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Announcements

FAA Issues [Record of Approval](#)[Final Part 150 Study Document](#)[SEPA Threshold Determination and Checklist](#)[SEPA Final Determination](#)Detailed [Noise Contours](#) available

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English

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Record of Approval

The Port of Seattle is pleased to announce that the Federal Aviation Administration (FAA) has approved Seattle-Tacoma International Airport's Part 150 Noise and Land Use Compatibility Study. A copy of the FAA's Record of Approval, which includes summaries of the study's noise mitigation measures, is available [here](#). Further information regarding condominium insulation is expected soon from the FAA.

Port staff will now begin work on developing a Part 150 Study prioritization plan for the Port of Seattle Commission's consideration. Sea-Tac Airport is known for having one of the most comprehensive noise reduction programs in the nation and the approval of the study will help the port to further minimize the impact of airport noise on its neighboring communities.

Welcome to the Seattle-Tacoma International Airport Part 150 Study

The Port of Seattle worked with Landrum & Brown to update its Part 150 Noise Compatibility Study for the Seattle-Tacoma International Airport (Sea-Tac), last completed in 2002.

The Port of Seattle Commission approved the Federal Aviation Administration (FAA) Part 150 Noise and Land-Use Compatibility Study on October 22, 2013. The study will next be submitted to the FAA and the Port anticipates the FAA will issue their Record of Approval by late spring of 2014. A copy of the Part 150 Study including all input received during the public comment period and responses to the input is available [here](#). Sea-Tac Airport is known for having one of the most comprehensive noise reduction programs in the nation and the latest Part 150 Study will help the Port to further minimize the impact of airport noise on its neighboring communities.

The last plan prepared official Noise Exposure Maps for Sea-Tac for 1998 and 2004 conditions. That study also resulted in a number of amended or new measures to help reduce aircraft noise in the communities near Sea-Tac. Some of those programs included developing a 'fly-quiet' program that encourages airlines to follow the procedures and to choose quieter aircraft to operate at the airport. Another element of the last study was some additional sound insulation and acquisition measures for areas impacted by aircraft noise.

About this Study

The Part 150 Study process is designed to identify noise incompatibilities surrounding an

defined as residences or public use noise-sensitive facilities (libraries, churches, schools, nursing homes, and hospitals) within the 65 Day-Night Average Sound Level (DNL) noise contour.

The purpose for conducting a Part 150 Study is to develop a balanced and cost-effective plan for reducing current noise impacts from the airport's operations, where practical, and to limit additional impacts in the future.

Among the general goals and objectives addressed by a Part 150 Study are the following:

- To reduce, where feasible, existing and forecasted noise levels over existing noise-sensitive land uses;
- To reduce new noise-sensitive developments near the airport;
- To mitigate, where feasible, adverse impacts in accordance with Federal guidelines;
- To provide mitigation measures that are sensitive to the needs of the community and its stability; and
- To be consistent, where feasible, with local land use planning and development policies.

Specific goals for this Part 150 Study included the following:

- To address noise issues related to the third runway;
- To conduct the process in an open and engaging way; and
- To look for opportunities that have not been thought of versus re-visiting old issues.

This study identified existing and future flight corridors, developed aircraft noise exposure maps for current (2013) and future (2018) conditions, evaluated air traffic control procedures that could be implemented to reduce noise exposure over residential areas, considered land use controls that could be established to reduce future incompatible land uses from being developed within high noise areas, and evaluateed means to mitigate noise impacts within high noise exposure areas.



U.S. Department
of Transportation
Administration

Northwest Mountain Region
Seattle Airports District Office
1601 Lind Avenue S.W., Suite 250
Renton, Washington 98055-4056

June 5, 2014

Mr. Mark Reis
Managing Director
Seattle-Tacoma International Airport
P.O. Box 68727
Seattle, WA 98168

Dear Mr. Reis:

We have evaluated the Noise Compatibility Program for the Seattle-Tacoma International Airport contained in the Seattle-Tacoma International Airport Part 150 Noise Compatibility Study Update submitted to my office under the provisions of 49 U.S.C. Sec. 47504.

The summary of the Noise Compatibility Program recommendations proposed by the Airport is in Chapter Six of the document. I am pleased to inform you that the Airports Division Manager for the Northwest Mountain Region has approved 19 of the 22 proposed measures in the Noise Compatibility Program. Our specific action for each noise compatibility program element is set forth in the enclosed Record of Approval. The effective date of approval is May 29, 2014.

Each airport Noise Compatibility Program developed in accordance with FAR Part 150 is a local program, not a Federal program. We do not substitute our judgment for that of the airport proprietor with respect to which measures should be recommended for action. Our approval or disapproval of FAR Part 150 program recommendations is measured according to the standards expressed in Part 150 and 49 U.S.C. Sec. 47504(a), and is limited to the following determinations:

- a. The Noise Compatibility Program was developed in accordance with the provisions and procedures of FAR Part 150;
- b. Program measures are reasonably consistent with achieving the goals of reducing existing noncompatible land uses around the airport and preventing the introduction of additional noncompatible land uses;
- c. Program measures would not create undue burden on interstate or foreign commerce, unjustly discriminate against types or classes of aeronautical uses, violate the terms of airport grant agreements, or intrude into areas preempted by the Federal government;
- d. Program measures relating to the use of flight procedures can be implemented within the period covered by the program without derogating safety, adversely affecting the efficient use and management of the Navigable Airspace and Air Traffic Control Systems, or adversely affecting other powers and responsibilities of the Administrator prescribed by law.

