FAR Part 150 Noise Exposure Maps Update.

Snohomish County Airport

Paine Field

FAR Part 150 Noise Exposure Maps Update

➤ Barnard Dunkelberg & Company
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Snohomish County Airport/Paine Field Part 150 Noise Exposure Maps Update

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FAR Part 150 Noise Exposure Map Checklist

I. IDENTIFICATION AND SUBMISSION OF MAP DOCUMENT: Page Number

A. Is this submittal appropriately identified as one of the following, submitted under FAR Part 150: Cover, Cover Letter
   1. A NEM only Yes
   2. A NEM and NCP No
   3. A revision to NEMs which have previously been determined by FAA to be in compliance with Part 150? Yes

B. Is the airport name and the qualified airport operator identified? Cover

C. Is there a dated cover letter from the airport operator which indicates the documents are submitted under Part 150 for appropriate FAA determination? Yes

II. CONSULTATION: [150.21 (b), A150.(a)]

A. Is there a narrative description of the consultation accomplished, including opportunities for public review and comment during map development? 22-24, Appendix

B. Identification:
   1. Are the consulted parties identified? 22-24, Appendix
   2. Do they include all those required by 150.21 (b) and A150.105 (a)? Yes, 22-24, Appendix

C. Does the documentation include the airport operator's certification, and evidence to support it, that interested persons have been afforded adequate opportunity to submit their view, data, and comments during map development and in accordance with 150.21 (b)? Cover Letter, 22-24, Appendix

D. Does the document indicate whether written comments
were received during consultation and, if there were comments, that they are on file with the FAA region? 22-24, Appendix

III. GENERAL REQUIREMENTS: [150.21]

A. Are there two maps, each clearly labeled on the face with year (existing condition year and 5-year)? 19-20

B. Map currency:
   1. Does the existing condition map year match the year on the airport operator's submittal letter? Yes, 19
   2. Is the 5-year map based on reasonable forecasts and other planning assumptions and is it for the fifth calendar year after the year of submission? Yes, 20
   3. If the answer to 1 and 2 above is no, has the airport operator verified in writing that data in the documentation are representative of existing condition and 5-year forecast conditions as of the date of submission? N/A

C. If the NEM and NCP are submitted together:
   1. Has the airport operator indicated whether the 5-year map is based on 5-year contours without the program vs. contours if the program is implemented? Cover Letter
   2. If the 5-year map is based on program implementation:
      a. are the specific program measures which are reflected on the map identified? No
      b. does the documentation specifically describe how these measures affect land use compatibilities depicted on the map? No
   3. If the 5-year NEM does not incorporate program implementation, has the airport operator included an additional NEM for FAA determination after the program is approved which show program implementation conditions and which is intended to replace the 5-year NEM as the new official 5-year map? N/A

IV. MAP SCALE, GRAPHICS, AND DATA REQUIREMENTS:
[A150.101, A150.105, 150.21 (a)]

A. Are the maps of sufficient scale to be clear and readable (they must not be less than 1" to 8,000') and is the scale indicated on the maps? Yes, 19-20
B. Is the quality of the graphics such that required information is clear and readable?  
Yes, 19-20

C. Depiction of the airport and its environs.  
1. Is the following graphically depicted to scale on both the existing condition and 5-year maps:  
   a. Airport boundaries  
      Yes, 19-20  
   b. Runway configurations with runway end numbers  
      No

2. Does the depiction of the off-airport data include:  
   a. A land use base map depicting streets and other identifiable geographic features  
      Yes
   b. The area within the 65 Ldn (or beyond, at local discretion)  
      Yes
   c. Clear delineation of geographic boundaries and the names of all jurisdictions with the 65 Ldn (or beyond, at local discretion)  
      Yes

D. 1. Continuous contours for at least the Ldn 65, 70, and 75?  
   Yes, 19-20

2. Based on current airport and operational data for the existing condition year NEM, and forecast data for the 5-year NEM?  
   9, 19-20

E. Flight tracks for the existing condition and 5-year forecast time frames (these may be on supplemental graphics which must use the same land use base map as the existing conditioned and 5-year NEM), which are numbered to correspond to accompanying narrative?  
   10, 12

F. Locations of any noise monitoring sites (these may be on supplemental graphics which must use the same land use base map as the official NEMs)  
   Yes, 11

G. Noncompatible land use identification:  
1. Are noncompatible land uses within at least the 65 Ldn depicted on the maps?  
   Yes, 19-20

2. Are noise sensitive public buildings identified?  
   Yes

3. Are the noncompatible uses and noise sensitive public buildings readily identifiable and explained on the map legend?  
   Yes

4. Are compatible land uses, which would normally be
considered noncompatible, explained in the accompanying narrative?  N/A

V. NARRATIVE SUPPORT OF MAP DATA:
[150.21 (a), A150.1, A150.103]

A. 1. Are the technical data, including data sources, on which the NEMs are based adequately described in the narrative?  Yes
2. Are the underlying technical data and planning assumptions reasonable?  Yes

B. Calculation of Noise Contours:
1. Is the methodology indicated?
   a. Is it FAA approved?  Yes, 9
   b. Was the same model used for both maps?  Yes
   c. Has AEE approval been obtained for use of a model other than those which have previous blanket FAA approval?  N/A
2. Correct use of noise models:
   a. Does the documentation indicate the airport operator has adjusted or calibrated FAA-approved noise models or substituted one aircraft type for another?  No
   b. If so, does this have written approval from AEE?  N/A
3. If noise monitoring was used, does the narrative indicate that Part 150 guidelines were followed?  Permanent Monitors
4. For noise contours below 65 Ldn, does the supporting documentation include explanation of local reasons? (Narrative explanation is highly desirable but not required by the Rule.)  Cover Letter

C. Noncompatible Land Use Information:
1. Does the narrative give estimates of the number of people residing in each of the contours (Ldn 65, 70 and 75, at a minimum) for both the existing condition and 5-year maps?  Yes, 21
2. Does the documentation indicate whether Table 1 of Part 150 was used by the airport operator?  Cover Letter, 21
   a. If a local variation to Table 1 was used:
      (1) does the narrative clearly indicate which adjustments were made and the local
reasons for doing so?

(2) does the narrative include the airport operator's complete substitution for Table 1?

3. Does the narrative include information of self-generated or ambient noise where compatible/non-compatible land use identifications consider non-airport/aircraft sources?

4. Where normally noncompatible land uses are not depicted as such on the NEMs, does the narrative satisfactorily explain why, with reference to the specific geographic areas?

