

22. Hearing Conservation

Overview

This section discusses the following topics:

- Hearing Conservation Policy
- Program Responsibilities
- Noise Evaluation and Surveillance Procedures
- Noise Control Methods
- Mandatory Use (Equipment & Tasks)
- Medical Surveillance
- Training
- Recordkeeping

References

OSHA Standard 29 CFR 1910.95

Hearing Conservation Program

Policy

It is the policy of FairPoint Communications in coordination with the Risk Management Department to provide employees with a safe and healthful working environment. This is accomplished by utilizing facilities and equipment that have all feasible safeguards incorporated into their design. When effective engineering controls are not feasible, or when they are being initiated, administrative controls will be used when and where possible, followed by the use of protective personal equipment (PPE).

The primary goal of the FairPoint Communications, Inc. Hearing Conservation Program is to reduce and eventually eliminate hearing loss due to workplace noise exposure. This program includes the following elements:

- Work environments will be surveyed to identify potentially hazardous noise levels and personnel at risk;
- Environments that contain or equipment that produces potentially hazardous noise should be modified to reduce the noise level to acceptable levels wherever technologically and economically feasible;
- Where engineering controls are not feasible, administrative controls and/or the use of hearing protective devices will be employed;
- Annual hearing testing will be conducted to monitor the effectiveness of the Hearing Conservation Program. Early detection of temporary threshold shifts will allow further protective action to be taken before permanent hearing loss occurs;
- Education is vital to the overall success of a Hearing Conservation Program. Initial and annual training is required of all employees found to fall under the guidelines of this program.

When the sound levels listed below are exceeded, reasonable administrative or engineering controls will be instituted. If the control methods fail to reduce the noise exposure to within those allowed, hearing protection will be provided and used to reduce the sound levels to an acceptable level. In addition, OSHA requirements dictate that whenever employee noise exposures equal or exceed an 8-hour time-weighted average (TWA) of 85 dBA, slow response, a continuing effective hearing conservation program shall be instituted.

PROGRAM RESPONSIBILITIES

The Risk Management Department is responsible for developing, implementing and administering the Hearing conservation Program including:

- Identification of work areas and equipment within company facilities where noise levels equal or exceed 85 dBA;
- Identification of employees whose noise exposure level equals or exceeds an 8-hour TWA of 85 dBA. Notification of employee exposure measurements is sent to the employee, the employee's supervisor and the Risk Management Department for inclusion in the annual audiology program;

- Noise surveys and/or noise dosimetry must be conducted to determine which areas require warning signs, or those job tasks/positions that have an occupational exposure;
- Training of employees in the need for, proper use and care of hearing protection devices shall include the following:
 - Noise induced hearing loss;
 - Recognizing hazardous noise;
 - Symptoms of overexposure to noise;
 - Hearing protection devices - advantages and limitations;
 - Selection, fitting, use and maintenance of hearing protection devices;
 - Explanation of noise measurement procedures;
 - Hearing conservation program requirements.
 - Identification of noise control measures including engineering and administrative controls and recommendations.

In conjunction with local Human Resources Regional Safety Council representatives or designees are responsible for conducting and/or coordinating baseline and annual audiograms for new employees who may be assigned to tasks with potential exposure to elevated levels of noise. These parties also schedule and conduct audiograms on an annual basis for employees exposed to sound levels greater than or equal to 85 dBA. Human Resources is responsible for notifying Risk Management of all employees who have experienced significant changes in hearing (standard threshold shifts) in order that follow-up investigations may be conducted. The affected employee and his/her supervisor will also be notified in accordance with OSHA 29 CFR 1910.95.

Supervisors are responsible for ensuring that all of their employees exposed to noise levels equal to or greater than 85 dBA have access to appropriate hearing protective devices in the work area and enroll those employee(s) in the Hearing Conservation Program if identified as having an 8-hour TWA equal to or greater than 85 dBA. Supervisors are responsible for enforcing the use of hearing protective devices and engineering and administrative controls in designated noise hazard areas job tasks and dispensing hearing protective devices when necessary as well as maintaining a supply of hearing protective devices.

