

# North Field Quiet Hours Noise Level Report

## SEL Noise Level Report

Tables 1 through 3 below provide a summary of the SEL aircraft departure noise events for all SEL levels at or above 80 dB (decibels). The data is being reported in this format to simplify the aircraft noise event review process by focusing on the most significant noise events and to the levels that could cause sleep disturbance for some residents in adjacent communities.

Provided below the tables is a list of nighttime (10pm-6am) North Field aircraft departures related to all the aircraft noise events at or above 80 dB SEL.

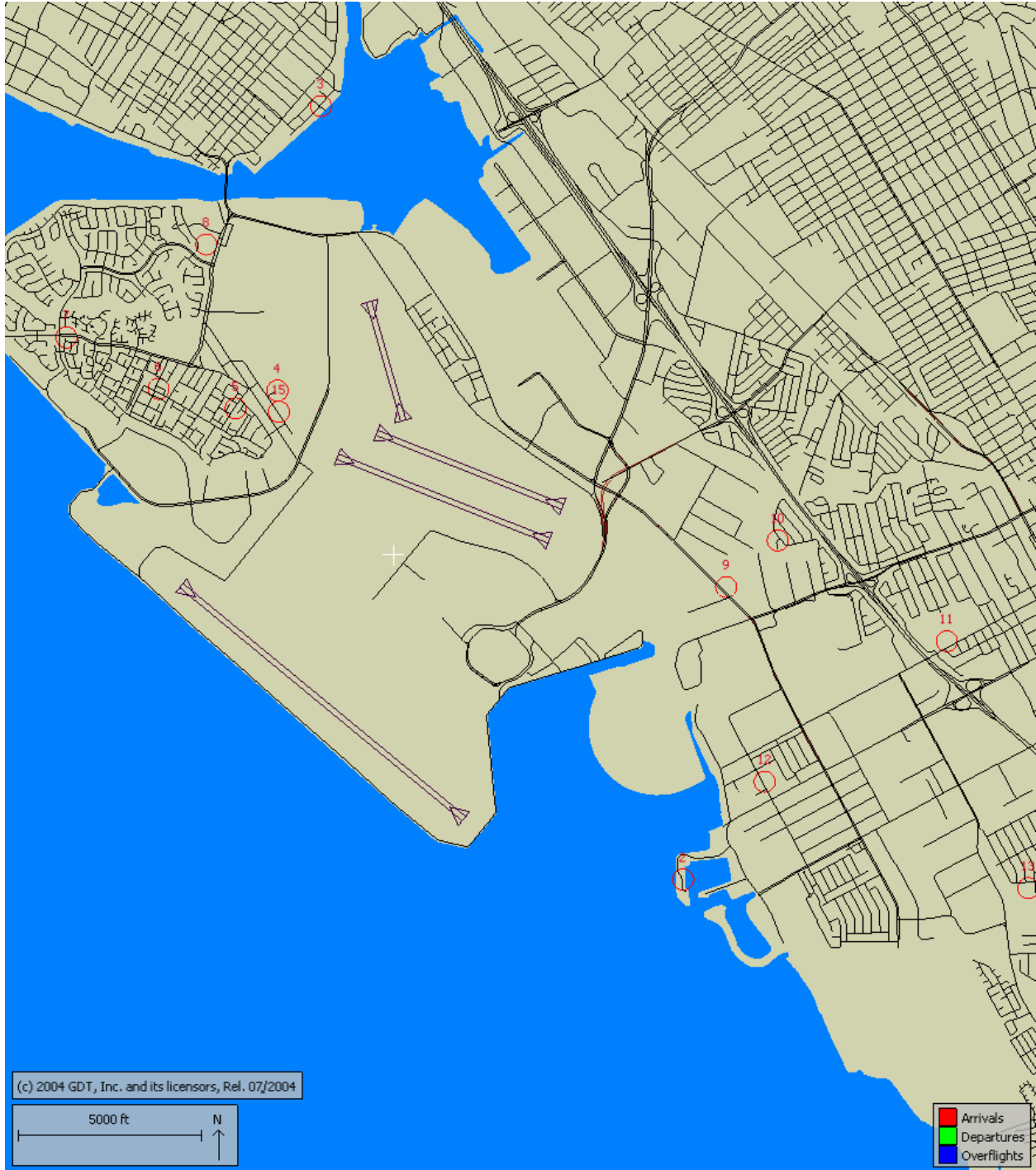
The first column identifies the noise monitoring site (RMT Number) and the second column provides the total number of aircraft noise events that were measured below SEL 80 dB during the calendar quarter at each of the RMTs. The table also includes 3 primary sections corresponding to aircraft SEL noise event levels: 1. between SEL 80 and 84.9 dBA; 2. between SEL 85 and 89.9 dBA; and 3. SEL 90 dBA and higher. The primary sections include secondary headings identifying the number of aircraft noise events in the SEL range, the number of nightly average noise events at each RMT, and a value that is the total SEL noise events as a percentage of the total aircraft departures for the quarter. Tables 2 and 3 provide a comparison of the RMTs corresponding to the aircraft departure flow direction.

