

RECORD OF APPROVAL

FEDERAL AVIATION REGULATION PART 150 NOISE COMPATIBILITY PROGRAM KING COUNTY INTERNATIONAL AIRPORT/BOEING FIELD SEATTLE, WASHINGTON

INTRODUCTION

The Noise Compatibility Plan (NCP) for King County International Airport/Boeing Field (BFI) includes measures to abate aircraft noise, control land development, mitigate the impact of noise on non-compatible land uses, and implement and update the program. Federal Aviation Regulation (FAR) Part 150 requires that the plan apply to a period of no less than five years into the future, although it may apply to a longer period if the sponsor so desires. The airport sponsor has requested that the program measures be applied to the forecast five-year conditions noise exposure map (NEM) because it provides various options for the largest number of people. That NEM includes the assumption the airport master plan will be adopted with the proposed runway shift implemented (page S.9, Figure S.3 at page S.11). The original Part 150 study was completed in 2002, but due to the effects of the September 11, 2001 crisis, portions of the original document needed updating, including forecasts, land use analysis, NEMs, and recommendations. The supplement to the original Part 150 study was submitted to the FAA in October 2004. It is the supplement that includes this new data, and revises the airport sponsor's recommendations.

The objective of the noise compatibility planning process has been to improve the compatibility between aircraft operations and noise-sensitive land uses in the area, while allowing the airport to continue to serve its role in the community, state, and Nation. The approval actions listed herein include all those that the airport sponsor recommends be taken by the Federal Aviation Administration (FAA). It should be noted that the approvals indicate only that the actions would, if implemented, be consistent with the purposes of Part 150. These approvals do not constitute decisions to implement the actions. Subsequent decisions concerning possible implementation of these actions may be subject to applicable environmental procedures or aeronautical study or other requirements.

The program elements below summarize as closely as possible the airport operator's recommendations in the NCP and are cross-referenced to the program. The statements contained within the summarized program elements and before the indicated FAA approval, disapproval, or other determination, do not represent the opinions or decisions of the FAA.

PROGRAM ELEMENTS

Recommendation 1. Develop Combined Noise Contours with Seattle Tacoma International Airport This action is to develop a set of combined noise contours for BFI and Seattle-Tacoma International Airport in order to identify residents affected by the combined noise. (Page S.13, pages G.1 through G.5, pages H.3 through H.5)

FAA Determination: No Action Required. The airport sponsor initially proposed to prepare supplemental graphic(s) depicting the DNL 65 dB contour resulting from combined airport noise from both King County Airport (BFI) and Seattle Tacoma International Airport (SEA). Ultimately the airport sponsor submitted a noise compatibility program based solely on the BFI noise contours. The NCP recommendation states, "This action has been completed."

This is first time in the history of Part 150 that an airport sponsor has presented combined airport noise contours reflecting its operations and those of an adjacent airport, and the first time an airport sponsor considered including mitigation for combined airport noise contours in an NCP. Although the airport sponsor did not pursue NCP mitigation based on the combined noise contours, the FAA intends to review the underlying issues, including what procedures might be needed for a joint sponsor preparation and submittal of NEMs and the NCP.

Recommendation 2. Airport is to work with appropriate Federal Agencies, Local Jurisdictions, Tenants, and Community to Implement a Public [sic] Instrument Approach Procedure over Elliott Bay to Avoid Over Flight of Residential Areas The proposed published instrument approach would include an Elliott Bay ground track to avoid over flights of residential areas. The measure includes a recommendation that FAA aggressively pursue new technology to implement a procedure that would route approaching aircraft over the water. The procedure would not have an effect on the size of the 65 DNL contour, but would provide substantial relief from single-event flyovers to these residential areas. (Pages S.14 and S.15; Pages F.55 through F.69; Table F1 at page F.79, page H.8)

FAA Determination: Approved. The airport sponsor proposes to work with appropriate agencies and jurisdictions toward this goal. The airport would initiate discussions and dialog with the FAA upon approval of this recommendation in the Part 150 study. Any procedure ultimately would have to demonstrate it does not derogate air traffic safety or efficiency, and that it improves the noise environment over incompatible land uses.