Specific limitations with respect to our approval of an airport Noise Compatibility Program are delineated in FAR Part 150, Section 150.5. Approval is not a determination concerning the acceptability of land uses under Federal, state, or local law. Approval does not by itself

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Aviation Environmental Design Tool

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AVIATION ENVIRONMENTAL DESIGN TOOL (AEDT) VERSION 2D

AEDT 2d was released on September 27, 2017. This release is a free upgrade for existing AEDT 2b/2c licensed users. AEDT 2d pricing and licensing information can be found on the [Pricing page](#).

All FAA actions requiring noise, fuel burn or emissions modeling and for which the environmental analysis process has begun on or after September 27th, 2017 are required to use AEDT 2d. Additional information on the use of AEDT versions and their modifications is outlined in a [versioning memo](#) available on the AEDT website.

AEDT Version 2d Functionality

A high level summary of AEDT 2d functionalities is listed below:

- All noise, emissions, and emissions dispersion metrics from INM, EDMS, and AEDT 2a
- Creation and editing of point-type and vector-type flight tracks in the user interface
- Creation and editing of dispersed tracks in the user interface
- Emissions dispersion from curved flight tracks
- Emissions from airplane and helicopter startup and taxi phases of flight
- Airplane taxi delay and sequence modeling
- Noise from helicopter taxi
- Emissions from auxiliary power units, ground support equipment, and a wide variety of other non-aircraft emissions sources
- Fuel consumption and emissions for military aircraft
- Modeling of multiple airports in a single study
- Creation of custom altitude controls for airplanes
- Time audible noise metrics
- Number above noise level
- Dynamic grid support for all system noise metrics
- Environmental justice population identification
- Background and emissions concentrations
- Emissions dispersion contouring and output selection – ability to select specific source groups, averages, and rankings
- Migrate Studies feature - copies AEDT studies from a SQL Server 2008 R2 instance to a 2012 instance
- Creation of MOVES roadway, parking facility, and construction zone links in the user interface
- Noise contour generation for point-type receptor sets
- Combine acoustic metric results with different receptor sets
- High fidelity weather support for MERRA-2 and WRF

More details about the differences between INM, EDMS, and AEDT versions are summarized in the [AEDT Functionality Comparison](#) chart.

AEDT does not include on-road mobile ground emissions sources like roadways and parking lots because EPA replaced MOBILE (the on-road mobile ground emissions model included with EDMS) with the Motor Vehicle Emissions Simulator (MOVES) in 2013. Emissions for on-road mobile sources and construction equipment, a non-road emissions source, will be estimated through MOVES. AEDT, however, provides functionality to the user to import the emissions of these sources and model them for their air quality impacts. The FAA provided guidance for using AEDT together with MOVES for studies that include on-road mobile ground and construction emissions (see [Using MOVES with AEDT](#)).

System Requirements and Specifications

The recommended specifications are listed with suggested minimums where applicable. AEDT is a stand-alone Windows based application. However, through the use of Microsoft SQL Server connectivity, it is possible to connect multiple computational clients to one central database server. **AEDT requires administrative privileges for installation and execution.**

AEDT 2d System Requirements		Minimum	Preferred	For Running Global Level Studies
Operating System	Microsoft Windows 7 (x64)	Microsoft Windows 7 (x64) or Windows Server 2012	Microsoft Windows 7 (x64) or Windows Server 2012	Microsoft Windows 7 (x64) or Windows Server 2012
Processor	Modern dual core processor with 2 GHz or higher clock	Modern many core (>2) processors with 2 GHz or higher clock	Modern many core (>2) processors with 2 GHz or higher clock	Modern many core (>2) processors with 2 GHz or higher clock
RAM	8 GB Memory	16 GB Memory	16 GB Memory	64 GB Memory
Hard Disk Space	100 GB Storage	500 GB Storage	500 GB Storage	2 TB Storage RAID
Microsoft SQL Server	SQL Server 2012 Express	SQL Server 2012	SQL Server 2012	SQL Server 2012
Other Software	Adobe Reader X (v10) or higher	Adobe Reader X (v10) or higher	Adobe Reader X (v10) or higher	Adobe Reader X (v10) or higher

Use Microsoft Update to ensure your computer has the latest priority updates. Visit www.update.microsoft.com.

AEDT 2d Documentation

Documentation for AEDT 2d may be updated over time; please check back occasionally for updates.