Generally, the sound threshold setting for all RMT's is 65 dB with the exception of RMT #2, which is set at 63 dB in order to enhance the measurement of back-blast noise caused by aircraft departures from Runway 29. An aircraft noise event is identified when noise levels reach the threshold setting and the airport noise monitoring system (ANOMS) correlates flight track data with the noise event. Please note that on the second column, the total aircraft noise events value provided are presented with the assumption that one noise event was created by a single aircraft departure. However, ANOMS may associate more than one single noise event with one particular aircraft departure at an individual RMT when a single aircraft's noise reaches above and drops below the threshold level more than once. This can occur as the result of an aircraft that flies over a microphone during fluctuating wind conditions.

### Definitions:

The **maximum sound level (Lmax)** metric represents the highest instantaneous noise level heard at a receiver site during a single aircraft event (arrival or departure). However, since this metric describes only the instantaneous maximum noise value, it provides no information on the duration of noise exposure. The **Sound Exposure Level (SEL)** metric represents the sound energy detected above a threshold, which is 10 decibels below the peak noise level of the noise event, for a noise event as a factor of both intensity and duration of that noise event. The SEL represents the cumulative acoustical energy of the event but as though it had occurred within one second. Thus, for example, two events with the same intensity but different durations can be differentiated with the longer duration event having a higher SEL. In general, an aircraft SEL level is approximately 8-10 dB higher than the Lmax, or peak, noise level.

# Microphone Locations



**Table 1. North Field Night Aircraft Departure Noise Event Summary  
Calendar Quarter Aircraft Departures = 671**

Third Quarter 2008 (10:00 p.m. to 6:00 a.m.)

RMT Number	Aircraft Noise Events Below SEL 80 dBA	Aircraft Noise Events SEL 80 - 84.9 dBA			Aircraft Noise Events SEL 85 - 89.9 dBA			Aircraft Noise Events SEL ≥ 90 dBA			Total Aircraft Noise Events
		Amount	Nightly Average	As Percentage of Departures	Amount	Nightly Average	As Percentage of Departures	Amount	Nightly Average	As Percentage of Departures	
1	4	3	0.0	0.4%	0	0.0	0.0%	1	0.0	0.1%	8
2	70	5	0.1	0.7%	1	0.0	0.1%	0	0.0	0.0%	76
3	126	36	0.4	5.4%	3	0.0	0.4%	0	0.0	0.0%	165
4	206	122	1.3	18.2%	51	0.6	7.6%	15	0.2	2.2%	394
5	141	39	0.4	5.8%	8	0.1	1.2%	3	0.0	0.4%	191
6	60	5	0.1	0.7%	5	0.1	0.7%	3	0.0	0.4%	73
7	20	7	0.1	1.0%	2	0.0	0.3%	1	0.0	0.1%	30
8	242	53	0.6	7.9%	18	0.2	2.7%	1	0.0	0.1%	314
9	91	22	0.2	3.3%	3	0.0	0.4%	5	0.1	0.7%	121
10	70	11	0.1	1.6%	4	0.0	0.6%	3	0.0	0.4%	88
11	5	1	0.0	0.1%	1	0.0	0.1%	0	0.0	0.0%	7
12	123	36	0.4	5.4%	3	0.0	0.4%	1	0.0	0.1%	163
13	5	3	0.0	0.4%	0	0.0	0.0%	2	0.0	0.3%	10
14	40	3	0.0	0.4%	0	0.0	0.0%	0	0.0	0.0%	43

