

Im hoping you could answer a few questions regarding the PART 150 NOISE COMPATIBILITY STUDY that was updated in Oct 2013. I need you to explain

Page 3-39 Table 3-1 shows 13 temporary noise measurement sites. Closest one to the south end runway site is on 8<sup>th</sup> ave aprx 2 miles from the airport, next one aprx 6mi in Burien and 2 monitors on VASHON ISLAND APRX 35mi away.

POS used those temporary noise measurements readings to determine the day night level around the airport and did not even acknowledge the readings from the 25 permanent noise measurement sites that are located around the airport. WHY?

**RESEARCHED:**

There is a permanent noise measurement box a half a block away from my parents' home. So I did my own study: October 16 - October 20, 2016 I recorded monitor number 17 at 1217 S. 207 Street

I kept track of 72 flights, time, if flights were from 10 PM to 7 AM, the flight number, altitude, the decibel reading, miscellaneous notes and number of planes with number of minutes. **ALL THESE FLIGHTS WERE USING THE 1<sup>ST</sup> RUNWAY.. RUNWAY 2 AND 3 ARE OVER THE HOUSES.**

There was 4 flights 65DbA OR LOWER. There was 1 flight that was between 10pm-7am during the flight quiet program. add 10dBA takes it over 65dBA. There was 7 flights 66dBA-70dBA and 2 flights between 10 PM and 7 AM which takes them over 70dBA. There was 39 flights 71dBA-75 dBA and 14 flights between 10 PM and 7 AM which takes them over 80dBA. There was 20 flights 76 dBA -80 dBA and 9 flights between 10 PM and 7 AM which takes them over 90dBA. There was 2 flights 81 dBA -85 dBA and 1 flight between 10 PM and 7 AM which takes them over 95dBA.

Out of the 72 flights, 39 flights were 71dBA-75dBA and from those, 14 flights were between 10 PM and 7 AM which takes them over 80Dba. Only 4 flights were in the 65dBA.

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Also, Part 150 Study Page 6-38 measurement-11 approach transition zone acquisition recommended that the port purchase residential properties experiencing noise levels of DNL 65dBA or greater and located within the approach transition zone of the third runway this measure is ongoing as a voluntary acquisition program 69 residential homes 2 mobile parks within the north ATZ has been purchased program is complete and the north end program is complete approximately 12 single-family residence and six apartment buildings remain in the South

where is ATZ-Part 150 Study Page 3-108 existing baseline noise exposures contour  
The dnl 65 North 1.6 miles beyond the north 3<sup>rd</sup> runway  
The dnl 65 south 1.6miles beyond the south end 3<sup>rd</sup> runway

when would use 3rd runway arrivals

port seattle website Part 150 study FAQ,

During lower visibility conditions, arriving aircraft are directed onto the third runway (16R/34L) and the longest, easternmost runway (16L/34R), allowing Sea-Tac Airport to accept two streams of traffic with adequate separation. The third runway also is used during peak traffic periods when multiple aircraft are scheduled to arrive in the same time period. SOUTH END RUNWAY BUT NORTH IS COMPLETED

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FAA Airport Division – Runway Protection Zones

550 Runway protection zones are a trapezoidal area “off the end of the runway end that serves to enhance the protection of people and property on the ground” in the event an aircraft lands or crashes beyond the runway end. Under FAA design criteria (which applies to all obligated airports), the airport must own the landing area. Secondly the airport owner must have sufficient interest in the Runway Protection Zones to protect the Runway Protection Zones from both obstructions and incompatible land use. Land uses prohibited from the RPZ are: residences and places of public assembly. (Churches, schools, hospitals, office buildings, shopping centers, and other uses with similar concentrations of persons typify places of public assembly.)” In cases where the land is already developed and it would be too expensive to acquire the existing development, this policy is a recommendation to the landowner i.e. it is a notice to the landowner that the FAA considers such uses incompatible. Airports that do not own the entire RPZ should consider the need to acquire such land if there is any possibility that incompatible land uses could occur within the RPZ. Airports that do not own the entire RPZ should consider the need to acquire such land if there is any possibility that incompatible land uses could occur within the RPZ.

So The FAA has designated that several areas around Sea-Tac Airport be protected and kept clear of obstructions to ensure the safety of arriving and departing aircraft, as well as people and property in the vicinity of the airport.

Now why am I bring this all up? Who am I? I lived in Seatac for 42yrs, 20 of those years were 1/2 block from where I got those flight readings! AND MY PARENTS STILL LIVE THERE 44YRS!

