**Section 900.101 Definitions**

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 not specifically defined in this Chapter will have meanings ascribed in ANSI/ASA S1.1-2013 "Acoustical Terminology" and S12.9-2013/Part 1 "Quantities and Procedures for Description and Measurement of Environmental Sound – Part 1: Basic Quantities and Definitions", 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 micropascals. The frequency and time weighting must be specified in compliance with ANSI/ASA S1.4-2014/Part 1/IEC 61672:1-2013 "American National Standard Electroacoustics Sound Level Meters-Part 1: Specifications (a nationally adopted international standard", 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 frequency 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.

"Antique vehicle": a motor vehicle that is more than 25 years old or its bona fide replica, 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 that is more than 20 years old which is not used as fire-fighting equipment but is used only for exhibition or demonstration.

"ASA": Acoustical Society of America.

"Background ambient sound level": the ambient sound level, measured in compliance with the procedures specified in 35 Ill. Adm. Code 910.

"Bus": a motor vehicle designed for carrying more than 10 passengers and used for the transportation of passengers; and any 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 using the metering characteristics and C-weighted network specified in ANSI/ASA S1.4-2014/Part 1/IEC 61672:1-2013 "American National Standard Electroacoustics Sound Level Meters – Part 1: Specifications (a nationally adopted international standard)", incorporated by reference at Section 900.106.

"Common carrier by motor vehicle": any person holding itself out to the general public to provide, for compensation, transportation of passengers or property in interstate or foreign commerce by motor vehicle, whether over regular or irregular routes.

"Construction": on-site erection, fabrication, installation, alteration, demolition or removal of any structure, facility, or its addition, including all related activities, such as, clearing of land, earth-moving, blasting and landscaping.

"Contract carrier by motor vehicle": any person, other than "common carrier by motor vehicle", who provides, for compensation, transportation of passengers or property in interstate or foreign commerce by motor vehicle under contracts with one person or a limited number of persons, either:

to provide transportation services through the assignment of motor vehicles to the exclusive use of a served person for a specific period of time; or

to provide transportation services designed to meet a distinct need of an individual customer.

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

"dB(A)": A-weighted decibels (see the definition of "A-weighted sound level").

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

"Decibel" or "dB": a unit of measure, on a logarithmic scale to the base 10, of the ratio of a sound pressure magnitude to a standard reference pressure, which, for purposes of this Chapter, is 20 micronewtons per square meter (µN/m2) or 20 micropascals (μPa).

"Discrete tone": a sound 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, excluding, any property-line noise source whose A, B or C land use classification changes on or after August 10, 1973.

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

"Fast dynamic characteristic": the dynamic characteristic specified as fast in ANSI/ASA S1.4-2014/Part 1/IEC 61672:1-2013 "American National Standard Electroacoustics Sound Level Meters – Part 1: Specifications (a nationally adopted international standard)", incorporated by reference at Section 900.106.

"Fast meter response": as specified in ANSI/ASA S1.4-2014/Part 1/IEC 61672:1-2013 "American National Standard Electroacoustics Sound Level Meters – Part 1: Specifications (a nationally adopted international standard)", incorporated by reference at Section 900.106.

"Fluctuating sound": a class of non-steady 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 compliance with the standardized characteristics slow (S), fast (F), impulse (I) or peak, with both weightings specified in compliance with ANSI S1.4-2014/Part 1/IEC 61672:1-2013 "American National Standard Electroacoustics Sound Level Meters – Part 1: Specifications (a nationally adopted international standard)", incorporated by reference at Section 900.106. The frequency weighting used must be specified explicitly (e.g., A, C or octave band). The unit frequency-weighted sound pressure is the pascal (Pa).

"Gross combination weight rating": the value specified by the manufacturer as the loaded weight of a combination vehicle.

"Gross vehicle weight" or "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.

"Gross vehicle weight rating" or "GVWR": the value specified by the manufacturer as the loaded weight of a single 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 of it is open to public use vehicular travel.

"IEC": International Electrotechnical Commission.

"IHRA": International Hot Rod Association or its successor body.

"Intermittent sound": a class of non-steady sound where the meter indicates a sound pressure level equal to the ambient level two or more times during the measurement period. The period during which the sound level value remains different from the ambient for at least one second.

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

"Leq": equivalent continuous sound pressure level 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 micronewtons per square meter or equivalent continuous frequency-weighted sound pressure.

"Leq (A)": A-weighted time-average (equivalent-continuous) sound pressure level.

