

employee's first tour of duty in a position identified within the scope of this part.

(2) For employees hired on or before February 26, 2007, by Class 1, passenger, and commuter railroads, and railroads with 400,000 or more annual employee hours, by no later than February 26, 2009;

(3) For employees hired on or before February 26, 2007, by railroads with fewer than 400,000 annual employee hours, by no later than February 26, 2010.

(c) The training program shall include and the training materials shall reflect, at a minimum, information on all of the following:

- (1) The effects of noise on hearing;
- (2) The purpose of hearing protectors;
- (3) The advantages, disadvantages, and attenuation of various types of hearing protectors;
- (4) Instructions on selection, fitting, use, and care of hearing protectors;
- (5) The purpose of audiometric testing, and an explanation of the test procedures;
- (6) An explanation of noise operational controls, where used;
- (7) General information concerning the expected range of workplace noise exposure levels associated with major categories of railroad equipment and operations (*e.g.*, switching and road assignments, hump yards near retarders, etc.) and appropriate reference to requirements of the railroad concerning use of hearing protectors;
- (8) The purpose of noise monitoring and a general description of monitoring procedures;
- (9) The availability of a copy of this part, an explanation of the requirements of this part as they affect the responsibilities of employees, and employees' rights to access records under this part;
- (10) How to determine what can trigger an excessive noise report, pursuant to § 229.121(b); and
- (11) How to file an excessive noise report, pursuant to § 229.121(b).

§ 227.121 Recordkeeping.

(a) *General requirements*—(1) *Availability of records.* Each railroad required to maintain and retain records under this part shall:

(i) Make all records available for inspection and copying/photocopying to representatives of the FRA, upon request;

(ii) Make an employee's records available for inspection and copying/photocopying to that employee, former employee, or such person's representative upon written authorization by such employee;

(iii) Make exposure measurement records for a given run or yard available for inspection and copying/photocopying to all employees who were present in the locomotive cab during the given run and/or who work in the same yard; and

(iv) Make exposure measurement records for specific locations available to regional or national labor representatives, upon request. These reports shall not contain identifying information of an employee unless an employee authorizes the release of such information in writing.

(2) *Electronic records.* All records required by this part may be kept in electronic form by the railroad. A railroad may maintain and transfer records through electronic transmission, storage, and retrieval provided that:

(i) The electronic system be designed so that the integrity of each record is maintained through appropriate levels of security such as recognition of an electronic signature, or other means, which uniquely identify the initiating person as the author of that record. No two persons shall have the same electronic identity;

(ii) The electronic system shall ensure that each record cannot be modified in any way, or replaced, once the record is transmitted and stored;

(iii) Any amendment to a record shall be electronically stored apart from the record which it amends. Each amendment to a record shall be uniquely identified as to the person making the amendment;

(iv) The electronic system shall provide for the maintenance of records as originally submitted without corruption or loss of data; and

(v) Paper copies of electronic records and amendments to those records, that may be necessary to document compliance with this part shall be made available for inspection and copying/

photocopying by representatives of the FRA.

(3) *Transfer of records.* If a railroad ceases to do business, it shall transfer to the successor employer all records required to be maintained under this subpart, and the successor employer shall retain them for the remainder of the period prescribed in this part.

(b) *Exposure measurements records.* The railroad shall:

(1) Maintain an accurate record of all employee exposure measurements required by §227.103; and

(2) Retain these records for the duration of the covered employee's employment plus thirty years.

(c) *Audiometric test records.* The railroad shall:

(1) Maintain employee audiometric test records required by §227.109, including:

- (i) The name and job classification of the employee;
- (ii) The date of the audiogram;
- (iii) The examiner's name;
- (iv) The date of the last acoustic or exhaustive calibration of the audiometer;
- (v) Accurate records of the measurements of the background sound pressure levels in audiometric test rooms;
- (vi) The model and serial number of the audiometer used for testing; and

(2) Retain the records required by §227.107 for the duration of the covered employee's employment plus thirty years.

(d) *Positions and persons designated records.* The railroad shall:

(1) Maintain a record of all positions or persons or both designated by the railroad to be placed in a Hearing Conservation Program pursuant to §227.107; and

(2) Retain these records for the duration of the designation.

(e) *Training program materials records.* The railroad shall:

(1) Maintain copies of all training program materials used to comply with §227.119(c) and a record of employees trained; and

(2) Retain these copies and records for three years.

(f) *Standard threshold shift records.* The railroad shall:

(1) Maintain a record of all employees who have been found to have experienced a standard threshold shift

within the prior calendar year and include all of the following information for each employee on the record:

- (i) Date of the employee's baseline audiogram;
- (ii) Date of the employee's most recent audiogram;
- (iii) Date of the establishment of a standard threshold shift;
- (iv) The employee's job code; and
- (v) An indication of how many standard threshold shifts the employee has experienced in the past, if any; and

(2) Retain these records for five years.

APPENDIX A TO PART 227—NOISE EXPOSURE COMPUTATION

This appendix is mandatory.

I. COMPUTATION OF EMPLOYEE NOISE EXPOSURE

A. Noise dose is computed using Table A-1 as follows:

1. When the sound level, L, is constant over the entire work day, the noise dose, D, in percent, is given by: $D = 100 C/T$, where C is the total length of the work day, in hours, and T is the duration permitted corresponding to the measured sound level, L, as given in Table A-1.

2. When the work day noise exposure is composed of two or more periods of noise at different levels, the total noise dose over the work day is given by:

$D = 100 (C1/T1 + C2/T2 + . . . + Cn/Tn)$, where Cn indicates the total time of exposure at a specific noise level, and Tn indicates the duration permitted for that level as given by Table A-1.

B. The eight-hour TWA in dB may be computed from the dose, in percent, by means of the formula: $TWA = 16.61 \log_{10} (D/100) + 90$. For an eight-hour work day with the noise level constant over the entire day, the TWA is equal to the measured sound level.

C. Exposure to impulsive or impact noise should not exceed 140 dB peak sound pressure level.

D. Any time that an employee spends deadheading shall be included in the calculation of the noise dose.

E. A table relating dose and TWA is given in Section II of this Appendix.

TABLE A-1¹

A-weighted sound level, L (decibel)	Duration permitted T (hour)
80	32
81	27.9