5. Does the narrative describe how forecasts will affect land use compatibility?

VI. MAP CERTIFICATIONS: [150.21 (b), 150.21 (e)]

A. Has the operator certified in writing that interested persons have been afforded adequate opportunity to submit views, data, and comments concerning the correctness and adequacy of the draft maps and forecasts? Cover Letter, 22

B. Has the operator certified in writing that each map and description of consultation and opportunity for public comment are true and complete? Cover Letter, 22, Appendix
Introduction

The noise exposure maps for Paine Field were originally prepared as a component of a Part 150 Noise and Land Use Compatibility Study that was adopted by Snohomish County in July 1995. Those noise exposure maps, with a five-year planning horizon, are now out of date and the adopted forecasts contained in the 2002 Master Plan Update for Paine Field have been used as a basis to formulate updated Noise Exposure Maps.

The need to update the noise exposure maps was identified as a result of the public meetings and process used in the preparation of the 2002 Master Plan Update. Aircraft operation numbers and types of aircraft have changed since the preparation of the last Noise Exposure Maps, especially with the removal of military helicopter operations from the airport. The Noise Compatibility Recommendations contained in the previous Part 150 Study have not been amended and are still current.

Inventory

Paine Field is located in an unincorporated area of Snohomish County. The northern and eastern portion of airport property abuts the City of Everett, while the western portion of airport property abuts the City of Mukilteo. The corporate boundaries of the cities of Lynnwood and Edmonds are approximately three miles to the south of airport property. The relationship of Paine Field to the surrounding cities is illustrated in the following figure, entitled AIRPORT ENVIRONS MAP.

The following narrative provides a general description of the existing land uses, land use zoning, and future land uses in the area surrounding Paine Field.
Existing Zoning

Generalized existing zoning within the vicinity of Paine Field is illustrated in following figure, entitled GENERALIZED EXISTING ZONING, reflecting the zoning designations of the cities of Everett and Mukilteo, along with those for the unincorporated areas of Snohomish County. For purposes here, zoning is categorized into the following types: residential, commercial (including office), industrial, and open/parks. The airport itself is zoned light industrial.

In the area north of the airport, there is a large manufacturing/industrial and office zoning tract associated with the Boeing facilities. The area north of the airport and adjacent to Possession Sound is primarily zoned residential. Some commercial zoning does exist north of the airport associated with the ferry landing and at the intersection of Mukilteo Speedway and Mukilteo Boulevard.

The area east of the airport is characterized by residential zoning with strips of commercial zoning along the major roadways, i.e., SR 99 and Airport Road. In addition, Kasch Park and Walter E. Hall Golf Course are located directly east of airport property, south of Casino Road.

The area directly southeast of the airport is dominated by business park and residential zoning, while southwest of the airport, zoning uses along Mukilteo Speedway are characterized by a combination of general commercial, community business, industrial, and manufacturing. General commercial and community business zoning extend laterally along SR99. The area south of the airport is dominated by various residential uses, with dispersed areas of commercial and industrial zoning.

Within Mukilteo, west of the airport, lies the Harbour Pointe Community zoned primarily for residential uses, with several areas of park/open space and community business. In the northwest portion of Mukilteo, zoning consists of residential uses, waterfront mixed use and downtown business district.

Existing Land Use

As illustrated in Figure 3, entitled GENERALIZED EXISTING LAND USE, land use basically reflects existing zoning. In the area directly adjacent to the airport, industrial and commercial uses prevail; one notable exception is the residential area west of Paine Field Boulevard. Commercial uses are found along major arterials and at the intersections of these arterials. Densities of residential use vary in the area, but generally reflect single-family, suburban development with areas of open space. Additionally, significant clusters of multi-family development exist laterally along Casino Road, between Airport Road and SR99; along 112th St. SW, between SR99 and I-5; and along
128th St. SW, between SR99 and I-5. The waters of Possession Sound are located approximately one and one-half miles west of the airport property and approximately two miles north of the airport. In addition, it should be noted that there is a substantial amount of land which is undeveloped or dedicated to parks/open space in the vicinity of the airport.

Several large tracts of undeveloped land exist within the environs on the airport. Some of these are associated with parks, or areas with limited development potential because of steep slopes or drainage features. There are two large open spaces near the airport; the west side of airport property and the area directly north and west of The Boeing Company plant.

Future Land Use

Generalized future land use within the vicinity of Paine Field is illustrated in Figure 4, entitled \textit{GENERALIZED FUTURE LAND USE}. Information supplied by Snohomish County shows that Paine Field has been designated as urban industrial. Urban Commercial is adjacent to SR99, on both the east and west portions, extending from 112th St. SW to 164th St. SW. Situated between SR99 and Beverly Park Road, urban medium density residential is the dominant classification, with a small pocket of urban high density residential. South and east of SR99, various densities of residential use make up future land uses. Several “Centers Designations” have been established at various locations in and around Paine Field. These centers represent the focal point of commercial and employment activity and include: Paine Field Airport, the intersection of Airport Road and SR99, the converging point of Mukilteo Speedway, SR99, and SR525, the intersection of 128th St. SW and Interstate 5 (I-5), and the intersection of Interstate 5 (I-5) and 164th St. SW.

Southwest/west of Paine Field, an approximately 1/3 to 1/2 mile band of commercial and light industrial tracts parallel Mukilteo Speedway. Further west, extending down toward Puget Sound is the Harbour Pointe Golf Course, multi-family and single family residential land uses. West and northwest of Paine Field, land uses consist mostly of single family residential with small pockets of commercial and parks/open space.

Existing Noise Abatement Procedures

The airport has established noise abatement procedures. A copy of the noise abatement procedure pamphlet is in the Appendix.
Aircraft Operations Forecasts Summary

As stated previously, the aircraft operations forecasts were developed as part of the recently completed Airport Master Plan Update. These forecasts are summarized below. Paine Field will continue to be the primary general aviation and industrial aviation airport serving Snohomish County and the northern portion of the Seattle Metropolitan area. In addition, the forecasts indicate that, to some degree, there is unconstrained demand for commercial passenger service at an airport in the vicinity of Paine Field.

The following table, entitled SUMMARY OF OPERATIONS DEMAND FORECAST BY AIRCRAFT TYPE, summarizes the activity for current (calendar year 2002) and expected future (calendar year 2008) aircraft operational activity. Although the forecasts are based on "unconstrained demand", without regard to site-specific physical or environmental constraints, it is realized that conditions on the airport and in the area surrounding the airport will influence the type and quantity of aviation activity which can be reasonably accommodated. The forecasts are consistent with the 1978-79 Mediated Role Determination defined for Paine Field.

It should be noted that 2002 data provided in the following table includes an estimate of aircraft operations that occur during hours when the ATCT is closed (9:00 pm to 7:00 am), which were not included in the 2002 Master Plan Update documentation. This estimate of operations during the time of ATCT closure was critical for the Noise Exposure Map Update because nighttime aircraft operations (those occurring between 10:00 pm and 7:00 am) receive a penalty in the computerized noise model that is used to generate noise contours (see additional explanation in the Aircraft Operations Data and Flight Tracks section below). Because the Noise Exposure Maps are the “official” maps used for land use planning in the vicinity of the airport, an estimate of nighttime operations is necessary to most accurately depict noise contours. The 2008 forecast numbers provided in the table below also includes consideration of aircraft operations that occur during nighttime hours.