POS used 13 temp noise sites from 2mi-35mi away from the airport to come up with the DNL.

POS did not use any readings from the 25 perm sites, if they did, there is no possible way that those 250+ homes would have 65dnl since the planes are 900ft over them.

With measurement-11 approach transition zone acquisition now knowing that the 3rd runway is used During lower visibility conditions and during peak traffic periods, having dnl of 80 and above, and rpz zone regulations, I ask you, to review Measure P-3: Periodically review and, if necessary, update the Noise Exposure Maps (NEMs) and the Noise Compatibility Program (NCP). Benefits: Provides continued opportunity for public outreach and public involvement in planning for noise compatibility.

And I would like to get the information on Measure M 5: Property Advisory Service

This measure provides residents and property owners within the Airport Environs with access to timely and factual information concerning 1) what noise remedies they may be eligible for, 2) assistance with making decisions when they are eligible for multiple options, 3) information regarding rumors about the mitigation program (either good or bad), and 4) assurances that the various programs are indeed aimed at improving the living, working and leisure time environment. This two way communication can also provide the Port with information about the concerns of the residents/property owners and can provide a means by which the success or failure of programs can be monitored.

FAA Determination: Approved as it is a continuation of a previously approved measure.

Oh and I have pictures of the 72 flights I recorded along with a spreadsheet to prove my research and copies of this I just red along with my email address where you can respond in a timley manner.

Thank you,

Jen Scaman

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were observed during the measurement dates. **Table 3-3, Temporary Noise Monitoring Program Duration**, lists the dates and times of the monitoring periods at each site and the north/south air traffic flow ratio. During an average year, Sea-Tac Airport experiences **North Flow approximately 35 percent of the time and South Flow about 65 percent of the time.**

**Temporary Noise Measurement Sites Table 3-1**

<b>SITE</b>	<b>ADDRESS</b>	<b>CITY</b>
A	1046 S Elmgrove St	Seattle
B	12112 26th Ave SW	Burien
C	11401 10th Ave S	Burien
D	537 S 137th Pl	Burien
E	17600 Sylvester Rd SW	Burien
F	16856 Des Moines Memorial Dr	Burien
G	360 SW 178th St	Normandy Park
H	19438 Edgecliff Dr SW	Normandy Park
I	19030 8th Ave S	SeaTac
J	25617 Marine View Dr	Des Moines
K	1811 SW 152nd St	Burien
L	25722 79th Ave SW	Vashon
M	10311 SW 116th Pl	Vashon

**Permanent Sites Table 3-2**

<b>MONITOR</b>	<b>LOCATION</b>	<b>CITY</b>
1	Air Cargo 4 (on Sea-Tac Airport property)	SeaTac
2	South Run-up AOA (on Sea- Tac Airport property)	SeaTac
3	Maple Leaf Reservoir	Seattle
4	Magnolia Elementary School	Seattle
5	Medina Elementary School	Medina
6	Hamilton Viewpoint Park	Seattle
7	Central Area Senior Center	Seattle
8	Mercer View Community Center	Mercer Island
9	Beacon Hill Reservoir	Seattle
10	Brighton Playfield	Seattle
11	Beverly Park School	Seattle
12	2226 S 126th Street	Seattle
13	Cedarhurst Elementary School	Seattle
14	North Clear Zone	Seattle
15	Sylvester Middle School	Burien
16	Chinook Middle School	SeaTac
17	1217 S 207th Street	Des Moines
18	1205 S 226th Street	Des Moines
19	Midway Elementary School	Des Moines
20	Parkside Elementary School	Des Moines

21	Mark Twain School	Federal Way
22	Sacajewea Jr. High School	Federal Way
23	Merideth Hills Elementary	Auburn
24	Federal Way Public School	Federal Way
25	Twin Lakes Elementary School	Federal Way

## **NOISE COMPATIBILITY PROGRAM MEASURE: M-11**

**Description:** Approach Transition Zone Acquisition

**Background and Intent:** This measure recommended that the Port purchase residential properties experiencing noise levels of DNL 65 dBA or greater, and located within the Approach Transition Zones (ATZ) of Runway 16R/34L.

This measure is ongoing as a voluntary acquisition program. A total of 69 residential parcels and 2 mobile home parks within the North ATZ have been purchased and residents relocated and the program is complete in this area. There are approximately 12 single-family residences and 6 apartment buildings remaining in the south ATZ (a total of 77 residential units).

