§ 227.109 Audiometric testing program.

(a) Each railroad shall establish and maintain an audiometric testing program as set forth in this section and include employees who are required to be included in a hearing conservation program pursuant to § 227.107. (b) Cost. The audiometric tests shall be provided at no cost to employees.

(c) Tests. Audiometric tests shall be performed by:

(1) An audiologist, otolaryngologist, or other physician who has experience and expertise in hearing and hearing loss; or

(2) A qualified technician.

(d) [Reserved]

(e) Baseline audiogram. This paragraph (e) applies to employees who are required by § 227.107 to be included in a hearing conservation program. 

(1) New employees. (i) Except as provided in paragraph (e)(1)(i), for employees hired after February 26, 2007, the railroad shall establish a valid baseline audiogram within 6 months of the new employee’s first tour of duty.

(ii) Where mobile test vans are used to meet the requirement in paragraph (e)(1)(i), the railroad shall establish a...
valid baseline audiogram within one year of the new employee's first tour of duty.

(2) **Existing employees.** (i) For all employees without a baseline audiogram as of February 26, 2007, Class I, passenger, and commuter railroads, and railroads with 400,000 or more annual employee hours shall establish a valid baseline audiogram by February 26, 2009; and railroads with less than 400,000 annual employee hours shall establish a valid baseline audiogram by February 26, 2010.

(ii) If an employee has had a baseline audiogram as of February 26, 2007, and it was obtained under conditions that satisfy the requirements found in 29 CFR 1910.95(h), the railroad must use that baseline audiogram.

(iii) If the employee has had a baseline audiogram as of February 26, 2007, and it was obtained under conditions that satisfy the requirements in 29 CFR 1910.95(h)(1), but not the requirements found in 29 CFR 1910.95(h)(2) through (5), the railroad may elect to use that baseline audiogram provided that the Professional Supervisor of the Audiometric Monitoring Program makes a reasonable determination that the baseline audiogram is valid and is clinically consistent with other materials in the employee's medical file.

(3) Testing to establish a baseline audiogram shall be preceded by at least 14 hours without exposure to occupational noise in excess of the action level. Hearing protectors may be used as a substitute for the requirement that baseline audiograms be preceded by 14 hours without exposure to occupational noise.

(4) The railroad shall notify its employees of the need to avoid high levels of non-occupational noise exposure during the 14-hour period immediately preceding the audiometric examination.

(f) **Periodic audiogram.** (1) The railroad shall offer an audiometric test to each employee included in the hearing conservation program at least once each calendar year. The interval between the date offered to any employee for a test in a calendar year and the date offered in the subsequent calendar year shall be no more than 450 days and no less than 280 days.

(2) The railroad shall require each employee included in the hearing conservation program to take an audiometric test at least once every 1095 days.

(g) **Evaluation of audiogram.** (1) Each employee's periodic audiogram shall be compared to that employee's baseline audiogram to determine if the audiogram is valid and to determine if a standard threshold shift has occurred. This comparison may be done by a qualified technician.

(2) If the periodic audiogram demonstrates a standard threshold shift, a railroad may obtain a retest within 90 days. The railroad may consider the results of the retest as the periodic audiogram.

(3) The audiologist, otolaryngologist, or physician shall review problem audiograms and shall determine whether there is a need for further evaluation. A railroad shall provide all of the following information to the person performing this review:

(i) The baseline audiogram of the employee to be evaluated;

(ii) The most recent audiogram of the employee to be evaluated;

(iii) Measurements of background sound pressure levels in the audiometric test room as required in appendix D of this part: Audiometric Test Rooms; and

(iv) Records of audiometer calibrations required by §227.111.

(h) **Follow-up procedures.** (1) If a comparison of the periodic audiogram to the baseline audiogram indicates that a standard threshold shift has occurred, the railroad shall inform the employee in writing within 30 days of the determination.

(2) Unless a physician or audiologist determines that the standard threshold shift is not work-related or aggravated by occupational noise exposure, the railroad shall ensure that the following steps are taken:

(i) Employees not using hearing protectors shall be fitted with hearing protectors, shall be trained in their use and care, and shall be required to use them.

(ii) Employees already provided with hearing protectors shall be refitted, shall be retrained in the use of hearing
Federal Railroad Administration, DOT § 227.111

(a) Audiometric tests shall be pure tone, air conduction, hearing threshold examinations, with test frequencies including 500, 1000, 2000, 3000, 4000, 6000, and 8000 Hz. Tests at each frequency shall be taken separately for each ear.

(b) Audiometric tests shall be conducted with audiometers (including microprocessor audiometers) that meet the specifications of and are maintained and used in accordance with ANSI S3.6-2004 “Specification for Audiometers.” The Director of the Federal Register approves the incorporation by reference of this standard in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. You may obtain a copy of the incorporated standard from the American National Standards Institute at 1819 L Street, NW., Washington, DC 20036 or http://www.ansi.org. You may inspect a copy of the incorporated standard at the Federal Railroad Administration, Docket Room, 1200 New Jersey Avenue, SE., Washington, DC 20590, Washington, DC 20005, or at the National Archives and Records Administration (NARA). For more information on the availability of this material at NARA, call 202-741-6030, or go to http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

1. Pulsed-tone audiometers should be used with the following on and off times: F–J and J–K shall each have values of 225 ± 35 milliseconds (ms).

2. Use of insert earphones shall be consistent with the requirements listed in appendix E of this part: Use of Insert Earphones for Audiometric Testing.

(c) Audiometric examinations shall be administered in a room meeting the requirements listed in appendix D of this part: Audiometric Test Rooms.

(d) Audiometer calibration. (1) The functional operation of the audiometer shall be checked before each day’s use by testing a person with known, stable hearing thresholds or by appropriate calibration device, and by listening to the audiometer’s output to make sure that the output is free from distorted or unwanted sounds. Deviations of 10 decibels or greater require an acoustic calibration.