



# Federal Aviation Administration

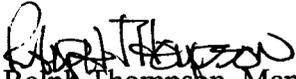
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## Memorandum

Date: JUL 28 2009

To: Regional Airports Division Managers

Cc: Regional Environmental Specialists

  
Ralph Thompson, Manager, Airport Planning and Environmental Division,  
APP-400

Subject: AEE and Airports Coordination Policy for Non-Standard Modeling Procedures  
and Methodology

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The Airport Planning and Environmental Division (APP-400) and the Office of Environment and Energy Noise Division (AEE-100) have approved new procedures (attached) that apply to Part 150 and environmental (EA and EIS) noise studies. The procedures apply to non-standard data inputs to the FAA Integrated Noise Model (INM), certain uses of supplemental noise metrics, and alternative noise methodologies.

The guidance is divided into two basic parts. The first part is the protocol for obtaining AEE approval of non-standard noise methodology. In brief, the airport consultant submits a documented request for FAA review through the FAA Region, which forwards to APP-400, which forwards to AEE-100. The transmittal of the AEE-100 decision works in reverse. The second part of the guidance involves a list of common analysis methods and whether they do or do not require AEE approval. The list provides greater clarification and consistency than before to prevent errors, save time, and improve our work.

We request that you distribute the attached procedures to all of your regional environmental specialists for their immediate use. Please direct any questions to Jake Plante of my staff. His number is 202-493-4875.

Attachment

AEE and Airports Coordination Policy  
for  
Non-Standard Modeling Procedures and Methodology

July 2, 2009

Environmental modeling and analysis is growing in scope and sophistication. New data collection and development tools are enhancing the power of environmental analysis, yet such benefits are challenging the Federal Aviation Administration's (FAA's) ability to maintain scientific standards, verify alternative methodologies, and assure accurate analyses.

This policy addresses noise study procedures involving the development of data inputs for the FAA Integrated Noise Model (INM) and the future Aviation Environmental Design Tool (AEDT). Airport consultants are required to request Office of Environment and Energy (AEE) approval to supplement or enhance INM standard data bases and approaches with "non-standard" data and techniques. Common requests for non-standard methodology include the construction of user-defined aircraft profiles based on local airport radar data, and modeling adjustments to capture the local effects of terrain and ground surfaces.

The purpose of this policy statement is to clarify current policy governing when AEE approval is required and how requests should be submitted. The goals are to ensure that all relevant parties are informed when the use of non-standard methodology is proposed and to improve the consistency and efficiency of review and approval procedures. This policy reflects the need to balance effective FAA oversight with an efficient system to provide this oversight.

The policy applies to all Federal environmental actions for airports. These actions include Part 150 Study Noise Exposure Maps and Noise Compatibility Programs, Environmental Impact Statements (EISs), and Environmental Assessments (EAs) using non-standard modeling procedures or methodology.

## **A. Procedures for AEE review of non-standard methodology.**

Analyses using non-standard methodologies, including revised modeling inputs, new analytical techniques, and alternative models, must be submitted to AEE for review and approval.

Approval for non-standard methods must be sought at the beginning of projects before noise modeling has begun to ensure timely response and to avoid project delays. Specific items that do or do not require AEE review and approval are discussed in Section B.

Below is a description of the required steps in AEE review and approval of non-standard supplemental analysis:

- 1) Initial communications between the project consultant (PC) and AEE to determine if the proposed supplemental analysis requires formal review by AEE. As part of this discussion, the PC should be prepared to explain the proposed airport project. The PC must coordinate this action with the FAA project manager (PM) in the Airports Region or Airports District Office (ADO), by inviting the PM to participate in the PC/AEE discussion or by briefing the PM on a timely basis after the discussion.
- 2) The PC must then submit the review package to APP-400, in coordination with the PM.

Information in the review package must be complete and presented in a clear manner. This information and the review process must be well-documented because it will be included as an appendix to an EA, EIS, or study report as part of the formal administrative record.

The format of the review package must conform to the detailed instructions in INM Appendix B for user-specified profile requests. Adherence to this format will ensure efficient AEE handling. If the analysis request does not involve aircraft profiles, the PC request package should be constructed and organized as efficiently as the Appendix B format.

