thus put its thumb on the scale in favor of weaker regulations, rendering its action arbitrary and capricious. *See Bus. Roundtable v. SEC*, 647 F.3d 1144, 1148–49 (D.C. Cir. 2011) (agency acted arbitrarily and capriciously where it “inconsistently and opportunistically framed the costs and benefits of [a] rule; failed adequately to quantify the certain costs or to explain why those costs could not be quantified; neglected to support its predictive judgments; [and] contradicted itself” in the course of its analysis); *Ctr. for Biological Diversity v. NHTSA*, 538 F.3d 1172, 1198 (9th Cir. 2008) (agency “cannot put a thumb on the scale by undervaluing the benefits and overvaluing the costs”); *Michigan v. EPA*, 576 U.S. 743, 753 (“[R]easonable regulation ordinarily requires paying attention to the advantages *and* the disadvantages of agency decisions.”).

1. EPA Failed to Account for Credit Trading in its Analysis of Compliance Costs.

EPA's analysis overstates the compliance costs to manufacturers by failing to include any analysis or discussion of trading credits as a potential and highly cost-effective compliance pathway for the NO_x standard. As discussed above, EPA justifies its choice to ignore credit trading by pointing to the relatively small number of trades under the program so far, without considering the ways the credit market is projected to—and, indeed, must—substantially evolve over the coming years. *See* 88 Fed. Reg. at 4296 (2023 Final Rule implementing higher standards beginning in MY2027). Nor does EPA consider the possibility that manufacturers can use the credits they've already banked to comply with the existing regulations.

By ignoring the availability of an efficient compliance pathway, EPA has failed to take into account the relevant data. *See State Farm*, 463 U.S. at 43. EPA's refusal to quantify the impact of credit trading and factor such data into its analysis of heavy-duty compliance costs—particularly when its reason for failing to do so is cursory at best—is arbitrary and capricious and has resulted in a faulty cost-benefit analysis. *See Bus. Roundtable*, 647 F.3d at 1149 (agency's failure to “adequately . . . quantify the certain costs or to explain why those costs could not be quantified” was arbitrary and capricious).

2. EPA Wholly Failed to Consider or Quantify the Costs of the Proposal, Rendering Its Cost-Benefit Analysis Arbitrary and Capricious.

EPA acknowledges that it did not conduct air quality modeling or use benefit per ton monetized values to estimate the human health and welfare effects of the Proposal, pointing to the “uncertainties” of such methods. 91 Fed. Reg. at 43,212. This decision is unsupportable. Even if EPA could lawfully decline to analyze these factors, which it cannot, EPA's failure to explain why the existence of “uncertainties” allows EPA to effectively set the cost of the health impacts at zero renders the Proposal arbitrary and capricious. *Ctr. for Biological Diversity*, 538 F.3d at 1201 (finding NHTSA's action arbitrary where NHTSA failed to provide evidence or explanation to support decision not to monetize or quantify the value of carbon emissions reduction at all); *see State Farm*, 463 U.S. at 43 (an agency “must examine the relevant data and articulate a . . . ‘rational connection between the facts found and the choice made’”). The Proposal lacks even a “minimal level of analysis” supporting its decision to ignore the negative health consequences and air quality impacts of its proposal, rendering the action arbitrary and capricious. *Encino Motorcars, LLC v. Navarro*, 579 U.S. 211, 221 (2016).

a. EPA's Failure to Conduct Any Modeling of Air Quality Impacts is Arbitrary and Capricious.

EPA's omission of any assessment of air quality impacts from the Proposal is egregiously deficient. Indeed, EPA did not even conduct any air quality modeling to determine how the conceded projected emission increases resulting from its proposed amendments would impact the ambient concentrations of air pollutants contributing to poor air quality. 91 Fed. Reg. at 43, 211. That failure is arbitrary and capricious.

By failing to conduct modeling, the Proposal entirely fails to assess the impact of increased “air pollution” that is reasonably anticipated to “endanger public health and welfare.” 42 U.S.C. § 7521(a)(1). EPA’s stated reason for failing to conduct any air quality modeling is that doing so is “extremely difficult” and that emissions changes are “spatially variable.” 91 Fed. Reg. at 43,211. This cursory explanation is insufficient to justify the lack of air quality modeling, particularly when poor air quality and pollution impacts are the exact type of harm that the CAA was designed to curtail. 42 U.S.C. § 7521(a)(1). The core objective of the regulation of criteria pollutants under the CAA is to improve air quality, and EPA dedicated one single paragraph in the Proposal to the question of the projected impacts to air quality. See 91 Fed. Reg. at 43,211–12. EPA thus has failed to consider air pollution—not only an important aspect of the regulatory problem that the CAA seeks to address, but the most fundamental aspect. See *State Farm*, 463 U.S. at 43.

