

**PLEASANT RIDGE EXHIBIT  
235**

West's Illinois Administrative Code  
Title 35. Environmental Protection  
Subtitle H. Noise  
Part 900. General Provisions (Refs & Annos)

35 Ill. Adm. Code 900.101

900.101. Definitions

**Currentness**

Except as stated and unless a different meaning of a term is clear from its context, the definitions of terms used in this Chapter are the same as those used in the Environmental Protection Act. All definitions of acoustical terminology must be in conformance with those contained in American National Standards Institute (ANSI) S1.1 - 1994 (R1999) "American National Standard Acoustical Terminology" and S12.9-1988 (R1998) "American National Standard Quantities and Procedures for Description and Measurement of Environmental Sound - Part 1," incorporated by reference at Section 900.106. As used in 35 Ill. Adm. Code 900 through 910, the following terms mean:

**A-Weighted Sound Level:** 10 times the logarithm to the base 10 of the square of the ratio of the A-weighted (and time-averaged) sound pressure, to the reference sound pressure of 20 micropascal. The frequency and time weighting must be specified in accordance with ANSI S1.4-1983 (R2001) "American National Standard Specification for Sound Level Meters", incorporated by reference at Section 900.106. The unit of sound level is the decibel (dB) with the letter (A) appended to the decibel unit symbol to indicate the weighting and written as dB(A).

**Ambient:** the all-encompassing sound associated with a given environment without contributions from the noise source or sources of interest.

**Angle of incidence:** the orientation of the microphone relative to the sound source.

**ANSI:** American National Standards Institute or its successor bodies.

**Antique vehicle:** a motor vehicle that is more than 25 years of age or a bona fide replica thereof and which is driven on the highways only going to and returning from an antique auto show or an exhibition, or for servicing or demonstration, or a fire-fighting vehicle more than 20 years old which is not used as fire-fighting equipment but is used only for the purpose of exhibition or demonstration.

**Background ambient sound level:** means the ambient sound level, measured in accordance with the procedures specified in 35 Ill. Adm. Code 910.

**Bus:** every motor vehicle designed for carrying more than 10 passengers and used for the transportation of passengers; and every motor vehicle, other than a taxicab, designed and used for the transportation of persons for compensation.

**C-weighted sound level:** in decibels, a frequency-weighted sound pressure level, determined by the use of the metering characteristics and C-weighted network specified in ANSI S1.4-1983 (R 2001) "American National Standard Specification for Sound Level Meters", incorporated by reference at Section 900.106.

**Construction:** on-site erection, fabrication, installation, alteration, demolition or removal of any structure, facility, or addition thereto, including all related activities including, but not restricted to, clearing of land, earth-moving, blasting and landscaping.

**Daytime hours:** 7:00 am to 10:00 pm, local time.

**dB(A):** see A-weighted sound level in decibels.

**Dealer:** every person engaged in the business of selling vehicles to persons who purchase such vehicles for purposes other than resale, and who has an established place of business for such activity in this state.

**Decibel (dB):** a unit of measure, on a logarithmic scale to the base 10, of the ratio of the magnitude of a particular sound pressure to a standard reference pressure, which, for purposes of this Chapter, shall be 20 micronewtons per square meter ( $\mu\text{N}/\text{m}^2$ ) or 20 micropascals ( $\mu\text{Pa}$ ).

**Discrete tone:** a sound wave whose instantaneous sound pressure varies essentially as a simple sinusoidal function of time.

**Exhaust system:** the system comprised of a combination of components which provides for the enclosed flow of exhaust gas from engine parts to the atmosphere.

**Existing property-line-noise-source:** any property-line-noise-source, the construction or establishment of which commenced prior to August 10, 1973. For the purposes of this sub-section, any property-line-noise-source whose A, B or C land use classification changes, on or after August 10, 1973, is not considered an existing property-line-noise-source.

**Farm tractor:** every motor vehicle designed and used primarily as a farm implement for drawing wagons, plows, mowing machines and other implements of husbandry, and every implement of husbandry which is self-propelled.