"Leq (octave band-Hz)": time-average (equivalent-continuous) sound pressure level in the octave band specified by its center frequency (e.g. Leq (125-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 ten 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 carrier": a common carrier by motor vehicle, a contract carrier by motor vehicle, or a private carrier of property by motor vehicle. The term "motor carrier" includes those persons that own and operate the subject motor vehicles, but not their drivers, unless the drivers both own and drive their own vehicles.

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

"Motor vehicle": a self-propelled vehicle and any combination of vehicles propelled or drawn by a self-propelled vehicle.

"Motorcycle": a motor vehicle with a seat or saddle for the rider and designed to travel on up to 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 passed exclusively to persons purchasing it for resale only.

"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 with meter variations greater than ±3 dB using the "slow" meter characteristic.

"Octave band sound pressure level": the sound pressure level for the measured sound contained within the specified octave band. The reference pressure is 20 micronewtons per square meter (µN/ṃ2) or 20 micropascals (µPa).

"Open site": an area that is essentially free of large sound-reflecting objects, such as barriers, walls, board fences, signboards, parked vehicles, bridges or buildings.

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

"Passenger car": a motor vehicle designed to carry up to 10 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 a political subdivision or agency of that state, or any legal successor, representative, agent or agency of the foregoing.

"Preferred frequencies": 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.

"Private carrier of property by motor vehicle": any person, other than "common carrier by motor vehicle" or "contract carrier by motor vehicle", who transports in interstate or foreign commerce by motor vehicle any property owned, leased, or bailed by that person.

"Prominent discrete tone": a sound with ⅓ octave band sound pressure level that, when measured at a preferred frequency, exceeds, by any of the following values, the arithmetic average of the sound pressure levels of both adjacent ⅓ octave bands:

A value of 5 dB or more for a ⅓ octave band with a center frequency from 500 Hertz to 10,000 Hertz, inclusive, but only if that ⅓ octave band sound pressure level also exceeds the sound pressure level of each adjacent ⅓ octave band;

A value of 8 dB or more for a ⅓ octave band with a center frequency from 160 Hertz to 400 Hertz, inclusive, but only if that ⅓ octave band sound pressure level also exceeds the sound pressure level of each adjacent ⅓ octave band; or

A value of 15 dB or more for a ⅓ octave band with a center frequency from 25 Hertz to 125 Hertz, inclusive, but only if that ⅓ octave band sound pressure level also exceeds the sound pressure level of each adjacent ⅓ octave band.

BOARD NOTE: A sound measured at a preferred frequency of 400 Hz, for example, would be a prominent discrete tone only if its ⅓ octave band sound pressure level (1) exceeds the ⅓ octave band sound pressure level of 315 Hz; (2) exceeds the ⅓ octave band sound pressure level of 500 Hz; and (3) exceeds by 8 dB or more the arithmetic average of the ⅓ octave band sound pressure levels of 315 Hz and 500 Hz.

"Property-line noise source": any equipment or facility, or a combination of equipment and facility, that operates within any land used as specified by 35 Ill. Adm. Code 901.101. The equipment or facility, or combination of equipment and facility, must be capable of emitting sound beyond the property line of the land on which it is 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, excluding 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 that are used for sleeping (see 35 Ill. Adm. Code 901.Appendix B).

"SAE": Society of Automotive Engineers.

"Slow dynamic characteristic": the dynamic characteristic specified as "Slow" in ANSI/ASA S1.4-2014 "American National Standard Specification for Sound Level Meters – Part 1", 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" or "SE": time integral of squared, frequency-weighted instantaneous sound pressure over a given time interval. The time period of integration must be specified if: the sound exposure of the background noise is a significant contributor to the total sound exposure; 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; such data is needed to identify a source; or the time period of integration is otherwise useful. The customary unit for sound exposure is pascal-squared second (Pa2-s).

"Sound exposure level" or "SEL" or "LeT": 10 times the logarithm to the base 10 of the ratio of sound exposure to the reference sound exposure (Eo) of 400 micropascal-squared seconds (µPa2-s). For a given measurement time period of T seconds, the sound exposure level (LeT) is related to the time-average sound level (LpT) as follows: LeT =LpT + log (T/to) where to 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" or "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 must 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 S12.9-2013/Part 1 "Quantities and Procedures for Description and Measurement of Environmental Sound – Part 1: Basic Quantities and Definitions", 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: 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 with meter variations up to ±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 micropascals. 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 (Pa2-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 that 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 that 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 that 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": a muffler that is free from defects affecting its sound reduction and visible defects, such as holes and other acoustical leaks.

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