Moreover, EPA failed to explain its change in practice here. Past rules setting emission standards consistently conducted air quality modeling and endeavored to quantify the changes in ambient pollution resulting from such standards. See, e.g., 65 Fed. Reg. 35,430, 35,439 (June 2, 2000); 79 Fed. Reg. 23,414, 23,446 (Apr. 28, 2014); 89 Fed. Reg. 27,842, 27,860 (Apr. 18, 2024); EPA, Multi-Pollutant Emission Standards for Model Years 2027 and Later Light-Duty and Medium-Duty Vehicles: Regulatory Impact Analysis (Mar. 2024) at 7-53. For example, when it adopted the 2023 Rule, EPA conducted air quality modeling through 2055 to estimate the pollution impacts of the proposal. EPA, Control of Air Pollution from New Motor Vehicles: Heavy Duty Engine and Vehicle Standards: Regulatory Impact Analysis (Dec. 2022) at Chapter 6.2. EPA’s failure to do the same when delaying the implementation of these standards is unexplained and unsupported. EPA acknowledges that in the past it has “conduct[ed] full-scale photochemical air quality modeling to accurately project levels of criteria and air toxic pollutants,” but fails to engage with the results of that modeling or explain why additional air quality modeling is not needed here. 91 Fed. Reg. at 43,211. The agency’s failure to explain its change in policy is arbitrary and capricious. *Fox Television Stations*, 556 U.S. at 515.

Had EPA conducted even a minimal modeling analysis of air quality impacts, that analysis would likely reveal that the Proposal, if finalized, would have substantial air quality impacts, particularly in areas that rely on federal emissions reduction policies to meet or maintain compliance with NAAQS. CARB App’x. at Chapter 9. EPA’s failure to conduct air quality modeling in this analysis and the ensuing incomplete and inaccurate projections of future NOx emissions will also create additional hurdles for States and Cities as they develop future SIPs to attain NAAQS without reliable federal projection. EPA’s departure from its general practice of conducting air quality modeling, and therefore its wholesale failure to factor in air quality impacts when considering disbenefits of the proposal, is arbitrary and capricious. See *Ctr. for Biological Diversity*, 538 F.3d at 1198 (agency acted arbitrarily and capriciously by “undervaluing the benefits and overvaluing the costs of more stringent standards”).

b. EPA’s Failure to Quantify the Negative Health Consequences of the Proposal and Incorporate Such Considerations into the Cost-Benefit Analysis is Arbitrary and Capricious.

EPA’s Proposal and its DRIA fail to adequately examine the negative health impacts that would result from the proposed amendments. 91 Fed. Reg. at 43,212; DRIA at 64–65. Despite acknowledging that “[m]otor vehicle emissions contribute to ozone, PM2.5, and air toxics, which are linked to premature death and other serious health impacts, including respiratory illness, cardiovascular problems, and cancer,” 91 Fed. Reg. at 43,212, EPA refuses to conduct any analysis quantifying or monetizing these harms that it acknowledges will occur. Because EPA did not monetize these harms, it did not make any attempt to factor them into its cost benefit analysis—instead opting, as outlined above, to consider only what it views as the cost savings to vehicle manufacturers. As EPA notes, its decision not to factor in costs from health impacts is a radical shift from prior rules, which EPA does not explain. *Id.* EPA’s failure to consider this central issue associated with the regulation of criteria pollutants is thus arbitrary and capricious.

EPA’s unexplained change in approach also conflicts with three decades of agency practice, including analysis quantifying health benefits in support of the 2023 Rule. Over the years, EPA has developed expertise in quantifying and monetizing the benefits of emission reductions, which ensures that EPA’s rules and regulations for air pollutants maximize net benefits, including public health benefits, rather than simply minimizing costs borne by regulated industries. In the 2023 Rule, for instance, EPA quantified the expected benefits from the rule. It estimated that the rule would prevent between 500 and 980 premature deaths associated with exposure to PM2.5 and between 1,400 and 2,700 premature deaths associated with exposure to ozone, and result in estimated net benefits in 2045 of \$12 to \$33 billion in 2017 dollars. 88 Fed. Reg. at 4426–27. Ultimately, any deviation by EPA from its policy of quantifying health impacts—here, disbenefits—requires a more fulsome explanation than EPA offers here. *See Fox Television Stations*, 556 U.S. at 515–16 (an agency changing its position must provide a detailed justification when its new policy contradicts a prior policy).