It is also important to point out that although the future (2008) forecast of aircraft operations used for this INM update is extrapolated from of the adopted forecast numbers provided in the 2002 Master Plan Update; the 2008 number incorporates some recalibration related to recent historic events and trends (the events of September 11, 2001 and subsequent economic downturn effects on general aviation) and the inclusion of nighttime aircraft activity estimates.
Table 1
SUMMARY OF OPERATIONS DEMAND FORECAST BY AIRCRAFT TYPE
Paine Field Noise Exposure Map Update

<table>
<thead>
<tr>
<th>Operations By Type</th>
<th>2002 Day</th>
<th>2002 Night</th>
<th>2008 Day</th>
<th>2008 Night</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial Aviation Air Carrier</td>
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<td>Jet</td>
<td>3,545</td>
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<td>6,060</td>
<td>121</td>
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<td>Military</td>
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<td>General Aviation</td>
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<td>Single Engine Piston</td>
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<td>8,760</td>
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<td>Multi-Engine Piston</td>
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<td>475</td>
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<td>Turboprop</td>
<td>5,937</td>
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<td>9,605</td>
<td>288</td>
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<tr>
<td>Business Jet</td>
<td>5,937</td>
<td>178</td>
<td>9,605</td>
<td>288</td>
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<td>1,978</td>
<td>59</td>
<td>3,020</td>
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<td>10,619</td>
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<td>Jet</td>
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<td>Turboprop</td>
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<td>6,903</td>
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<td>TOTAL ANNUAL OPERATIONS</td>
<td>202,734</td>
<td>7,398</td>
<td>293,137</td>
<td>10,480</td>
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</tbody>
</table>

Source: Barnard Dunkelberg & Co.

1 Existing – ATCT Counts During Hours of Operation (7:00 am to 9:00 pm) Plus Airport Staff Estimate for Hours When ATCT is closed.

Noise Contour Development

Noise Monitoring

No noise monitoring was done specifically for this NEM Update; however, the airport’s noise monitoring system was used to help evaluate the noise contours.

Noise Contours Development Explanation

The DNL noise contours were generated using the Integrated Noise Model (INM) Version 6.0c, which is the most current computer program developed by the Federal Aviation Administration specifically for modeling the noise environment at airports. The INM program requires the input of the physical and operational characteristics of the airport. Physical characteristics include runway end coordinates, displaced thresholds, airport altitude, topography, and temperature. Operational characteristics include aircraft mix and flight tracks. Optional data that can be incorporated in the model includes approach and departure profiles, approach and departure procedures, and aircraft noise.
curves. Data from Paine Field’s Aircraft Flight Tracking and Environmental Monitoring System (AFTEMS) was used to calculate the INM flight tracks and noise levels.

Aircraft Operations Data and Flight Tracks

The percent of aircraft operations that occur during the nighttime is also presented in the previously presented table entitled, SUMMARY OF OPERATIONS DEMAND FORECAST BY AIRCRAFT TYPE. In the DNL metric, aircraft operations that occur after 10 pm and before 7 am are considered more intrusive and receive a 10 dBA penalty. As there is not a twenty-four hour tower at Paine Filed, the nighttime operations are an estimate, and may reflect a “worst case” scenario for such operations. Aircraft flight tracks, runway utilizations and profiles were obtained by observations during on-site visits; review of Air Route traffic radar plats, discussion with the Air Traffic Control personnel, discussion with airport management, data provided in the 1995 FAR Part 150 Study, and data from the airport’s Aircraft Flight Tracking and Environmental Monitoring System (AFTEMS). The flight tracks are shown in the following figure, entitled FLIGHT TRACKS WITH EXISTING LAND USE, which is a computer plot of the actual flight tracks used in the INM. It must be remembered that these are generalized average flight tracks and are not intended to illustrate the exact location that aircraft fly on each track. Flight tracks are the same for both the existing and future conditions.
Figure 6
Flight Tracks with Generalized Existing Land Use

An additional important factor in developing the noise contours is the percent of time each runway is utilized. The runway that is utilized by an aircraft is dictated by the speed and direction of the wind. From a safety and stability standpoint, it is desirable, and at times necessary, to arrive and depart an aircraft toward the direction of the wind. When the wind direction changes, the aircraft operational activity will shift to the runway that favors the new wind direction. The runway utilization and percent of use of each flight track is presented in the following tables entitled *EXISTING AND FUTURE FLIGHT TRACK UTILIZATION – DEPARTURES, EXISTING AND FUTURE FLIGHT TRACK UTILIZATION PERCENTAGE – ARRIVALS* and *EXISTING AND FUTURE FLIGHT TRACK UTILIZATION PERCENTAGE – TOUCH AND GO*. In addition, the utilization of the runways broken down by day and night is provided in Table 5, entitled *EXISTING AND FUTURE RUNWAY UTILIZATION PERCENTAGE*. The contours also reflect the engine run-ups (trims) that the Boeing Company and Goodrich, Inc. perform.
## EXISTING AND FUTURE FLIGHT TRACK UTILIZATION – DEPARTURES

*Paine Field Noise Exposure Map Update*

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<thead>
<tr>
<th>Aircraft</th>
<th>Existing (ops/day)</th>
<th>Future (ops/day)</th>
<th>16RA</th>
<th>16RB</th>
<th>16RC</th>
<th>16RD</th>
<th>16RE</th>
<th>34LA</th>
<th>34LB</th>
<th>34LC</th>
<th>34LD</th>
<th>34LE</th>
<th>16LA</th>
<th>16LB</th>
<th>16LC</th>
<th>34RA</th>
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**EXISTING AND FUTURE FLIGHT TRACK UTILIZATION PERCENTAGE – TOUCH AND GO**

*Paine Field Noise Exposure Map Update*

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Table 5
EXISTING AND FUTURE RUNWAY UTILIZATION PERCENTAGE
Paine Field Noise Exposure Map Update

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Noise Exposure Maps

The existing and forecast aircraft operation numbers presented earlier, along with the data and methodology presented above, noise exposure maps for existing and future conditions have been prepared and are graphically depicted in the following illustrations entitled EXISTING (2002) NOISE EXPOSURE MAP WITH EXISTING LAND USE and FUTURE (2008) NOISE EXPOSURE MAP WITH EXISTING LAND USE. The 55, 60, 65, 70, and 75 DNL noise contours are illustrated on each map.
The 65 DNL noise contour contains approximately 644 acres and no people. The 70 DNL noise contour contains approximately 364 acres and no people. Planning jurisdictions are shown on the map. Noise measurement sites and flight tracks are depicted on the Noise Measurement Sites and Flight Tracks Map. The noise contour for this map represents the 65 DNL noise contour or greater by FAR Part 150.

