



MSP NOISE OVERSIGHT COMMITTEE
MEETING MINUTES
Wednesday, November 15, 2023, at 1:30 PM
MAC General Offices
6040 28th Avenue South
Minneapolis, MN 55450



Call to Order

A regularly scheduled meeting of the Minneapolis, Saint Paul International Airport (MSP) Noise Oversight Committee, (NOC) having been duly called, was held Wednesday, November 15, 2023, at the Metropolitan Airports Commission (MAC), General Offices, Legends conference room, a videoconference option was also provided. **Chair Hart** called the meeting to order at 1:30 p.m. The following participated in the meeting:

Representatives: S. Alig, C. Arnold, J. Hart, B. Hoffman, C. Jacobson, P. Martin, A. Moos, L. Olson, J. Otzen, C. Swanson

Staff: Y. Bizen, R. Fuhrmann, B. Juffer, J. Lewis, K. Martin, P. Mosites, D. Nelson, N. Pesky, M. Ross

Others: G. Albjerg – HNTB, N. Benson – Jet, P. Buckley – Delta, S. Fortier – FAA, K. Gallatin, J. Hays, F. Hetman – Mon-Ray, Inc., T. Lattimer, C. Morris, S. Morris, N. Rao – FAA, K. Regotti – FAA, J. Risser – City of Edina, M. Thissen, J. Widing, A. Williams – FAA, Y. Xu – HNTB, C. Vassegni – Mon-Ray, Inc., and others

A quorum of at least four Community and four Industry Representatives was established.

Community Representatives: Alig, Hoffman, Jacobson, Martin, Olson

Industry Representatives: Arnold, Hart, Moos, Otzen

1. Consent

1.1. Approval of September 20, 2023, Meeting Minutes

There were no questions.

1.2. Reports

1.2.1. Monthly Operations Report: September, and October 2023

Michele Ross, Technical Advisor, provided the following September / October operations updates prefacing that each month, the MAC reports information on MSP aircraft operations, aircraft noise complaints, sound levels associated with MSP aircraft operations, and compliance with established noise abatement procedures on its interactive reporting website:

<https://customers.macnoms.com/reports>

September	October
• Total Operations: 26,757	• Total Operations: 28,327
• Nighttime Operations: 1,660	• Nighttime Operations: 1,851

- North/South/Mixed: 18/71/8 (%)
- RUS (Priority 1/2/3/4):29/24/0/47 (%)
- RJ/Narrow/Wide: 26/70/4 (%)
- Complaints: 12,147
- Complaint locations: 328
- Top 10 Households: 55%
- Hours of events*: 386
- Number of events*: 78,012
- R17 procedure: 99.5%
- EMH Corridor procedure: 95%
- Crossing procedure day: 29.7%
- Crossing procedure night: 48.8%
- RUS: 52.9%
- North/South/Mixed: 42/37/12 (%)
- RUS(Priority1/2/3/4): 40/14/0/46(%)
- RJ/Narrow/Wide: 25/72/3 (%)
- Complaints: 10,276
- Complaint locations: 262
- Top 10 Households: 61%
- Hours of events*: 444
- Number of events*: 84,596
- R17 procedure: 99.2%
- EMH Corridor procedure: 87.6%
- Crossing procedure day: 25.6%
- Crossing procedure night: 42.6%
- RUS: 53.6%

* Aircraft sound events above 65dB.

1.2.2 Review of Fall Listening Session

The Fall Listening Session review was provided in the meeting packet and was not presented at this meeting though **Chair Hart** offered to take questions. There were no questions.

1.2.3 Review of Residential Noise Mitigation Program Implementation Status

The Residential Noise Mitigation review was provided in the meeting packet and was not presented at this meeting though **Chair Hart** offered to take questions. There were no questions.

Questions / Comments:

Member Olson requested that the density map be added into future presentations.

2. Public Comment Period

There were no public comments.

3. Business

3.1. Resolution Honoring Co-Chair Jeff Hart

Michele Ross, Technical Advisor, read NOC resolution #01-2023, honoring Co Chair Jeff Hart's 13 years of service on the NOC Committee representing MSP Airport Users. Co-Chair Hart has served the longest tenure as a Co-Chair in the NOC's history. The resolution also honored Co-Chair Hart's 44 years of service at Delta Air Lines (formerly Northwest, and Northwest Orient) as a General Manager for Customer Relations.

Action Requested:

ADOPT RESOLUTION #01-2023 HONORING CO-CHAIR JEFF HART FOR HIS DEDICATED SERVICE TO THE MINNEAPOLIS, ST PAUL INTERNATIONAL AIRPORT NOISE COMMUNITY.