In accordance with the FAA's Airport Improvement Program (AIP) Handbook (FAA Order 5100.38C), projects that involve acquisition must conform to the provisions of the Uniform Relocation Assistance and Real Properties Acquisition Policies Act in effect at the time the land was acquired.

**Relationship to 2002 NCP:** This measure was included in the 2002 NCP.

**Land Use Compatibility Improvement:** This measure would potentially remove up to 77 land uses within the South ATZ that are incompatible with aircraft noise.

**Responsible Implementing Parties:** Port of Seattle

### **Implementation Steps, Costs, and Phasing:**

FAA Requested Action: No action by FAA is required.

Steps: The Port should make offers to acquire the remaining residential properties within the South ATZ. The Port would be responsible for relocation assistance to the residents of these residences in accordance with FAA Order 5100.37B, Land Acquisition and Relocation Assistance for Airport Projects, and in Advisory Circular 150/5100-17, Land Acquisition and Relocation Assistance for Airport Improvement Program Assisted Projects.

Costs: There are 16 single-family residences and 6 apartment buildings remaining in the south ATZ. Cost to acquire all residential properties within south ATZ is estimated to be \$10 million. Actual cost will depend on which properties actually participate.

Acquisition would remove these properties from the local tax base. Property tax revenue on these properties is an estimated \$45,000 to \$50,000, which is allocated between the State of Washington, King County, the cities of Des Moines and SeaTac, the local school district, the EMS district, and other special districts and fees.

Schedule: This measure can continue uninterrupted at the discretion of the Port.

**Effects on Other Programs/Measures:** This measure is not expected to impact other programs or measures.

## Part 150 Noise Measurement Report

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### Duration of Monitoring

The temporary noise monitoring was conducted for a few days at each site. The weather during the monitoring period was clear with minor precipitation. The microphone windscreen at Site M was knocked off (probably by a bird) during the third day of measurements exposing the microphone to enough moisture to affect the measurements. Both North and South air traffic flow were observed during the measurement dates. *Table 2 – Temporary Noise Monitoring Duration* lists the dates and times of the monitoring periods at each site and the North and South air traffic flow percentages. During an average year, Sea-Tac Airport experiences North Flow approximately 35% of the time and South Flow about 65% of the time.

*Table 2 – Temporary Noise Monitoring Duration*

<b>Site</b>	<b>Start Date</b>	<b>Start Time</b>	<b>End Date</b>	<b>End Time</b>	<b>Days of monitoring</b>	<b>North/South</b>
<b>A</b>	6/28/10	14:26:26	7/1/10	14:24:43	3	18% / 82%
<b>B</b>	7/5/10	10:56:13	7/9/10	13:14:10	4	94% / 6%
<b>C</b>	7/6/10	15:09:06	7/9/10	12:50:17	3	99.5% / 0.5%
<b>D</b>	7/6/10	9:16:27	7/9/10	12:04:22	3	99.5% / 0.5%
<b>E</b>	7/2/10	12:35:43	7/5/10	15:36:12	3	15% / 85%
<b>F</b>	6/28/10	15:06:41	7/4/10	14:40:59	6	15% / 85%
<b>G</b>	6/29/10	15:18:14	7/4/10	15:00:43	5	18% / 82%
<b>H</b>	7/2/10	11:46:19	7/5/10	15:20:03	3	15% / 85%
<b>I</b>	7/6/10	10:00:29	7/9/10	14:13:38	3	99.5% / 0.5%
<b>J</b>	6/28/10	16:19:54	7/1/10	17:35:04	3	18% / 82%
<b>K</b>	7/5/10	10:18:04	7/9/10	11:41:51	4	94% / 6%
<b>L</b>	7/14/10	10:30:00	7/22/10	06:45:00	8	28% / 72%
<b>M</b>	9/16/10	11:30:00	9/19/10	12:30:00	3	14% / 86%