**Table 2. Northwest Flow Night Aircraft Noise Event Summary  
Runway 27R/L and 33 Aircraft Departures - Calendar Quarter Total = 470**

Third Quarter 2008 (10:00 p.m. to 6:00 a.m.)											
RMT Number	Aircraft Noise Events Below SEL 80 dBA	Aircraft Noise Events SEL 80 - 84.9 dBA			Aircraft Noise Events SEL 85 - 89.9 dBA			Aircraft Noise Events SEL ≥ 90 dBA			Total Aircraft Noise Events
		Amount	Nightly Average	As Percentage of Departures	Amount	Nightly Average	As Percentage of Departures	Amount	Nightly Average	As Percentage of Departures	
3	126	36	0.4	7.7%	3	0.0	0.6%	0	0.0	0.0%	165
4	206	122	1.3	26.0%	51	0.6	10.9%	15	0.2	3.2%	394
5	141	39	0.4	8.3%	8	0.1	1.7%	3	0.0	0.6%	191
6	60	5	0.1	1.1%	5	0.1	1.1%	3	0.0	0.6%	73
7	20	7	0.1	1.5%	2	0.0	0.4%	1	0.0	0.2%	30
8	242	53	0.6	11.3%	18	0.2	3.8%	1	0.0	0.2%	314
<b>Total</b>	<b>795</b>	<b>262</b>	<b>2.9</b>		<b>87</b>	<b>1.0</b>		<b>23</b>	<b>0.3</b>		<b>1,167</b>

**Table 3. Southeast Flow Night Aircraft Noise Event Summary  
Runway 09R/L and 15 Aircraft Departures - Calendar Quarter Total = 201**

Third Quarter 2008 (10:00 p.m. to 6:00 a.m.)											
RMT Number	Aircraft Noise Events Below SEL 80 dBA	Aircraft Noise Events SEL 80 - 84.9 dBA			Aircraft Noise Events SEL 85 - 89.9 dBA			Aircraft Noise Events SEL ≥ 90 dBA			Total Aircraft Noise Events
		Amount	Nightly Average	As Percentage of Departures	Amount	Nightly Average	As Percentage of Departures	Amount	Nightly Average	As Percentage of Departures	
2	70	5	0.1	2.5%	1	0.0	0.5%	0	0.0	0.0%	76
9	91	22	0.2	10.9%	3	0.0	1.5%	5	0.1	2.5%	121
10	70	11	0.1	5.5%	4	0.0	2.0%	3	0.0	1.5%	88
11	5	1	0.0	0.5%	1	0.0	0.5%	0	0.0	0.0%	7
12	123	36	0.4	17.9%	3	0.0	1.5%	1	0.0	0.5%	163
13	5	3	0.0	1.5%	0	0.0	0.0%	2	0.0	1.0%	10
<b>Total</b>	<b>364</b>	<b>78</b>	<b>0.9</b>		<b>12</b>	<b>0.1</b>		<b>11</b>	<b>0.1</b>		<b>465</b>

