### Screening Tool Development Update

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March 18, 2020



## Noise Screening Tool Development Plan

- FY19 Noise Screening Methodology
  - Evaluate and document potential noise screening methodologies suitable for all FAA noise screening needs

#### • FY20 – Noise Screening Tool Validation

- Methodology Review and Tool Specification

### • FY21 – Noise Screening Tool Implementation

Noise screening tool implementation leveraging resources and data stored in the FAA EIM



### Noise Screening Methodology Update

- Methodologies must support FAA's current regulatory framework
  - Average Annual Day DNL 65dBA as the definition of significant noise
  - 1.5dB increase within DNL 65dBA as the definition of a significant noise impact under NEPA
- Disclosure of reportable impacts must be fully supported
  - 3dB increases between DNL 60dB and 65dB and 5dB increases between DNL 45dB and 60dB
  - Disclosure of reportable impacts will remain as directed under Order 1050.1
- Consideration of Number Above as a means to evaluate the effects of systematic noise dispersion on communities
  - Number above is an operational acoustic metric that measures the number of times an individual at a specific location experiences noise above a set level, (e.g., NA60 is the number of times a person would hear aircraft noise above an Lmax of 60 dB)
  - Number above is a fundamentally different metric than DNL



# **Agency Consistency**

- Better agency wide consistency in methodologies used for noise screening is needed
  - An updated holistic methodology will bring all FAA actions subject to NEPA noise screenings under a common platform
  - LOB specific use cases can still be supported, but would be updated to originate from a common methodological basis
- Ensure consistency with the latest updates in AEDT
  - Minimizes risk of discrepancies between noise screening and detailed noise analysis



## **Conservative Assumptions**

- The primary goal of a screening tool is to efficiently indicate the appropriate level of environmental review needed through use of validated conservative modeling assumptions
  - Must <u>conclusively</u> indicate whether a proposed action would result in environmental impacts
  - The modeling accuracy required is defined by the nature of the conservative screening assumptions used
  - Results may only be expressed to a level of detail corresponding to what is appropriate given the conservative assumptions used



# **Updated Screening Methodology**

#### • Pre-compiled parameterized noise results

- Generate simplified noise segment results parameterized by distance along flight track and distance to receptor
- Pre-compile a library of segment level results which can quickly be referenced to managed representative samples of flight track datasets to quickly assemble screening outcome results

### Case Study Validation

- Compare full fidelity AEDT outcomes with lower fidelity noise screening outputs to tune the methodology
- Validate and document that noise screening outcomes will be conservative in nature for desired NEPA assessment criteria



## **Implementation Framework**

- Federal Cloud Hosted Platform Will rely on the FAA EIM infrastructure to manage:
  - AEDT optimized Threaded Track Data
  - TARGETS procedure design details
  - Pre-compiled noise outcome data
  - Noise Screening Analytic
  - GIS based Visualization Platform (based on EVT)
  - Web-based user interface portal



# **Policy Need for Screening Tools**

- Under NEPA three levels of Environmental review can be required
  - Categorical Exclusion (CATEX)
  - Environmental Assessment (EA)
  - Environmental Impact Statement (EIS)
- A screening tool is often used to inform whether a CATEX is appropriate or whether an EA or EIS must be considered (using a comprehensive modeling tool)
  - CATEX determinations have traditionally been made internally, but have increasingly involved public input including some level of community outreach



### **Emerging Needs for Noise Screening**

- Supplemental Noise Evaluation
  - Areas of concern beyond DNL 65dB
  - Section 4F / Part 106 noise considerations
  - Conceptual Procedure Design
  - Reauthorization Section 175 (flight track dispersal)
- Potential New Policy Consideration
  - Assessment of Alternative NEPA impacts evaluation
  - Evaluate implications of achieving noise reduction relative to other factors (e.g., fuel burn)





#### Federal Aviation Administration Office of Environment and Energy