Despite its longstanding policy and practice of quantifying health impacts, EPA states that it did not attempt to monetize the health impacts of added emissions from the Proposal because such “monetized values introduce[] additional uncertainty.” 91 Fed. Reg. at 43,212. But EPA’s failure to use the available data to quantify these impacts—however uncertain—effectively sets the cost of these factors at zero, resulting in a wholly insufficient analysis. *See Mont. Wilderness Ass’n v. McAllister*, 666 F.3d 549, 559 (9th Cir. 2011) (“[T]he proper response to [uncertainty] is for the Service to do the best it can with the data it has, not to ignore [it].”); *Ctr. for Biological Diversity*, 538 F.3d at 1198–1203 (holding that it was arbitrary and capricious not to monetize benefits of emission reductions when agency monetized other uncertain factors). Indeed, when the data is uncertain, “the agency’s job is to exercise its expertise to make tough choices about which of the competing estimates is most plausible, and to hazard a guess as to which is correct, even if . . . the estimate will be imprecise.” *Pub. Citizen v. Fed. Motor Carrier Safety Admin.*, 374 F.3d 1209, 1221 (D.C. Cir. 2004). If EPA suddenly lacks the confidence to make those tough choices, it could still discharge its statutory duties by considering a range of health benefits. *See Chamber of Com. of U.S. v. SEC*, 412 F.3d 133, 143 (D.C. Cir. 2005) (finding that although an agency sometimes “can determine only the range” of costs or benefits due to uncertainty, the

agency still must conduct an economic analysis under those circumstances). Even if the specific value of health impacts carries uncertainty, there is no colorable argument for setting that value at zero. The cost-benefit analysis in the Proposal effectively gives full weight to the reduction in compliance costs accorded to industry while giving no weight to the Proposal's public health impacts, essentially reducing the value of human life to zero.

Additionally, EPA's decision not to monetize public health benefits based on purported concerns about uncertainty while continuing to monetize regulatory costs when such costs are also uncertain and rely on various assumptions and estimates is arbitrary and capricious. For example, EPA's analysis of the costs to manufacturers of complying with the warranty and regulatory useful life provisions relies on significant assumptions and estimates about manufacturers' current expenditures, the status of future model years, and manufacturers' use (or lack thereof) of credit trading mechanisms, yet the agency declines to make these types of assumptions and estimates in order to analyze public health benefits. Purporting to calculate compliance costs with precision while declining to calculate benefits arbitrarily elevates industry interests over other interests, *see Ctr. for Biological Diversity*, 538 F.3d at 1198, and fails to account for "an important aspect of the problem" of emissions regulation, *State Farm*, 463 U.S. at 43; *Michigan*, 576 U.S. at 753 (explaining that "reasonable regulation ordinarily requires paying attention to the advantages *and* the disadvantages of agency decisions"); *Bus. Roundtable*, 647 F.3d at 1148–49 (explaining that an agency acted arbitrarily and capriciously when it "inconsistently and opportunistically framed the costs and benefits of the rule" and "failed adequately to quantify the certain costs or to explain why those costs could not be quantified"); *Fed. Motor Carrier Safety Admin.*, 374 F.3d at 1218–19 ("The mere fact that the magnitude of [the] effects is *uncertain* is no justification for *disregarding* the effect entirely."). As such, the "uncertainties" that EPA cites, which are themselves overblown, are also not a justification to fail to monetize health impacts. *See generally* Tom Luben & Jonathan Buonocore, *EPA Should Use Established Methods to Quantify and Monetize the Health and Welfare Impacts of Fine Particulate Matter and Ozone*, (Aug. 28, 2026) (Luben-Buonocore Report).

EPA's failure to quantify and monetize public health benefits violates a range of guidance materials. These materials include Circular A-4, the Office of Management and Budget's ("OMB") longstanding guidance to federal agencies on the development of regulatory and economic analyses.³⁷ According to Circular A-4, "[s]ound quantitative estimates of benefits and costs, where feasible, are preferable to qualitative descriptions of benefits and costs, because quantitative estimates succinctly summarize the magnitudes of the effects of alternative actions." OMB Circular A-4, at 44. When cost and benefit estimates are uncertain, OMB directs agencies to "report estimates of effects that reflect as full a probability distribution of potential consequences as is feasible and appropriate." *Id.* at 28.