Member Jacobson moved to approve the motion. The motion was seconded by **Member Olson**. The motion passed unanimously via a voice vote.

3.2 Review and Approval of the 2023 NOC Accomplishments, 2024 NOC Work Plan, 2024 NOC Meeting Dates

Michele Ross, Technical Advisor, spoke about the 2023 NOC Accomplishments listed in the presentation, and in the agenda packet, as representative of the work that the Committee had undertaken in the past year.

Ross thanked the Committee members on behalf of MAC staff, for volunteering their time and talent over the past year.

Ross went on to speak about the 2024 Draft NOC work plan, noting that since the plan was presented last September, item G was added regarding MSP construction updates.

The 2024 meeting dates were also presented to the Committee:

- January 17, 2024, at 1:30 PM
- March 20, 2024, at 1:30 PM
- May 15, 2024, at 1:30 PM
- July 17, 2024, at 1:30 PM
- September 18, 2024, at 1:30 PM
- November 20, 2024, at 1:30 PM

Questions / Comments: There were no questions or comments.

Action Requested:

APPROVE AND RECOMMEND TO THE MAC PLANNING, DEVELOPMENT, AND ENVIRONMENT COMMITTEE APPROVAL OF THE 2023 MSP NOC WORK PLAN AND THE 2024 MEETING DATES.

Member Hoffman moved to approve the motion, seconded by **Member Jacobson**. The motion passed unanimously via a voice vote.

The 2023 NOC Accomplishments, 2024 NOC Work Plan, and the 2024 Proposed NOC Meeting Times, will move forward to be presented by the NOC's Co-Chairs at the MAC's Planning Development and Environment meeting, December 4, 2023.

4. Information

4.1. Reduce Thrust Modeling Update

Michele Ross, Technical Advisor, began by stating that the MAC has undertaken a Reduced Thrust Modeling Project in order to quantify the noise environment more accurately around the MSP airport by refining model inputs pertaining to airline operational practices. The MAC's contractor, HNTB, prepares the annual noise contour report for MSP, and develops the custom profiles for FAA's Aviation Environmental Design Tool (AEDT).

Yue Xu, HNTB, provided a status update on the project stating that AEDT is the FAA's standard tool used to analyze aviation noise, air quality and fuel burn. The AEDT database has a wide range of noise signatures and aircraft performance profiles for commercial, general aviation,

and military aircraft. The AEDT profiles represent how aircraft take off and land at airports. MSP has used AEDT to model the MSP Annual Noise Contour Report since 2016.

AEDT has two types of aircraft performance inputs/profiles, standard and nonstandard. Standard profiles are those that are included as a default in AEDT, and nonstandard profiles are custom built and can more accurately represent how aircraft perform at a specific airports. Nonstandard inputs into AEDT require the FAA's concurrence if it is a part of a federal environmental project.

HNTB developed some custom departure profiles at MSP in 2011, 2014, and 2018. These nonstandard inputs were approved by the FAA at the time of inclusion and were used in the MSP Annual Noise Contour Project. Historically, operations with custom profiles account for more than half of the departures at MSP, usually 60 to 70 percent. All custom profiles developed in the past were noise abatement departure procedure profiles, widely utilized by airlines at MSP.

The Reduce Thrust Modeling Project is not a federal project, but an informal review of the custom profiles to ensure that the model is as technically sound as possible. This project will use the AEDT new modeling capabilities to model reduced thrust profiles, also known as derated thrust profiles, and combine them with the AEDT profiles developed for MSP in the past.

AEDT standard profiles assume aircraft depart airports with full thrust. At MSP, most airlines do not use full thrust at departure, so this project's objective is to capture this behavior and model aircraft's derated departure accurately at MSP.

A case study and white paper were put together in 2020 using the 2019 annual noise contour. The difference between the 2019 actual noise contour with the standard Boeing 737-800 AEDT profile and the 2019 noise contour using a reduced thrust profile for the 737-800. The contour with the custom profile is slightly smaller than the one with the standard profile, and it also shows the majority of the benefits appear to be near the airport.

The project methodology included a fleet evaluation of the most commonly flown aircraft at MSP, along with identification of the aircraft types with the highest noise signature. 2022 data from aircraft and airlines with the highest cumulative noise levels were used. Additionally the potential for aircraft retirement and replacement were also considered. Next, coordination with the airlines at MSP was undertaken to request derated thrust percentage data, operational performance information and departure procedures. Based on the information received from the airlines, a series of custom profiles were developed that incorporated both derated thrust departures and AEDT standard procedures. The custom profiles were then sent to the participating airlines for their review and verification. Once feedback from the airlines has been received, any necessary changes will be made and then submitted to the FAA for review. The last step of the project is to evaluate the potential noise impacts on the MSP annual noise contour.

