



## Noise Terminology

**Ambient noise** – The total sum of noise from all sources in a given place and time.

**Day-night average sound level (DNL)** – A noise measure used to describe the average sound level over a 24-hour period, typically an average day over the course of a year. In computing DNL, an extra weight of 10 decibels is assigned to noise occurring between the hours of 10 p.m. and 7 a.m. to account for increased annoyance when ambient noise levels are lower and people are trying to sleep. DNL may be determined for individual locations or expressed in noise contours.

**Decibel (dB)** – Sound is measured by its pressure or energy in terms of decibels. The decibel scale is logarithmic. A 10-decibel increase in sound is equal to a tenfold increase in sound energy.

**Equivalent sound level (Leq)** – The average A-weighted sound level over any specified time period.

**Integrated Noise Model (INM)** – A computer model developed, updated and maintained by the FAA to predict the noise exposure generated by aircraft operations at an airport.

**Leq** – Equivalent Sound Level. The steady A-weighted sound level over any specified period of time (not necessarily 24 hours) that has the same acoustic energy as the fluctuating noise during that period (with no consideration of nighttime weighting). It is a measure of cumulative acoustical energy. Because the time interval may vary, it should be specified by a subscript (such as Leq8 for an 8-hour exposure to noise) or be clearly understood from the context.

**Loudness** – The subjective assessment of the intensity of sound.

**Merge** – Combining noise events that exceed a given threshold level and occur within a selected period of time.

**Noise abatement** – A measure or action that minimizes the amount of impact of noise on the environs of an airport. Noise abatement measures include aircraft operating procedures and use or disuse of certain runways or flight tracks.

**Noise berm** – A manmade soil structure designed to interrupt the direct transmission of noise from a source to a noise-sensitive area.

**Noise contour map** – A map representing average annual noise levels summarized by lines connecting points of equal noise exposure.

**Noise Compatibility Program (NCP)** – Program developed in accordance with FAR Part 150 guidance that contains provisions for the abatement of aircraft noise through aircraft operating procedures, air traffic control procedures, or airport facility modifications. It also includes provisions for land use compatibility planning and may include actions to mitigate the impact of noise on incompatible land uses and recommendations for amending local land use controls to affect future land uses and development. The program must contain provisions for updating and periodic revision.

**Noise Compatibility Study** – The process, methods, and procedures provided in the FAR Part 150 guidance to develop a Noise Compatibility Program, including the development of noise exposure maps, a noise compatibility program, and public participation.

**Noise Exposure Map (NEM)** – A geographic depiction of an airport, its noise contours for existing conditions and as forecast for five years in the future, and surrounding area developed in accordance with FAR Part 150 guidance. Documentation of the Noise Exposure Maps must include airport operating characteristics for existing conditions and all reasonable and foreseeable airport operating characteristics for the future condition.

**Sound** – Sound is the result of vibration in the air. The vibration produces alternating bands of relatively dense and sparse particles of air, spreading outward from the source in the same way as ripples do on water after a stone is thrown into it. The result of the movement is fluctuation in the normal atmospheric pressure or sound waves.

**Sound exposure level (SEL)** – A standardized measure of a single sound event, expressed in A-weighted decibels, that takes into account all sound above a specified threshold set at least 10 decibels below the maximum level. All sound energy in the event is integrated over one second.