Supervisors must ensure that the following are maintained:

- Signs posted at the entrance to any work area where noise levels equal or exceed the 85 dBA;
- Supply hearing protective devices to hither employee(s) at no cost to the employee(s);

- Enforcement of the wearing of the hearing protective devices in the designated areas or job tasks using established disciplinary procedures;
- Hearing protective devices are used and maintained as originally intended and in accordance with instructions provided;
- Scheduling and coordinating Hearing Conservation Program training for all personnel covered by this program.

Employees are responsible for wearing and maintaining hearing protective devices as instructed. Employees covered by this program must also participate in initial and annual training programs and the medical surveillance program including the baseline and annual audiometric testing. Not wearing hearing protection in designated areas may result in disciplinary action up through and including termination.

Noise Evaluation and Surveillance Procedures

Identification of Hazardous Noise Areas

Risk Management in conjunction with local representatives of the Human Resources Department and regional Safety Council representatives will identify work area and/or job tasks where noise levels equal or exceed 85 dBA. Signs will be posted at the entrance to any work area where noise levels exceed 85 dBA, requiring anyone entering the area to wear proper hearing protection. Personnel who work in these areas shall have hearing protection supplied to them, shall be instructed in its proper use, and be required to wear this equipment when in these identified areas. It is the responsibility of the area supervisor to ensure that these precautions are maintained.

Job tasks identified as having noise levels equal to or exceeding 85 dBA will include this exposure within the written job task description and/or Job Hazard Analysis, affected employees will be provided appropriate hearing protective devices, shall be instructed in its proper use, and be required to wear this equipment when doing identified job tasks. It is the responsibility of the area supervisor to ensure that these precautions are maintained.

Noise Measurements and Exposure Assessments

All noise monitoring will be conducted by Risk Management, the Safety Council or their designees. The monitoring of employees for noise exposure is made up

of two parts, area and personal monitoring. Area measurements are generally obtained first. If noise levels are at or above 80 dBA, personal monitoring using dosimeters is then performed. Sample data sheets will be used to record monitoring data for both area and personal noise monitoring results. Risk Management, the Safety Council or their designees will provide observation of the monitoring to employees who work in the area.

Area Measurements

In an area survey, measurements of environmental noise levels are recorded using a sound level meter to identify work areas where employees' exposures may be above hazardous levels, and where more thorough exposure monitoring may be needed. Area monitoring is conducted using a calibrated sound level meter set to the A scale, slow response. Within the area of interest, several different locations will be measured. Typical measurement locations would include:

- In the hearing zone at the employee's normal work location.
- Next to the noise source(s).
- At the entrance(s) to the work area.
- At other locations within the area where the employee might work.

A rough sketch of the area should be included with the results showing the locations where the noise readings were obtained.

If the noise levels are below 80 dBA on a time-weighted average basis in the area, no further routine monitoring will be required for that area. Should any of the noise measurements equal or exceed 80 dBA, records shall be maintained as to the noise levels recorded, where they were taken, and the source(s) of the noise. These records shall be updated periodically to determine if any changes have occurred that would warrant re-monitoring of exposed personnel. If any of the measurements equal or exceed a noise level of 80 dBA, employees who work in or near the high noise area or equipment shall have their noise exposure determined through personnel monitoring using dosimeters.

Personnel Monitoring

Determination of the noise exposure level will be accomplished using calibrated noise dosimeters. Each employee to be monitored will have a dosimeter placed on him/her at the beginning of his/her normal work shift with the microphone placed in the "hearing zone". The dosimeter will be worn for the full duration of the work shift while the employee performs his/her normal work routine. At the end of the work shift, the dosimeter will be removed and information printed out

as soon as possible. Background information will be collected from each employee detailing job description, unusual job activities, etc., for the time period sampled. Those employees whose noise exposure equal or exceeds 80 dBA on an 8-hour TWA will be referred to the local Human Resources Department for inclusion in the Hearing Conservation Program.

Re-monitoring of Hazardous Noise Areas

All areas where noise levels equal or exceed 80 dBA shall be re-monitored at least every two years. Whenever an employee exhibits a standard threshold shift, as determined by the local Human Resources representative and regional Safety Council representative, the employee's work place shall be re-monitored to identify and rectify the cause.

