NACAA
national association of clean air agencies

April 1, 2022

www.regulations.gov
U.S. Environmental Protection Agency
Air and Radiation Docket ID No. EPA-HQ-OAR-2019-0660

To Whom It May Concern:

The National Association of Clean Air Agencies (NACAA) offers the following comments on the U.S. Environmental Protection Agency's (EPA's) Notice of Proposed Rulemaking (NPRM), "Control of Air Pollution from Aircraft Engines: Emission Standards and Test Procedures," which was published in the *Federal Register* on February 3, 2022.[1] NACAA is the national, nonpartisan, non-profit association of air pollution control agencies in 40 states, including 115 local air agencies, the District of Columbia and four territories. The air quality professionals in our member agencies have vast experience dedicated to improving air quality in the U.S. These comments are based upon that experience. The views expressed in these comments do not represent the positions of every state and local air pollution control agency in the country.

In this action, EPA proposes to adopt domestic particulate matter (PM) emission standards and test procedures that are equivalent to the international engine standards adopted in 2017 and 2020 by the United Nations International Civil Aviation Organization (ICAO), of which the U.S. is a member State, to take effect on January 1, 2023. The proposed standards apply to new type design and in-production aircraft engines with rated output of greater than 26.7 kilonewtons; these engines are typically used in commercial passenger and freight aircraft and larger business jets.

NACAA supports EPA adoption of more stringent federal PM standards to address aircraft emissions of PM; however, simply adopting the technology-following ICAO standards, as EPA proposes, would fall far short of what is necessary and feasible. The proposed standards, while more stringent than those that currently exist, would do nothing to improve air quality and protect public health. They would not address the persistent national problem of nonattainment of the National Ambient Air Quality Standards (NAAQS) for PM nor would they alleviate disproportionate environmental burdens that continue to be placed on vulnerable communities. EPA is not limited to merely adopting the ICAO PM standards and should instead adopt technology-forcing, rather than technology-following, PM emission standards that will result in meaningful and effective reductions in aircraft PM emissions that will be more protective of public health and welfare. State and local air agencies depend on EPA to demonstrate this leadership because they do not have authority to directly regulate aircraft emissions beyond standards adopted by EPA.

I. The Proposed Standards Fall Short of What Is Necessary and Feasible

There is a clear and significant need to support additional $PM_{2.5}$ emission reductions in the U.S. and this proposed aircraft rule provides an opportunity to help address that need. However, in its NPRM, EPA sacrifices this opportunity and, instead, proposes to conduct little more than an administrative exercise

[1] 87 Fed. Reg. 6,324 (February 3, 2022) – https://www.govinfo.gov/content/pkg/FR-2022-02-03/pdf/2022-01150.pdf

to codify the technology-following ICAO standards, which EPA admits in the NPRM are not intended, nor expected, to produce any emission reductions beyond business-as-usual (BAU) fleet turnover that would occur anyway, without the proposed standards.[2]

Aircraft are a major source of PM emissions, contributing to various NAAQS-related, climate and toxic air pollution problems and causing detrimental public health and welfare impacts. Today, tens of millions of people continue to live in areas of the country that fail to attain the current daily and annual PM NAAQS.

Further, EPA is now in the process of reconsidering the existing PM NAAQS, adopted in 2012 and reaffirmed in December 2020. In a letter transmitted to Administrator Michael S. Regan on March 18, 2022, EPA's science advisors on the Clean Air Science Advisory Committee (CASAC) wrote that "all CASAC members agree that the current level of the annual [$PM_{2.5}$] standard [12 micrograms per cubic meter ($\mu g/c^3$)] is not sufficiently protective of public health and should be lowered" and that a majority of CASAC members finds "that the available evidence calls into questions the adequacy of the current 24-hour standard [35-$\mu g/m^3$]" and "conditional on retaining the current form, the majority of CASAC members favor lowering the 24-hour standard."[3]

EPA must also adopt more stringent aircraft PM standards to remain faithful to the Administration's, and President Biden's in particular, environmental justice mission and commitments.[4] As EPA articulates in the NPRM, the Administration has directed federal agencies, "to the greatest extent practicable and permitted by law, to make achieving environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations in the United States."[5]

In the NPRM, EPA highlights the aircraft $PM_{2.5}$ emissions inventory as a percent of all mobile source $PM_{2.5}$ at both the county and Metropolitan Statistical Area levels for the 25 U.S. airports with the greatest commercial aircraft operations. As depicted, at the county level, aircraft $PM_{2.5}$ emissions are responsible for as much as 14 percent of mobile $PM_{2.5}$.[6]

EPA also cites various studies that conclude, among other things, that PM concentrations increase with proximity to an airport; air pollution can disproportionately impact sensitive subpopulations near airports; the relationship between minority population percentages and aircraft PM was found to grow

---

[2] *Id.* at 6,347: "Due to the technology-following nature of the PM standards, the proposed in-production and new type standards would not result in emission reductions below current levels of engine emissions. The proposed in-production standards for both PM mass and PM number, which would be set at levels where all in-production engines meet the standards, would not affect any in-production engines . . . . Thus, the proposed standards are not expected to produce any emission reductions, beyond the business-as-usual fleet turn over that would occur absent of the proposed standards. The EPA projects that all future new type engines would meet the proposed new type standards. There are a few in-production engines that do not meet the proposed new type standards, but since in-production engines would not be subject to these new type standards, engine manufacturers would not be required to make any improvements to these engines to meet the standards. Therefore, there would be no emission reductions from the proposed new type standards."