EPA's own guidance is consistent with OMB guidance on the topic of monetization. For example, EPA's Guidelines for Preparing Economic Analyses, all of which underwent external

³⁷ OMB, Circular No. A-4 (Nov. 9, 2023) <https://bidenwhitehouse.archives.gov/wp-content/uploads/2023/11/CircularA-4.pdf>.

peer review, include detailed guidance about how to prepare mortality risk valuation estimates.³⁸ The Guidelines also describe how to address and account for analytic uncertainty, which is a part of every cost-benefit analysis, and explain that in assessing uncertainty, EPA should present outcomes or conclusions based on the most plausible values and perform sensitivity analysis on key assumptions.³⁹ As the Guidelines point out, “[e]ven for highly uncertain benefits[,] zero is not usually the best quantitative weight, and available evidence can often be used to produce some estimate that is more accurate than assuming these effects do not occur.”⁴⁰ *Id.* at 7–9. Although the DRIA expressly acknowledges the negative health impacts associated with the pollutants at issue here, *see* DRIA Chapter 5.1, EPA merely recites the conclusory assertion that the health consequences are too uncertain to calculate and does not in any way suggest that monetization of health benefits is unwarranted, 91 Fed. Reg. at 43,212.

Finally, EPA’s failure to provide a reasoned explanation for its change in longstanding practice is arbitrary and capricious under the change-in-position doctrine. Since 1993, EPA has employed the best available science to quantify and monetize benefits of regulatory changes aimed at reducing pollution. In fact, to ensure compliance with Executive Order 12866, EPA has been at the forefront of developing the rigorous, peer-reviewed methodologies that have allowed the agency to consider and communicate to the public the economic value of reductions in adverse health outcomes and avoid hospitalizations and deaths. *See* Luben-Buonocore Report at 3, 16–23. Further, EPA’s prior evaluations of the health effects of criteria pollutant exposure have shown that exposure is causally related to mortality. *See* Luben-Buonocore Report at 8–15. In the Proposal, however, EPA fails to even acknowledge its abrupt departure, much less confront the voluminous scientific evidence and guidelines underlying its past practice, nor does it point to new scientific evidence to justify the agency’s change in policy. EPA asserts that its prior practice of monetizing health benefits “may not have presented the full range of uncertainties and associated confidence level regarding the potential benefit estimates from reduction in exposure to PM_{2.5} and ozone,” 91 Fed. Reg. at 43,212, but does not explain what has changed to prompt its change in position. Nor does EPA explain its decision not to comply with Executive Order 12866 or agency guidance that directs agencies to quantify benefits when feasible. *See Fox Television Stations*, 556 U.S. at 515–16.

An analysis of the health impacts in California alone due to increased PM_{2.5} exposures from the Proposal yields a cumulative cost of \$66 billion by 2050, representing adverse health outcomes that include an additional 4,006 premature deaths. CARB App’x at Chapter 10. This analysis does not include non-PM health impacts from the Proposal, such as the effects of direct exposure to higher ozone and NO_x, and therefore is an underestimate. *Id.* at 43.

EPA’s new practice of declining to quantify and/or monetize the public health benefits associated with emission reductions while continuing to quantify compliance costs, as embodied in this Proposal, will lead the agency to adopt weaker regulations that prioritize industry interests

³⁸ EPA, Guidelines for Preparing Economic Analyses, https://www.epa.gov/system/files/documents/2024-12/guidelines-for-preparing-economic-analyses_final_508-compliant_compressed.pdf at Appendix B (3d ed. Dec. 2024).

³⁹ *Id.* at 5-29–5-34.

⁴⁰ *Id.* at 7-9.

over public health—something that is in direct conflict with the CAA’s express objectives. The States urge EPA to reconsider this approach and to restore the agency’s longstanding practice of monetizing the health benefits of avoided emissions.

J. EPA Failed to Consider States’ and Cities’ Reliance on Emission Reductions from Heavy-Duty Vehicles to Meet Mandatory Attainment Goals for Air Pollution.

EPA failed to comply with its obligation to consider legitimate reliance interests on the existing compliance and enforcement provisions adopted in 2023. *See Fox Television Stations*, 556 U.S. at 515. The Proposal requests comment on reliance interests without providing any analysis of its own. 91 Fed. Reg. at 43,213. Rather than investigating the potential consequences of the emission increases that will undoubtedly result from the Proposal, EPA simply articulates—without support—the belief that “relatively small forgone emissions reductions” are insignificant relative to “market realities” – i.e., purported cost savings. *Id.* Setting aside that these alleged cost savings are overblown, as discussed in Section IV.I, States’ and Cities’ reliance interests on expected emissions reductions to meet crucial NAAQS attainment goals and planning obligations are far from insignificant. This inadequate treatment of reliance interests is arbitrary and capricious. Where an agency’s “prior policy has engendered serious reliance interests that must be taken into account,” “the agency ‘must’ provide ‘a more detailed justification’” for its change in policy, including “a rational connection between the facts found and the choice made.” *Mingo Logan Coal Co. v. EPA*, 829 F.3d 710, 719 (D.C. Cir. 2016) (quoting *Fox Television Stations*, 556 U.S. at 515 and *State Farm*, 463 U.S. at 43). The Proposal arbitrarily fails to analyze States’ and Cities’ serious reliance on emissions reductions to support compliance with SIPs and NAAQS attainment.

