



Normandy Park
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CITY OF
Federal Way

September 28, 2023

Mr. Donald Scata
Office of Environment and Energy
Federal Aviation Administration
800 Independence Avenue SW
Washington, DC 20591

RE: FAA–2023–0855 – Request for Comments on the Federal Aviation Administration’s Review of the Civil Aviation Noise Policy

Dear Mr. Scata,

Thank you so much for the opportunity to provide comment on the Federal Aviation Administration’s (FAA) review of its current civil aviation noise policy, with a specific focus on noise metrics and noise thresholds.

Prior to the COVID-19 pandemic, Seattle-Tacoma International Airport (SEA) was not only the 8th busiest airport in the country in terms of passenger volumes, but also one of the fastest growing – increasing from 31 million passengers in 2010 to almost 52 million passengers in 2019. As operations have returned to pre-pandemic levels, the Port of Seattle (which operates SEA) and the surrounding cities of SeaTac, Burien, Des Moines, Normandy Park, Tukwila, and Federal Way have increasingly heard community concerns about aircraft noise and emissions from nearby residents.

Quality of life and environmental sustainability are essential to us and to our community, which is why responding to these community concerns is a major priorities for us. To that end, the Port and these six cities have worked closely with the FAA, airlines, and others not only to invest in noise insulation for homes and other buildings near the airport, but also to identify progress that can be made on a voluntary basis in these areas. In fact, we have created the SEA Stakeholder Advisory Round Table (StART) to provide a forum for brainstorming new ideas on this front, and it has already resulted in tangible improvements such as 1) an enhanced Fly Quiet Program, 2) a new Late-Night Noise Limitation Program, 3) an updated Runway Use Agreement, and 4) new guidance on use of reverse thrust and continuous taxi to takeoffs.

These changes have led to tangible results; as an example, late night (between the hours of midnight and 5:00 am) operations on SEA’s third runway (the one closest to the community) have dropped from an average of 12 late night landings a night to an average of less than one late night landing a night. Similarly, average quarterly late night noise events above the Port’s voluntary threshold have fallen to

168 operations from 205. These are just a few of the examples of how collaboration and creativity can address community concerns and improve quality of life.

Before we share specific responses to the questions listed in your request for input, we want to make three related points:

- 1) First, we acknowledge the note in your document that “this review will not itself reduce noise associated with aviation.” Providing noise insulation and identifying compatible near-airport land uses is clearly an important way to mitigate aircraft noise concerns, but we would be remiss if we did not also urge you to continue to support efforts to actually reduce aircraft noise – from the ongoing transition of the commercial aircraft fleet to more modern, quieter alternatives, to changes in airspace and operations that limit noise exposure (such as the voluntary measures listed above). We welcome an opportunity to provide detailed comments on that topic when appropriate.
- 2) Second, we fully agree with your statement that “[t]he FAA, air carriers, airports, aircraft manufacturers, other stakeholders and industry members, local communities, and elected officials share responsibility for addressing aircraft noise concerns.” It will take a collaborative, coordinated effort to respond to community concerns most effectively.

To that point, while it makes sense for this noise policy review to focus on the FAA’s existing authorities, we welcome an opportunity to provide input on potential changes that the U.S. Congress should consider that would provide more ability to address community concerns. We are already working closely with our Congressional delegation through the 2023 FAA Reauthorization Act on some of these legislative options. Policy change is a time-consuming and uncertain path, but it is key to successfully making progress on this topic.

- 3) Third, a focus on noise policy is important, in fact critical, but we want to acknowledge that aircraft emissions are also a key driver of near-airport community concerns. We appreciate the FAA’s leadership in transitioning to sustainable aviation fuels (SAF), modernizing aircraft engines, and phasing out leaded aviation fuel. We look forward to continuing to partner on solutions that can speed the deployment of SAF, including through implementation of key provisions in the Inflation Reduction Act as well as the 2023 FAA Reauthorization Act and 2023 Farm Bill.