The Noise Exposure Map and accompanying documentation for the Noise Exposure Map for Paine Field, submitted in accordance with FAR Part 150 with the best available information, are hereby certified as accurate to the best of our knowledge and belief. In addition, it is hereby certified that the public was afforded the opportunity to review and comment on the document and its contents.

Signed: __________ Date: __________
Land Use Within Contours

**Existing Noise Exposure Map.** The existing Noise Exposure Map contours encompass various land uses. The Federal Aviation Administration considers residential and other noise sensitive land uses within the 65 or greater DNL contours as being incompatible. The 75 DNL noise contour is the smallest contour and the 55 DNL noise contour is the largest contour generated. The existing 75 DNL noise contour contains approximately 140 acres, all within airport/Boeing Company property. The 70 DNL noise contour contains approximately 342 acres, also all contained within airport/Boeing Company property. The 65 DNL encompasses roughly 591 acres, all of which is contained on airport/Boeing Company property. The 60 DNL noise contour contains approximately 1,130 acres, while the existing 55 DNL contour contains approximately 2,510 acres. The 60 DNL noise contour extends off of airport property to the south of both parallel runways and to the north of the main runway. The 55 DNL noise contour extends off of airport property in all directions. *There are no residential or other noise sensitive land uses within the 65 or greater DNL noise contours associated with the Existing Noise Exposure Map.*

For comparison purposes, perhaps it is important to note that the future 65 DNL noise contour (1999) illustrated in the 1995 *Paine Field FAR Part 150* contained 832 acres and was based on a forecast of 237,700 annual aircraft operations. The actual number of aircraft operations recorded in calendar year 2000 (used as the base year in this Master Plan Update) was 213,371. The new noise contours created with INM Version 6.0c provide a more accurate depiction of noise generated at the airport by aircraft engine run-ups at Goodrich and Boeing, and better account for the erects of topography than the earlier version of the INM used in the 1995 Part 150 Study.

**Future Noise Exposure Map.** Like the Existing (2002) Noise Exposure Map, the Future (2008) Noise Exposure Map noise contours encompass various types of land uses. Again, the 75 DNL is the smallest noise contour and the 55 DNL is the largest noise contour. The future 75 DNL noise contour encompasses some 147 acres, while the 70 DNL contains approximately 364 acres, both of which are contained entirely within airport/Boeing Company property. The future 65 DNL noise contour contains approximately 644 acres, all of which is contained on airport/Boeing Company property. The future 60 DNL noise contour contains approximately 1,322 acres and extends off of airport property to the south of both parallel runways and to the north of the main runway. The 55 DNL noise contour encompasses approximately 2,889 acres and extends off of airport property to the north, south, east, and west. *There are no residential or other noise sensitive land uses within the 65 or greater DNL noise contours associated with the Future Noise Exposure Map.* It should be noted that reference to Table 1 from the Part 150 was used to identify land use compatibility issues for the existing and future conditions.
Consultation

Introduction

The development of the Paine Field Master Plan Update involved an extensive public participation process. As stated previously, the need to update the noise exposure maps was identified as a result of the public meetings and process used in the preparation of the 2002 Master Plan Update. An inclusive tone was set by Snohomish County from the very beginning by establishing a 25-member Study Advisory Committee membership that was broadly representative of all stakeholders.

The elements of the public involvement process were:

- Comprehensive Public Involvement Program
- Five Study Advisory Committee Meetings
- Five Open House/Public Meetings
- Meetings with Individual Citizens
- Project Information Brochure
- Airport Website Publications
- Numerous Working Papers
- Project Workbooks
- Public Hearing

Study Advisory Committee

A key component of the Master Plan Update’s public involvement process was the establishment of a Study Advisory Committee. Composition of the Study Advisory Committee (SAC) was developed to include representatives from neighborhoods surrounding the Airport, business interests, and local government representatives.

All meetings of the SAC were advertised and open to the public.

Project Brochure

An introductory brochure was published and made available at all public meetings that explained the purpose and process of the study, outlined the schedule and named the participants and sponsors.

Open Houses/Public Information Meetings
Five Open House/Public Information Meetings were held during the Study where members of the public were able to interact directly with Airport and consulting staff on their noise related concerns. Display boards were available to present information being discussed among the SAC. At each Open House, members of the public were afforded the opportunity to have their questions answered and provide written comments. Public input from these Open Houses was influential in prioritizing issues during the Study.

The locations for the Open Houses were publicly advertised in local newspapers and announced on the Airport’s Website.

**Project Notebooks**

Notebooks were provided to each SAC members for the organization of materials that were distributed throughout the preparation process. In addition, copies of the notebook were provided to local libraries. The project materials in the library notebooks were kept up to date throughout the preparation process.

**Website**

The airport’s web site was used extensively during the preparation of the Master Plan Update to enable broad access to technical data, meeting summaries, schedules, meeting agendas and other pertinent information.

**Working Documents/Draft Report**

A working document was prepared and presented to airport staff and the public before the Draft Report recommendations were formulated. In addition, the Draft Report’s recommendations were presented to and adopted by the Snohomish County Council in public hearing on December 4, 2002. At this initial public hearing a review of the process was presented and one Study Advisory Committee member eloquently requested that the County provide noise information to surrounding school districts so that adequate consideration on noise attenuating design features can be incorporated into the districts’ capital improvement programs for affected school facilities. Following this adoption, at the suggestion of the FAA, the base year 2002 aircraft operational data and INM inputs were refined, which resulted in new 2002 and 2008 NEM contours and this Revised Draft Report. The Revised Draft Report has been circulated for public review to the Master Plan Update Study Advisory Committee members and the public through local public libraries and the Airport’s webpage.

**Public Hearing**

As stated above the Revised Draft Report was circulated to the public through the Study Advisory Committee, as well as the public libraries, the airport’s webpage, and in the
airport administrative office. Notice of the public hearing was distributed with each copy of the Revised Draft Report, on the airport’s webpage, along with being published in the following newspapers (see proof of publication in the Appendix):

- Seattle Times
- Mukilteo Beacon
- Everett Herald
- Mukilteo Tribune

The public hearing was held on June 30, 2003 at the Public Works Transportation Committee meeting of the Snohomish County Council. Airport staff briefed the committee. One written comment (see appendix) and no verbal comments were received. The County Council continued the Public Hearing to its legislative session on July 1, 2003. No further comments were received during the July 1 hearing and the County Council adopted the Noise Exposure Maps with the attached motion (see appendix).
Appendix
ARMY RECORDS WRONG, MAYORAL CANDIDATE SAYS
CONTINUED FROM PREVIOUS PAGE

tificate of award or general order, those documents would have to be corroborated by Army records, unit logs and witnesses.