Recommendation 3. Implement Close-In Departure Procedures for North Departures The FAA has approved specific Close-in Noise Abatement Departure Procedures for all aircraft types over 75,000 pounds and each aircraft operator has such procedures for each specific aircraft types. The implementation of this action will be voluntary, and is intended to reduce the size of the DNL 65 dB noise contour over residential areas north of the airport. The airport will request in writing that users implement this procedure on a voluntary basis for each type of aircraft they fly. This alternative would reduce single event over flight noise by about 2 to 3 dB in Georgetown (north) for older manufactured as Stage 2 aircraft, which have been retrofitted. Newer aircraft types climb fast enough that they are generally already higher than the 800 feet where the power cutback would occur when they pass over Georgetown. (Pages S.16 and S.17; F.37 through F.44, page H.5)

FAA Determination: Approved as voluntary.

Recommendation 4. Investigate the Viability of Undertaking a Part 161 Study for Stage 2 Jets and Maintain the Existing Voluntary Curfew on Nighttime Engine Run-ups (Pages S.18 and S.20 and pages F.9 through F.11; page F.20 through F.28, page I.6)

(a) This action will investigate the viability of a Part 161 Study to prohibit the use of Stage 2 jets at the Airport while concurrently maintaining the existing ban during the nighttime hours (10:00 p.m. to 7:00 a.m.) A Stage 2 curfew will reduce the 65 DNL noise contour over the area that is directly north and south of the Airport and will reduce loud single events for residents all around the Airport. Table F-1 at page F.79 indicates that implementation of this measure (identified as alternative A2a) could reduce the number of people within the future 65 DNL contour from 4,890 to 3,623.

(b) The airport has an existing nighttime curfew for engine run-ups. This reduces the ground generated noise intrusion to nearby residences during critical nighttime hours. It is recommended that the curfew be maintained as it is currently written. In the Fly Quiet brochure, pilots are requested to honor the nighttime curfew.

FAA Determination:

(a) **Approved for study.** Approval for study under Part 150 for a study under Part 161 in no way represents an FAA endorsement of a proposed restriction or of any other results of the Part 161 analysis. Any proposed restriction must meet the requirements of Part 161 and of the airport grant assurances.

(b) **Approved** as a continuation of an existing voluntary measure.

Recommendation 5. Update Flight Tracking and Noise Monitoring Program (Fly Quiet Program) This recommendation is to upgrade the existing noise monitoring system, including flight track monitoring, and conversion of portable monitors to permanent monitors, compatibility with Sea-Tac software conversion, and other equipment and software described on page S.22. The program will monitor noise levels and compliance with the noise abatement measures. Flight track monitoring will be used to formulate voluntary Fly Quiet procedures, provide accountability in evaluating the success of the Program, and provide information so that improvements can be made to the recommended noise abatement programs and procedures. The Fly Quiet program not only entails monitoring equipment, it includes (as described on page G.11 of the primary document) the production and distribution of a Fly Quiet brochure, the printing of boards for pilots lounges and flight schools, a pilot resource working group that is highly interested in fly quiet procedures and education, plus printed materials for the new West Vashon Departure if it comes to fruition. A committee could help identify the potential noise monitoring sites. (Page S.21 through S.23; pages F.29 through F.35)

FAA Determination: Approved. For reasons of aviation safety, this approval does not extend to use of the monitoring equipment for enforcement purposes by in situ measurement of any present noise threshold. Noise monitors must be located within the BFI NEM contours. Not all elements of the Fly Quiet program may be eligible for Federal financial assistance.

Recommendation 6. Conduct a Site Selection and Feasibility Study for Ground Run-Up Enclosure (GRE) This action is to conduct a site selection and feasibility study for a Ground Run-Up Enclosure. The study was initiated at the time the supplement to the NCP was submitted to the FAA in 2004. The number and type of run ups vary with specific aircraft. Based on the existing uses on airport property, it is difficult to determine a feasible site for such a facility at this

time. Preliminary study data show that the noise level reduction of a three-sided enclosure will provide about 15 dB of noise reduction. Additional information is contained in the Appendix. (Page S.24; pages F.17 through F.28)

FAA Determination: Approved for study. Safe placement of the structure and the noise benefits to residences over existing conditions without the enclosure (e.g., number of homes and distance from source-receiver) should be documented.

