Update on Aircraft Noise

Presented to: ONCC

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Date: May 5, 2017

Today's Noise Challenges (1)

- Aircraft noise has evolved over time due to changes in aircraft and operations.
- New procedures and flight track concentrations with Performance Based Navigation (PBN) have raised additional concerns in some locales.
- Community noise concerns can also pose a significant delay to airport modernization.
- Reactions to noise vary; however, we are seeing greater concerns to lower level noise increases perceived as "significant."

Today's Noise Challenges (2)

- People are reacting more adversely to increases in noise at lower levels and concentrated frequency of overflights.
- There are increasing requests for noise abatement and mitigation from people in areas with noise levels well below levels deemed significant, where homes are considered compatible under federal guidelines.
- Adverse community reactions have engendered demands for new FAA noise methodology and a lower significant noise threshold, rollback of procedure changes, mitigation, operational restrictions, FAA regulations, litigation, and political action.

Areas of Focus

- **Noise Annoyance (DNL 65) Study on Community Noise Issues.**
- **Research to Accelerate Environmental Technologies into Aircraft.**
- **Operational Research to Assess Environmental Impacts from New Procedures.**
- **Community Involvement Guidance.**
- **New Noise Certification Standard for Aircraft**

Noise Annoyance Study

- A survey has been conducted that collected a total of over 10,000 individual responses from residents around 20 US airports.
- Respondents were asked to complete a mail survey on their level of annoyance to aircraft noise and other environmental factors.
- The survey has been completed and the related analysis should be available soon. FAA will determine what additional steps may be appropriate given the survey results and accompanying research.
- Internal FAA and USG interagency coordination will be conducted prior to commencing a public review and comment process.
- Public process is likely to start later this year or early next.
- Any decision to change aviation noise significance levels will most likely be in 2018.

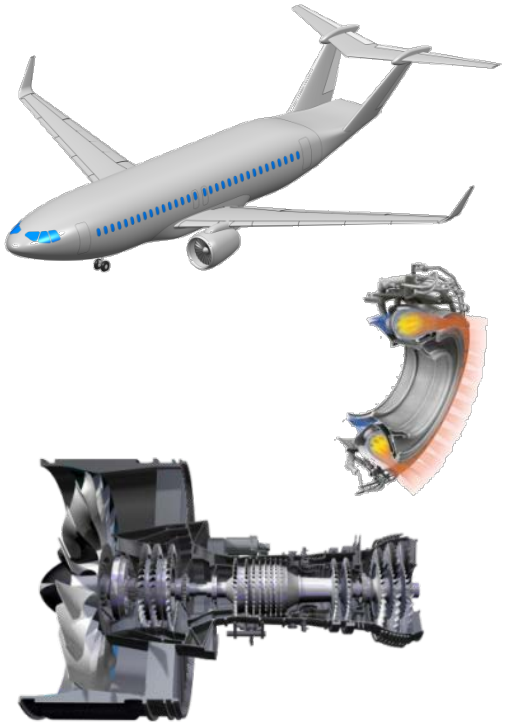
Technology and Operations Research

- Continuing to accelerate the development and introduction of new airframe and engine technologies under the Continuous Lower Energy Emissions and Noise Program (CLEEN); initiated the second phase of the program through 2020.
- Established a cooperative agreement with Massport and using MIT to explore operational opportunities to reduce aircraft noise; this work may result in a framework that can be applied to other airport locations.
- Working with MIT and other academia and industry stakeholders on additional initiatives to reduce noise through operational procedures.

Continuous Lower Energy, Emissions & Noise (CLEEN)

- Reducing fuel burn, emissions and noise via aircraft and engine technologies and alternative jet fuels
- Conducting ground and/or flight test demonstrations to accelerate maturation of certifiable aircraft and engine technologies
- FAA led public-private partnership with 50-50 cost share from industry

	CLEEN I	CLEEN II
Time Frame	2010-2015	2016-2020
FAA Budget	~$125M	~$100M
Noise Reduction Goal	32 dB cumulative noise reduction	32 dB cumulative noise reduction
NO_X Emissions Reduction Goal	60% landing/take-off NO_X emissions	75% landing/take-off NO_X emissions
Fuel Burn Goal	33% reduction	40% reduction
Entry into Service	2018	2026



Community Involvement Manual

- High-level policy document that highlights FAA's commitment to inform and involve the public and give meaningful consideration to community concerns.
- The Community Involvement Manual includes:
  - Good practices
  - Effective techniques; and
  - Community involvement considerations throughout the life cycle of an FAA project
- Applies FAA-wide
  - Lines of Business / Staff Offices may have guidance documents specific to their organization that supplement the Manual

Noise Certification Standard

- Rulemaking required for Stage 5, which applies to new airplane design on or after December 31, 2017 and December 31, 2020 depending on airplane takeoff weight.
- Sets a lower noise limit for newly certificated airplanes and harmonizes the U.S. noise certification standards with those certificated under international standards.
- The FAA published the Notice of Proposed Rulemaking for the Stage 5 rule in January 2016.
- The rulemaking has been finalized and is currently awaiting Administration review prior to publication.

Concluding Observations

- FAA recognizes despite significant progress in reducing aviation noise levels in the last few decades, there remain continuing challenges.
- There is no “silver bullet” in addressing aviation noise. We need to work on all levels ranging from quieter aircraft, to operational procedures, to insulation and compatible land use.
- We need to have engagement by all stakeholders- communities, airport authorities, operators, and the FAA.
- FAA remains committed to reducing the number of persons exposed to significant noise even while allowing the aviation system to grow.