As we move to specific responses to your questions, we want to be clear about our overarching perspective. While we absolutely believe that the FAA should consider changes to its noise policies, we are not acoustic engineers, nor do we have the modeling capacity to fully understand how changing metrics or algorithms would affect the size and shape of the current 65 DNL noise contour. As such, we do not know “the right answer” to exactly which metrics to use, nor the cost-benefit analysis of different iterations of those changes. Instead, we will mainly reflect the fact that we hear significant community concerns about aircraft noise and emissions from individuals both within and outside of the current contour, and so we want to share their feedback with you in hopes that it can guide your ultimate decision-making. In our June 27 meeting with you, facilitated by US Representative Adam Smith, you confirmed that this approach would be of value, and so we are pleased to be able to share these thoughts below.

1. Vehicle Type. When the FAA published the ANAP 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 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.

In July 2020, the Port and the six airport cities collaborated on a public comment letter regarding noise standards for supersonic aircraft. In particular, we stated that “...new aircraft should be held to a high standard for noise levels...[therefore] it is in the best interests of our community for the Federal Aviation Administration (FAA) to require that all newly manufactured airplanes, including supersonics, meet the existing Stage 5 noise standards in place for jet aircraft.”

As the airspace around airports becomes increasingly utilized by other aircraft beyond commercial jets, it will be increasingly important to maintain consistent standards of noise measurement. The collective experience of near-airport residents is what matters ultimately, more than the sources of the aircraft noise.

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.

The main FAA measurements of noise should be focused on aircraft takeoff and landing (as addressed in 2b below), with the caveat that we know the landing approach begins many miles away and, as such, we have addressed those concerns in 2c below. Combined, those two sub-answers represent the large majority of noise concerns expressed by our surrounding community. Of note, takeoff and landing concerns are particularly acute when they take place directly over residential and commercial areas at low altitudes, such as what the City of Burien experiences when aircraft immediately turn to the west after takeoff.

While takeoffs and landings are the main focus, reduction in ground noise is also a community priority, and something we have demonstrated earlier in this letter that can be implemented through voluntary partnerships with the FAA and airlines without major impacts on operational efficiency or safety. We encourage wider adoption of these measures – as well as increased federal funding to support their implementation – and we would welcome the opportunity to partner with you to engage other airports across the country in these efforts.

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.

Near-airport communities (those within the 65 DNL noise contour) experience the most aircraft noise – from overflights to ground noise. Their concerns include human health, quality of life, and the ability to conduct basic functions such as sleep, work, education (in a near-airport school) or prayer (in a near-airport place of worship). We hear particularly significant concerns regarding overnight noise, which can disrupt sleep. Relatedly, such concerns are exacerbated when overflights increase without significant

community notification, as it is often the change in overall noise volumes and frequency that is most notable to local residents; again, the City of Burien has raised this issue repeatedly, related to low-flying aircraft taking off over their community, leading them to file a lawsuit to address their concerns.¹

For those within the noise contour, the existing noise metric already allows for them to receive noise insulation, but many of them would emphasize that insulation does not address what they experience when outside their homes, such as working in their gardens or hosting an outdoor barbecue in their yards. In addition, even with noise insulation, late-night flights can be an ongoing focus of community concern.

The concerns of these individuals are difficult to address using noise metrics, although there are individuals located just outside the current 65 DNL contour who would qualify for sound insulation if overnight noise was even more heavily weighted in the current algorithm than it already is or if the decibel level of the DNL were lowered; we will address that point further in the next section.

One change – not directly related to metrics – that the FAA could make for these communities would be allowing for eligibility for homes with “failed” noise packages. We are increasingly hearing from members of the community who have received noise insulation but now feel like their federally funded enhancements are no longer providing the same level of protection. Currently, the FAA does not provide federal funding for a second sound insulation installation in homes with noise packages newer than 1993, but the increasing number of aging insulation treatments may require a reconsideration of this policy.

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

Using the definition of “overflight communities” as “communities located under the flight paths...that are distressed by aircraft noise *and are located outside of the DNL 65 dB contour*” (emphasis added), the concerns we hear most from these areas are similar to those we hear from near-airport communities (as listed directly above) – with the added frustration that current FAA policy does not allow them to receive noise insulation.