The Army's criteria for awarding a Purple Heart say in part that "the wound for which the award is made must have required treatment by a medical officer and records of medical treatment for wounds or injuries must have been made as a matter of official record."

Day said he was treated at the landing zone by a medic and did not require further medical attention.

Woody Woodruff, a senior service officer of the Snohomish County Veterans Assistance Fund and a former state president of the American Legion, said Day's military record, obtained through the federal Freedom of Information Act, does list other awards for wartime service.

He received a National Defense Service Medal and a Vietnam Service Medal, given to all military personnel involved in Vietnam military campaigns.

Day also received a Gallantry Cross Unit Citation Badge, awarded by the South Vietnamese government to all members of his unit.

Day, who is challenging Mayor Gary Haakenson in this fall's election, has never run for office or served on a city commission. He is a former businessman who is seek...
NOTICE

A PUBLIC HEARING WILL BE HELD AT 9:30 AM ON TUESDAY, JULY 1, 2003 ON THE ADOPTION OF NEW PART 150 NOISE EXPOSURE MAPS FOR PAINE FIELD.

The Hearing will be held by the Snohomish County Council, in the Jackson Board room on the 6th floor of the County Administration building at 3000 Rockefeller Ave in downtown Everett, as they consider adopting the new 2002 and 2008 noise maps as the "Official Noise Exposure Maps" for Paine Field. Public participation is encouraged. The Part 150 Revised Draft Report is available for review in local public libraries, at the airport office and on the web at painefield.com.

For more information please contact Bill Dolan at 425 353-2110 ext 2228.

Mukilteo Beacon 6/25/03

NOTICE

Public Hearing on The Adoption of the New Part 150 Noise Exposure Maps for Paine Field Tuesday July 1, 2003 3:00 AM

The Hearing will be held by the Snohomish County Council, in the Jackson Board room on the 6th floor of the County Administration building at 3000 Rockefeller Ave in downtown Everett, as they consider adopting the new 2002 and 2008 noise maps as the "Official Noise Exposure Maps" for Paine Field. Public participation is encouraged. The Part 150 Revised Draft Report is available for review in local public libraries, at the airport office and on the web at painefield.com.

For more information please contact Bill Dolan 425-353-2110 ext 2228.

Tribune 6/25/03
would start this fall.

New neighborhood parks: City officials recently received proposals from architects and are in the process of choosing one for the two new neighborhood parks.

One is planned at 6th and Place W. and 186th Street SW. The other is located in the 7500 block of 33rd Place W. One or both are planned to be budgeted for 2008.

They will be smaller, but similar to the new Meadowdale park at 168th Street SW.

Heritage Park: Ahead of schedule for completion, Larsen said and will be ready in October. Contractors are framing the shell that will house the historic 1948 Wicker's building is being reframed and a new roof is being added. The Wicker's building will hold the city's information center, and the south county information center will be moved to it from 12th Street SW in Everett.

REvised NOTICE

A PUBLIC HEARING WILL BE HELD AT 5:00 PM ON TUESDAY JULY 1, 2003 ON THE ADOPTION OF NEW PART 150 NOISE EXPOSURE MAPS FOR FAINE FIELD.

The Hearing will be held by the Snohomish County Council in the Jackson Board room on the 6th floor of the County Administration building at 3000 Rockefeller Ave in downtown Everett as they consider adopting the new 2002 and 2003 noise maps as the "Official Noise Exposure Maps" for Faine Field. Public participation is encouraged. The Part 150 Revised Draft Report is available for review in local public libraries, at the airport office and on the web at painefield.com.

For more information please contact Bill Dolan at 425-355-2110 extension 2222.

Readers:
We want to hear from you.
Call us with your comments or suggestions.
425-339-3016
To: Bob Drewel, Snohomish County Executive  
Re: Paine Field Master Plan FAA requested redefinition of noise boundaries

At the May 13th meeting of the Paine Field Community Council, it was mentioned that the FAA had requested a revision of the noise boundaries of the Paine Field Master Plan to then be resubmitted to the County Council. It was mentioned that they were redesigned using the 9/11/2001 timeframe noise reportings as their base. Of course, everyone knows that there was little noise because flying was restricted. It is not a realistic baseline timeframe and is a further example of diminishing focus and responsibility of airplane noise to the community by the FAA.

With Boeing using less of its buildings in the Paine Field area, and the possibility of using even less after their June 20th decision, I find it most interesting that the effort to get this noise section passed before the Boeing decision is so “coincidentally” timed. (I also hope the Council has not committed any funding to the National Flight Interpretative Center until Boeing’s decision has been made to stay in this area, or we will be paying for empty buildings, unless, of course, they will be part of some airline’s future terminal!)

I was told by the previous Paine Field director that the Paine Field Community area would not be impacted by thoughts of a regional airport as long as Boeing was using the runways at Paine Field, Seattle, and Renton, but if they were to ever leave (someone has been doing their 20 year planning—probably the same ones who added the 1979 revision “commuter service” to the mediated agreement!) then possibilities of Paine Field as a regional airport would increase. We seem to be on the “(H) horizon” of that moment.

As this noise piece of the Paine Field Master Plan is quietly slipped into the document, I once again call on the County Council to be proactive with their dealings with all the factors that can reduce the impact of noise and air pollution to the surrounding communities in Snohomish Co.

I have enclosed two recent articles, May 9th, 2003 Enterprise Business Showcase about Paine Field (interestingly split into three sections on three different pages toward the back of the paper), and a May 21, 2003, Seattle Times article on noise impact to community health. As you may remember the DNL dilutes airplane noise as a single event by mixing it with other noises of the community. I firmly believe that those of us living in the flight paths of Paine Field will most definitely notice the impact of a regular take-off and departure schedule of an increasing active Paine Field. Learn from the lessons of SEA/TAC and be proactive for this county. Though you may have retired before Snohomish County feels all the negative impacts to which I refer, it will be your names that will be remembered as the ones who had the opportunity to inform and guide the County into the healthiest legislation possible, and we look to you to do that.

I request that this letter and these articles be submitted as part of public record.

Sincerely,

Carol Howard Aguayo
SNOHOMISH COUNTY AIRPORT

Snohomish County Airport (Paine Field) was originally constructed in 1936 as a Works Progress Administration (WPA) project to create new jobs and become a “super airport”. While the “super airport” status was never realized, the Airport has evolved into one of the busiest general aviation, industrial, and reliever airports in the Puget Sound region. Although there is currently no commercial passenger air service at Paine Field, the Airport Master Plan documents the potential

To next page

2003 Business Showcase

market for future commuter or regional service. There are currently over 500 based aircraft and 200,000 airfield operations a year. These figures are projected to increase.