As discussed above, under the CAA, each State has the “primary responsibility” for assuring air quality within its geographic area with respect to the NAAQS, and, to that end, is required to submit to EPA for approval a SIP that specifies the manner in which the State will attain or maintain the NAAQS. *See supra* Section III.A; 42 U.S.C. §§ 7407(a), 7410(a)(1). If EPA finds that the State has failed to submit a SIP or that the SIP submitted by the State is inadequate, it may override the State’s sovereign prerogatives by promulgating a Federal Implementation Plan, imposing severe sanctions, or both. *Id.* §§ 7410(c), (m); 7509. Thus, the consequences for failing to comply with SIPs can be severe.

States have relied on the existence of federal vehicles regulations, particularly for criteria pollutant emissions, when designing their plans to attain or maintain the NAAQS. In recent submissions for the Northern New Jersey-New-York-Connecticut Nonattainment Area, for example, New Jersey, New York, and Connecticut relied on the projected emission reduction benefits from the 2023 Heavy-Duty Engine and Vehicle Standards, including the reduction of ozone precursors like NO_x and PM, to attain the 2015 70 ppb 8-hour ozone NAAQS.⁴¹ Similarly, California’s SIPs rely on timely and full implementation of the 2027 federal heavy-

⁴¹ N.J. Dep’t Of Env’t Prot., *State Implementation Plan (SIP) Revision for the Attainment and Maintenance of the Ozone National Ambient Air Quality Standards*, at xviii, 6–17, (Feb. 2025), <https://perma.cc/C349-B43F>.

duty standards—as they were conceived in the 2023 Rule—to achieve required emission reductions. *See* CARB App’x at Chapter 9.D. On-road heavy-duty vehicles are one of the largest mobile-source contributor of emissions of NO_x in the country, and without the aid of federal standards, states will have to take additional actions and expend significant resources.

In particular, the Proposal’s inclusion of NCPs as an alternative to complying with the heavy-duty emission standard could have a large impact on the number of vehicles that actually meet the standard, and thereby could lead to large emission increases that were not anticipated when SIPs were developed based on the 2023 Rule. By allowing manufacturers to pay penalties instead of meeting the standards, EPA’s proposal would undermine NO_x reductions that are essential for states to meet their legally binding attainment deadlines. *See* CARB App’x at Chapter 9.D.

Additionally, because States depend on early planning to reduce the costs of compliance, changes in federal regulatory approaches that significantly increase criteria-pollutant emissions can be costly and disruptive to the States, as well as to regulated industries within those States. States have made high-stakes, sensitive policy and planning decisions about pollution control while relying on federal vehicle regulations as their baseline. Reductions in emissions of criteria pollutants like NO_x and PM from federal standards are central to the States’ efforts to attain and maintain NAAQS and to achieve regional haze visibility goals in sensitive areas, and the lost reductions from the Proposal’s revisions to key compliance and enforcement requirements will be costly for many States to remedy.

Further, by removing expected emission increases associated with full implementation of the 2023 Rule, including the longer useful life and warranty provisions and the absence of NCP allowances, the Proposal may impact the ability of Metropolitan Planning Organizations (MPOs) to demonstrate transportation conformity as required under the CAA. *See* 42 U.S.C. § 7506(c). Under the CAA’s transportation conformity requirements, MPOs must make initial conformity determinations for any metropolitan transportation plans or other such transportation projects to show that the plans will not cause new air quality violations, worsen existing violations, or delay timely attainment of NAAQS. *Id.* Such conformity determinations by local government entities are crucial for securing federal funding for transportation initiatives, as the general goal of the requirement is to ensure funding approvals are consistent with federal air quality goals.⁴² States rely on expected federal emissions decreases when crafting their SIPs, and in turn MPOs rely on the plans outlined in SIPs when making long term transportation planning decisions that must conform to these SIPs. Therefore, emissions increases from the on-road sector as a result of the Proposal could make conformity demonstrations more difficult for MPOs. EPA was required to take these considerations into account, and failed to do so.