[3] "CASAC Review of the EPA's *Policy Assessment for the Reconsideration of the National Ambient Air Quality Standards for Particulate Matter" (External Review Draft 22 – October 2021)*" (March 18, 2022) – https://www.4cleanair.org/wp-content/uploads/PM-NAAQS-CASAC-Responses-to-EPA-PM-Draft-PA-031822.pdf

[4] *See for example,* President Biden's "Executive Order on Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis" (EO 13990, January 20, 2021) and "Executive Order on Tackling the Climate Crisis at Home and Abroad" (EO 14008, January 27, 2021).

[5] *Supra* note 1, at 6,326

[6] *Id.* at 6,334

stronger as concentrations increased; minorities and low-income populations are disproportionately represented in many communities in close proximity to airports; and over time, the presence of marginalized groups residing in close proximity to hub airports, has increased.[7] It is also noteworthy that the community of workers at airports, particularly in jobs with the greatest and most prolonged exposure to aircraft emissions, also comprises minority and low-income populations.

EPA states in the NPRM that it is conducting "a demographic analysis to explore whether populations living nearest the busiest runways show patterns of racial and socioeconomic disparity." The agency notes that the results "could help inform additional policies to reduce pollution in communities living in close proximity to airports."[8]

NACAA acknowledges this demographic analysis and supports EPA's continuation of it. However, there is no need for EPA to wait until it completes this analysis to take additional action. There is already overwhelming evidence to support EPA adopting more protective, technology-forcing federal standards and policies now and the agency must appropriately respond.

II. EPA Has Clear Authority to Adopt Standards More Stringent than ICAO's

EPA is in no way limited by ICAO's BAU, technology-following standards. The agency has authority under Clean Air Act (CAA) Section 231 to adopt standards more stringent than ICAO's. The only limits placed on the establishment or amendment of U.S. aircraft standards are that such standards not significantly increase noise or create hazards to aircraft safety.

In 2007, the U.S. Court of Appeals for the D.C. Circuit put a fine point on this when it held that CAA Section 231(a)(2)(A) confers broad discretion on EPA to weigh relevant factors and adopt aircraft engine emission standards as the agency determines are reasonable.[9] EPA proposes to codify ICAO standards that incorporate only technology that existed at the time of their adoption by ICAO in 2017 and 2020. This proposal is not reasonable, considering the scale of the pollution and its impacts and the availability of current and near-term technologies and measures to effectively reduce it.

Nor does ICAO preempt member States from going beyond the Organization's standards, which are a floor, not a ceiling. As EPA has noted, "ICAO is a United Nations (UN) specialized agency, established in 1944 by the Convention on International Civil Aviation (Chicago Convention), 'in order that international civil aviation may be developed in a safe and orderly manner and that international air transport services may be established on the basis of equality of opportunity and operated soundly and economically' . . . In the interest of global harmonization and international air commerce, the Chicago Convention urges its member States to collaborate in securing the highest practicable degree of uniformity in regulations, standards, procedures and organization. *The Chicago Convention also recognizes that member States may adopt standards that are more stringent than those agreed upon by ICAO* [emphasis added]."[10] Such more stringent U.S. standards do not in any way interfere with the stated intent of the U.S. to simultaneously prevent aircraft engine PM levels from increasing beyond their current levels, align U.S. domestic standards with the ICAO standards for international harmonization, help the U.S. meet its treaty obligations under the Chicago

[7] *Id.* at 6.336
[8] *Id.*
[9] *Nat'l Ass'n of Clean Air Agencies v. EPA*, 489 F.3d 1221, 1229–30 (D.C. Cir. 2007)
[10] 81 Fed. Reg. 54,528 (August 15, 2016) – https://www.govinfo.gov/content/pkg/FR-2016-08-15/pdf/2016-18399.pdf

Convention and allow U.S. manufacturers of covered aircraft engines to remain competitive in the global marketplace.[11]

III. NACAA's Recommendations

First, to achieve the necessary reductions from the aircraft targeted by this proposal, EPA should adopt federal PM emission standards for new type aircraft designs and in-use production models that are more stringent than ICAO's BAU standards – that are technology forcing rather than technology following – to ensure adequate and appropriate regulation of airplane PM emissions that will yield critically needed reductions in PM and cleaner air. This is especially important considering the long operational life of modern aircraft.

Second, EPA should also adopt technology-forcing emission standards for in-service aircraft engines; we cannot afford to wait for BAU fleet turnover.

For all three of these categories – new type aircraft designs, in-use production models and in-service engines – EPA should require the newest, cleanest aircraft engines and emission-reducing technologies. The agency should also explore the use of sustainable aviation fuel, which has the potential to yield substantial reductions in PM and sulfur oxides.

Third, EPA should consider measures that take advantage of technology developments to reduce PM and other pollutants during takeoff, landing, taxiing and other air traffic operations and from auxiliary power units (APUs). Such strategies include, among others, de-rated takeoff, accelerated implementation of Optimized Profile Descents, reduced power during taxiing, improved taxi time, reduced usage of APUs and transitioning APUs to zero-emission technologies.

Fourth, there is also the potential here for garnering further, important reductions in aircraft nitrogen oxide (NO_x) emissions. EPA should analyze this potential and take steps to maximize aircraft NO_x reductions.

Finally, in addition to adopting more protective emission standards, EPA should consider additional policies to reduce emissions near and minimize impacts to overburdened communities nearby airports.

Thank you for the opportunity to provide comments on this proposal. If you have questions or would like further information, please do not hesitate to contact either of us or Nancy Kruger, Deputy Director of NACAA.

Sincerely,

Eric C. White
(Placer County, CA)
Co-Chair
NACAA Mobile Sources and Fuels Committee

Tracy R. Babbidge
(Connecticut)
Co-Chair
NACAA Mobile Sources and Fuels Committee

[11] Supra note 1, at 6,337