Recommendation 7. Establish Building Design/Placement Standards to Reduce Off-Airport Noise Effects From Aircraft Movements on the Ground This action is to identify standards for building placement and design to act as barriers to reduce the effects of ground generated noise to adjacent residences. Proper acoustical treatment and placement of buildings can act as barriers to sound transmission, and such considerations should be incorporated if feasible in future landside development. The sponsor would hire a consultant to develop building/placement standards to reduce off-airport noise and identify design and noise standards for new or remodeled construction. (Page S.25, page H.10, page I.8)

FAA Determination: Approved for study.

Recommendation 8. Provide a Variety of Sound Attenuation For Single-Family Residential, Schools and Public Buildings, Purchase of Avigation Easements, and Sales Transaction Assistance in the 65 and 70 DNL This recommendation calls for the Airport to sound attenuate, on a voluntary basis, those single-family houses and multi-family structures within the 65 and 70 BFI noise contours, which are economically feasible to attenuate. As an option, the Airport would offer Sales Assistance to homeowners wishing to sell their homes, but are not able to do so due to proximity to the Airport. A third option would be the voluntary purchase of an avigation easement from those homeowners who do not want to take advantage of either the sound attenuation or sales assistance programs. Properties within the Noise Mitigation Boundary that are eligible for participation can be seen in Figures S.5 through S.9 at pages S.27 through S.31. The Study Advisory Committee recommended that sound attenuation of single-family residences (4-plex or smaller) and schools are a shared first priority, with multi-family attenuation second. (Pages S.26 through S.33; page F.29, pages G.1 through G.5, pages H.3 through H.5, page I.8 through I.11, Appendices 2 and 5; September 16, 2002, public hearing minutes)

FAA Determination: Approved for structures at noise sensitive land uses within the BFI 2008 "Revised Future Noise Exposure Map".

Recommendation 9. Investigate Voluntary Purchase of Homes with the 70 DNL Using Programs that are not available through Federal Program This action will investigate alternative funding sources which are not available through federal programming channels for the voluntary purchase of those homes within the 70 DNL noise contour. The airport will take responsibility for working with various funding agencies – local jurisdictions, state agencies – to determine which resources are available and plausible for this recommendation. The airport will investigate all possible options available to aid in helping finance the voluntary purchase of those homes within the 70 DNL noise contour. Given the normal requirement that homes be brought up to building codes at the time of insulating, it's possible that some of the older homes cannot be sufficiently mitigated at a typical cost to meet noise compatibility guidelines. A mandatory purchase program for entire neighborhoods would require residents who are not troubled by

airport noise to leave. A voluntary program funded by the FAA could lead to degradation of the remaining neighborhoods. On the other hand, it was felt that some relief should be provided to those who currently reside in an area of such high noise levels, if the residents would like relief that would not lead to neighborhood deterioration. (Page S.34; page F.29, pages G.5 through G.9, pages I.11 and I.12; Appendices 7 and 8)

FAA Determination: Approved. The Federal government has no control over local land use decisions; this action is within the authority of the airport sponsor and local and state jurisdictions. The airport sponsor has included the measure in the NCP for FAA determination.

Recommendation 10. Insulate School and Public Buildings This action is to insulate schools and public buildings in the following order of priorities in the BFI 65 and 70 DNL contours. The airport proposes to sound attenuate schools and single-family structures as a first priority, with sleeping portions of fire stations (after multi-family structures) as the last priority. (Page S.35 through S.36; pages I.10 and I.11, page F.29, pages J.30 and J.31; Appendices 7 and 8)

FAA Determination: Approved for structures at noise sensitive land uses within the BFI 2008 "Revised Future Noise Exposure Map".

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**FEDERAL AVIATION ADMINISTRATION
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FAR PART 150 NOISE COMPATIBILITY PROGRAM**

**King County International Airport
Boeing Field/Seattle, Washington**

Amy D. Bue 5/6/05 ✓ _____
Assistant Administrator for Aviation Policy, Date CONCUR NONCONCUR
Planning and Environment, AEP-1

Daphne A. Fisher 6/20/05 ✓ _____
Chief Counsel AGC-1 Date CONCUR NONCONCUR

jr *Arthur M. L.* 6/21/05 ✓ _____
Associate Administrator for Airports, ARP-1 Date APPROVED DISAPPROVED