FACT SHEET

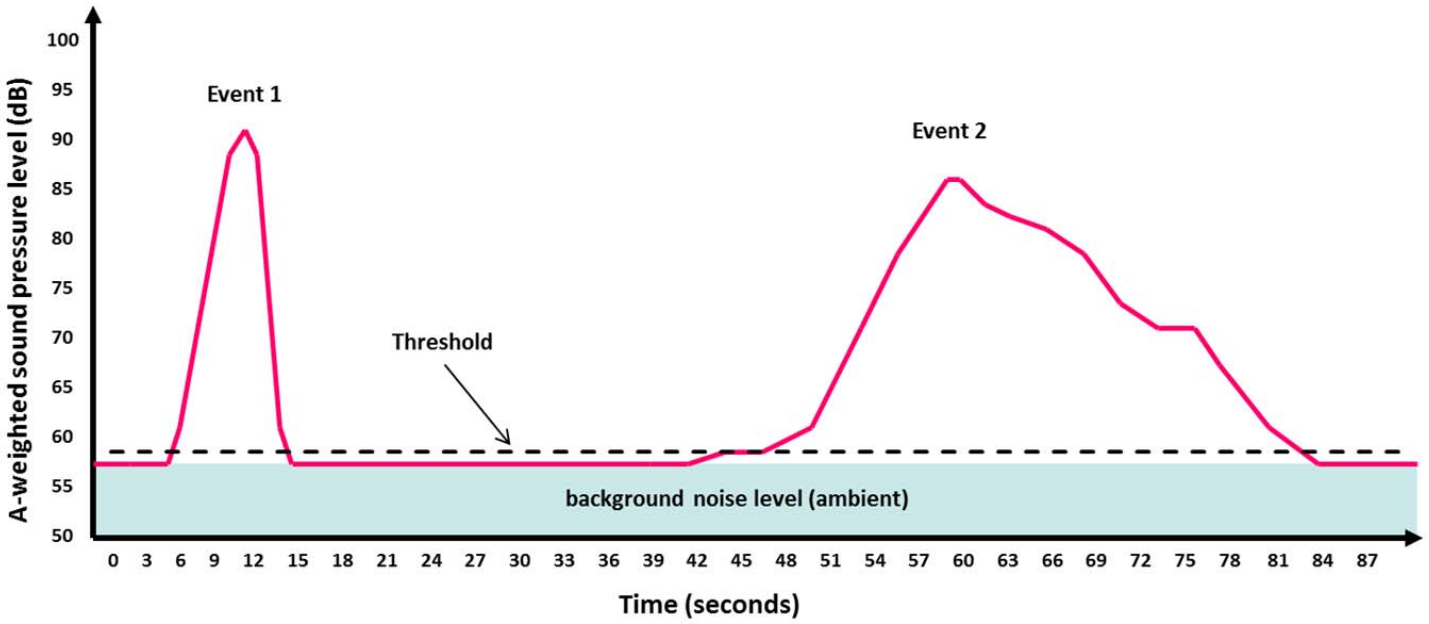
INTRODUCTION TO NOISE MONITORS AT O'HARE INTERATIONAL AIRPORT

Introduction

A noise monitor is an electronic instrument that measures sound pressure levels. Each noise monitor used by the Chicago Department of Aviation (CDA) is a Class 1 noise monitor approved to International Electrotechnical Commission (IEC) 61672 *Electroacoustics* standards and can record multiple octave bands and threshold exceedance levels. Class 1 noise monitors have a wider frequency range and a tighter tolerance than a lower cost, Class 2 noise monitor. The CDA routinely checks the calibration and performs annual preventative maintenance for every noise monitor in the Airport Noise Management System (ANMS). Noise monitors are sited in consultation with community representatives and based primarily on the criteria outlined in the fact sheet titled *Criteria for the Permanent Noise Monitors at O'Hare International Airport*.

How it Works

The CDA's noise monitors record noise events based on threshold exceedance. Each noise event starts at the time the noise level exceeds a decibel threshold, typically slightly above the background or ambient noise level, and ends at the time the noise level returns to the threshold.



For each noise event recorded, a start date/time, end date/time, Leq (Equivalent Sound Level), and Lmax (Maximum Sound Level) is recorded. While noise can be measured in multiple scales, noise levels recorded by the CDA are recorded in the A-weighting scale, as A-weighting most closely relates to the range of the human ear. On average, the noise monitors around O'Hare capture and record noise events at a radius of greater than three miles.

Correlating Noise Events to Aircraft Operations

Once the noise events are collected and downloaded to the CDA's ANMS, they are correlated to actual aircraft operations. The process that correlates noise events to aircraft operations uses defined parameters to match every eligible noise event to specific aircraft operations. Noise events that fall outside these parameters are classified as community noise.