



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

[Docket No.: FAA-2023-0855]

Request for Comments on the Federal Aviation Administration's Review of the Civil Aviation Noise Policy, Notice of Public Meeting

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of public meeting; Request for comments.

SUMMARY: The FAA invites public comments from interested individuals, entities, and other parties to review four key considerations of its civil aviation noise policy, in the context of noise metrics and noise thresholds. The civil aviation noise policy sets forth how the FAA analyzes, explains, and publicly presents changes in noise exposure from aviation activity: recreational and commercial fixed wing airplanes, helicopters, commercial space transportation vehicles, unmanned aircraft systems, as well as emerging technology vehicles (newer types of vehicles that will operate in U.S. airspace). The FAA will consider how changes to the civil aviation noise policy may better inform agency decisionmaking, the types of impacts it considers in making decisions (e.g., community annoyance, certain types of adverse health impacts highly correlated with aviation noise exposure), and potential improvements to how the FAA analyzes, explains, and presents changes in exposure to civil aviation noise.

DATES: Comments: Send comments on or before [Insert date **90** days after date of publication in the Federal Register].

Public Meetings:

1. Tuesday, May 16, 2023, 1 to 3:00 p.m. Eastern Time (ET), virtual;
2. Thursday, May 18, 2023, 6 to 8:00 p.m. ET, virtual;
3. Tuesday, May 23, 2023, 9 to 11:00 p.m. ET, virtual; and

4. Thursday, May 25, 2023, 3 to 5:00 p.m. ET, virtual.

ADDRESSES: Send comments identified by docket number FAA-2023-0855 using any of the following methods:

- Federal eRulemaking Portal: Go to <https://www.regulations.gov> and follow the online instructions for sending your comments electronically.
- Mail: Send comments to Docket Operations, M-30; U.S. Department of Transportation (DOT), 1200 New Jersey Avenue, SE, Room W12-140, West Building Ground Floor, Washington, DC 20590-0001.
- Hand Delivery or Courier: Take comments to Docket Operations in Room W12-140 of the West Building Ground Floor at 1200 New Jersey Avenue, SE, Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.
- Fax: Fax comments to Docket Operations at 202-493-2251.

Instructions: For detailed instructions on submitting comments and additional information on the public meeting, see the Public Participation heading of the **SUPPLEMENTARY INFORMATION** section of this document.

Privacy: In accordance with 5 U.S.C. 553(c), DOT solicits comments from the public to better inform its rulemaking process. DOT posts these comments, without edit, including any personal information the commenter provides, to www.regulations.gov, as described in the system of records notice (DOT/ALL-14 FDMS), which you can review at <https://www.dot.gov/privacy>.

Docket: Background documents or comments received may be read at <https://www.regulations.gov> at any time. Follow the online instructions for accessing the docket or go to the Docket Operations in Room W12-140 of the West Building Ground Floor at 1200 New Jersey Avenue, SE, Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

FOR FURTHER INFORMATION CONTACT: For questions concerning this action, contact Mr. Donald S. Scata, Jr. or Ms. Krystyna Bednarczyk, Federal Aviation Administration, 800 Independence Ave. SW, Washington, DC 20591; telephone (202) 267-6999; e-mail NoisePolicyReview@faa.gov.

SUPPLEMENTARY INFORMATION:

First, the FAA is reviewing research on the effects of exposure to aviation noise, including the correlation of exposure to aviation noise with adverse health impacts, economic impacts, and annoyance.

Second, the FAA is reviewing its standard noise metric that describes exposure to aircraft noise, and potential revisions to the choice of standard metric(s).

Third, the FAA is reviewing its definition of the threshold of significant noise exposure for actions analyzed under the National Environmental Policy Act of 1969 to determine if that threshold remains appropriate or requires revision.

Last, the FAA is examining the level of aircraft noise exposure below which land uses are considered “normally compatible” with airport operations, as that term is defined in the regulations implementing the Aviation Safety and Noise Abatement Act of 1979. This includes consideration of the criteria for application of noise mitigation measures to address adverse noise exposure in areas that the FAA currently considers to be “normally compatible” with airport operations under FAA’s regulations.

The FAA will consider how changes to the civil aviation noise policy may better inform agency decisionmaking, the types of impacts it considers in making decisions (e.g., community annoyance, certain types of adverse health impacts highly correlated with aviation noise exposure), and potential improvements to how the FAA analyzes, explains, and presents changes in exposure to civil aviation noise. Because the review addresses the technical elements of the FAA’s civil aviation noise policy, this review will not itself reduce noise associated with aviation. The FAA will hold virtual webinars to

provide background information regarding the noise policy review and respond to technical matters.

I. Background

A. FAA Actions with Respect to Civil Aviation Noise

Aircraft and vehicles make noise. More than 2.3 million passengers fly daily in U.S. airspace. Demand continues to grow for aviation passenger and cargo services. At the same time, new users seek to operate in U.S. airspace using different aircraft and vehicles that will change where and how communities are affected by aircraft noise. Commercial space rocket launches, unmanned aircraft systems (UAS or drones), and urban air mobility/advanced air mobility (UAM/AAM) vehicles will operate in ways that differ fundamentally from traditional fixed wing aircraft and helicopters that take off and land at airports. As a result, these operations will change the way communities interact with aircraft and experience noise exposure.