EPA’s hand-waving statement that the Proposal’s “relatively small” increases in emissions should not meaningfully impact states’ pollution planning processes and initiatives is unsupported by any evidence and fails to grasp the extent of the issue. 91 Fed. Reg. at 43,213. States rely on the expected outcomes of federal regulation in designing and implementing

⁴² U.S. DOT & Federal Highway Administration, *Transportation Conformity: A Basic Guide for State & Local Official*, at 8 (Feb. 2017), [fhwahep17034.pdf](https://www.fhwahep17034.pdf).

pollution control plans, and it is incumbent on the agency to give meaningful consideration to these serious reliance interests. *See Fox Television Stations*, 556 U.S. at 515.

V. The Proposal Is Procedurally Defective.

The Proposal was also issued “without observance of procedure required by law.” 42 U.S.C. § 7607(d)(9)(D). Specifically, EPA has failed to provide a meaningful opportunity for comment, has failed to docket data and other information it considered, and has failed to explain if and how it plans to employ artificial intelligence (AI) in the decision-making process. Each of these failures is of central relevance to the outcome of this rulemaking and necessitates withdrawal of the Proposal.

A. EPA Has Not Provided a Meaningful Opportunity to Comment.

Notice and sufficient time for public comment are critically important “(1) to ensure that agency regulations are tested via exposure to diverse public comment, (2) to ensure fairness to affected parties, and (3) to give affected parties an opportunity to develop evidence in the record to support their objections to the rule and thereby enhance the quality of judicial review.” *Prometheus Radio Project*, 652 F.3d at 449 (citing *Int’l Union, United Mine Workers of Am. v. Mine Safety & Health Admin.*, 407 F.3d 1250, 1259 (D.C. Cir. 2005)). This same logic applies to any “amendment, modification, or repeal” of a rule, as the notice and comment period “ensures that an agency will not undo all that it accomplished through its rulemaking without giving all parties an opportunity to comment.” *California by & through Becerra v. DOI*, 381 F. Supp. 3d 1153, 1172 (N.D. Cal. 2019) (citing *Consumer Energy Council of America v. FERC*, 673 F.2d 425, 446 (D.C. Cir. 1982)). For the following reasons, and as discussed in our Request for Extension of Comment Period, attached as Appendix A, EPA failed to provide a meaningful opportunity for comment on the Proposal as required by the CAA. 42 U.S.C. § 7607(d)(9)(D).

First, EPA provided insufficient opportunity to comment. EPA offered a comment period of only 46 days on the Proposal. Given the significant public health and economic implications of the Proposal, along with its technical complexity, that abbreviated comment period is wholly inadequate. Indeed, it is inconsistent not only with general Executive Branch practice,⁴³ but also with past EPA practice in the context of rulemakings related to vehicles emission standards. *See, e.g.*, 84 Fed. Reg. 32,520 (July 8, 2019) (providing 150 days for comment on Clean Power Plan repeal); 80 Fed. Reg. 37,758 (July 1, 2015) (providing 60 days for comment on proposed aircraft greenhouse gas standards); 75 Fed. Reg. 25,324, 25,328 (May 7, 2010) (60-day comment period; 129,000 comments on light-duty vehicles greenhouse gas standards); 76 Fed. Reg. at 57,362 (62-day comment period; 41,000 comments on medium- and heavy-duty vehicles greenhouse gas standards).

The 46-day comment window is especially inadequate given that EPA failed to conduct air quality modeling or monetize the Proposal’s health impacts in its regulatory impact analysis, a significant departure from EPA’s longstanding rulemaking procedures and past practice.

⁴³ Executive Order No. 12866, 58 Fed. Reg. 51,735, 51,740 (Oct. 4, 1993) (comment period should be “not less than 60 days”).

Indeed, when EPA proposed the 2023 Rule, the agency conducted air quality modeling that examined the impacts of the proposed rule on human health and welfare. 87 Fed. Reg. at 17,582; *see* 2023 Rule DRIA, Air Quality Modeling Technical Support Document. But here, despite acknowledging that emissions of criteria pollutants are linked to premature death, respiratory illnesses, cardiovascular disease, and cancer, the agency declined to model impacts to air quality that will result if the Proposal is finalized or quantify its likely health impacts, leaving that considerable and crucial task to commenters. 91 Fed. Reg. at 43,212. Because of EPA's deficient regulatory impact analysis, the States and other commenters have been prejudiced and have had to expend significant time and resources to evaluate the effects of the Proposal on public health and welfare, something that EPA should have done in the first instance.

