NACAA
national association of clean air agencies

October 19, 2020

U.S. Environmental Protection Agency
EPA Docket Center
Air and Radiation Docket
Docket ID No. EPA-HQ-OAR-2018-0276
Mail Code 28221T
1200 Pennsylvania Avenue NW
Washington, DC 20460

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 Airplanes and Airplane Engines: GHG Emission Standards and Test Procedures," which was published in the *Federal Register* on August 20, 2020.[1] NACAA is the national, nonpartisan, non-profit association of air pollution control agencies in 41 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 greenhouse gas (GHG) emission standards that are equivalent to the international Airplane CO_2 Emission Standards agreed to in February 2016 by the International Civil Aviation Organization's (ICAO's) Committee on Aviation Environmental Protection (CAEP) and approved by ICAO, of which the U.S. is a member State, in 2017.

EPA should adopt meaningful and effective standards to address airplane emissions of GHGs; however, simply adopting the ICAO standards would fall short of what is necessary and feasible. EPA is not bound by the ICAO standards and should adopt GHG emission standards for new type airplane designs and in-use production models that are more stringent than ICAO's – that are technology forcing rather than technology following – to ensure adequate and appropriate regulation of airplane GHG emissions rather than just business as usual (BAU).

[1] 85 Fed. Reg. 51,556 (August 20, 2020) – https://www.govinfo.gov/content/pkg/FR-2020-08-20/pdf/2020-16271.pdf

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

According to EPA, proposing and implementing airplane GHG standards equivalent to ICAO's is "consistent with U.S. efforts to secure the highest practicable degree of uniformity in aviation regulations and standards." The agency states that the proposed standards would allow U.S. manufacturers of covered airplanes[2] (new type designs and in-production models) to remain competitive in the global marketplace and that because other ICAO member States that certify airplanes have adopted the standards, U.S. adoption would ensure international consistency and acceptance of U.S.-manufactured aircraft around the world. EPA claims that, if finalized, the standards would also fulfill the agency's obligation under Section 231 of the Clean Air Act (CAA) to adopt GHG standards for certain classes of airplanes as a result of the August 15, 2016 "Finding That Greenhouse Gas Emissions from Aircraft Cause or Contribute to Air Pollution That May Reasonably Be Anticipated To Endanger Public Health and Welfare,"[3] in which the EPA Administrator found "that elevated concentrations of greenhouse gases in the atmosphere endanger the public health and welfare of current and future generations within the meaning of section 231(a)(2)(A) pf the Clean Air Act."

Adoption of the proposed ICAO technology-following standards fails to meet EPA's obligation under Clean Air Act (CAA) Section 231 to adopt aircraft GHG standards as a result of the 2016 endangerment finding. Given the contribution of the aircraft sector to U.S. emissions, far more is reasonable and required. U.S. emissions data demonstrate the need to regulate the aircraft sector well beyond ICAO's BAU standards and commensurate with other transportation sectors relative to GHGs.

The EPA Administrator reached her decision on the 2016 endangerment finding after reviewing emissions data on the contribution of covered aircraft under CAA section 231(a) to GHG emission inventories both in the U.S. and globally. In her judgment, the collective GHG emissions from the classes of engines used in covered U.S. aircraft clearly contribute to endangering GHG pollution, whether the comparison is to domestic GHG inventories (10 percent of all U.S. transportation GHG emissions, representing 2.8 percent of total U.S. emissions), to global GHG inventories (26 percent of total global aircraft GHG emissions, representing 2.7 percent of total global transportation emissions and 0.4 percent of all global GHG emissions) or if using a combination of domestic and global inventory comparisons.[4] This is especially important because states and localities do not have authority to directly regulate aircraft emissions beyond standards adopted by EPA.

This proposal represents a missed opportunity. Notwithstanding critical environmental need, this action amounts to little more than an administrative exercise. EPA acknowledges that this proposed regulation has no environmental benefits and that adopting the ICAO GHG airplane standards will do nothing to move the needle on aircraft emissions: "U.S. manufacturers have already developed or are developing

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[2] As described by EPA, "[t]he proposed standards would apply to civil subsonic jet airplanes (those powered by turbojet or turbofan engines and with a MTOM [Maximum Takeoff Mass] greater than 5,700 kilograms), as well as larger civil subsonic propeller-driven airplanes (those powered by turboprop engines and with a MTOM greater than 8,618 kilograms). The timing and stringencies of the standards would differ depending on whether the covered airplane is a new type design (i.e., a design that has not previously been type certificated under title 14 CFR) or an in-production model (i.e., an existing design that had been type certificated under title 14 CFR prior to the effective date of the GHG standards). The standards for new type designs would apply to covered airplanes for which an application for certification is submitted to the [Federal Aviation Administration] on or after January 1, 2020 (January 1, 2023, for new type designs that have a maximum takeoff mass (MTOM) of 60,000 kilograms MTOM or less and have 19 passenger seats or fewer). The in-production standards would apply to covered airplanes beginning January 1, 2028."

