



# **Overview of the FAA Program Guidance Letter (PGL) and Unified Acoustical Test Plan (UATP)**

## Agenda Topics

1. **Past SIP Eligibility Rules**
2. **Overview of FAA PGL**
3. **PGL Challenges**
4. **Unified Acoustical Test Plan**
5. **Program Transition Tasks**

# FAA AIP Handbook Chronology

31  
Years

- FARA Part 150 issued as interim regulation  
*January, 1981*
- AIP Handbook Order – 5100.38A  
*October, 1989 – April, 2002*
- Guidelines for Sound Insulation of Residences  
Exposed to Aircraft Operations  
*October, 1992*
- AIP Handbook Order – 5100.38B  
*May, 2002 – December, 2003*
- AIP Handbook Order – 5100.38B (Change 1)  
*January, 2004 – May, 2005*
- AIP Handbook Order – 5100.38C  
*June, 2005 – July, 2012*

# Past SIP Eligibility Assumptions

- The DNL65 NEM boundary defines properties that are considered non-compatible with aircraft noise.
- All homes located within the boundaries of the DNL65 NEM were eligible to receive sound insulation treatments in all rooms
- The goal of a sound insulation program design was to achieve:
  - a minimum noise reduction of 5 decibels
  - an average Interior DNL value of  $\leq 45$  decibels
- Random noise testing was performed only to assist in the design development process, ensuring that the noise reduction treatments would meet the 5 dB target.

# The FAA Changes Course

- On August 17, 2012, The FAA issued a Program Guidance Letter (PGL) that established a major change in Sound Insulation Program eligibility.
- The PGL established a new “2-Tier” Eligibility rule:
  1. Property must be located within the boundaries of a recently approved DNL65 Noise Exposure (NEM) boundary
  2. Property must have an Interior DNL value of 45 decibels or greater (with windows closed).
- For the first time in 31 years, a home located within a DNL65 NEM boundary (non-compatible) may not be eligible to receive Sound Insulation Program modifications.

# FAA PGL – Key Changes

1. 2-Tier Eligibility
2. Property eligibility will be determined by:
  - identifying “housing type” categories in “Phase”
  - select 10% sample of properties within each category
  - conducting noise tests of 10% sample
  - average noise data results from 10% sample
  - determine eligibility for all properties in category
3. Limitations on acoustical package treatments:
  - window and door replacements
  - attic and ceiling insulation
  - caulking & weather-stripping
  - central ventilation systems
4. Only habitable rooms will be eligible to receive acoustic treatments

## FAA PGL – Primary Revisions

5. In a given phase, the FAA will allow a Sponsor to provide “secondary package” to non-eligible homes to “achieve” neighborhood equity
  - caulking & weather-stripping
  - storm doors
  - central ventilation systems (if not present)
6. Funding for “secondary treatments” will be limited to only **10%** or **20 homes** in a given Phase
7. If the number of non-eligible homes is greater than 10% or 20 homes, the Sponsor will be required to utilize “**other, non-federal funding sources**” to provide “secondary treatments”
8. All Sound Insulation Programs must be in full compliance with PGL requirements by **09/30/15**



# FAA PGL Challenges

- Industry experts and Sponsors have deemed PGL “non-implementable”
- Properties who are defined as “non-compatible” by the DNL65 NEM, may not be eligible to be treated
- Reduction in overall acoustical treatments
- Only habitable rooms can be treated within a home
- Property eligibility will be determined by defining “property types” and limited (10%) noise testing
- This will result in a “checkerboard” mitigation pattern in neighborhoods, where only some properties will receive acoustic treatments





## FAA PGL Challenges (cont.)

- Properties deemed “ineligible” will most likely not be favorable to “secondary treatments”
- Since the number of non-eligible properties will most likely be greater than 10% or 20 homes, it will be difficult for Sponsors to identify “other” money sources to fund “secondary treatments”
- Neighborhood inequity & negative public relations
- Creates a noise mitigation “double standard” for “non-compatible” properties identified in the DNL65 NEM:
  - Acquisition/Relocation: 100% eligibility
  - Sound Insulation: limited eligibility

## PGL Challenges – Noise Testing

The utilization of field noise testing to determine Interior DNL levels and a property's eligibility is problematic:

- Eligibility & “hard line” disqualification process will be based on an imprecise methodology ( $\pm 2$  to 3 dB)
- Lack of laboratory control during the testing process
- Interior differences in homes will impact the noise testing process
- Increases the potential for challenges & lawsuits



# Unified Acoustical Test Plan (UATP)

- Developed in early 2013 by a working group consisting of industry consultants, acoustical engineers and community representatives that believed the PGL was “non-implementable”
- UATP Working Group’s primary goal was to develop a superior methodology to determine eligibility among properties within a DNL65 NEM that provided a higher level of:
  - noise testing accuracy
  - noise data averaging & calculation
  - property attention & fairness
  - consistency
  - defensibility



# Unified Acoustical Test Plan (UATP)

The UATP identifies 7 Tasks for each “Phase”:

1. Conduct Windshield Survey of “Phase” properties
2. Conduct Site Assessment of all Properties
3. Acoustical Testing (10 %- 30%) of each property type
4. Acoustical Modeling & Calibration of all Properties
5. Determination of Eligibility for all Properties
6. Design Development for Eligible Properties
7. Determination of Secondary Treatments

# UATP Advantages

- Site assessment of all “phase” properties
- 10% – 30% noise testing data will be utilized to calibrate noise model for each property type
- Computer modeling assessment of all properties
- Insures individual attention to all properties and insures “error factor” of field noise testing will be adjusted by calibration of noise model
- Increases property eligibility rates
- More defensible methodology will better protect Sponsors and reduce legal challenges

# PGL & UATP Transition

Only 22 months remaining until 09/30/15 deadline

## PGL Transition Steps

- Secure FAA AIP Grant Funding
- Public Communication
- Conduct Windshield Surveys
- Determine Property Type Categories
- Conduct 10% Noise Testing
- Determine Eligibility of Property Types
- Develop Design Documents
- Determine “Secondary Treatments”

## UATP Transition Steps

- Secure FAA AIP Grant Funding
- Public Communication
- Conduct Windshield Surveys
- Conduct Site Assessments
- Determine Property Category Types
- Conduct 10% – 30% Noise Testing
- Calibration of Acoustic Model
- Conduct Acoustic Modeling
- Determine Eligibility of Each Property
- Develop Design Documents
- Determine “Secondary Treatments”

# Questions ?

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