Major Paine Field tenants include the Boeing Company and Goodrich; but, there are also over fifty smaller firms on the airport. Two flight schools offer flight instruction from Private Pilot up through Instructor, Instrument, Multi-engine and Commercial ratings. The Everett Community College has an Aviation Maintenance Technical School at Paine that provides training for future aviation technicians. The Museum of Flight operates its restoration center on the field, offering free tours Tuesday through Saturday.

Paine Field has over 200 acres of undeveloped land and supports economic development by providing facilities for commercial and industrial uses. Current projects at the Airport include: Construction of 70 new hangars for small and midsize general aviation aircraft. The Airport currently has a three-year waiting list for this type hangar.

The Federal Aviation Administration (FAA) is finishing up on a new $8M, 192-foot control tower that is due to open in October of this year.

The newest entrepreneurial endeavor being considered at Paine is an aviation museum and tour center presently referred to as the National Flight Interpretative Center (NFIC). The NFIC would be a Public Facilities District project proposed for development and ownership by Snohomish County.

The proposed new facility would house an aviation museum, conference center, gift shop and educational space. The Boeing Company would relocate and operate their Boeing Tour Center in the proposed NFIC facility. The Museum of Flight in Seattle has been selected as operator of the museum portion of the proposed NFIC.

Among the attractions projected to be offered at the proposed new NFIC are:

- Aircraft and aviation history displays.
- An education center for students.
- A restaurant, gift shop, meeting rooms and a theater.
- Views of runway flight activity at Paine Field just as the Museum of Flight offers at Boeing Field.
- Tours of the Boeing 747/767/777 assembly plant from the center.
- Possible future construction of an adjoining 125-room hotel.

The Boeing Tour Center has historically been shown to be one of the most popular tourist attractions in Washington, with 75 percent of the

visitors coming from outside Snohomish County and 60 percent from outside the U.S., an indication of how appealing the proposed new facility should be with the Boeing Tour Center and NFIC museum being co-located. The proposed National Flight Interpretative Center is projected to become a major tourist destination in Snohomish County by potentially increasing the annual number of county visitors by 100,000 and annual county tourism revenues by $3.5m.
Mid-volume sound | Sure, high decibels are bad for the ears. But the stress caused by the hum of everyday life can harm many other aspects of our physical and emotional well-being.

BY CAROL B. DYER
Seattle Times staff reporter

Ah, the balmy days of just-about-sum-mer in Seattle. The air is warm and humid, and you’re trying to send some of that stuff through your ears, water-resistant, bone.

You throw open your windows. The warm air rushes in, bringing the heavy scent of the, and snack quotes.

And ... noise.

The dull roar of traffic, punctuated by the distinctive hoots of horns and rumble of motors. The buzz of existing traffic from the planes overhead. The rock music played by the guy across the street, who—like you—has thrown open his windows.

The big boss next door: Wood-wood-wood-wood-wood-wood. ROOF!

Very likely, researchers say, is everybody you can see, noise monitors on you, they’ll find your blood pressure, levels coming a little more, steam’s starting to get a bit hazy. They’ll probably find you’re having trouble, concentrating, maybe even getting cables.

Everybody knows that Big Noise can permanently hurt your hearing. As an epidemic of baby boomers with hearing damage—increasingly among President Clinton—has raised warnings about our loud- ing rock concerts, close-by firecrackers, gun- fire and even airplanes. Even common noises at 80 decibels, a measurement of sound, anywhere between the typical stereo, stuck to a wall or sound, can damage ears if they hang around long enough.

But what about the low-level noise? Dishwashers, traffic, music, vacuum cleaners, air conditioners, dishwashers.

While such noise may not damage your hearing, researchers are finding that your body reacts to it in the same ways it does to other types of stress. Unwanted sound, says Cornell University noise researcher Gary Evans, "puts demands on you, and you try to cope with that—but some of the things you to cope aren’t very healthy.”

Noise, says the American Speech-Language-Hearing Association, can elevate blood pressure, cause changes, reduce sleep, increase frustration and anger, disrupt concentration.

The World Health Organization, which has studied "community noise," con- cluded these effects can be not to reduce productivity and ability to learn, absentee- ism, anticipation responses and even increased deaths.

A study of workplace noise published in the Journal of Occupational Health Psychology last year found that those employees, combined with exposure to chronic noise, may cause blood pressure to rise and could lead to greater risk of cardiovascular dis- ease. A Swedish study found that people living in the highest-noise rooms near airports were much more likely to have high blood pressure than those who lived further away.

One study—a staged incident with someone getting out of a car and accidentally dropped an object—also found passen- gers less likely to help when a nearby lawn- mower was running, Evans noted.

Researchers have found that hearing im- proves during times of stress, but that sup- er-stress state can make us even more sus- ceptible to noise.
Noise can make students lag and elevate stress hormones.

Nipping noises

If you've ever been annoyed by the sound of a lawnmower or a jackhammer, you know that noise can be incredibly distracting. But what about the quieter sounds in your environment? Noise that is often overlooked, yet can still have a significant impact on our mental and physical health. In this article, we explore the effects of noise pollution on students and the strategies that can help mitigate these effects.

First, the importance of quiet

In an article published in the Seattle Times, researchers suggest that noise pollution is a major concern for students. The article cites studies that show that noise can disrupt learning, decrease focus, and increase stress levels. Moreover, students in noisy environments may experience a decrease in academic performance. The article highlights the need for quiet spaces in schools to support student learning.

噪音 can make students lag and elevate stress hormones.

噪声 can make students lag and elevate stress hormones.

One of the key findings in the article is that noise can disrupt the ability of students to concentrate. In an environment with high levels of noise, students may struggle to focus on their work, leading to decreased learning outcomes. The article cites studies that show that students in noisy environments may experience a decrease in academic performance.

The article also highlights the importance of creating quiet spaces in schools. These spaces could be used for reading, writing, or simply quiet time for students to relax. By providing students with a quiet environment, schools can help reduce the impact of noise on students' learning.

Moreover, the article highlights the need for noise reduction strategies. These could include the use of sound-dampening materials in buildings, the implementation of noise control policies, and the use of earplugs for students who are particularly sensitive to noise.

In conclusion, the article highlights the need for increased awareness of the impact of noise on students. By acknowledging the problem and implementing strategies to mitigate its effects, we can create a more conducive learning environment for all students.

Note: Paine Field left out.
June 16, 2003

Carol Howard Aguayo
4012 173rd Pl. SW
Lynnwood WA 98037

Dear Ms. Howard Aguayo:

Thank you for writing to County Executive Bob Drewel regarding Paine Field. He has asked me to respond on his behalf. We appreciate your understanding of the many opportunities that exist at Paine Field, including the National Flight Interpretive Center and possible Boeing tour center.