Relatedly, the comment period is insufficient because the Proposal cites technical feasibility and manufacturer and operator feedback to justify many of the proposed amendments, *see, e.g.*, 91 Fed. Reg. at 43,163, 43,183, but the agency failed to publish any data from vehicle manufacturers or operators that would allow the public to evaluate and comment on these justifications. *See Solite Corp. v. EPA*, 952 F.2d 473, 484 (D.C. Cir. 1991) ("An agency commits serious procedural error when it fails to reveal portions of the technical basis for a Proposal in time to allow for meaningful commentary.") (citation omitted); *Chamber of Commerce of U.S. v. SEC*, 443 F.3d 890, 900 (D.C. Cir. 2006) ("By requiring the 'most critical factual material' used by the agency be subjected to informed comment, the APA provides a procedural device to ensure that agency regulations are tested through exposure to public comment[.]"). By failing to include such data in the Proposal, EPA has not only committed a serious procedural error, but it has also forced the States and other public commenters to attempt to track down any relevant data, further prejudicing commenters.

Finally, given the Proposal's impact on vehicle manufacturers, along with the States' substantial investments in cleaner vehicles to protect their residents' health and welfare, the Proposal implicates serious reliance interests that EPA failed to address in any meaningful way. *See Department of Homeland Security v. Regents of the University of California*, 591 U.S. 1, 30 (2020) (holding that an agency must be cognizant that its "policies may have engendered serious reliance interests that must be taken into account.") (citations and quotations omitted). For instance, with respect to states' reliance interests on the heavy-duty vehicle standards to comply with the NAAQS for particulate matter and nitrogen oxides, EPA merely stated that any emissions increases are "relatively small" and "do not supersede the Agency's obligation" to ensure that standards reflect "market realities." 91 Fed. Reg. at 43,213. Because EPA did not grapple with such reliance interests, the States and other public commenters had to expend considerable time to evaluate and address potential harms to their interests and robustly articulate those interests in public comments.

In sum, EPA failed to provide a "meaningful opportunity" for comment on the Proposal. *Prometheus Radio Project*, 652 F.3d at 450 ("meaningful opportunity" must include "enough time with enough information to comment" (quoting *Rural Cellular Ass'n v. FCC*, 588 F.3d 1095, 1101 (D.C. Cir. 2009))). EPA has therefore deprived the public of a meaningful opportunity to comment, substantially limiting the ability of the public to protect their rights and interests.

B. EPA Has Failed to Docket and Make Available for Comment Data and Other Information Considered.

EPA has also violated the CAA's requirement that "[a]ll data, information, and documents ... on which the Proposal relies shall be included in the docket on the date of publication of the Proposal." 42 U.S.C. § 7607(d)(3); *see also id.* § 7607(d)(3)(A) (requiring EPA to publish "a summary of... the factual data on which the Proposal is based"); *id.* § 7607(d)(6)(C) ("[A] promulgated rule may not be based (in part or whole) on any information or data which has not been placed in the docket as of the date of such promulgation."); *Sierra Club v. Costle*, 657 F.2d 298, 398 (D.C. Cir. 1981) (if "documents of central importance upon which EPA intended to rely had been entered on the docket too late for any meaningful public comment prior to promulgation, then both the structure and spirit of section 307 would have been violated.").

Here, EPA's factual assertions, findings, and conclusions in the Proposal rely on information about manufacturer costs and technological feasibility that are within EPA's possession and control. *See, e.g.*, 91 Fed. Reg. at 43,165 (referring to comments EPA received from manufacturers and vehicle builders). But EPA has failed to include that information in its rulemaking docket or otherwise make that information available to the public, even in summary or aggregate form. These failures have impeded the public's ability to compile and evaluate such information to determine, for example, the progress that manufacturers have made toward complying with the heavy-duty vehicle emission standards, and to evaluate the alleged feasibility and lead time concerns that EPA claims to address in its Proposal. By failing to timely disclose and docket this information, EPA has failed to fulfill its statutory duty, deprived the public of a meaningful opportunity to comment, and rendered the Proposal procedurally defective. *Conn. Light & Power v. Nuclear Regul. Comm'n*, 673 F.2d 525, 530–31 (D.C. Cir. 1982) ("An agency commits serious procedural error when it fails to reveal portions of the technical basis for a proposed rule in time to allow for meaningful commentary."); *Am. Pub. Gas Ass'n v. DOE*, 72 F.4th 1324, 1338–39 (D.C. Cir. 2023) (faulting agency for finalizing rule that relied on new data without opportunity for notice and comment on that data).

Because EPA's procedural violations have significantly prejudiced the public, incurably tainted this rulemaking process, and would render any final rule unlawful, *see* 42 U.S.C. § 7607(d)(9)(D), EPA should immediately withdraw the Proposal.

C. EPA's Call for Comment on an Indefinite Extension of the Regulatory Useful Life Period Does Not Comply with Notice and Comment Rulemaking Requirements.