While the Port hears from individuals throughout the Puget Sound region about aircraft noise, there are three main groups that communicate their concerns most often:

- 1) Near-airport communities immediately outside the 65 DNL noise contour, especially those directly in the flight path;
- 2) Overflight communities further from the airport but located at a higher surface elevation such that the flight path is vertically closer to them despite their distance from the airport; and
- 3) Overflight communities further from the airport located under a concentrated, “NextGen” flight path.

Each of these concerns could be addressed by different changes to the noise metric. For example, the first category would benefit mainly from an expansion/lowering of the current DNL decibel level; in addition, as referenced directly above, a greater weighting of overnight noise would include some of these individuals into the 65 DNL contour. Another potential change would be “facility-specific” metrics

¹ See *City of Burien v. Elwell* 790 Fed.Appx. 857, 859 (9th Cir. 2019)

for some near-airport facilities – for example, a metric that would allow for sound insulation in schools because of the importance of quiet for learning.

The second group would benefit from additional inputs into the metric that more heavily weight topography into the Average Annual Day calculation. For those communities that are both physically elevated and also directly in the landing or take-off path, other inputs like frequency or concentration – including possibly the use of single event level measurements and/or equivalent sound level (LEQ).

Finally, the third group would benefit from frequency or concentration metrics; the FAA could consider using these metrics specifically for areas under NextGen concentrated flight paths.

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.

The potential incorporation of commercial space operations into near-airport communities is obviously a serious concern. The single event-level noise of just one space launch could potentially be significantly disruptive. In our first answer, we shared our belief that noise metrics should be consistent for any aircraft operations, given the overall net effect on the community. However, we believe that the FAA should determine that certain activities – such as an extremely loud space launch – are fundamentally incompatible with airports in dense, residential communities such as SEA, and should therefore be restricted to areas of the country that are better suited to accommodate these kinds of operations.

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.

See our answer to Question 1, above.

3. DNL. What views or comments do you have about the FAA's core decision-making metric, DNL? How would these views regarding DNL be resolved if the FAA employed another noise metric (either in addition to, or to replace DNL) or if the FAA calculated DNL differently? Please explain your reasoning.

As an airport located in a dense community, we hear often from local residents with noise concerns; SEA's Noise Program staff receive over 200,000 comments and complaints a year. Most of those individuals live outside of the 65 DNL noise contour, and so their interest in receiving federally funded noise insulation would require changes to the FAA's current noise standard.

We hear three concerns about the current DNL standard. First, for many people outside the 65 DNL noise contour, it is very difficult for them to understand why; the DNL's use of averaging and algorithms is confusing and opaque, creating confusion and resentment. Second, as mentioned in question 4 below, individuals often focus on real-time noise events, and so the idea of averaging noise exposure seems counter to their lived experience. Finally, some local residents believe that the DNL's algorithm does not properly weight key factors, particularly late-night noise, significant single event noises, overflight frequency, and the impacts of topography on noise exposure.

We fully appreciate that decisions about the FAA's use of metrics must balance at least three core issues: 1) whether noise insulation could make a difference in noise exposure at distances further from

the airport, 2) the potential fiscal impact of expanding the current noise contour, which would make additional buildings eligible for a limited pool of Airport Improvement Program dollars, and 3) being responsive to community concerns about noise annoyance.

As we stated at the beginning of this letter, it would be very difficult for us to provide an exact answer to this question, because we do not have the technology nor the expertise to fully understand the costs and benefits of various alternatives. For example, if the FAA transitioned to a 55 DNL with a higher penalty for evening noise plus a frequency/concentration metric and a different standard for near-airport schools, how many more people would be within the contour, and how many more buildings would be eligible for sound insulation?

Instead of answering this question directly, we want to reinforce our points above that the FAA should consider making decisions not necessarily on a “one-size-fits-all” basis. The use of a metric or metrics is important for consistency, clarity, predictability, but a single, continuous shape – such as the current 65 DNL noise standard creates – is not the only way to think about sound insulation eligibility.