The FAA, air carriers, airports, aircraft manufacturers, other stakeholders and industry members, local communities, and elected officials share responsibility for addressing aircraft noise concerns. For example, FAA does not make decisions about flight times, number of operations, and aircraft type departing from or landing at airports. These decisions rest with private industry. Airport location and land uses surrounding airports are a function of local community zoning and land use planning. Runway alignment is determined by the prevailing winds at that specific location. The FAA is charged with controlling aircraft noise by regulating source emissions, designing flight operational procedures, and managing the air traffic control system and navigable airspace in ways that minimize, where appropriate, noise impacts on the ground consistent with the highest standards of safety.¹

¹ See 49 U.S.C. 40103(b), 44502, and 44721, which provide extensive and plenary authority to the FAA concerning use and management of the navigable airspace, air traffic control, and air navigation facilities. The FAA has implemented this authority by promulgating regulations at 14 CFR parts 71, 73, 75, 91, 93,

The FAA has long recognized that aircraft noise is a primary and pivotal concern of many stakeholders. Accordingly, the FAA strives to reduce noise in ways within its purview, but its ability to control the change in airport noise exposure is limited. The FAA has acted continuously and effectively within the bounds of its authority to improve the environmental effects of the aviation sector by better understanding, managing, and, where possible, reducing the adverse environmental impacts of global aviation through research and technological innovation, policy,² and outreach to the public.³

Over the last six decades, aircraft have gotten much quieter due in part to action by the FAA. The FAA has phased out operations by older, noisier aircraft and set more stringent aircraft certification noise standards to reduce the amount of noise they emit.⁴ The FAA also established research and development partnership programs with academia and industry to develop quieter aircraft technology.⁵ As a result, the noise produced from one flight by a Boeing 707-200 jet, a typical commercial aircraft that began to fly in 1957 is roughly equivalent to the noise produced from 30 flights by a typical Boeing 737-800 jet.⁶ At the same time, the number of enplanements has increased from approximately

95, and 97. *See also* 49 U.S.C. 44715, which requires the FAA Administrator to prescribe noise standards for aircraft noise and sonic boom and to prescribe regulations to control and abate aircraft noise and sonic boom by promulgating aircraft noise regulations. FAA has implemented this authority by promulgating regulations at 14 CFR part 36, on source noise reduction and limits on noise emissions of large aircraft of new or modified design. Essentially, part 36 establishes the quietest uniform standard then possible, after taking into account safety, economic reasonableness, and technological feasibility. In addition, the FAA has phased out older aircraft to achieve noise reductions consistent with Congressional mandates and international standards. As of January 2016, all civilian transport category aircraft, regardless of weight, are required to meet Stage 3 requirements in order to operate in the continental U.S. and any air carrier aircraft manufactured today must meet Stage 5 requirements

² FAA established noise certification standards for new and modified designs of civil subsonic aircraft in 14 CFR part 36. The FAA does not intend to consider changes to these regulations in the NPR.

³ FAA, 2020, *Report to Congress: FAA Reauthorization Act of 2018 (Pub. L. 115-254) Section 188 and Sec 173*, https://www.faa.gov/about/plans_reports/congress/media/Day-Night_Average_Sound_Levels_COMPLETED_report_w_letters.pdf.

⁴ The FAA regulation of older, noisier aircraft technology is consistent with congressional direction and International Civil Aviation Organization standards. *See, e.g.*, 82 FR 46123 (Oct. 4, 2017).

⁵ For more information, see the FAA's Continuous Lower Energy, Emissions, and Noise (CLEEN) Program, at

https://www.faa.gov/about/office_org/headquarters_offices/apl/research/aircraft_technology/cleen/.

⁶ Based on an average of approach and takeoff certificated noise levels as defined in 14 CFR part 36.

200 million in 1975 to over 850 million today. Enplanements are predicted to grow over the next twenty years, on average, by 4.7 percent annually.⁷

As operations have increased substantially since the mid-1970's, the number of people adversely exposed to aviation noise (levels above the Day Night Average Sound Level of 65 decibels) in the U.S. has declined dramatically from roughly 7 million to just over 400,000 today. This is significant improvement in environmental outcomes because the U.S. Census Bureau indicates that between 1970 and 2010, the percentage of the population living in dense urban areas increased from 73.6 percent to 80.7 percent. FAA regulation of noise at the source has improved environmental outcomes. In the eyes of the public, however, aircraft noise and its impact on people continues to be a major source of concern.

This perception was reinforced by results of a nationally scoped survey that updated FAA's understanding of the dose-response relationship between exposure to aircraft noise and community annoyance (Neighborhood Environmental Survey or NES).⁸ On January 13, 2021, the FAA published in the Federal Register a notice and request for input on the FAA's research activities that would inform the FAA's aircraft noise policy and would inform the future direction of the FAA noise research portfolio.⁹ In addition to setting forth the FAA aircraft noise policy and research efforts, the notice described the results of the NES and research into the societal benefits and costs of noise mitigation measures. The FAA explained that the Neighborhood Environmental Survey updated the FAA's understanding of the dose-response relationship between exposure to aircraft

⁷ This growth rate was developed by FAA as part of its 2022-2042 commercial aviation forecast, which incorporates assumptions from statistical (econometric) models to explain and account for emerging trends for different segments of the aviation industry. See FAA, *FAA Aerospace Forecast Fiscal Years 2022-2042* at 2, https://www.faa.gov/sites/faa.gov/files/2022-06/FY2022_42_FAA_Aerospace_Forecast.pdf.