In addition to the insufficient data and inadequate comment period provided for the entire Proposal, EPA's request for comment on "indefinitely keeping the MY 2026 and earlier regulatory useful life periods for MYs 2027 and later" cannot possibly satisfy notice and comment rulemaking requirements. 91 Fed. Reg. at 43,165. EPA's discussion of indefinitely postponing the regulatory useful life extension consists of a single short paragraph and no cost analysis. Its proposed justification is a single sentence setting out a hypothetical: "The EPA understands stakeholders *could potentially* have concerns that products meeting the longer useful life period have not yet entered the market and thus there is still some uncertainty in the

feasibility of the standards through the longer useful life periods for all real-world applications.” 91 Fed. Reg. at 43,165 (emphasis added).

EPA’s cursory statement does not comply with statutory requirements. EPA is statutorily required to provide interested persons with a meaningful opportunity to comment. 5 U.S.C. § 553; *Penobscot Indian Nation v. U.S. Dep’t of Housing & Urban Development*, 539 F. Supp. 2d 40, 50 (D.D.C. 2008) (agency was required “to give interested persons a meaningful opportunity to comment”); see *Small Refiner Lead Phase-Down Task Force*, 705 F.2d at 547 (“[N]otice and the opportunity to be heard are an essential component of ‘fairness to affected parties.’”). An agency also must include “the factual data on which the proposed rule is based,” “the methodology used in obtaining the data and in analyzing the data,” and “the major legal interpretations and policy considerations underlying the proposed rule” with the notice of proposed rulemaking. 42 U.S.C. § 7607(d)(3)(A), (B), (C). But EPA offers no data, methodology, or even policy (other than speculation) to support a rule indefinitely keeping MY 2026 and earlier regulatory useful life periods in place. 91 Fed. Reg. at 43,165. Any final rule that includes an indefinite useful life extension would thus be procedurally defective, as the Proposal contains no evidence or rationale on which interested persons may comment. See *Int’l Union, Mine Workers of Am.*, 626 F.3d at 95 (final rule is not a logical outgrowth of the proposed rule if a new round of notice and comment would provide commenters with their first occasion to offer new and different criticisms to agency).

D. To the Extent EPA Relies on Artificial Intelligence in This Action, the Failure to Disclose That Use Violates Applicable Procedural Requirements.

It is well-established that in agency rulemakings, “the most critical factual material that is used to support the agency’s position on review must have been made public in the proceeding and exposed to refutation.” *Air Transp. Ass’n of Am. v. FAA*, 169 F.3d 1, 7 (D.C. Cir. 1999) (emphasis in original). Not only the substance of EPA’s decision, but also the methods used to reach it, must be made available for public comment. Although agencies may utilize computer models—including artificial-intelligence models—in the course of decision making, that use must be disclosed and subjected to comment. Among other things, “[w]hen an agency uses a computer model, it must explain the assumptions and methodology used in preparing the model and, if the methodology is challenged, must provide a complete analytic defense.” *U.S. Air Tour Ass’n v. FAA*, 298 F.3d 997, 1008 (D.C. Cir. 2002) (cleaned up).

The Proposal and accompanying documents that EPA placed in its rulemaking docket for this rule neither make clear nor, insofar as commenters have been able to discern, reveal any role of AI or other computer models in the Proposal’s formulation or any plans to utilize AI in formulating the final rule, including in reviewing public comment. The agency, however, has recently announced that it “uses software with AI methods to more efficiently complete resource-intensive tasks like screening literature for relevance and data extraction.”⁴⁴ If, at any point during the rulemaking process, EPA has used or will use AI or other computer models, EPA must disclose—and solicit comment on—why a model was used; which model was selected and why,

⁴⁴ EPA, *AI tools used in EPA’s Systematic Review Process* (Aug. 11, 2025), <https://perma.cc/BL44-JYE5>.

whether, and how the model has been validated; all prompts or inputs to the model (and how and why those prompts or inputs were selected); and how EPA has considered or may consider the model's outputs or other incidents in decision making. If the outputs or other incidents of a computer program play a substantive role in EPA's decision, then the program itself should be disclosed to commenters. In any instance where the program is not made available to commenters, or its results are not reproducible, EPA must explain why the program's public availability or reproducibility is unnecessary to comply with the CAA, Information Quality Act, and other pertinent statutes, as well as applicable regulations, policies, and procedures concerning information management, information quality, and peer review. EPA must also disclose any persons and entities not employed by the agency who developed, modified, provided access to, or used a computer program in the course of the decision-making process. To do otherwise would violate black-letter law.

VI. CONCLUSION

For the foregoing reasons, our States and Cities respectfully urge EPA to withdraw its unlawful Proposal.

Respectfully submitted,

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