That having been said, we want to be clear that our point about “whether noise insulation could actually make a difference in noise exposure at distances further from the airport” is incredibly important in your final decision-making – not only because you want limit your insulation investments to those that are impactful, but also because of the significant disappointment that would be created in communities that become eligible but find that their eligibility doesn’t actually address their concerns. So much of this conversation about changing metrics is really about whether or not a home or building will receive federally funded noise insulation that can meaningfully lower existing internal noise levels; if sound insulation can’t change the experience of that individual, then it is not right to create unrealistic hope and expectations.

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.

One comment we hear from community members is that “noise isn’t experienced in the aggregate”; and so, their answer would be a resounding “no.” For example, if an airplane wakes you in the middle of the night, it doesn’t make you feel any better that your annual average noise exposure is less than 65 decibels. Many local residents share stories of single event noise exposures that they find extremely disruptive, whether it be late-night noise or noise that they feel disrupts one of their daytime activities. Those individuals would strongly urge the use of metrics that better account for their lived experience.

That having been said, please see our comment immediately above that any changes to metrics should address the actual experience of those individuals; put another way, any changes to the noise metric should include areas where sound insulation will actually reduce noise exposure inside the building.

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?

Please see our response to Questions 2C and 3, above.

5. Decision-making Noise Metrics. The FAA currently uses DNL as its primary decision-making 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 decision-making?

Whatever noise metrics the FAA uses at the end of this noise policy review should be used for both sound insulation eligibility as well as NEPA and Part 150 compatibility planning studies. So, our answers above are the same for these questions. In Question 2C above, we speak to the potential for FAA to use different metrics for different locations and/or “facility uses.”

In the Puget Sound, the airport is located within a densely developed, multi-jurisdictional area near SEA and/or under flight paths, including areas where aircraft takeoff at low altitudes over communities. Changes to land use compatibility could potentially limit additional growth in louder areas around the airport, but those restrictions must be balanced against the significant population and economic growth that is driving the need for affordable, accessible real estate – both residential and otherwise.

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?

Please see our response our response to Question 2C, above.

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

Please see our response to Question 3, above.

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

Please see our response to Question 2C, above.

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

Please see our response to Question 3, above.

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.

Over the past five years, the FAA has clearly evolved its approach to community engagement. At SEA, the FAA has been a regular attendee of our StART meetings – including providing technical expertise and engagement in our Noise Working Group, which has resulted in some of the noise-reducing changes referenced above. The FAA has provided senior officials to present on key aircraft noise and emissions topics to StART, and recently hosted a group of Port and airport city leadership at the FAA headquarters in Washington, DC. We deeply appreciate this engagement.

However, there are clearly opportunities for improvement in community relations. First, it is particularly important for the FAA to communicate clearly and sufficiently when making operational changes that may increase overflights in certain communities; as referenced above using the example of the City of Burien, community concern over the number of low-altitude takeoffs over their city was, in part, due to the lack of notification and advance engagement by the FAA.

In addition, there are key communities in our region that feel the FAA has not been as responsive as they would like. In particular, two communities outside the 65 DNL contour – Beacon Hill and Vashon Island – have repeatedly requested meetings with the FAA, but not yet been able to receive an affirmative response. Our understanding is that a core factor in your decisions to decline additional community engagement opportunities is your internal staff capacity along with a concern about offering false hope to communities who are not eligible for any particular relief.

While we deeply appreciate the FAA’s focus on StART, we believe that there should be additional venues for communities outside the 65 DNL to engage with the FAA. Even for those ineligible for sound insulation, the opportunity to hear the basics of FAA noise policy as well as how flight paths are set and other related topics would be incredibly valued. If individual meetings with each community are not possible, then perhaps a once a year “regional noise summit” that would be open to all interested attendees could provide an efficient way to share information and answer questions. In general, FAA regional representatives and ombuds-persons should feel fully empowered to communicate directly and individually with community members, even if they cannot “solve their problems” so that people feel heard and respected about their concerns.

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.

See our response to Question 6A, above.

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.

See our response to Question 6A, above.