⁸ Miller, Nicholas P., et al. *Analysis of the neighborhood environmental survey*. DOT/FAA/TC-21/4. 2021, <https://www.airporttech.tc.faa.gov/Products/Airport-Safety-Papers-Publications/Airport-Safety-Detail/ArtMID/3682/ArticleID/2845/Analysis-of-NES>. See also FAA, *Overview of FAA Aircraft Noise Policy and Research Efforts: Request for Input on Research Activities to Inform Aircraft Noise Policy*, 86 FR 2722 (January 13, 2021).

⁹ FAA, *Overview of FAA Aircraft Noise Policy and Research Efforts: Request for Input on Research Activities to Inform Aircraft Noise Policy*, 86 FR 2722 (January 13, 2021).

noise and community annoyance. The NES showed that a higher percentage of people were “highly annoyed” by aircraft noise across all levels of noise exposure that were studied.¹⁰

More than 4,100 comments were submitted in response to the FAA’s January 13, 2021 Federal Register notice. Some commenters suggested additional topics for research, which the FAA has taken under consideration. Overwhelmingly, however, the public encouraged the FAA to revise its policy in light of its research findings rather than waiting for the results of the FAA’s ongoing research.

In response to that feedback, the FAA initiated a review (noise policy review or NPR) of its civil aviation noise policy (policy). The FAA policy is set forth in various agency regulations, orders, guidance, and policy statements.¹¹ It identifies how the FAA analyzes, explains, and publicly presents changes in noise exposure from aviation activity: recreational and commercial fixed wing airplanes, helicopters, commercial space transportation vehicles, unmanned aircraft systems, as well as emerging technology vehicles (newer types of vehicles that will operate in U.S. airspace). It applies to actions the FAA regulates, conducts, authorizes, or funds.

As commenters on the January 13, 2021 notice pointed out, the current policy is based on research conducted many decades ago. Since the policy was first issued, additional research has been conducted into the effects of aircraft noise on individuals and communities. The research spans aviation noise topics such as the economic value of

¹⁰ 86 FR 2724. See also FAA, *The Foundational Elements of the Federal Aviation Administration Civil Aircraft Noise Policy: The Noise Measurement System, its Component Noise Metrics, and Noise Thresholds* (April 2023), <https://www.faa.gov/noisepolicyreview/NPR-framing>.

¹¹ See, e.g., 14 CFR part 36, *Noise Standards: Aircraft Type and Airworthiness Certification*, 34 FR 18364 (Nov. 18, 1969); 14 CFR part 150, *Airport Noise Compatibility Planning*, 49 FR 49269 (December 18, 1984); 14 CFR part 161, *Notice and Approval of Airport Noise and Access Restrictions*, 56 FR 48698 (Sept. 25, 1991); U.S. Department of Transportation and FAA, *The Aviation Noise Abatement Policy*, (Nov. 18, 1976) (ANAP) available at https://www.faa.gov/regulations_policies/policy_guidance/envir_policy/; FAA Order 1050.1F, *Environmental Policies and Procedures* (FAA Order 1050.1F), 80 FR. 44209 (July 24, 2015); FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Projects* (FAA Order 5050.4B); FAA Joint Order 7400.2N, *Procedures for Handling Airspace Matters* (Nov. 3, 2022) at Chapter 32. “Environmental Matters and Appendix 9, Noise Policy for Management of Airspace Over Federally Managed Lands”; and FAA Order 1050.1F Desk Reference.

noise impacted property, community annoyance, children’s learning, speech interference, sleep disturbance, and human health impacts such as cardiovascular health.¹² The NPR provides an opportunity to determine whether, and if so, how, to update the policy in response to these and other research findings described in the January 13, 2021 notice.

B. Effect of Changes in Aircraft and Vehicle Operations in U.S. Airspace.

As described in Section I.A., *infra*, the NPR will also consider how the noise environment is changing from newer users of the airspace using the airspace differently than operators of recreational or commercial fixed wing airplanes and helicopters. This includes newer users operating commercial space transportation vehicles (rocket launches and reentries), unmanned aircraft systems (also known as UAS or drones), and other emerging technology vehicles (newer types of vehicles that will operate in the U.S. airspace).

C. FAA Regulation of Noise Under the Aviation Safety and Noise Abatement Act of 1979 and Assessment of Changes in the Noise Environment Under the National Environmental Policy Act of 1969.

In response to a law called the Aviation Safety and Noise Abatement Act of 1979,¹³ the FAA took a series of actions related to aviation noise. First, the FAA established a system for measuring how aircraft noise is experienced on the ground. The experience of noise by people and other receptors on the ground is described in this notice as “aircraft noise exposure.” Currently, the FAA uses a single-metric system to

¹² Wolfe, Malina, Barrett & Waitz 2016, Cost and benefits of US Aviation noise land-use policies, *Transportation Research Part D: Transport and Environment*, v. 44 (2016) 147-156, <https://dx.doi.org/10.1016/j.trd.2016.02.010> (assessed quantitatively the costs and health and public welfare benefits of noise mitigating land-use management practices at 16 U.S. airports, specifically housing insulation and property acquisition, as compared to control of noise at the source. This study estimated that reducing environmental noise exposure through local land-acquisition and soundproofing policies can provide health and welfare benefits from \$10,000 per person when applied in low-income (\$20,000 per capita) and low-noise-exposure (65 dB) communities and upwards of \$25,000 per person in high-income (\$60,000 per capita) and high-noise-exposure (75 dB) communities. However, the study concluded that the costs of these programs often exceed their benefits except for at the highest noise exposure levels.)