AEDT NEPA Guidance (PDF), last updated 10/27/2017

Memorandum on AEDT version determination for project use (PDF), last updated 9/27/2017

AEDT 2d User Guide (PDF), last updated 9/27/2017

AEDT 2d User Guide Supplemental (PDF), last updated January 2018

AEDT 2d Technical Manual (PDF), last updated 9/27/2017

AEDT 2d Installation Guide (PDF), last updated 9/27/2017

AEDT 2d ASIF Reference Guide (PDF), last updated 3/5/2018

AEDT 2b Uncertainty Quantification Report (PDF), last updated August 2017

Functionality Comparison AEDT, INM, EDMs (PDF), last updated 9/27/2017

High Level Comparison of AEDT and Legacy Tools (PDF), last updated 6/3/2016

AEDT Environmental Justice Guidance (PDF), last updated 9/12/2016

Using MOVES with AEDT (PDF), last updated 9/27/2017

Background Concentrations in AEDT (PDF), last updated 10/19/2017

AEDT Training

Training materials for AEDT will be posted periodically. Downloadable materials such as exercises and presentations can be found on the [Downloads](#) page. An AEDT

account is required to access the Downloads page. Videos can be found on the [Outreach](#) videos page.

For Further Information

If you have any questions regarding the features of AEDT, please contact us at aedt-support@dol.gov.

U.S. Department of Transportation
Federal Aviation Administration
800 Independence Avenue, SW
Washington, DC 20591

Web Policies
Privacy Policy
Rules of Behavior Policy

Government Sites
Transportation.gov
USA.gov
Plainlanguage.gov
Regulations.gov
Data.gov

Contact Us
AEDT Support Team

1 properties located within an impacted area and shall be provided upon
2 terms and conditions as the port district shall determine appropriate.
3 (3) Programs of soundproofing structures located within an impacted
4 area. Such programs may be executed without regard to the ownership,
5 provided the owner waives ((att)) damages and conveys ((a full and
6 unrestricted)) an easement for the operation of ((att)) aircraft, and
7 for ((att)) noise and noise associated conditions therewith, to the
8 port district.
9 (4) Mortgage insurance of private owners of lands or improvements
10 within such noise impacted area where such private owners are unable to
11 obtain mortgage insurance solely because of noise impact. In this
12 regard, the port district may establish reasonable regulations and may
13 impose reasonable conditions and charges upon the granting of such
14 mortgage insurance: PROVIDED, That such fees and charges shall at no
15 time exceed fees established for federal mortgage insurance programs
16 for like service.
17 (5) An individual property may be provided benefits by the port
18 district under each of the programs described in subsections (1)
19 through (4) of this section. However, an individual property may not
20 be provided benefits under any one of these programs more than once,
21 unless the property is subjected to increased aircraft noise or
22 differing aircraft noise impacts that would have afforded different
23 levels of mitigation, even if the property owner had waived all damages
24 and conveyed a full and unrestricted easement.
25 (6) Management of all lands, easements, or development rights
26 acquired, including but not limited to the following:
27 (a) Rental of any or all lands or structures acquired;
28 (b) Redevelopment of any such lands for any economic use consistent
29 with airport operations, local zoning and the state environmental
30 policy;
31 (c) Sale of such properties for cash or for time payment and
32 subsection of such property to mortgage or other security transaction:
33 PROVIDED, That any such sale shall reserve to the port district by
34 covenant an unconditional right of easement for the operation of all
35 aircraft and for all noise or noise conditions associated therewith.
36 (7) A property shall be considered within the impacted area if any
37 part thereof is within the impacted area.

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SEATTLE-TACOMA INTERNATIONAL AIRPORT
PART 150 NOISE COMPATIBILITY STUDY UPDATE
FINAL

APPENDIX G
FUTURE (2021) NOISE EXPOSURE MAP/
NOISE COMPATIBILITY PROGRAM

A Future (2021) noise exposure contour was prepared to understand potential noise impacts within the ten-year timeline for planning purposes. The Future (2021) Noise Exposure Map/Noise Compatibility Program (NEM/NCP) represents the anticipated noise levels for a typical day in 2021, with the implementation of all recommended noise abatement measures. The Future (2021) NEM/NCP was prepared using the Federal Aviation Administration's (FAA's) Integrated Noise Model (INM) Version 7.0b. Noise exposure contours were prepared at levels of 65, 70, and 75 Day-Night Average Sound Level (DNL). This appendix presents the methodology and input data used to prepare the Future (2021) NEM/NCP for Seattle-Tacoma International Airport (Sea-Tac Airport).

G.1 NOISE MODELING METHODOLOGY

Number of Operations and Fleet Mix

The number of operations included in the Future (2021) NEM/NCP is based on the Forecast of Aviation Activity prepared for this Part 150 Study. The forecast is based upon aviation industry trends and specific airline activity at Sea-Tac Airport. More information about this forecast is included in Chapter Two, Forecast. The Future (2021) condition includes 419,597 annual operations or 1,149.58 average-annual day operations, a projected increase of 15.4 percent from the Future (2016) Baseline operating levels. Table G-1, Distribution of Average Day Operations by Aircraft Type Future (2021) NEM/NCP, provides a summary of the average daily operations and fleet mix at Sea-Tac Airport, organized by aircraft type, operation type, and time of day that was modeled for Future (2021) conditions.

*EM work since 1978
Revised by Aviation Env. Design
post in May 2015*