[3] 81 Fed. Reg. 54,422 (August 15, 206) – https://www.govinfo.gov/content/pkg/FR-2016-08-15/pdf/2016-18399.pdf

[4] *Id.* at 54,461

technologies that will allow affected airplanes to comply with the ICAO standards, in advance of EPA's adoption of standards. Furthermore, based on the manufacturers' expectation that the ICAO standards will be implemented globally, the EPA anticipates nearly all affected airplanes to be compliant by the respective effective dates for new type designs and for in-production airplanes. This includes the expectation that existing in-production airplanes that are non-compliant will either be modified and re-certificated as compliant or will likely go out of production before the production compliance date of January 1, 2028. *For these reasons, the EPA is not projecting emission reductions associated with these proposed GHG regulations* [emphasis added]. We do, however, project a small cost associated with the proposed annual reporting requirement."[5]

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

EPA is in no way bound by ICAO's BAU, technology-following standards. The agency has authority under 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 they 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.[6] EPA proposes to codify ICAO standards that incorporated only existing technology at the time of their adoption by ICAO four years ago. 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.

EPA has contemplated setting more stringent aircraft GHG emission standards than ICAO's. In the Advance Notice of Proposed Rulemaking (ANPR) portion of its July 1, 2015 "Proposed Finding That Greenhouse Gas Emissions From Aircraft Cause or Contribute to Air Pollution That May Reasonably Be Anticipated To Endanger Public Health and Welfare and Advance Notice of Proposed Rulemaking,"[7] EPA provided an overview of and sought input on a number of issues related to setting an international CO_2 standard for aircraft at ICAO and (provided that EPA ultimately promulgated a final endangerment and cause and contribute findings for aircraft engine GHG emissions, which is did the following year) the potential use of Section 231 to adopt and implement domestic aircraft engine GHG emission standards. In particular, EPA specifically sought comment on adopting standards more stringent than ICAO's: "Although the EPA has traditionally established domestic standards that track the ICAO standards, for purposes of having a robust ANPR process, *we ask for comment on the possibility of the EPA adopting a more stringent aircraft engine emissions standard than ICAO*, provided ICAO/CAEP promulgates a standard in 2016 and the EPA makes a positive endangerment finding [emphasis added]."[8]

Nor does ICAO preempt member States from going beyond the Organization's standards. 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

[5] *Supra* note 1, at 51,558
[6] *Nat'l Ass'n of Clean Air Agencies v. EPA*, 489 F.3d 1221, 1229–30 (D.C. Cir. 2007)
[7] 80 Fed. Reg. 37,758 (July 1, 2020) – https://www.govinfo.gov/content/pkg/FR-2015-07-01/pdf/2015-15192.pdf
[8] *Id*. at 37,805

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]."[9] Such more stringent U.S. standards do not in any way interfere with the stated goals of the U.S. to secure the highest degree of uniformity with ICAO standards, allow U.S. manufacturers to remain competitive and ensure international consistency and acceptance of U.S.-manufactured aircraft worldwide.

III. NACAA's Recommendations

First and foremost, EPA should adopt GHG emission standards for new type airplane 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 GHG emissions that will yield critically needed reductions in GHGs.

Second, EPA should accelerate its January 1, 2028 compliance date for in-production models.

Third, EPA should apply an aircraft CO_2 standard to engines associated with but not part of an aircraft, such as auxiliary power units.

Fourth, EPA should pursue opportunities for establishing standards to address emissions from in-use aircraft – for example, by requiring that in-use aircraft be retrofitted with winglets to reduce aerodynamic drag and increase fuel efficiency.

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

Finally, EPA includes in the proposal a requirement for annual reporting of the number of airplanes produced, airplane characteristics and test parameters. EPA should also require reporting of aircraft cruise CO_2 emission rates. The data collected from such reporting would provide important insights into regulatory compliance and also inform future policy decisions.

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, NACAA's Deputy Director.

Sincerely,

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[9] *Id.* at 37,766