## NF Nighttime Departure Noise Levels ≥ SEL 80 dB

Date Time	RMT	Max Level	SEL	Level Code	Duration (secs)	Flight Number	Tail Number	Aircraft Type	Runway
7/1/2008 02:38	4	81.3	86.2	2	12	AMF288		B190	27R
7/1/2008 02:38	8	73.2	80.7	1	12	AMF288		B190	27R
7/1/2008 03:49	4	76.7	82.6	1	12	AMF259		BE99	27R
7/1/2008 04:35	9	73	80.2	1	12	AMF208		BE99	09R
7/1/2008 05:56	4	74.2	81.7	1	12	AMF213		PA31	27R
7/1/2008 22:04	4	73.2	81.8	1	18				27R
7/1/2008 22:04	8	75.7	83.3	1	21	N555M	N555M	BE35	33
7/1/2008 23:14	4	72.9	80.3	1	12	N8655P	N8655P	PA24	27R
7/1/2008 23:14	8	72.7	81.6	1	18	N8655P	N8655P	PA24	27R
7/2/2008 02:37	4	79	85.1	2	15	AMF288		B190	27R
7/2/2008 03:53	4	77.7	83.5	1	12	AMF259		BE99	27R
7/3/2008 01:28	4	82.2	86.7	2	12	N28CA	N28CA	PAY2	27R
7/3/2008 01:29	8	79.3	85.4	2	12	N28CA	N28CA	PAY2	27R
7/3/2008 02:02	4	75.6	82.1	1	11	AMF272		SW4	27R
7/3/2008 02:35	4	81.3	86.3	2	12	AMF288		B190	27R
7/3/2008 03:16	4	73.3	81.6	1	14	N21483	N21483	C172	27L
7/3/2008 03:46	4	75.9	81.8	1	11	AMF259		BE99	27R
7/7/2008 03:27	12	68.7	80.8	1	44	USC112		LJ35	09R
7/7/2008 03:28	2	70.6	80.6	1	22	USC112		LJ35	09R
7/7/2008 04:41	10	76.5	84	1	37	KAI64		GLF4	09R
7/7/2008 04:41	9	79.4	86.6	2	17	KAI64		GLF4	09R
7/7/2008 04:42	12	76.1	85.4	2	35	KAI64		GLF4	09R
7/7/2008 05:40	4	73	80.4	1	11	AMF214		PA31	27R
7/7/2008 05:42	4	75.2	81.5	1	10	AMF212		PA31	27R
7/7/2008 05:48	8	73.1	81.8	1	20	AMF223		PA31	27R
7/7/2008 05:49	4	84.5	89.9	2	17	AMF223		PA31	27R
7/7/2008 05:49	5	73.4	80.2	1	11	AMF223		PA31	27R
7/7/2008 05:49	8	80.6	86.6	2	17	AMF223		PA31	27R
7/8/2008 04:43	9	75	81.7	1	12	AMF208		BE99	09R
7/9/2008 02:41	2	75.8	81.7	1	11				09R
7/9/2008 04:33	9	73	80.4	1	11	AMF208		BE99	09R
7/9/2008 05:56	4	83.9	89.5	2	17	AMF223		PA31	27R
7/9/2008 05:56	5	72.2	80.1	1	13	AMF223		PA31	27R
7/9/2008 05:57	8	76.4	83.6	1	19	AMF223		PA31	27R
7/9/2008 05:57	3	72.3	80.4	1	14	AMF223		PA31	27R
7/9/2008 05:57	10	69.2	82.4	1	44	AMF223		PA31	27R
7/9/2008 22:30	4	77.7	85.5	2	21	N8407J	N8407J	BE36	27R
7/9/2008 22:30	8	73.3	83.6	1	30	N8407J	N8407J	BE36	27R
7/9/2008 23:38	4	77.3	84.5	1	19	N31CU	N31CU	C421	33
7/10/2008 01:40	4	74	80.6	1	11	AMF272		SW4	27R
7/10/2008 05:53	3	72.7	80.5	1	18	AMF214		PA31	27R
7/10/2008 05:59	4	85.9	91.1	3	27	AMF223		PA31	27R
7/10/2008 05:59	5	76.6	86.3	2	29	AMF223		PA31	27R
7/10/2008 05:59	8	77.3	84.9	1	26	AMF223		PA31	27R
7/11/2008 22:39	3	75.1	86.3	2	42	AMF229		SW4	27R
7/12/2008 05:47	4	74.3	80.9	1	11	N47CA	N47CA	PAY2	27R