**Table 3-3  
TEMPORARY NOISE MONITORING PROGRAM DURATION  
Seattle-Tacoma International Airport**

<b>SITE</b>	<b>START DATE</b>	<b>START TIME</b>	<b>END DATE</b>	<b>END TIME</b>	<b>DAYS OF MONITORING</b>	<b>NORTH/SOUTH</b>
<b>A</b>	6/28/2010	14:26:26	7/1/2010	14:24:43	3	18% / 82%
<b>B</b>	7/5/2010	10:56:13	7/9/2010	13:14:10	4	94% / 6%
<b>C</b>	7/6/2010	15:09:06	7/9/2010	12:50:17	3	99.5% / 0.5%
<b>D</b>	7/6/2010	9:16:27	7/9/2010	12:04:22	3	99.5% / 0.5%
<b>E</b>	7/2/2010	12:35:43	7/5/2010	15:36:12	3	15% / 85%
<b>F</b>	6/28/2010	15:06:41	7/4/2010	14:40:59	6	15% / 85%
<b>G</b>	6/29/2010	15:18:14	7/4/2010	15:00:43	5	18% / 82%
<b>H</b>	7/2/2010	11:46:19	7/5/2010	15:20:03	3	15% / 85%
<b>I</b>	7/6/2010	10:00:29	7/9/2010	14:13:38	3	99.5% / 0.5%
<b>J</b>	6/28/2010	16:19:54	7/1/2010	17:35:04	3	18% / 82%
<b>K</b>	7/5/2010	10:18:04	7/9/2010	11:41:51	4	94% / 6%
<b>L</b>	7/14/2010	10:30:00	7/22/2010	6:45:00	8	28% / 72%
<b>M</b>	9/16/2010	11:30:00	9/19/2010	12:30:00	3	14% / 86%

Source: Landrum & Brown, 2013.

### **METHODS FOR NOISE EVENT CORRELATION**

Measured noise events were matched with specific aircraft operations using the following two-step method:

1. Once data was downloaded, noise levels greater than 60 dB for duration longer than three seconds were identified as individual noise events.
2. Using the flight data from the airport noise and operations monitoring system, noise events that occurred while aircraft flew within 1.9 nm (4 nm at Site I) from the measurement site were correlated and classified as aircraft noise events. The airport's permanent monitors use a similar correlation distance setting.

Although this method provided positive identification of aircraft operations and highly accurate correlation with measured noise events, some community noise (e.g. cars, lawnmowers, animals) and aircraft noise occurred simultaneously and correlated as aircraft noise events. Unfortunately, there is currently no technology to separate aircraft noise levels from simultaneous non-aircraft noise levels.

## Part 150 Noise Measurement Report

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### Cumulative Noise Level Results, DNL

The noise measurement data were used to compute DNL for each temporary site. An aircraft only and community (non-aircraft) DNL were calculated for each site. The aircraft DNL was calculated from all one-second data that was recorded at each temporary site during an aircraft noise event. The community DNL was computed from all one-second data that were recorded at each temporary site when there were no aircraft noise events. These DNL values of a few days of measurements should not be compared to an annual average DNL value because different aircraft types and runway utilization are used to calculate the annual average DNL. The results are shown below.

Table 4 – Aircraft DNL Results

Site	Aircraft DNL	Community (non-aircraft) DNL	Number of Aircraft Events
A	62.6	62.1	1003
B	39.4	56.1	12
C	62.6	60.1	1042
D	59.7	60.0	1028
E	36.4	61.5	4
F	35.8	61.0	36
G	30.9*	51.7	7
H	35.5	60.8	27
I	64.4	63.4	2191
J	61.1	57.1	615
K	33.9	52.3	13
L	39.0	**	43
M	42.2	65.7***	63

\* Site G had few noise event-to-aircraft correlations due to the small difference between aircraft noise and ambient noise levels.

\*\* Site L measurements had computer problems that prevented the storage of noise levels not part of a distinct noise event and therefore the community noise levels were not recorded. Note that aircraft noise event data were recorded for 8 days of measurements appropriately allowing the aircraft DNL to be measured correctly. Note that at this site there were many overflights that did not trigger a noise event because the noise event did not cause noise levels to exceed the noise event threshold. The noise event threshold varied by time of day from 50 to 64 dBA.

\*\*\* Site M community noise levels were measured high due to the predominance of rain that occurred sporadically, and sometimes heavily, throughout the measurement

**Noise Measurement Results**

Noise level readings were used to characterize the noise environment at each location and to distinguish the various noise levels associated with individual aircraft operations.