¹³ Aviation Safety and Noise Abatement Act of 1979, codified at 49 U.S.C. 47501 *et seq.*, and implemented through 14 CFR part 150 (Part 150).

analyze aircraft noise exposure. The noise metric¹⁴ that is the heart of this single-metric system is called the Day-Night Average Sound Level (DNL).¹⁵ Currently, DNL is the FAA's core metric for decisionmaking in situations involving aircraft noise exposure. This law requires the FAA to develop a single system for analyzing aircraft noise exposure; however, the system does not have to be composed of a single metric. Rather the system must have a high degree of correlation between the projected noise exposure levels and the surveyed reactions of people to those noise levels and must account for the intensity, duration, frequency, and tone of noise-producing activity, as well as the time of occurrence.¹⁶

Second, in response to that law, the FAA issued regulations (14 CFR part 150) to establish the requirements and the process and procedures for airport noise compatibility planning.¹⁷

Third, the regulations also identify land uses that are "normally compatible" with various noise exposure levels. These land use classifications were developed by the FAA based on its evaluation of the Federal land use compatibility guidelines established during the 1970s by a Federal interagency committee comprised of research agencies and agencies with expertise in aviation-related noise.¹⁸ To the extent practicable, FAA's "normally compatible" and "noncompatible" land uses are comparable to and consistent

¹⁴ A "noise metric" refers to the unit or quantity that quantitatively measures the exposure of individuals to noise.

¹⁵ See 14 CFR 150.7. The Day-Night Average Sound Level (DNL) is the 24-hour average sound level, in decibels, for the period from midnight to midnight, obtained after the addition of ten decibels to sound levels for the periods between midnight and 7 a.m., and between 10 p.m., and midnight, local time. This is a cumulative noise metric.

¹⁶ 49 U.S.C. 47502(2).

¹⁷ This included procedures, standards, and methodology for airport development and submission, and FAA review of airport noise exposure maps and airport noise compatibility programs and the provision for using a single system to measure noise at airports and surrounding areas and determine exposure of individuals to noise that results from the operations of an airport when preparing these documents. See 14 CFR 150.1

¹⁸ The Federal agencies that are responsible for Federal programs in which noise exposure is a factor and which comprised the interagency committee that developed the Federal land use compatibility guidelines include, among others, the U.S. Department of Defense, U.S. Department of Housing and Urban Development, and the National Park Service.

with, although separate from, other Federal programs directed towards similar considerations of noise exposure.

As one of the four elements of the review, the FAA will consider how the agency's updated understanding of the effects of aircraft noise on individuals, communities, and noise-sensitive areas should be used to potentially revise the definitions adopted by the FAA of land uses that are "normally compatible" with airport operations and associated with different levels of aviation noise exposure. This will include consideration of the criteria for application of noise mitigation measures to address adverse noise exposure in areas that the FAA currently considers to be "normally compatible." In this notice, the FAA is focused on noise metrics and noise thresholds.¹⁹ While the FAA will consider public comments regarding elements of the policy not related to noise metrics and noise thresholds, these comments will not be the agency's initial priority in the review.

The National Environmental Policy Act of 1969 (NEPA), 42 U.S.C. 4321 *et seq.*, requires Federal agencies to analyze the potentially significant environmental impacts of actions the FAA takes directly and to actions taken by a non-Federal entity where the FAA has authority to condition the permit, license, or other approval of the non-Federal entity's action ("Federal action").²⁰ The FAA established through an agency order (FAA Order 1050.1F) the policies and procedures that implement the requirements of NEPA and the Council on Environmental Quality (CEQ) regulations implementing NEPA. While the significance of an impact may vary with the context and setting of a proposed Federal action, FAA Order 1050.1F established a quantitative limit to describe the

¹⁹ When FAA refers to "noise thresholds" collectively, it means both the definition of the level of significant noise exposure for actions subject to environmental review requirements set out in FAA Order 1050.1F as well as the definitions of the levels of noise exposure that are deemed to be "normally compatible" with airport operations, as set forth in Table 1 of Appendix A to Part 150.

