

## SUBCHAPTER G—NOISE ABATEMENT PROGRAMS

### PART 201—NOISE EMISSION STANDARDS FOR TRANSPORTATION EQUIPMENT; INTERSTATE RAIL CARRIERS

SOURCE: 45 FR 1263, Jan. 4, 1980, unless otherwise noted.

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##### Subpart A—General Provisions

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AUTHORITY: Noise Control Act of 1972, sec. 17(a), 86 Stat. 1234 (42 U.S.C. 4916(a)).

#### § 201.1 Definitions.

As used in this part, all terms not defined herein shall have the meaning given them in the Act:

(a) *Act* means the Noise Control Act of 1972 (Pub. L. 92-574, 86 Stat. 1234).

(b) *Car Coupling Sound* means a sound which is heard and identified by the observer as that of car coupling impact, and that causes a sound level meter indicator (FAST) to register an increase of at least ten decibels above the level observed immediately before hearing the sound.

(c) *Carrier* means a common carrier by railroad, or partly by railroad and partly by water, within the continental United States, subject to the Interstate Commerce Act, as amended, excluding street, suburban, and interurban electric railways unless operated as a part of a general railroad system of transportation.

(d) *Classification of Railroads* means the division of railroad industry operating companies by the Interstate Commerce Commission into three categories. As of 1978, Class I railroads must have annual revenues of \$50 million or greater, Class II railroads must have annual revenues of between \$10 and \$50 million, and Class III railroads must have less than \$10 million in annual revenues.

(e) *Commercial Property* means any property that is normally accessible to the public and that is used for any of the purposes described in the following standard land use codes (reference *Standard Land Use Coding Manual*, U.S. DOT/FHWA, reprinted March 1977): 53-59, Retail Trade; 61-64, Finance, Insurance, Real Estate, Personal, Business and Repair Services; 652-659, Legal and other professional services; 671, 672, and 673 Governmental Services; 692 and 699, Welfare, Charitable and Other Miscellaneous Services; 712 and 719, Nature exhibitions and other Cultural Activities; 721, 723, and 729, Entertainment, Public and other Public Assembly; and

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74-79, Recreational, Resort, Park and other Cultural Activities.

(f) *dB(A)* is an abbreviation meaning A-weighted sound level in decibels, reference: 20 micropascals.

(g) *Day-night Sound Level* means the 24-hour time of day weighted equivalent sound level, in decibels, for any continuous 24-hour period, obtained after addition of ten decibels to sound levels produced in the hours from 10 p.m. to 7 a.m. (2200-0700). It is abbreviated as  $L_{dn}$ .

(h) *Decibel* means the unit measure of sound level, abbreviated as dB.

(i) *Energy Average Level* means a quantity calculated by taking ten times the common logarithm of the arithmetic average of the antilogs of one-tenth of each of the levels being averaged. The levels may be of any consistent type, e.g. maximum sound levels, sound exposure levels, and day-night sound levels.

(j) *Energy Summation of Levels* means a quantity calculated by taking ten times the common logarithm of the sum of the antilogs of one-tenth of each of the levels being summed. The levels may be of any consistent type, e.g., day-night sound level or equivalent sound level.

(k) *Equivalent Sound Level* means the level, in decibels, of the mean-square A-weighted sound pressure during a stated time period, with reference to the square of the standard reference sound pressure of 20 micropascals. It is the level of the sound exposure divided by the time period and is abbreviated as  $L_{eq}$ .

(l) *Fast Meter Response* means that the "fast" response of the sound level meter shall be used. The fast dynamic response shall comply with the meter dynamic characteristics in paragraph 5.3 of the American National Standard Specification for Sound Level Meters, ANSI S1.4-1971. This publication is available from the American National Standards Institute, Inc., 1430 Broadway, New York, New York 10018.

(m) *Idle* means that condition where all engines capable of providing motive power to the locomotive are set at the lowest operating throttle position; and where all auxiliary non-motive power engines are not operating.

(n) *Interstate Commerce* means the commerce between any place in a State and any place in another State, or between places in the same State through another State, whether such commerce moves wholly by rail or partly by rail and partly by motor vehicle, express, or water. This definition of "interstate commerce" for purposes of this regulation is similar to the definition of "interstate commerce" in section 203(a) of the Interstate Commerce Act (49 U.S.C. 303(a)).

(o) *Load Cell* means a device external to the locomotive, of high electrical resistance, used in locomotive testing to simulate engine loading while the locomotive is stationary. (Electrical energy produced by the diesel generator is dissipated in the load cell resistors instead of the traction motors).