Paine Field does have an exciting future that will entail changes. As in the past, however, we are committed to working in an open and public manner with the Paine Field Community Council and neighbors and communities adjacent to Paine Field to minimize the impacts that changes could have. I am aware of the significant problems, especially noise, that have been a battleground for other airports and their neighbors. Changes in technology and a long history of positive interaction between Paine Field and surrounding communities give me hope that we can work constructively in the future.

Please stay actively engaged in this important issue. We need engaged citizens to make balanced and informed decisions.

Sincerely,

Stephen L. Holt
Executive Director

cc: Dave Waggoner, Airport Director
SNOHOMISH COUNTY COUNCIL  
SNOHOMISH COUNTY, WASHINGTON 

MOTION NO. 03-316  

A MOTION ADOPTING THE PAINE FIELD AIRPORT PART 150 NOISE EXPOSURE MAPS  

WHEREAS, the County Council adopted a Part 150 Noise Compatibility Plan, including Noise Exposure Maps, for the Snohomish County Airport at Paine Field pursuant to Motion No. 95-220 in July 1995, and  

WHEREAS, the County Council adopted new forecasts of aviation activity at Paine Field as part of the Airport Master Plan update study by Motion No. 01-255 on July 25, 2001, and  

WHEREAS, the Noise Exposure Maps are required to be updated pursuant to CFR 14 Part 150 and the County Council adopted new Noise Exposure Maps on December 4, 2002, subject to FAA approval, and  

WHEREAS, the FAA has requested revisions in the Noise Exposure Maps database and the proposed Noise Exposure Maps are based on the new forecast and reflect the database revisions requested by FAA, and  

WHEREAS, the County Executive and Airport staff recommend adoption of the new Part 150 Noise Exposure Maps  

NOW THEREFORE ON MOTION: the Snohomish County Council adopts the new Part 150 Noise Exposure Maps dated June 2003 for Paine Field as the official Airport Noise Exposure Maps.  

DATED this 2nd day of July 2003.  

SNOHOMISH COUNTY COUNCIL 
Snohomish County, Washington  

Chairperson  

ATTEST:  

Asst. Clerk of the Council  

D-6
January 8, 2004

Mr. Dave Waggoner, Airport Director
Paine Field/Snohomish County Airport
3220 100th Street S.W.
Everett, Washington 98204-1390

Dear Mr. Waggoner:

The 2002/2003 and 2008 noise exposure maps (Figures 7 and 8) and supporting documentation you submitted to us, in accordance with Section 47503(a) of Title 49 United States Code (49 U.S.C.), have been reviewed. We have determined that your submission complies with applicable requirements of Title 14 Code of Federal Regulations, Part 150, and that the following applies:

a. The base map of the airport environs land use was prepared in consultation with public agencies and political jurisdictions within the 65 day/night noise level (DNL) contour.

b. The maps listed above are reasonably consistent with the provisions set forth in Federal Aviation Regulation (FAR) Part 150.

Our determination is limited to a finding that the maps were developed in accordance with the procedures contained in FAR Part 150. Such determination does not constitute approval of your data, information, or plans.

In addition, we will not be involved in determining the relative locations of specific properties with regard to the depicted noise contours. We will not interpret the maps to resolve questions concerning, for example, which properties should be covered by the provisions of Section 47507 of 49 U.S.C. These functions are inseparable from the ultimate land-use-control and planning responsibilities of local government.

The local responsibilities are not changed in any way under FAR Part 150, or through our determination relative to your noise exposure maps. Responsibility for the detailed overlaying of noise exposure contours onto maps that depict properties on the surface rests exclusively with you, the airport operator, or with those public agencies and planning agencies with which consultation is required under Section
47503(a)(1) of 49 U.S.C. We rely on your certification that the statutorily required consultation, under Section 150.21 of FAR Part 150, has been accomplished.

We will publish a notice in the Federal Register announcing our determination of the noise exposure maps for Paine Field/Snohomish County Airport.

To satisfy the requirements of Section 47506 of 49 U.S.C., you are required to publish a notice of our determination, and the availability of the noise exposure maps. This notice is to be published at least three times in a newspaper of general circulation in the county or counties where affected properties are located.

Also, you are required, under Section 150.21(d) of FAR Part 150, to promptly submit revisions to these maps, should there be any actual or proposed change in the operation of Paine Field/Snohomish County Airport that might create any substantial or new non-compatible use in any areas depicted on the maps.

Congratulations on your successful completion of the FAR Part 150 noise exposure maps. We look forward to our continuing relationship with you to mitigate aircraft noise impacts.

Sincerely,

Lowell H. Johnson
Manager, Airports Division
Northwest Mountain Region

CC:
APP-800
SEA-600
NOISE EXPOSURE MAP NOTICE
AGENCY: Federal Aviation Administration, DOT
ACTION: Notice
SUMMARY: The Federal Aviation Administration (FAA) announces its determination that the noise exposure maps submitted by Snohomish County for Paine Field/Snohomish County Airport under the provisions of 49 U.S.C. 47501 et. seq (Aviation Safety and Noise Abatement Act) and 14 CFR Part 150 are in compliance with applicable requirements.

EFFECTIVE DATE: The effective date of the FAA's determination on the noise exposure maps is January 8, 2004.

FOR FURTHER INFORMATION CONTACT: Dennis Olesenkop, Federal Aviation Administration, Airports Division, 1601 Lind Ave. S.W., Renton, WA, 98055-4056, telephone 425.227.2611.

SUPPLEMENTARY INFORMATION: This notice announces that the FAA finds that the noise exposure maps submitted for Paine Field/Snohomish County Airport are in compliance with applicable requirements of Part 150, effective January 8, 2004. Under 49 U.S.C. section 47503 of the Aviation Safety and Noise Abatement Act (hereinafter referred to as "the Act"), an airport operator may submit to the FAA noise exposure maps which meet applicable regulations and which depict non-compatible land uses as of the date of submission of such maps, a description of projected aircraft operations, and the ways in which such operations will affect such maps. The Act requires such maps to be developed in consultation with interested and affected parties in the local community, government agencies, and persons using the airport. An airport operator who has submitted noise exposure maps that are found by FAA to be in compliance with the requirements of Federal Aviation Regulations (FAR) Part 150, promulgated pursuant to the Act, may submit a noise compatibility program for FAA approval which sets forth the measures the operator has taken or proposes to take to reduce existing non-compatible uses and prevent the introduction of additional non-compatible uses.

