



SEA-TAC STAKEHOLDER ADVISORY ROUND TABLE

StART FACILITATOR'S MEETING SUMMARY

Monday October 14, 2019

5:30 – 7:30, Conference Center SeaTac Airport

Attendee	Interest Represented
Eric Zimmerman	Normandy Park
Mark Hoppen (phone)	Normandy Park
Tom Fagerstrom	Port of Seattle
Marco Milanese	Port of Seattle
Lance Lyttle	Port of Seattle
Steve Osterdahl	Alaska Airlines
Vince Mestre	L&B
Steve Alverson (phone)	ESA

Facilitator: Phyllis Shulman, Civic Alchemy

Note Taker: Megan King, Floyd Snider

Meeting Objectives

To provide updates on actions in the Rolling Work Plan. To discuss preliminary outcomes of the finalized Runway Use Plan and 3rd quarter results from the Late Night Noise Limitation Program. To provide an update and discuss elements of the Noise Abatement Departure Profile Analysis.

Meeting Summary

Updates on Implementation on Draft Rolling Work Plan

Marco Milanese, Port of Seattle

- Ground noise analysis: The consultant is on-board, and will be at the October 23 StART meeting to review the scope of the analysis and solicit feedback and input from StART's membership.
- A320 whistle noise: The Port has sent out a 2nd round of letters to airlines requesting information about their plan to retrofit aircraft to minimize the noise. Recently, Air Canada responded with their plan for retrofitting and Alaska Airlines has responded that they will provide their plan shortly.
- The newly appointed FAA community liaison will be at the October 23 StART meeting to introduce himself.

Runway Use Plan Finalization & Preliminary Outcomes

Tom Fagerstrom, Port of Seattle

- The agreement was signed, effective September 4, 2019.

- Prior to the updated agreement, the Port observed an average of 36% of late-night flights (12 AM to 5 AM) landing on the 3rd Runway. This equates to an average of about ten flights/night with some nights as frequent as 20-30 flights.
- Since the effective date of the new agreement, approximately 10% of late-night flights landed on the 3rd Runway, an average of less than two flights per night. On 13 late-nights, there were no landings on the 3rd runway. The highest frequency of 3rd runway late-night landings was on 10/7, with ten flights.
- The 3rd Runway will still occasionally be used during the late-night hours, primarily when maintenance work is occurring on the other two runways. Inclement weather may also require use of the 3rd Runway.
- The Port will monitor, and coordinate with the FAA to track compliance with the agreement.
- Data is reviewed daily. Airport Operation's staff communicates when they anticipate maintenance activities that may put flights onto 3rd Runway during the late-night hours.

StART participant thanked the group and commented that this is a substantial change for the good. It was recommended that the Port share the data about the change in 3rd Runway use with the local communities.

Late Night Noise Limitation Program: 3rd Quarter Results

Tom Fagerstrom, Port of Seattle

Fagerstrom reviewed the Program's 3rd quarter results for 2019, the program's inaugural quarter. Highlights included:

- EVA Airlines had 85 flights that exceed an established noise threshold, accounting for 71% of their total late-night operations.
- FedEx Express had 57 flights exceed an established noise threshold, accounting for 67% of their total late-night operations. Almost all are arrivals using the same airplane model— an MD11.
- China Airlines Cargo had 31 flights exceeding an established noise threshold, accounting for 89% of their total late-night operations.

Fagerstrom shared that there were some unexpected results. American Airlines had five late-night flights that exceeded an established noise threshold, all on the same on A321 flight to Dallas. Alaska Airlines had two exceedances out of 976 late-night flights, less than 1% of operation. Delta had zero exceedances. Each airline will be contacted, and the airline rankings will be posted online. The data will include details about the date, time, aircraft, etc. for each late-night exceedance. Online data will also show all airlines that had operations during the late-night hours, but did not exceed thresholds.

Quarterly data also included overall information including:

- 3,874 operations during the late-night hours (12 AM to 5 AM)
- 239 exceeded noise thresholds, 6% of total late-night operations
- 62% of exceedances were cargo operators

Next steps will include the release of the full quarterly report in a week or so, review of results at the October 23 StART meeting, letters to all air carriers with the results, and in-person meetings between the air carriers with the most late night noise exceedances and the Airport Managing Director. A StART participant stated that these results provide new concrete data points that can inform conversations with the airlines and the community.