Ambient Noise Levels

The data collected during the measurements can be summarized as a noise environment in terms of the noise level exceeded 10%, 50%, and 90% of the time and designated as L<sub>10</sub>, L<sub>50</sub>, L<sub>90</sub>, respectively. The L<sub>10</sub> is the noise level exceeded 10% of the time and represents the typical peak noise level. The L<sub>50</sub> is the median noise level. L<sub>90</sub> is the noise level exceeded 90% of the time. The L<sub>90</sub> is a good approximation of the background noise level, i.e., the noise level that would occur in the absence of identifiable noise events. *Table 3 – Ambient Noise Levels by Temporary Site* lists the L<sub>10</sub>, L<sub>50</sub>, and L<sub>90</sub> levels at each measurement site.

*Table 3 – Ambient Noise Levels by Temporary Site*

<b>Site</b>	<b>L<sub>10</sub> (dB)</b>	<b>L<sub>50</sub> (dB)</b>	<b>L<sub>90</sub> (dB)</b>
<b>A</b>	63.4	53.6	49.6
<b>B</b>	53.6	42.9	30.9
<b>C</b>	63.0	54.9	48.6
<b>D</b>	60.6	54.3	47.2
<b>E</b>	48.8	40.9	33.3
<b>F</b>	55.3	50.4	42.2
<b>G</b>	45.1	38.0	29.7
<b>H</b>	51.7	42.6	29.9
<b>I</b>	64.1	55.9	50.6
<b>J</b>	60.7	47.4	32.6
<b>K</b>	49.7	43.4	36.5
<b>L</b>	*	*	*
<b>M</b>	62.9	54.9	35.3

\* Site L measurements had computer problems that prevented the storage of noise levels not part of a distinct noise event and therefore background noise levels were not recorded.

**3.6.1.2 Noise Measurement Results**

Noise level readings were used to characterize the noise environment at each location and to distinguish the various noise levels associated with individual aircraft operations. The results of the noise measurement program are summarized in **Table 3-4, Summary of Noise Measurement Program Results**, and discussed in the following sections.

**Table 3-4  
SUMMARY OF NOISE MEASUREMENT PROGRAM RESULTS  
Seattle-Tacoma International Airport**

SITE	AIRCRAFT DNL	COMMUNITY (NON-AIRCRAFT) DNL	AMBIENT NOISE LEVEL (L <sub>50</sub> )	NUMBER OF AIRCRAFT EVENTS	LOUDEST AIRCRAFT EVENT (LMAX)	LOUDEST AIRCRAFT
A	62.6	62.1	53.6	1,003	88.7	DeHavilland Dash 8D
B	39.4	56.1	42.9	12	81.3	Embraer 120
C	62.6	60.1	54.9	1,042	86.7	McDonnell Douglas MD80
D	59.7	60.0	54.3	1,028	83.5	McDonnell Douglas MD80
E	36.4	61.5	40.9	4	72.9	DeHavilland Dash 8D
F	35.8	61.0	50.4	36	75.0	Boeing 737-400
G	30.9*	51.7	38.0	7	71.1	Unknown Aircraft
H	35.5	60.8	42.6	27	76.9	Airbus A332
I	64.4	63.4	55.9	2,191	84.2	McDonnell Douglas MD80
J	61.1	57.1	47.4	615	83.5	McDonnell Douglas MD80
K	33.9	52.3	43.4	13	70.0	Boeing 737-800
L	39.0	**	*	43	73.9	Unknown Aircraft
M	42.2	65.7***	54.9	63	73.6	Unknown Aircraft

**Notes:**

- \* Site G had a limited number of noise event-to-aircraft correlations due to the small difference between aircraft noise and ambient noise levels.
- \*\* Site L measurements had computer problems that prevented the storage of noise levels not part of a distinct noise event and therefore the community noise levels were not recorded. Note that aircraft noise event data were recorded for 8 days of measurements appropriately allowing the aircraft DNL to be measured correctly. Note that at this site there were many overflights that did not trigger a noise event because the noise event did not cause noise levels to exceed the noise event threshold. The noise event threshold varied by time of day from 50 to 64 dBA.
- \*\*\* Site M community noise levels were measured high due to the predominance of rain that occurred sporadically, and sometimes heavily, throughout the measurement period. Raindrops impacting the home roof and spa cover, and road traffic on wet pavement caused background noise levels to be higher than the ambient would have been had it not been raining. During dry periods, ambient levels as low as 30 dBA were recorded. However, the sound level meter had a lower measurement limit of 30 dBA. So during some periods, the measurement site was quieter than 30 dBA, a very low noise level. Note that at this site there were some overflights that did not trigger a noise event because the noise event did not cause noise levels to exceed the noise event threshold, which was set at 60 dBA.

Source: Landrum & Brown, 2013.