(p) *Locomotive* means for the purpose of this regulation, a self-propelled vehicle designed for and used on railroad tracks in the transport or rail cars, including self-propelled rail passenger vehicles.

(q) *Locomotive Load Cell Test Stand* means the load cell §201.1(o) and associated structure, equipment, trackage and locomotive being tested.

(r) *Maximum Sound Level* means the greatest A-weighted sound level in decibels measured during the designated time interval or during the event, with either fast meter response §201.1(l) or slow meter response §201.1(ii) as specified. It is abbreviated as  $L_{max}$ .

(s) *Measurement Period* means a continuous period of time during which noise of railroad yard operations is assessed, the beginning and finishing times of which may be selected after completion of the measurements.

(t) *Rail Car* means a non-self-propelled vehicle designed for and used on railroad tracks.

(u) *Railroad* means all the roads in use by any common carrier operating a railroad, whether owned or operated under a contract, agreement, or lease.

(v) *Receiving Property Measurement Location* means a location on receiving property that is on or beyond the railroad facility boundary and that meets the receiving property measurement location criteria of subpart C.

(w) *Receiving Property* means any residential or commercial property that receives the sound from railroad facility operations, but that is not owned or operated by a railroad; except that occupied residences located on property owned or controlled by the railroad are included in the definition of "receiving property." For purposes of this definition railroad crew sleeping quarters located on property owned or controlled by the railroad are not considered as residences. If, subsequent to the publication date of these regulations, the use of any property that is currently not applicable to this regulation changes, and it is newly classified as either residential or commercial, it is not receiving property until four years have elapsed from the date of the actual change in use.

(x) *Residential Property* means any property that is used for any of the purposes described in the following standard land use codes (ref. *Standard Land Use Coding Manual*. U.S. DOT/FHWA Washington, DC, reprinted March 1977): 1, Residential; 651, Medical and other Health Services; 68, Educational Services; 691, Religious Activities; and 711, Cultural Activities.

(y) *Retarder (Active)* means a device or system for decelerating rolling rail cars and controlling the degree of deceleration on a car by car basis.

(z) *Retarder Sound* means a sound which is heard and identified by the observer as that of a retarder, and that causes a sound level meter indicator at fast meter response § 201.1(l) to register an increase of at least ten decibels above the level observed immediately before hearing the sound.

(aa) *Sound Level* means the level, in decibels, measured by instrumentation which satisfies the requirements of American National Standard Specification for Sound Level Meters S1.4-1971 Type 1 (or S1A) or Type 2 if adjusted as shown in Table 1. This publication is available from the American National Standards Institute, Inc., 1430 Broadway, New York, New York 10018. For the purpose of these procedures the sound level is to be measured using the A-weighting of spectrum and either the FAST or SLOW dynamic averaging characteristics, as designated. It is abbreviated as  $L_A$ .

(bb) *Sound Exposure Level* means the level in decibels calculated as ten times the common logarithm of time integral of squared A-weighted sound pressure over a given time period or event divided by the square of the standard reference sound pressure of 20 micropascals and a reference duration of one second.

(cc) *Sound Pressure Level* (in stated frequency band) means the level, in decibels, calculated as 20 times the common logarithm of the ratio of a sound pressure to the reference sound pressure of 20 micropascals.

(dd) *Special Purpose Equipment* means maintenance-of-way equipment which may be located on or operated from rail cars including: Ballast cribbing machines, ballast regulators, conditioners and scarifiers, bolt machines, brush cutters, compactors, concrete mixers, cranes and derricks, earth boring machines, electric welding machines, grinders, grouters, pile drivers, rail heaters, rail layers, sandblasters, snow plows, spike drivers, sprayers and other types of such maintenance-of-way equipment.

(ee) *Special Track Work* means track other than normal tie and ballast bolted or welded rail or containing devices such as retarders or switching mechanisms.

(ff) *Statistical Sound Level* means the level in decibels that is exceeded in a stated percentage (x) of the duration of the measurement period. It is abbreviated as  $L_x$ .

(gg) *Switcher Locomotive* means any locomotive designated as a switcher by the builder or reported to the ICC as a switcher by the operator-owning-railroad and including, but not limited to, all locomotives of the builder/model designations listed in Appendix A to this subpart.

(hh) *Warning Device* means a sound emitting device used to alert and warn people of the presence of railroad equipment.

(ii) *Slow Meter Response* means that the slow response of the sound level meter shall be used. The slow dynamic response shall comply with the meter dynamic characteristics in paragraph 5.4 of the American National Standard Specification for Sound Level Meters. ANSI S1.4-1971. This publication is

**Pt. 201, Subpt. A, App. A**

available from the American National Standards Institute Inc., 1430 Broadway, New York, New York 10018.

