Request for Information – DCA Airplane Noise

The District Department of Energy and Environment (DOEE) is requesting input on portions of a draft Statement of Work (SOW) to conduct a technical analysis of airplane noise impacts related to flight path changes at the Ronald Reagan Washington National Airport (DCA). Comments on the accuracy and relevancy of technical aspects of the work plan are welcome, as are suggestions on approaches to conducting a technical aviation-related study most effectively.

This document is a Request for Information (RFI) only – it is not being posted as an actual SOW at this time, nor does it constitute a Request for Proposal (RFP) or Request for Application (RFA) or a promise to issue a RFP or RFA in the future. Respondents are advised that DOEE will not pay for any information or administrative costs incurred in response to this RFI; all costs associated with responding to this RFI will be solely at the interested party's expense. Not responding to this RFI does not preclude participation in any future RFP or RFA.

RFI Questions and Response

Responses should be submitted via e-mail (preferred) or mail and be received by September 9, 2016, at 5:00 p.m. Questions are also welcome and should be directed to:

Email: jessica.daniels@dc.gov

Phone: 202-741-0862

Written Correspondence:
District Department of Energy and Environment
Attn: Jessica Daniels, Environmental Protection Specialist
Air Quality Division
1200 First Street NE, Fifth Floor
Washington, DC 20002

DOEE will provide a written response to all questions. Responses to potential questions will be posted on DOEE's website at: http://doee.dc.gov/service/public-notices-hearings

Project Name

DCA Airplane Noise Assessment

Summary

The Federal Aviation Administration (FAA) is implementing the Next Generation Air Transportation System (NextGen) to optimize airspace and aircraft arrival and departure procedures and routes. As a result, communities in the District of Columbia (District) have expressed concern about increased noise and traffic from airplanes that arrive and depart from the Ronald Reagan Washington National Airport (DCA).

The District is interested in obtaining rigorous independent analysis that will enable the District to identify and effectively argue for important mitigations to reduce aircraft noise impacts of NextGen implementation on District communities.

The objective is to conduct a technical study of past, present, and potential future aircraft noise for arriving and departing flights to and from DCA. This analysis will involve noise monitoring and modeling and will ultimately result in recommendations to reduce noise or mitigate impacts.

Project Description

The District may seek proposals from qualified organizations to analyze airplane noise monitoring data from the existing noise monitoring network in the District, model current noise exposure in all District communities impacted by NextGen implementation, perform modeling analysis to predict future noise scenarios based on NextGen implementation plans, and recommend solutions to remedy impacts.

Qualified candidates would propose methods of analysis that comply with FAA guidelines. Ideally, they would be very familiar with FAA-approved analysis methods and assessment tools and demonstrate expertise with FAA's Aviation Environmental Design Tool (AEDT). Explanations of the potential value of analyzing peak noise events using supplemental metrics are welcome.

Work Plan

Qualified applicants would be asked to describe how they would complete the following technical activities.

1. Analyze airplane noise data from the existing ground-based monitoring network in the District.
    - Evaluate actual noise level trends based on available noise monitoring data since 2006. Consider noise classifications and compare results pre- versus post-NextGen implementation based on various metrics: yearly Day-Night Average Sound Levels (DNL) using A-weighted decibels (dBA), peak noise levels (Lmin/Lmodal/Lmax),

number of noise events, and other supplemental metrics as deemed appropriate and available.
- Track the trend of arrival and departure flights before 7:00 am and after 10:00 pm since 2006.
- Compare trends to available noise complaint data since 2008.
- Verify that a statistically significant sampling of noise data from the existing noise monitoring network is reasonably accurate using noise monitors that are independently certified. If the existing noise monitoring network does not adequately represent aircraft noise exposure to impacted District communities, recommend and obtain prior approval from DOEE to conduct supplemental monitoring of highly representative conditions at suggested locations.
- Assess the extent to which changes in noise exposure levels are caused by changes in traffic counts by time of day and aircraft type and size (fleet mix) as well as operational characteristics such as runway use, flight route location and use, departure and arrival profiles (*e.g.*, altitudes), and other controllable factors.

2. Model current noise exposures in all District communities impacted by NextGen implementation and forecast noise scenarios based on NextGen implementation plans through year 2026.
   - Produce noise exposure contour maps (NEMs) for DNL 45 through 75 as well as supplemental metrics (*e.g.*, peak noise levels or the number of aircraft-related noise events above 50 dB, 60 dB, and 70 dB), as deemed appropriate. Include an assessment of impacts that are directly attributable to the shift from National 328 departure route to the LAZIR departure route (*e.g.*, for the years 2006 to 2016).
   - Validate modeled baseline estimates using monitored data.
   - Estimate the number of people affected by changes in airplane noise by land use type due to NextGen implementation.
   - Review prior FAA and MWAA DNL calculations and assess previous modeling assumptions. Perform an updated noise impact assessment as deemed appropriate.
   - Project noise levels based on current actual DCA operations as well as planned NextGen technology penetration phases through 2026.

3. Recommend noise mitigation and abatement measures that are respectful of FAA safety, fuel cost, emissions, and efficiency concerns.
   - Identify potential routes for "north flow" and "south flow" operations that consider interference with flight paths of Washington Dulles International Airport (IAD) and Baltimore/Washington International Thurgood Marshall Airport (BWI), military installations, P56 areas, and other complicating factors as appropriate.
   - Evaluate trends in the use of DCA, IAD, and BWI by aircraft since 2006, and identify factors that have led to changes in traffic at DCA.
   - Recommend additional noise mitigation and abatement measures.

The applicant may submit alternative concepts and methods to achieve the purpose of this project.