²⁰ FAA Order 1050.1F at Paragraph 1-9.

significance of changes in aviation noise exposure (NEPA significance threshold) based on community annoyance.²¹ The NEPA significance threshold is triggered if a proposed Federal action “would increase noise by DNL 1.5 dB or more for a noise sensitive area as defined in part 150 that is exposed to noise at or above the DNL 65 dB noise exposure level, or that will be exposed at or above the DNL 65 dB level due to a DNL 1.5 dB or greater increase, when compared to the no action alternative for the same timeframe.”²² For example, an increase from DNL 65.5 dB to 67 dB would be considered a significant impact, as would an increase from DNL 63.5 dB to 65 dB.²³

The FAA considers the significance of project impacts when determining the appropriate level of environmental review and the level of public involvement that may be required before a decision on a proposed Federal action is made. Finally, while NEPA does not require any particular outcome, its requirements ensure that FAA officials make informed decisions after considering the environmental consequences of proposed Federal actions. The FAA’s determination to establish a NEPA significance threshold, the type of impact (community annoyance) that informed the selection of the limit of the NEPA significance threshold, and the noise metric (DNL) that quantitatively describes the impact of noise exposure are three of the four elements of the policy that are under review as part of the NPR. Specifically, this review will consider whether the FAA should continue to use the cumulative DNL metric as the sole basis for decisions made in the context of analyses prepared pursuant to NEPA and the Part 150 regulations or adopt a suite of metrics to address different scenarios based on the noise environment, source of noise, and other considerations.

²¹ FAA Order 1050.1F at Exhibit 4-1.

²² *Id.*

²³ *Id.*

The result of this review may include modifying the FAA's system for considering aviation noise. Modifications could include replacing DNL as the sole decisionmaking noise metric; incorporating new decisionmaking noise metrics into the system; identifying when the metrics that may comprise the system should be used alone or in combination; and revising the FAA policy²⁴ on the use of supplemental metrics. In addition, the FAA will consider how these metrics should be calculated.

D. Immediate Effect of the Noise Policy Review

The FAA notes that none of the changes currently being considered through this noise policy review will immediately affect the level of noise to which an individual, community, or noise-sensitive area (e.g., park, school, hospital, etc.) is exposed. A downward adjustment to the definition of existing significant noise exposure will not change the actual noise environment. Nor will real-world noise experienced by individuals and communities be changed if the FAA changes its criteria for identifying significant new noise exposure associated with proposed actions being examined in an environmental review conducted pursuant to NEPA.²⁵ No policy change on its own will cap or reduce the levels of aviation noise. The FAA normally takes actions that enhance the safety, efficiency, and capacity of U.S. airspace while considering associated noise impacts. As these actions are proposed, the FAA analyzes and discloses publicly the modeled change in the noise environment to help the public understand how their experience of aviation noise will change over time.

E. Next Steps.

²⁴ The FAA's NEPA procedures address the use of supplemental noise metrics. See FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*, Appendix B, paragraph B-1.6; *1050.1F Desk Reference*, Section 11.4.

²⁵ See 42 U.S.C. 4321 *et seq.*, 40 CFR parts 1500 – 1508, and FAA Order 1050.1F. NEPA directs the Federal government to ensure that the likely significant environmental effects of proposed policies, plans, programs, projects or other actions are identified and assessed before the Federal agency makes a decision on whether the proposal should proceed. It also identifies certain procedures that must be followed regarding the level of environmental analysis to be conducted as well as ensures certain types of public disclosure and public involvement before the FAA makes a decision or takes an action. This does not mean, however, that the FAA must choose the most environmental favorable or most environmentally acceptable option.

The FAA intends to give serious consideration to stakeholder²⁶ input on the policy. If the FAA decides to revise the policy, any revisions will also consider modern aviation noise research and how the evolving use of the U.S. airspace affects experiences of aviation noise. Any revisions to the policy will also promote more effective public disclosure of noise impacts under NEPA. In summary, this review should improve implementation of the major tenets of the 1976 Aviation Noise Abatement Policy, which sets forth the goals, policies, and strategies the FAA should employ to reduce the impact of aviation noise.

F. Purpose of This Notice

The FAA invites comments through this notice to inform its consideration of these foundational elements of the policy. The FAA recognizes that exposure to aviation noise is a pivotal quality-of-life issue for the public and welcomes input on how the FAA's assessment and disclosure of noise impacts may improve community understanding and expectations regarding future noise exposure. The most helpful comments would reference a specific recommendation, explain the reason for any recommended change, and include supporting information.

At this time, the FAA cannot predict how many comments will be received, whether requests to extend the comment period will be submitted, or how long it will take to review and respond to public comments. While the FAA will work expeditiously to review the input when the public comment period closes, the FAA cannot provide information regarding the timing of follow-on actions. However, following the FAA's

²⁶ The FAA will continue to coordinate on matters related to aviation noise research and policy through the Federal Interagency Committee on Aviation Noise (FICAN), which provides a forum for Federal agencies to coordinate on future research needs to understand, predict, and better control the effects of aviation noise. FICAN comprises Federal agencies that conduct research on aviation-related noise as well as agencies that do not conduct research but that have broad policy roles with respect to aviation noise issues. Current member agencies include: the U.S. Departments of Defense, Transportation, Interior, Health and Human Services, Housing and Urban Development as well as the Environmental Protection Agency and NASA. In addition, in accordance with 40 CFR parts 1500-1508, the FAA will coordinate with the Council on Environmental Quality if the FAA recommends changes to its NEPA implementing procedures (FAA Order 1050.1F).

consideration of comments, the FAA will publish in the Federal Register a subsequent notice to announce the input it received and how the FAA considered it in developing its recommended revisions to the policy. That notice will identify the elements of the policy that will be modified and explain how the FAA recommends revising the policy. The FAA will identify the subsequent actions it will take to implement the recommendation and whether the future change to the policy will be implemented through proposed rulemaking or other administrative actions. That notice will identify the FAA office that will be primarily responsible for implementing the recommended revision and identify, with specificity, the agency regulations, orders, guidance, or policy statements that will be modified. Finally, that notice will set forth how the public can continue to provide input when the FAA proposes revisions to relevant documents.