Noise Abatement Departure Profile Analysis Update

Steve Alverson, ESA

ESA was contracted to conduct the Noise Abatement Departure Profile (NADP) analysis. This analysis was conducted to determine the NADPs in use at Sea-Tac and provide recommendations for which profile offered the community the greatest overall noise benefit. ESA surveyed five airlines operating 737-800s. These aircraft are the most prevalent aircraft type of flights operating at Sea-Tac. The analysis was based upon existing NADPs normalized to Stage Length 4 conditions, and aircraft noise was modeled using the Aviation Environmental Design Tool (AEDT). The analysis compared sound exposure level contours (SEL) for the close in and distant NADPs for 4 runway ends (16L, 16C, 34R, 34C).

Alverson provided a short review of concepts relevant to understanding the analysis:

- NADP1 – The Close-in NADP, provides noise reduction for noise sensitive areas near the departure end of the runway. Thrust cutback initiated prior to initiation of flaps/slats retraction. This is the standard departure internationally.
- NADP2 – The Distant NADP, is intended to provide noise reduction for areas farther downstream. Thrust cutback is initiated after flap/slat retraction. Climb power may be reduced at 800 feet above field elevation. This is the standard departure in the US.
- Reduction of noise in one area results in an increase in noise in another area.
- NADPs vary according to airline, based on Standard Operating Procedures, flight optimization, and software utilized. They also vary due to aircraft and engine type.

Alverson discussed how the analysis was done and preliminary findings of the analysis. This included:

- Modeling: Used AEDT Version 2d.
- Used 737-800 due to the prevalence of use throughout the domestic fleet, prevalence at Sea-Tac, and robust Sound Exposure Level (SEL) footprint.
- Surveyed Alaska, American, Delta, Southwest, and United. All are using distant profile, except Delta. However, further discussions are being held with Delta to clarify their NADP.
- In the model, "Stage Length" is used to show variability in weight of aircraft. For the model, ESA used Stage Length 4 to ensure consistent analysis.
- Analysis showed that the Close-in SEL contours fall primarily within the Port mitigation areas, the Distant SEL contours do not.
- Census information was utilized to count people within census areas for both the 80 and 90 dBA SEL contours. Results showed that the Distant NADP encompasses 3,111 to 26,353 fewer people than the Close-in NADP depending on the runway used.
- ESA recommends the greatest benefit in noise reduction to the most people would be to utilize the Distant NADP – NADP2.

Discussion and questions included:

- Is the recommendation for Delta or other Close-in NADP airlines to change to a distant procedure? Is there anything that can be done by the airlines already flying the Distant NADP?
 - *Response:* There is still conversations to be held with Delta to clarify which NADP they actually use at Sea-Tac. It will be helpful to continue conversations with airlines that already fly Distant NADP to confirm that they are actually utilizing a Distant NADP.
- Are airlines required to pick one, or the other type of NADP?
 - *Response:* Airlines can select an NADP by runway end or by aircraft type. If an airline makes a modification to their NADP, then this modification to their NADP must be applied to any airport where that NADP is used.
- Is this a big ask, to ask airlines to use a Distant NADP?
 - *Response:* There is a fuel-reduction benefit for an airline to utilize a Distant NADP. It does require revision of procedures and manuals, but no reprogramming of flight computers.
- What is the process for airlines to make this change?
 - *Response:* FAA has an Advisory Circular that states that an airport can make a request to an airline to use a specific NADP, but the airlines are not required to adopt it.
- What are next steps for the analysis? Is it necessary to analyze all aircraft types?
 - *Response:* The work that has been done is a good indication of what results would look like for all aircraft types. We would not expect a big difference for other aircraft. The Distant NADP will continue to be the preferred NADP, given the noise sensitive areas north and south of the airport. It is not a simple task to ask airlines to change to a Distant NADP, but it is worth considering particularly when you factor in the fuel cost savings.

Vince Mestre recommended that it could be helpful to talk to the two main aircraft manufacturers for input on the benefits of fuel optimization for Distant NADPs and possibly asking if they can engage with airlines they work with on this topic.

Facilitator's Wrap Up

Phyllis Shulman, Facilitator

Shulman reminded the Working Group to be recommending whether there are additional topics/action items for the Aviation Noise Working Group to consider. This question will be on the agenda at future meetings to solicit any new topics the group may wish to pursue.

Future Meeting Date/Times:

NOTE: The next meeting will be held on November 18, 2019, 5:30-7:30, Seattle-Tacoma International, Airport Office Building Room 4A. The previous scheduled date of November 11 will be canceled as it falls on Veteran's Day.