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

Airplanes make noise, and communities hear that noise. Improvements in aircraft technology and implementation of voluntary noise reduction initiatives like the ones listed above can help, but we know

that noise (and therefore community noise concerns) will never go away entirely. However, the success of StART is a perfect example of the benefits of engagement, communication, and collaboration – even if progress is only incremental. The FAA has come off as inaccessible and unresponsive to some communities, but our direct interactions through StART and on our recent DC trip have demonstrated that the FAA is staffed by public servants who are trying to balance a variety of needs and challenges while complying with existing federal law and regulation. Showing up, communicating more, and allowing people to express their concerns will have innumerable benefits in and of itself, that will facilitate progress and ease implementation of the FAA’s work.

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 Curve ⁽²⁹⁾), which historically provided a useful method for 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 thresholds ⁽³¹⁾ established using the DNL metric or to establish new FAA noise thresholds using other cumulative noise metrics? Please explain your reasoning.

The Port and the six cities around the airport submitted a joint comment letter in response to the Neighborhood Environmental Survey (NES) on March 12, 2021. Among our responses, we noted that the significant increase in reported annoyance outside the 65 DNL mirrors the dynamics that we have experienced in our own community, with exponential growth over the past 5-10 years in noise complaints received from local residents.

While the NES reflects a real and ongoing concern about overflight noise in the community, we also know that the increase in noise complaints submitted to SEA is in part due to the increasing technological ease with which community members can submit noise complaints, the increased ease with which communities can organize themselves (online and via social media) to coordinate noise complaints, and to changing social factors.

And so, we do not believe that anyone who expresses noise annoyance should be eligible for federally funded noise insulation. Instead, we suggest that the FAA balance the considerations outlined in our response to Question 3.

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.

Please see our responses to Question 2C and Question 3, above.

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 thresholds⁽³²⁾ 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.

As mentioned above, sleep disturbance is one of the concerns that we hear most about from our community, as well as impacts on activities like public school teaching (which is part of the “speech interference” mentioned in this question). Again, we will emphasize that – given the focus on how changes in noise metrics impact eligibility for federally-funded sound insulation – it is important that one of the FAA’s key decision-making drivers is whether increasing eligibility will actually reduce noise exposure in ways that would benefit near-airport communities.

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 thresholds⁽³³⁾ either using the DNL metric or another cumulative noise metric? Please explain your response.

In our March 2021 comment letter on the NES, we stated that “[i]t may very well be that the FAA already has all of the information needed to make noise policy decisions after completing the comprehensive literature review that we suggest above, in which case we encourage timely and decisive action on policymaking.” To that end, while we fully support additional and ongoing research in the ways listed in this question, we do not believe that such an investigation should preclude near-term action.

e. Should the FAA consider using factors other than annoyance to establish FAA noise thresholds⁽³⁴⁾ 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.

Please see our response to Question 7A, above.

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. Should the FAA consider employing new FAA noise thresholds⁽³⁵⁾ 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.

Please see our responses to Question 2C and Question 3, above.

9. FAA Noise Thresholds for Low-Frequency Events. Should FAA establish noise thresholds ⁽³⁶⁾ 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.

Please see our response to Question 2D, above.

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 thresholds, ⁽³⁷⁾ or FAA's method of communicating the change in noise exposure? Please explain your response.

We have tried to be comprehensive in our responses above, and so we hope that our input is sufficient to help inform your decision-making.

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 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.


Please see our response to Question 7D, above.

In conclusion, thank you again for the opportunity to share our response to this noise policy review. We look forward to continuing to work with you to ensure that the National Airspace System provides as much benefit as possible not only to users of the system but also those who live in proximity to airports and flight paths. Please do not hesitate to contact us if we can provide any additional details on our comments.

Yours truly,



Commissioner Sam Cho
President
Port of Seattle Commission



Mayor Jim Ferrell
City of Federal Way



Mayor Allan Ekberg
City of Tukwila



Carl Cole
City Manager
City of SeaTac



Adolfo Bailon
City Manager
City of Burien



Michael Matthias
City Manager
City of Des Moines



Amy Arrington
City Manager
City of Normandy Park



Lance Lyttle
Managing Director, Aviation Division
Port of Seattle/Seattle-Tacoma
International Airport