II. Request for Comments

The FAA seeks written public comments on the ways it describes potential impacts of aircraft noise as well as how the FAA defines the threshold of significant noise exposure for noise sensitive receivers. In addition, the FAA seeks public comment on the noise exposure limit that normally would be considered compatible for noise-sensitive land uses. To provide background information and context for the questions set forth below, the FAA invites the public to review a framing paper entitled, *The Foundational Elements of the Federal Aviation Administration Civil Aircraft Noise Policy: The Noise Measurement System, its Component Noise Metrics, and Noise Thresholds*, available at: <https://www.faa.gov/noisepolicyreview/NPR-framing>. The FAA welcomes any comments from the public on any of these issues and is particularly interested in the public's responses to the questions and information requested below.

The FAA maintains a robust program of activities related to aviation noise. The FAA's approach is multi-pronged, including research and development, regulatory control, and public and stakeholder outreach programs relating to the public's experience

of aviation noise. In the next section of this notice, the FAA presents a series of questions designed to solicit public input that will supplement and augment the FAA's technical consideration of these issues. The FAA intentionally designed the questions below to seek written comment from a range of aviation stakeholders with varying levels of familiarity with the FAA, its role in addressing aircraft noise exposure, and the noise metrics the FAA uses to analyze, explain, and publicly present adverse noise exposure. One of the FAA's key goals in issuing this notice is to obtain stakeholder input on the information FAA develops and uses to make decisions that affect aviation noise. Public comments addressing potential improvements in how, where, and with whom the FAA communicates regarding changes in aircraft noise exposure will be particularly helpful as the FAA continues to develop a policy that will respond to affected communities' core interests, concerns, and needs.

Comments that focus on the issues and questions identified below will be most helpful. These questions are meant as a guide and commenters may provide their views or submit general comments related to how the FAA describes and discloses aviation noise impacts. The more specific the comments, the more useful they will be in agency deliberations. If relevant, commenters are requested to provide technical information, data, or other evidence to support the comment submission. Finally, the FAA requests that commenters identify the number of each question to which a response is submitted.

1. Vehicle Type. When the FAA published the ANAP²⁷ in 1976, the impacts of aviation noise were related to commercial jet service at or in the immediate vicinity of airports. What types or elements of current or future air vehicle activity (e.g., unmanned aircraft systems (also known as UAS or drones), advanced air mobility, rotorcraft, subsonic fixed wing, supersonic, or commercial space) should the policy describe and

²⁷ The ANAP was issued by the Secretary of Transportation and the FAA Administrator on November 18, 1976. This document is available on the FAA website at https://www.faa.gov/regulations_policies/policy_guidance/envir_policy/

disclose? How should this information be described using noise metrics? Should the FAA use this information to make decisions or for public disclosure only? Please explain your reasoning.

2. Operations of Air Vehicles.

a. What elements of aircraft operations (e.g., en-route, takeoff, landing) should the noise metric evaluate and disclose? Should the FAA use this information to make decisions or disclose to the public noise impacts? Please explain your reasoning.

b. What interests or concerns do communities in the vicinity of airports have? How can these concerns be addressed using noise metrics? What noise metrics would address these concerns? Please explain your reasoning.

c. What interests or concerns do overflight communities²⁸ have? How can these concerns be addressed using noise metrics? What noise metrics would address these concerns? Please explain your reasoning.

d. What interests or concerns do communities in the vicinity of commercial space transportation operations have? How can these concerns be addressed using noise metrics? What noise metrics would address these concerns? Please explain your reasoning.

e. What interests or concerns do communities in the vicinity of UAS (drone) package delivery or other newly emerging technology operations have? How can these concerns be addressed using noise metrics? What noise metrics would address these concerns? Please explain your reasoning.

3. DNL. What views or comments do you have about the FAA's core decisionmaking metric, DNL? How would these views regarding DNL be resolved if the

²⁸ The phrase "overflight communities" in this Notice refers to communities located under the flight paths of aircraft and vehicles that are distressed by aircraft noise and are located outside of the DNL 65 dB contour.

FAA employed another noise metric (either in addition to, or to replace DNL) or if the FAA calculated DNL differently? Please explain your reasoning.

4. Averaging. DNL provides a cumulative description of the noise events expected to occur over the course of an entire year averaged into a representative day, described as an Average Annual Day (AAD).

a. Do you believe an AAD is an appropriate way to describe noise impacts? Please explain why or why not.

b. If not, what alternative averaging schemes to AAD should be considered and why? What information would the use of an alternative averaging scheme capture that AAD does not?