- 3) Upon receiving the review package and checking it for completeness, APP-400 will forward the review package to AEE.
- 4) AEE will have a minimum of 3 weeks to conduct its review, provided the review package is complete and contains all essential information. During the review period, AEE may discuss the review package, gather more facts, and clarify the technical issues directly with the PC. Unless policy implications arise, AEE does not need to coordinate with APP-400 or the PM during this period other than providing emails on the status of its review, as appropriate.
- 5) AEE will prepare a letter addressed to the PM providing the decision on the review package.
- 6) AEE will forward the decision letter to APP-400 by email for concurrence.
- 7) APP-400 will convey this decision by email to the PM, who will provide it to the PC.

Questions about the above procedures should be addressed to APP-400, whether the questions pertain to the process or as applied to a specific project. Early and clear communications by the PC will reduce the chance of delay caused by an incomplete review package.

**B. Listing of common analysis methods and whether AEE review and approval is required.**

1 Analysis methods that are “standard” and *do not require* AEE review and approval

Use of A-weighted noise metrics that are described for possible use in FAA Order 1050.1E or *The Desk Reference for Airport Actions* that accompanies FAA Order 5050.4B: The supplemental noise metrics mentioned may be used without AEE review and approval if the study only reports the levels of these metrics. Some *general* discussion of potential secondary effects (e.g., sleep disturbance, classroom learning, low-frequency impacts) may

be appropriate. However, this discussion must not draw any specific conclusions about impacts or suggest that the findings are significant in any way if there are no approved FAA criteria and standards. Conversely, the discussion must include effective language about existing scientific uncertainties and the lack of FAA assessment methodology, impact criteria, and policy guidance in the area examined by supplemental metrics.

- Stage length determinations if one of the following factors is used for these determinations:
  - Trip length
  - Estimate of takeoff weights
  - Documented procedures based on SAE standards

Although the above methods do not require approval they should be well documented for the administrative record.

## 2. Analysis methods that are “non-standard” and *require* AEE review and approval

### *Sensitivity:*

- Any supplemental analysis that involves an impact area that is controversial or sensitive
- Any supplemental analysis that involves National Parks and other eligible 4(f)/303c properties

### *Supplemental noise metrics:*

- A-weighted metrics that are not listed in FAA Order 1050.1E or *The Desk Reference for Airport Actions* that accompanies FAA Order 5050.4B
- Any metrics which are not A-Weighted (e.g., Time Audible and frequency-based metrics, C-weighted metrics)

### *Aircraft profiles and substitutions:*

- New aircraft without approved AEE substitutions
- User-defined aircraft profiles: Consultants must submit non-standard profiles for review using Appendix B of INM Users Manual, including noise abatement procedures such as AC91-53A NADPs. This is consistent with the INM User Manual (p. 13 #2)
- Extension of standard profiles

Adjustments to standard touch-and-go (TGO) and circuit (CIR) profiles: if the steps taken on the profiles differ from those outlined in the INM User's Manual

Military aircraft profiles: Because no "standard" profiles exist for many military aircraft, the review by AEE will rely on the supporting data and justification to define military aircraft operations. The review submission must comply with the "FAA Profile Review Checklist", Appendix B, and Page 13 #2 of the INM Users Manual.

Helicopter operations that do not follow INM defined profiles and parameters

Radar-based or other methods not listed in Section 1 for adjusting stage lengths

*Interpretation of effects:*

- Supplemental analysis that is focused on a secondary effect(s) (e.g., sleep disturbance, health effects, classroom learning, low-frequency), especially where the discussion is detailed or impact methodology is proposed, regardless of the supplemental metric(s)

*New technical approaches:*

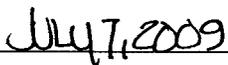
- New technical approaches and applications are involved (e.g., terrain shielding, adjustments to lateral attenuation, meteorological parameters, user-defined aircraft profiles)

*Alternative models and methodologies:*

Other models besides FAA required or preferred models that are proposed

 Robert C. Thompson, AEE-100

Signature

 July 7, 2009

Date

 Rafael Quijano AEE-100

Signature

 7 July 2009

Date