**Fast Dynamic Characteristic:** the dynamic characteristic specified as fast in ANSI S1.4-1983 (R2001) "American National Standard Specification for Sound Level Meters", incorporated by reference at Section 900.106.

**Fast meter response:** as specified in ANSI, S1.4-1983 (R2001) "American National Standard Specification for Sound Level Meters", incorporated by reference at Section 900.106.

**Fluctuating sound:** a class of nonsteady sound where sound pressure level varies over a range greater than 6 decibels (dB) with the "slow" meter characteristic, and where the meter indication does not equal the ambient level more than once during the period of observation.

**Frequency-weighted sound pressure:** root mean square of the instantaneous sound pressure which is frequency-weighted (i.e., filtered) with a standard frequency characteristic (e.g., A or C) and exponentially time-weighted in accordance with the standardized characteristics slow (S), fast (F), impulse (I) or peak, with both weightings specified in accordance with ANSI S1.4-1983 (R2001) "American National Standard Specification for Sound Level Meters", incorporated by reference at Section 900.106. The frequency weighting used shall be specified explicitly (e.g., A, C or octave band). The unit frequency-weighted sound pressure is the pascal (Pa).

**Gross Vehicle Weight (GVW):** the maximum loaded weight for which a motor vehicle is registered or, for vehicles not so registered, the value specified by the manufacturer as the loaded weight of the vehicle.

**Highly Impulsive Sound:** either a single pressure peak or a single burst (multiple pressure peaks) for a duration usually less than one second. Examples of highly impulsive sound sources are drop forge hammer and explosive blasting.

Highway: the entire width between the boundary lines of every way publicly maintained when any part thereof is open to the use of the public for purposes of vehicular travel.

IHRA: International Hot Rod Association or its successor body.

Intermittent sound: a class of nonsteady sound where the meter indicates a sound pressure level equal to the ambient level two or more times during the measurement period. The period of time during which the level of the sound remains at a value different from that of the ambient is of the order of one second or more.

LBCS: the Land-Based Classification Standards which designate land use functions by means of numeric codes.

$L_{eq}$  : equivalent continuous sound pressure in decibels: 10 times the logarithm to the base 10 of the ratio of a time mean square sound pressure, during the specified time period, to the square of reference sound pressure. The reference sound pressure is 20 microneutons per square meter or equivalent continuous frequency-weighted sound pressure.

$L_{eq}(A)$ : A-weighted time-average (equivalent-continuous) sound level.

$L_{eq}$  (octave band-Hz): time-average (equivalent-continuous) sound level in the octave band specified by its center frequency e.g.  $L_{eq}(125\text{-Hz})$ .

Measurement Period: the time interval during which acoustical data are obtained. The measurement period is determined by the characteristics of the noise being measured and must be at least 10 times as long as the response time of the instrumentation. The greater the variation in indicated sound level, the longer must be the observation time for a given expected precision of the measurement.

Motor driven cycle: every motorcycle, motor scooter, or bicycle with motor attached, with less than 150 cubic centimeter piston displacement.

Motor vehicle: every vehicle which is self-propelled and any combination of vehicles which are propelled or drawn by a vehicle which is self-propelled.

Motorcycle: every motor vehicle having a seat or saddle for the use of the rider and designed to travel on not more than 3 wheels in contact with the ground, but excluding a tractor.

Muffler: a device for abating the sounds of escaping gases of an internal combustion engine.

New snowmobile: a snowmobile, the equitable or legal title to which has never passed to a person who purchases it for purposes other than resale.

Nighttime hours: 10:00 pm to 7:00 am, local time.

Noise floor: the electrical noise (in decibels) of the sound measurement system. When the noise floor is determined by placing a calibrator over the microphone of the sound measurement system, the noise floor may include acoustic noise due to leakage around the calibrator.

Noise pollution: the emission of sound that unreasonably interferes with the enjoyment of life or with any lawful business or activity.

Non-steady sound: a sound whose sound pressure level shifts significantly during the measurement period. Meter variations are greater than  $\pm 3$  dB using the “slow” meter characteristic.

Octave band sound pressure level: the sound pressure level for the sound being measured contained within the specified octave band. The reference pressure is 20 microneutons per square meter.