5. Decisionmaking Noise Metrics. The FAA currently uses DNL as its primary decisionmaking metric for actions subject to NEPA and airport noise compatibility planning studies prepared pursuant to 14 CFR part 150.

a. Should different noise metrics be used in different circumstances for decisionmaking?

b. If the answer to Question 5.a. is “yes,” please identify: the metric, the information it provides that DNL does not, and explain when and how it should be employed by the FAA in its system (e.g., should the FAA use a noise metric other than DNL to evaluate noise exposure in quiet settings, such as national parks, national wildlife and waterfowl refuges, etc.)? Should this metric be used when the FAA is making decisions that affect noise in these settings? Should this metric be used alone or in combination with another metric?

c. If the metric should be used in combination with another metric, please describe how they should be used together for decisionmaking.

d. If the answer to Question 5.a is “no,” should DNL remain the core decisionmaking metric or should another metric be substituted in all circumstances?

e. How would the use of the metrics that you recommend support better agency decisionmaking? Please explain and illustrate with specific examples how the use of the recommended metric(s) would benefit agency decisionmaking.

6. Communication.

a. Please identify whether and how the FAA can improve communication regarding changes in noise exposure (e.g., what information FAA communicates, where and with whom FAA communicates, what information methods FAA uses to communicate and the venues at which FAA shares this information). Please explain your reasoning.

b. Should the FAA consider revisions to its policy on the use of supplemental noise metrics in the FAA's NEPA procedures? Please explain how this policy should be modified to improve FAA communication of noise changes when the FAA is making decisions that affect noise. Please explain your reasoning.

c. What information about the change in noise resulting from civil aviation operations (e.g., UAS or drones, helicopters, fixed wing aircraft, rockets/commercial space transportation vehicles, and new entrant technologies) should the noise metric communicate to the public? Please explain your reasoning.

d. Please explain how the public will benefit if the FAA implements your proposal in response to Questions 6.a and 6.b.

7. NEPA and Land Use Noise Thresholds Established Using DNL or for Another Cumulative Noise Metric. The FAA has several noise thresholds that are informed by a dose-response curve (Schultz Curve²⁹), which historically provided a useful method for

²⁹ See Schultz, T.J. 1978, "Synthesis of Social Surveys on Noise Annoyance," *Journal of the Acoustical Society of America* 64(2): 377-405. The Schultz Curve in this document refers to the curve generated from a meta-analysis of social surveys which set forth a widely accepted relationship between DNL and the percentage of the population who are highly annoyed by noise. This meta-analysis was later validated by interagency government committees focused on aircraft noise issues. See, e.g., Federal Agency Review of Selected Airport Noise Analysis Issues, 1992.

representing the community response to aircraft noise. Two of the noise thresholds informed by the Schultz Curve are the FAA’s significant noise impact threshold for actions being reviewed under the National Environmental Policy Act and the land use compatibility standards established in 14 CFR part 150, Appendix A. Both of these rely on the cumulative noise metric DNL and are referred to collectively in this question and questions 8-10 as “the FAA noise thresholds.” On January 11, 2021, the FAA published the results of the Neighborhood Environmental Survey,³⁰ a nationally representative dataset on community annoyance in response to aircraft noise. The Neighborhood Environmental Survey results show higher percentage of people who self-identify as “highly annoyed” by aircraft noise across all DNL levels studied in comparison to the Schultz Curve.

a. How should the FAA consider this information (i.e., the Schultz Curve and Neighborhood Environmental Survey findings) when deciding whether to retain or modify the FAA noise thresholds³¹ established using the DNL metric or to establish new FAA noise thresholds using other cumulative noise metrics? Please explain your reasoning.

b. Should the FAA consider other or additional information when deciding whether to retain or modify the FAA noise thresholds that were established using the DNL metric or to establish new FAA noise thresholds using other cumulative noise metrics? Please describe the reason for the recommendation and identify the data, information, or evidence that supports the recommendation.

³⁰ Miller, Nicholas P., et al. *Analysis of the neighborhood environmental survey*. No. DOT/FAA/TC-21/4. 2021 available at: <https://www.airporttech.tc.faa.gov/Products/Airport-Safety-Papers-Publications/Airport-Safety-Detail/ArtMID/3682/ArticleID/2845/Analysis-of-NES>. See also FAA, *Overview of FAA Aircraft Noise Policy and Research Efforts: Request for Input on Research Activities to Inform Aircraft Noise Policy*, 86 FR 2722 (Jan. 13, 2021).

³¹ As explained in this Notice in footnote 24, *infra*, when FAA refers to “noise thresholds” collectively, it means both the definition of the level of significant noise exposure for actions subject to environmental review requirements set out in FAA Order 1050.1F as well as the definitions of the levels of noise exposure that are deemed to be “normally compatible” with airport operations, as set forth in Table 1 of Appendix A to Part 150.

c. How should research findings on auditory or non-auditory effects (e.g., speech interference, sleep disturbance, cardiovascular health effects) of noise exposure caused by civil aircraft and vehicles be considered by the FAA when it decides whether to retain or modify the FAA noise thresholds³² that were established using the DNL metric? How should the FAA consider this same research when deciding whether to establish new FAA noise thresholds using other cumulative noise metrics? Please explain your response.

d. In examining whether to change its metrics and thresholds for noise, the FAA needs reliable information to support any changes. One type of information that the FAA can rely on is epidemiological evidence. This means the study (scientific, systematic, and data-driven) of the distribution (frequency, pattern) and determinants (causes, risk factors) of health-related states and events (not just diseases) in specified populations (neighborhood, school, city, state, country, global). What amount of epidemiological evidence is sufficient to provide the FAA with a sound basis for establishing or modifying the FAA noise thresholds³³ either using the DNL metric or another cumulative noise metric? Please explain your response.

e. Should the FAA consider using factors other than annoyance to establish FAA noise thresholds³⁴ using the DNL metric or other cumulative noise metrics? What revisions to existing FAA noise thresholds or new noise thresholds do you recommend be established and why? Please explain your response.