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**APPENDIX A TO SUBPART A OF PART 201—SWITCHER LOCOMOTIVES**

[The following locomotives are considered to be "switcher locomotives" under the general definition of this regulation]

Type	Engine
General Electric Co.	
44 ton .....	8-D17000(2).
70 ton .....	6-CBFWL-6T.
95 ton .....	6-CBFWL-6T.
Electromotive Division (GMC)	
SC .....	8-201A.
NC .....	12-201A.
NC1 .....	12-201A.
NC2 .....	12-201A.
NW .....	12-201A.
NW1 .....	12-201A.
NW1A .....	12-201A.
NW2 .....	12-567.
NW2 .....	12-567A.
NW3 .....	12-567.
NW4 .....	12-201A.
NW5 .....	12-567B.
SW .....	8-201A/6-567.
SW1 .....	6-567A/AC.
SW2 .....	6-567.
SW3 .....	6-567.
SW600 .....	6-567C.
SW7 .....	12-567A.
SW8 .....	8-567B/BC.
SW900 .....	8-567B.
SW9 .....	12-567B/BC/C.
SW1200 .....	12-567C.
SW1000 .....	8-645E.
SW1001 .....	8-645E.
SW1500 .....	12-645E.
MP15 .....	12-645E.
MP15AC .....	12-645E.
GMD1 .....	12-567C.
RS1325 .....	12-567C.
Transfer Switcher including "Cow and Calf"	
T .....	12-201A(2)
TR .....	12-567(2)
TR1 .....	16-567(2)
TR2 .....	12-567A(2)
TR3 .....	12-567(3)
TR4 .....	12-567A(2)
TR5 .....	12-567B(2)
TR6 .....	8-567B(2)
Baldwin	
VO-660 .....	6-VO.
DS-446 .....	6-606NA.
DS4475 .....	6-750.
S-8 .....	6-606.
VO-1000 .....	8-VO.
DS-4410 .....	8-608NA.
DS-4410 .....	6-606SC.
S-12 .....	6-606A.
DRS-4410 <sup>1</sup> .....	6-606SC.
DRS-12 <sup>1</sup> .....	6-606A.

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[The following locomotives are considered to be "switcher locomotives" under the general definition of this regulation]

Type	Engine
Fairbanks Morse	
H-10-44 .....	6-OP.
H-12-44 .....	6-OP.
H-12-44TS .....	6-OP.
H-12-46 <sup>1</sup> .....	6-OP.
Lima	
750 hp. ....	6-Hamilton.
800 hp. ....	6-Hamilton.
1000 hp. ....	8-Hamilton.
1200 hp. ....	8-Hamilton.
LRS <sup>1</sup> .....	8-Hamilton.
TL <sup>1</sup> .....	8-Hamilton (2).
ALCO and MLW	
S1 .....	6-539NA.
S2 .....	6-539T.
S3 .....	6-539NA.
S4 .....	6-539T.
S5 .....	6-251.
S6 .....	6-251A,B.
S7 .....	6-539.
S10 .....	6-539.
S11 .....	6-539.
S12 .....	6-539T.
S13 .....	6-251C.
RSD-1 .....	6-539.
RSC-13 .....	6-539.
RSC-24 .....	12-244.
RS1 .....	6-539T.
RS2 <sup>1</sup> .....	12-244.
RS3 <sup>1</sup> .....	12-244.
RS10 <sup>1</sup> .....	12-244.
RSC-2 <sup>1</sup> .....	12-244.
RS3 <sup>1</sup> .....	12-244.
RSD-4 <sup>1</sup> .....	12-244.
RSD-5 <sup>1</sup> .....	12-244.
T6 .....	6-251B.
C-415 <sup>1</sup> .....	8-251F.
M-420TR .....	12-251.

<sup>1</sup>These models may be found assigned to road service as well as switcher service, but are considered switcher locomotives for the purpose of this regulation.

**Subpart B—Interstate Rail Carrier Operations Standards**

**§ 201.10 Applicability.**

The provisions of this subpart apply to all rail cars and all locomotives, except steam locomotives, operated or controlled by carriers as defined in subpart A of this part, except that § 201.11 (a), (b), and (c) do not apply to gas turbine-powered locomotives and to any locomotive type which cannot be connected by any standard method to a load cell. They apply to the total sound level emitted by rail cars and locomotives operated under the conditions specified, including the sound produced by refrigeration and air conditioning