The standard profiles show that aircraft using full thrust take off faster, while the derated AEDT aircraft lift off slower.

In the coordination letter to the airlines, other comparisons were made which include conventions such as flap settings and speed. To date, full duration data has been received from three airlines. The data received shows 20 percent of operations use 5 percent reduction during departure, 75 percent operations use 10 percent reduction and 5 percent use operations use 15 percent reduction. These numbers may change. Custom profiles were built based on the data and were sent to the airlines for review and verification, that is where the project is to date.

Next steps will be to address any comments that airlines may have, then finalize the custom profiles, and send them to the FAA for their technical review and concurrence. The last step of the project is to evaluate any potential impacts of the custom profiles on the MSP annual noise contour project.

Ms. Ross mentioned that it is anticipated that the Co-Chairs may request that the NOC is briefed further regarding the project at a future meeting prior to application to any future contours.

Questions / Comments:

Member Olson asked if the project objective was whether the departure profile could be changed in order to increase altitude? She also asked what the objective of the project is and asked if Mr. Xu could go over the graph showing altitude compared to nautical miles and what the benefit is to be gained from this work?

Ms. Ross answered that the project objective is to model the noise environment more precisely around MSP. She stated that the airline's actual procedures will not be impacted, and rather that the objective was to gather data to identify how aircraft are actually departing from the airport and to better model that information. From the white paper case study mentioned, there is some evidence that using reduced thrust results could reduce noise impacts to communities. The question is if aircraft are operating using reduced thrust – can that be incorporated into MSP's annual contour model.

Member Olson asked clarifying questions regarding the graphics provided.

Ms. Ross stated that the project is not yet complete, so it is too early to share specific information regarding specific airlines and aircraft types without having received all airline feedback. This presentation is meant to be more of an overview and does not provide specific information about each aircraft type or profile.

Member Hoffman asked if a reduced thrust takeoff policy was airline driven or is it dependent on aircraft specifications and other factors.

Member Arnold offered that she could not speak for other airline companies but usually reduced thrust take-offs saves wear and tear on the airplane engine. Typically, the amount of thrust used on takeoff is based on factors like aircraft weight, if the runway is wet, runway length, obstacles, etc. Endeavor pilots always assume a reduced thrust take off when safely possible.

Member Olson asked if the purpose of the study was to reflect the reality of current operations at MSP; specifically, aircraft taking off at lower altitudes using reduced thrust, versus taking off at higher altitudes using full thrust. The current AEDT modeling assumptions do not account for aircraft using reduced thrust and can that be captured in future modeling.

Mr. Xu stated that regarding the current model for the contour, there are two sides to the equation; when aircraft fly lower with reduced thrust, they produce less noise, so they may offset each other. He went on to say that the case study conducted in 2020 showed some noise reductions with reduced thrust, especially in areas closer to the airport.

Co-Chair Hart asked if there is a connection between the Reduced Thrust Modeling study and the FAA VOR-MON project.

Ms. Ross stated that there is no current connection between the two projects. The reduced thrust project was undertaken prior to FAA's procedure development project as a part of the VOR MON decommissioning. However, when those procedures are established at MSP a reevaluation will need to take place in order to reassess the model inputs that go into AEDT to determine if they continue to be appropriate. It may require reaching back out to airlines to get additional feedback regarding operational procedures moving forward.

Member Arnold said that pilots receive specific flight information about which flight took off on which day and how much thrust was used, but she said that she was not sure if that data can be pulled and used as real data within the model.

Miss Ross said that to date coordination with airlines has been primarily with their standard operating procedures. The model uses an average annual day and overall average operational conditions. **Ms. Ross** went on to say that if there is more data available there would be a definite interest in it.

Member Swanson said that he is interested in how the study results might be used to quantify any reduction in noise impact on our communities.

5. Announcements

MAC Planning Development & Environment

Monday, December 4th, 10:30am

Location: Terminal 1, MAC Commission Chambers

January NOC Meeting

Wednesday, January 17, 2024 @ 1:30 pm

Location: MAC General Offices, Legends conference room + Teams

NOC Winter Listening Session

Wednesday, January 24, 2024 @ 6:00 pm

Location: MAC General Offices + Teams

6. Adjourn

Chair Hart thanked the members of the Committee, NOC staff, and residents in attendance. The meeting was adjourned at 2:20 pm.