8. FAA Noise Thresholds Using Single-Event or Operational Metrics. As the FAA learned from the results of the NES, people are bothered by individual aircraft noise events, but their sense of annoyance increases with the number of those noise events.

³² *Id.*

³³ *Id.*

³⁴ *Id.*

Should the FAA consider employing new FAA noise thresholds³⁵ using single-event or operational metrics? If the answer is “yes,” which metrics should be used to establish the FAA noise thresholds? What should be the relevant noise exposure level for the new noise thresholds you propose? Please explain your reasoning. If the answer is “no,” please explain your reasoning.

9. FAA Noise Thresholds for Low-Frequency Events. Should FAA establish noise thresholds³⁶ for low-frequency events, such as those associated with the launch and reentry of commercial space transportation vehicles authorized by the FAA Office of Commercial Space Transportation? If the answer is “yes,” which metrics should be used to establish the noise thresholds? What should be the relevant noise exposure level for the new noise thresholds you propose? Please explain your reasoning. If the answer is “no,” please explain your reasoning.

10. Miscellaneous. What other issues or topics should the FAA consider in this review regarding noise metrics, the method of calculating them, the establishment of noise thresholds³⁷, or FAA’s method of communicating the change in noise exposure? Please explain your response.

11. Literature Review. In this review, the FAA will examine the body of scientific and economic literature to understand how aviation noise correlates with annoyance as well as environmental, economic, and health impacts. The FAA also will evaluate whether any of these impacts are statistically significant and the metrics that may be best suited to disclose these impacts. A bibliography of this body of research is available for

³⁵ *Id.*

³⁶ *Id.*

³⁷ *Id.*

review in the Background Materials tab in the Docket and as Appendix 1 to the FAA framing paper entitled, *The Foundational Elements of the Federal Aviation Administration Civil Aircraft Noise Policy: The Noise Measurement System, its Component Noise Metrics, and Noise Thresholds*. This framing paper is available at: <https://www.faa.gov/noisepolicyreview/NPR-framing>. Please identify any studies or data regarding civil aviation noise not already identified by the FAA in the bibliography that you believe the FAA should evaluate. Please explain the relevance and significance of the study or evidence and how it should inform FAA decisions regarding the policy.

III. Public Participation

Virtual Webinars

The FAA recognizes that the noise policy is of interest to Federal agencies, project proponents, airport sponsors, airport and corridor communities, and the public generally. As a result, the FAA is taking steps to ensure stakeholders can request clarification, ask questions, and provide written feedback. The FAA will hold virtual webinars to provide background information regarding the review and respond to technical matters.

Participants may join the virtual webinars via telephone or virtually using Zoom. Access information and registration instructions will be made available on the FAA's Noise Policy Review website, located at <https://www.faa.gov/noisepolicyreview>.

If there is not sufficient time to respond to all questions asked, the FAA will make supplementary materials available on the FAA's website at a later date, located at <https://www.faa.gov/noisepolicyreview>. Further instructions on signing up and participating in the virtual webinars will be made available on the FAA's website at a later date, located at <https://www.faa.gov/noisepolicyreview>. Supporting materials and written feedback to questions to which the FAA was unable to respond during the virtual webinar will be submitted to the docket as described above and posted to the FAA's website at <https://www.faa.gov/noisepolicyreview>.

We request members of the press to RSVP to the person listed in the **FOR FURTHER INFORMATION CONTACT** section at least two weeks prior to the meeting that you plan to attend.

The U.S. Department of Transportation is committed to providing equal access to this meeting for all participants. If you need alternative formats or services because of a disability, such as sign language, interpretation, or other ancillary aids, please contact the person listed in the **FOR FURTHER INFORMATION CONTACT** section at least two weeks prior to the meeting that you plan to attend.

How do I prepare and submit written comments?

To ensure that your comments are filed correctly in the docket, please include the docket number of this document in your comments. Please review information available at <https://www.faa.gov/noisepolicyreview> to assist you with submitting your comment to the docket using the instructions given above under **ADDRESSES**.

Please note, if you are submitting comments electronically as PDF (Adobe) file, the FAA asks that the documents submitted be scanned using an Optical Character Recognition (OCR) process, to allow the FAA to search and copy certain portions of your submissions.

The FAA will consider your comments and consider appropriate revisions to its policy. The FAA will publish in the **Federal Register** a notice announcing the revisions it expects to make to its policy and identify the relevant agency documents that will express the revised policy, which elements of the agency document it expects to modify, and the process the FAA will use to issue and implement the revised policy.

Will the FAA consider late comments?

The FAA will consider all comments received before the close of business on the comment closing date indicated above under **DATES**. To the extent possible, the FAA will also consider comments received after that date.

How can I read the comments submitted by others?

You may read the comments received on the internet, identified by the docket number at the heading of this notice, at <https://www.regulations.gov>. You may also read comments at the address given above under **ADDRESSES**.

Issued in Washington DC.

Kevin Welsh,

Executive Director, Office of Environment and Energy.

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