Pascal (Pa): a unit of pressure. One pascal is equal to one newton per square meter.

Passenger car: a motor vehicle designed for the carrying of not more than ten persons, including a multi-purpose passenger vehicle, except any motor vehicle of the second division as defined in [625 ILCS 5/1-146](#), and except any motorcycle or motor driven cycle.

Person: any individual, corporation, partnership, firm, association, trust, estate, public or private institution, group, agency, political subdivision of this State, any other State or political subdivision or agency thereof or any legal successor, representative, agent or agency of the foregoing.

Preferred frequencies: those frequencies in Hertz preferred for acoustical measurements which, for the purposes of this Chapter, consist of the following set of values: 20, 25, 31.5, 40, 50, 63, 80, 100, 125, 160, 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, 10,000, 12,500.

Prominent discrete tone: sound, having a one-third octave band sound pressure level which, when measured in a one-third octave band at the preferred frequencies, exceeds the arithmetic average of the sound pressure levels of the two adjacent one-third octave bands on either side of such one-third octave band by:

5 dB for such one-third octave band with a center frequency from 500 Hertz to 10,000 Hertz, inclusive. Provided: such one-third octave band sound pressure level exceeds the sound pressure level of each adjacent one-third octave band, or;

8 dB for such one-third octave band with a center frequency from 160 Hertz to 400 Hertz, inclusive. Provided: such one-third octave band sound pressure level exceeds the sound pressure level of each adjacent one-third octave band, or;

15 dB for such one-third octave band with a center frequency from 25 Hertz to 125 Hertz, inclusive. Provided: such one-third octave band sound pressure level exceeds the sound pressure level of each adjacent one-third octave band.

Property-line-noise-source: any equipment or facility, or combination thereof, which operates within any land used as specified by [35 Ill. Adm. Code 901.101](#). Such equipment or facility, or combination thereof, must be capable of emitting sound beyond the property line of the land on which operated.

Quasi-steady sound: a train of two or more acoustical impulses. Examples of quasi-steady sound are that from riveting and pneumatic hammer.

Reflective surface: any building, hillside, or similar object (other than the flat ground surface) that reflects sufficient sound to affect the sound pressure level readings obtained from a noise source. Not included as reflective surfaces are small objects such as trees, posts, chain-linked fences, fire hydrants, vegetation such as bushes and shrubs, or any similar object.

Registered: a vehicle is registered when a current registration certificate or certificates and registration plates have been issued for it under the laws of any state pertaining to the registration of vehicles.

Residential dwelling unit: all land used as specified by the Land-Based Classification Standards (LBCS) Codes 1100 through 1340 and those portions of land used as specified by LBCS Code 6222 used for sleeping.

SAE: Society of Automotive Engineers.

Slow Dynamic Characteristic: the dynamic characteristic specified as “Slow” in ANSI S1.4-1983 (R2001) “American National Standard Specification for Sound Level Meters”, incorporated by reference at Section 900.106.

Snowmobile: a self-propelled device designed for travel on snow or ice or natural terrain steered by skis or runners, and supported in part by skis, belts, or cleats.

Sound: a physical disturbance causing an oscillation in pressure in a medium (e.g., air) that is capable of being detected by the human ear or a sound measuring instrument.

Sound exposure: time integral of squared, frequency-weighted instantaneous sound pressure over a given time interval. The time period of integration must be specified: when the sound exposure of the background noise is a significant contributor to the total sound exposure; or when the threshold sound level of the instrument (a level below which the instrument does not accumulate contributions to the integral) used is above the level of the background noise; or when such data is needed to identify a source; or when the time period of integration is otherwise useful. The customary unit for sound exposure is pascal-squared second ( $\text{Pa}^2\text{-s}$ ).

