



# Federal Aviation Administration

## Memorandum

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Date: June 13, 2018

To: FAA Lines of Business and Managers with NEPA Responsibilities

From: Katherine Andrus, Manager, Environmental Policy and Operations, Office of Environment and Energy (AEE-400)

Subject: **Noise Screening Assessments**

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This Memorandum clarifies existing FAA policy and guidance on noise screening assessments and the appropriate use of noise screening tools and methodologies. This memorandum does not introduce new policy or impose any additional requirements for noise analyses.

### **Current Guidance**

FAA actions subject to the National Environmental Policy Act (NEPA) must be analyzed consistent with the policies and procedures set forth in FAA Order 1050.1F, which establishes a threshold of significance for noise impacts.<sup>1</sup> Appendix B of Order 1050.1F provides detailed guidance on analyzing noise impacts under NEPA and Section 4(f) of the Department of Transportation Act, including procedures for seeking approval to use an alternative noise model or method, or to modify standard or default data. Additional guidance, including a list of available noise screening tools and methods, is in the 1050.1F Desk Reference.

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<sup>1</sup> The threshold of significance for most situations is an increase of DNL 1.5 dB or more for a noise sensitive area 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. Order 1050.1F notes that special consideration needs to be given to the evaluation of the significance of noise impacts on noise sensitive areas within Section 4(f) properties (including, but not limited to, noise sensitive areas within national parks; national wildlife and waterfowl refuges; and historic sites, including traditional cultural properties) where the land use compatibility guidelines in 14 CFR part 150 are not relevant to the value, significance, and enjoyment of the area in question.

## **Uses and Limitations of Noise Screening**

The primary purpose of a noise screening assessment is to determine whether it is necessary to conduct a more detailed noise analysis. Noise screening results can indicate the appropriate level of environmental review; for example, noise screening can assess the potential for a significant noise impact under NEPA which might require an Environmental Assessment (EA) or Environmental Impact Statement (EIS) and can help to identify whether there are extraordinary circumstances that could preclude the use of a Categorical Exclusion (CATEX). If noise screening indicates that an action will likely cause significant noise impacts then a CATEX would not be appropriate. Similarly, if noise screening indicates there will be noise increases over historic resources then it might be necessary to consult with appropriate parties to assess whether the action could have an adverse effect. Noise screening results can provide support for a CATEX and also can inform decisions about other aspects of project planning and environmental review, such as the need for enhanced community involvement and locations for community outreach activities<sup>2</sup> or the scope of consultation under Section 106 of the National Historic Preservation Act,<sup>3</sup> although noise screening results are not the only factors to be considered in these determinations. Noise screening tools also can be useful at an early phase in project planning, when detailed information may not be available. A noise screening assessment enables the FAA to identify actions and areas that may require additional consideration.

Noise screening is not a substitute for more detailed analysis. Screening tools use simplified conservative assumptions for flight track and aircraft operations inputs to provide estimates of noise impacts resulting from a proposed action. Unlike a comprehensive modeling tool, which requires detailed and specific data inputs, a noise screening tool is optimized to take advantage of simplified inputs to produce results more quickly. Because they rely on conservative assumptions and simplified inputs, which by design tend to overstate the impact, the results of noise screening assessments may not accurately depict precise levels of projected noise exposure at specific locations.

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<sup>2</sup> See FAA, *Community Involvement Manual* (Feb. 2016).

<sup>3</sup> See FAA, *How to Assess the Effects of FAA Actions on Historic Properties under Section 106 of the National Historic Preservation Act* (June 2015).

Due to this inherent limitation in noise screening methodology, the FAA should not report noise levels at specific geographical locations based on screening assessments. Even though some screening tools are capable of producing noise values at individual grid point locations, these outputs do not have a level of fidelity that supports conclusions about levels of noise exposure at specific sites and should not be presented in public documents.<sup>4</sup> Tables and maps depicting areas of significant (i.e., a DNL 1.5 dB or greater increase for a noise sensitive area that is or would be within the DNL 65 dB ) and/or reportable noise (i.e., a 3 dB or greater increase within DNL 60-65 dB or a 5 dB or greater increase within DNL 45-60 dB) can be provided to inform the public generally where those changes in noise exposure may occur in relation to underlying land uses.<sup>5</sup>

Where more location-specific and precise information on projected noise levels is desired (for example, for some kinds of enhanced community involvement), or if the noise screening indicates potentially significant impacts, a detailed noise analysis should be conducted using an approved comprehensive modeling tool.<sup>6</sup> A comprehensive noise model produces higher fidelity results and provides a more in-depth analysis of potential noise impacts compared to a noise screening assessment.<sup>7</sup> A comprehensive noise model may also be needed when screening output is inconclusive or the action involves a large number of procedures or multiple locations that have to be analyzed simultaneously. The output of a comprehensive model can provide more accurate and specific data to the public and the decision-maker.

Conservative assumptions made for purposes of noise modeling differ from conservative assumptions for calculating emissions and fuel burn. Therefore, AEE has not approved any current noise screening tools for use in air quality analyses, and any emissions and fuel burn outputs from noise screening tools (e.g., TARGETS with the AEDT Plug-in) should not be relied on as indicators of an action's potential air quality impacts.<sup>8</sup>

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<sup>4</sup> The FAA may provide these data in response to a Freedom of Information Act (FOIA) request, along with an explanation of the limitations described above.

<sup>5</sup> For more information on depicting the results of noise modeling, see Appendix B of Order 1050.1F.

<sup>6</sup> The Aviation Environmental Design Tool (AEDT) is the currently-approved model for aircraft noise, fuel burn and emissions for FAA actions subject to NEPA.

<sup>7</sup> In general, the fidelity of a noise model – how closely it predicts the actual noise produced by an action – is dependent on a range of factors, including the level of detail and accuracy of the data inputs and assumptions.

<sup>8</sup> In nonattainment areas, actions included on the FAA's Presumed to Conform list (72 Fed. Reg. 41565 and 1050.1F Desk Reference, Appendix B) do not require any emissions modeling. For actions in attainment areas or that do not

## **Noise Screening Tools**

Noise screening can be done using reference data (e.g., spreadsheets and look-up tables) or a computer based modeling program. A list of available FAA screening tools is provided in the 1050.1F Desk Reference. Prior written approval from the Noise Division of the Office of Environment and Energy (AEE) is required for the use of noise screening tools or equivalent screening methodologies that are not listed in the 1050.1F Desk Reference.

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fall within the scope of the Presumed to Conform list, emissions must be calculated using an approved model or screening method.