The FAA has completed its review of the noise exposure maps and accompanying documentation submitted by Snohomish County for Paine Field/Snohomish County Airport. The documentation that constitutes the 'noise exposure maps' as defined in section 150.7 of Part 150 includes the following from the September 2003, Paine Field FAR Part 150 Noise Exposure Maps Update:
- Figure 7 at page 19, Existing Noise Exposure Map, 2002/2003;
- Figure 8 at page 20 Future Noise Exposure Map, 2003;
- Figure 6 at page 12 Flight Tracks;
- Figure 5 at page 11 Noise Monitoring Sites;
- Table 1 at page 9 Summary of Aviation Forecasts 2002-2003;
- Tables 2 through 5 at pages 14-18 present flight track utilizations by runway and aircraft type;
- Figure 7 at page 19, Existing 2002 Noise Exposure Map, presents estimates of the number of persons residing with the DNL 55, 60, and 65 noise contours;
- Figure 8 at page 20, Future 2008 Noise Exposure Map, presents estimates of the number of persons residing with the DNL 55, 60, and 65 noise contours;
- The year of submission (2003) airport operations data is equivalent to the submitted existing condition Noise Exposure Map (2002) operations data and the five-year forecast Noise Exposure Map is reasonable.

The FAA has determined that these noise exposure maps and accompanying documentation are in compliance with applicable requirements. This determination is effective on January 8, 2004.

The FAA's determination on an airport operator's noise exposure maps is limited to a finding that the maps were developed in accordance with the procedures contained in appendix A of FAR Part 150. Such determination does not constitute approval of the applicant's data, information or plans, or a commitment to approve a noise compatibility program or to fund the implementation of that program. If questions arise concerning the precision relationship of specific properties to noise exposure contours depicted on a noise exposure map submitted under section 47503 of the Act, it should be noted that the FAA is not involved in any way in determining the relative locations of specific properties with regard to the depicted noise contours, or in interpreting the noise exposure maps to resolve questions concerning, for example, which properties should be covered by the provisions of section 47506 of the Act. These functions are inseparable from the ultimate land use control and planning responsibilities of local government. These local responsibilities are not changed in any way under Part 150 or through FAA's review of noise exposure maps. Therefore, the responsibility for the detailed overlaying of noise exposure contours onto the map depicting properties on the surface rests exclusively with the airport operator that submitted those maps, or with those public agencies and planning agencies with which consultation is required under section 47503 of the Act. The FAA has relied on the certification by the airport operator, under section 150.21 of FAR Part 150, that the statutorily required consultation has been accomplished.

Copies of the full noise exposure map documentation and of the FAA's evaluation of the maps are available for examination at the following locations:
Federal Aviation Administration
Airports Division, Suite 315
1601 Lind Avenue, S.W.
Renton, Washington
Federal Aviation Administration
Seattle Airports District Office
1601 Lind Ave. S.W. Suite 250
Renton, Washington
Snohomish County Airport
Office of the Airport Director
3220 100th Street S.W.
Everett, WA

Questions may be directed to the individual named above under the heading FOR FURTHER INFORMATION CONTACT, issued in Renton, Washington, January 8, 2004

Original Signed by

Lowell H. Johnson, Manager
Airports Division
Puget Sound Regional
Northwest Mountain Region
Published: January 24, 25, 26, 2004.
-----Original Message-----
From: Sheri.Kasen@faa.gov [mailto:Sheri.Kasen@faa.gov]
Sent: Tuesday, September 16, 2003 11:23 AM
To: Cayla.Morgan@faa.gov; Dolan, Bill
Subject: Paine Field Part 150 estimate

Cayla-

I just wanted you to know that I have reviewed the forecasts from Paine Field. Bill Dolan spent considerable time with me last week describing the process that was used to derive the forecasts. I support what Paine Field has done and I concur with their process and estimates.

If you need any further information, please let me know.

Sheri Kasen
**NOISE ABATEMENT PROCEDURES FOR ALL AIRCRAFT**

Noise abatement procedures are designed to minimize exposure of residential areas to aircraft noise, while ensuring safety of flight operations. There are communities surrounding the airport which are noise sensitive. We want to minimize the noise impacts on these communities. The procedures described herein are intended for noise abatement procedures and are subject to air traffic control and pilot discretion for reasons of safety.

**SMALL PROPELLER AIRCRAFT**
(Single and twin engine under 12,500 pounds)

- Avoid overflights of school sites shown on map.
- Aircraft with engines rated over 250 total horsepower are requested to use Runway 16R/34L except itinerant operations as noted below.

**Approaches:**
- Itinerant arrivals and low approaches of small aircraft over 250 horsepower are authorized on Runways 29, 16L and 34R.
- Enter Class D Airspace from the suggested reporting points as shown on the map at or above 1600' MSL.
- Runway 16R/34L, Runway 16L/34R, Runway 11/29: Remain as high as practical until intercepting the VASI, PAPI or glide slope unless directed otherwise by ATC.

**Departures:**
- Itinerant departures allowed on Runways 11/29 and 34R. Itinerant departures from Runway 29 should proceed with a 50 degree north turn over 34R.
- Climb runway heading to 1100' MSL or higher before turning unless directed otherwise by ATC.
- Maintain 1600' MSL or higher until leaving the Class D Airspace.

**JET, TURBOPROP & LARGE PROPELLER AIRCRAFT**

Noise abatement procedures in effect unless directed otherwise by ATC

**Use Runway 16R/34L:**
- Touch and go operations and repetitive training flights are discouraged.
- Runway 34L departures are discouraged in calm wind conditions.

**Approaches:**
- Standard NBAA/Aircraft Operating Manual noise abatement procedures should be used.
- Practice IFR approaches during VMC.
- Circle to land maneuvers are discouraged.
- Missed approach instructions will be assigned by ATC.

**VFR Approaches:**
- Downwind should be flown midchannel.
- Runway 16R: Make turn to final north of shoreline or 2.5 DME.
- Fly final at or above ILS glide slope, VASI or PAPI.
- Straight-In Approach: Maintain at or above 2,000' MSL until intercepting ILS glide slope, VASI or PAPI.

**Departures (IFR or VFR):**
- Intersection takeoffs are discouraged.
- Standard NBAA/Aircraft Operating Manual noise abatement procedures should be used.
- Runway 34L: Avoid turns before reaching the shoreline or at 2.5 D'
- Runway 16R: Avoid turns until reaching 3000' MSL.

**ROTARY WING AIRCRAFT**
- **Military** - Copies of military procedures are available from airport Operation.
- **Civilian** - Contact Air Traffic Control for takeoff and landing procedures

**OPERATIONS WITH ATC TOWER CLOSED**
- Announce intentions on CTAF 132.95.
- Runways 11/29 and 16L/34R closed.
- Caution for converging traffic on base to final legs to Runway 16R - 34L
  - Large aircraft fly a west pattern to 16R or 34L over the water.
  - Small aircraft fly east pattern on 16R or 34L.
- Intersection departures and repetitive training operations are discouraged.
- PPR for Air Carrier Service 2100 - 0700 local (425-771-0488 or 353-1606).