Sound exposure level (SEL or  $L_{eT}$ ): 10 times the logarithm to the base 10 of the ratio of sound exposure to the reference sound exposure ( $E_0$ ) of 400 micropascal-squared seconds ( $\mu\text{Pa}^2\text{-s}$ ). For a given measurement time period of T seconds, the sound exposure level ( $L_{eT}$ ) is related to the time-average sound level ( $L_{pT}$ ) as follows:  $L_{eT} = L_{pT} + \log(T/t_0)$  where  $t_0$  is the reference duration of 1 second. The time period of integration (T) must be specified. The frequency weighting used must be specified explicitly (e.g., A, C or octave band). The A-weighted SEL and C-weighted SEL are abbreviated ASEL and CSEL respectively. An octave band SEL is expressed in terms of the center frequency (e.g., SEL at 125-Hz). The unit for sound exposure level is decibel (dB).

Sound level (weighted sound pressure level): 20 times the logarithm to the base 10 of the ratio of the frequency-weighted (and time-averaged) sound pressure to the reference pressure of 20 micropascals. The frequency weighting used shall be specified explicitly (e.g., A, C or octave band). The unit for sound level is decibel (dB).

Sound pressure: the root mean square of the instantaneous sound pressures during a specified time interval in a stated frequency band. The unit for sound pressure is pascal (Pa).

Sound pressure level: 20 times the logarithm to the base 10 of the ratio of the particular sound pressure to the reference sound pressure of 20 micropascals. ANSI S12.9-1988 (R1998) “American National Standard Quantities and Procedures for Description and Measurement of Environmental Sound - Part 1,” incorporated by reference at Section 900.106, reserves the term sound pressure level to denote the unweighted sound pressure. The unit for sound pressure level is decibel (dB).

Special mobile equipment: every vehicle not designed or used primarily for the transportation of persons or property and only incidentally operated or moved over a highway, including but not limited to: ditch digging apparatus, well-boring apparatus and road construction and maintenance machinery such as asphalt spreaders, bituminous mixers, bucket loaders, tractors other than truck tractors, leveling graders, finishing machines, motor graders, road rollers, scarifiers, earth-moving carryalls and scrapers, power shovels and drag lines, and self-propelled cranes and other earth-moving equipment.

Steady sound: a sound whose sound pressure level remains essentially constant (that is, meter fluctuations are negligibly small) during the measurement period. Meter variations are less than or equal to  $\pm 3$  dB using the “slow” meter characteristic. Tactical military vehicle: every vehicle operated by any federal or state military organization and designed for

use in field operations, but not including vehicles such as staff cars and personnel carriers designed primarily for normal highway use.

Time-average sound level (or equivalent-continuous sound level or equivalent-continuous frequency-weighted sound pressure level): 20 times the logarithm to the base 10 of the ratio of the time-average (frequency-weighted) sound pressure to the reference pressure of 20 micropascal. The frequency weighting used must be specified explicitly (e.g., A, C or octave band). The unit of time-average sound level is the decibel (dB).

Time-average (frequency-weighted) sound pressure: square root of the quotient of the time integral of frequency-weighted squared instantaneous sound pressures divided by the time period of integration; or the square root of the quotient of the sound exposure, in pascal-squared seconds ( $\text{Pa}^2\text{-s}$ ), in a specified time period, divided by the time period of integration in seconds. The frequency weighting used must be specified explicitly (e.g., A, C or octave band). The unit of time-average sound pressure is the pascal (Pa).

Unregulated safety relief valve: a safety relief valve used and designed to be actuated by high pressure in the pipe or vessel to which it is connected and which is used and designed to prevent explosion or other hazardous reaction from pressure buildup, rather than being used and designed as a process pressure blowdown.

Used motor vehicle: a motor vehicle that is not a new motor vehicle.

Vehicle: every device in, upon, or by which any person or property is or may be transported or drawn upon a highway.

Weekday: any day which occurs during the period of time commencing at 10:00 p.m. Sunday and ending at 10:00 p.m. Friday during any particular week.

Weekend day: any day which occurs during the period of time commencing at 10:00 p.m. Friday and ending at 10:00 p.m. Sunday during any particular week.

Well-maintained muffler: any muffler which is free from defects which affect its sound reduction. Such muffler shall be free of visible defects such as holes and other acoustical leaks.

### **Credits**

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35 ILAC § 900.101, 35 IL ADC 900.101