Re-monitoring Due to Changes

Any area with noise levels that equal or exceed 80 dBA shall also be re-monitored whenever a change in production process, equipment, or controls increase the noise exposure such that additional employees are exposed to noise levels at or above 80 dBA on a time-weighted average basis. Areas where the noise levels have dropped below 80 dBA due to alterations in equipment, controls or process changes may be eliminated from the monitoring program after a period of two months once this drop is confirmed through testing.

Noise Control Methods

Engineering and Administrative Controls

The primary means of reducing or eliminating personnel exposure to hazardous noise is through the application of engineering controls. Engineering controls are defined as any modification or replacement of equipment, or related physical change at the noise source or along the transmission path that reduces the noise level at the employee's ear. Engineering controls such as mufflers on heavy equipment exhausts or on air release valves are required where possible.

Administrative controls are defined as changes in the work schedule or operations which reduce noise exposure. If engineering solutions cannot reduce the noise, administrative controls such as increasing the distance between the

noise source and the worker or rotation of jobs between workers in the high noise area should be used if possible.

The use of engineering and administrative controls should reduce noise exposure to the point where the hazard to hearing is eliminated or at least more manageable.

Personal Protective Equipment

Hearing protective devices (ear plugs, muffs, etc.) shall be the permanent solution only when engineering or administrative controls are considered to be infeasible or cost prohibitive. Hearing protective devices are defined as any device that can be worn to reduce the level of sound entering the ear. Hearing protective devices shall be worn by all personnel when they must enter or work in an area where the operations generate noise levels of:

- Greater than 85 dBA sound levels and/or;
- 120 dB peak sound pressure level or greater.

Types of Hearing Protective Devices

- **Insert Type Earplugs:** A device designed to provide an air-tight seal with the ear canal. There are three types of insert earplugs - premolded, formable, and custom earplugs.
- **Premolded Earplugs:** Premolded earplugs are pliable devices of fixed proportions. Two standard styles, single flange and triple flange, come in various sizes, and will fit most people. Personnel responsible for fitting and dispensing earplugs will train users on proper insertion, wear, and care. While premolded earplugs are reusable, they may deteriorate and should be replaced periodically.
- **Formable:** Formable earplugs come in just one size. Some are made of material which, after being compressed and inserted, expands to form a seal in the ear canal. When properly inserted, they provide noise
- attenuation values that are similar to those from correctly fitted premolded earplugs. Individual units may procure approved formable earplugs. Supervisors must instruct users in the proper use of these earplugs as part of the annual education program. Each earplug must be held in place while it expands enough to remain firmly seated. A set of earplugs with a cord attached is available. These earplugs may be washed and therefore are reusable, but will have to be replaced after two or three weeks or when they no longer form an airtight seal when properly inserted.

- **Custom Molded Earplugs:** A small percentage of the population cannot be fitted with standard premolded or formable earplugs. Custom earplugs can be made to fit the exact size and shape of the individual's ear canal. Individuals needing custom earplugs will be referred to an audiologist.
- **Earmuffs:** Earmuffs are devices worn around the ear to reduce the level of noise that reaches the ear. Their effectiveness depends on an air tight seal between the cushion and the head.

Selection of Hearing Protective Devices

Employees may select hearing protective devices from a variety of suitable ones. In all cases the chosen hearing protectors shall have a Noise Reduction Ratio (NRR) high enough to reduce the noise at the ear drum to 80 dBA or lower.

Issuance of Hearing Protective Devices

The issuance of hearing protective devices is handled through the Supervisor. Supervisors will issue and fit the initial hearing protective devices (foam inserts, disposables). Instruction on the proper use and care of earplugs and earmuffs will be provided whenever HPDs are dispensed. Personnel requiring earmuffs in addition to earplugs will be informed of this requirement and educated on the importance of using proper hearing protection. The Supervisor will dispense ear muffs when necessary and will maintain a supply of disposable earplugs.

Use of Hearing Protective Devices

Always use and maintain HPDs as originally intended and in accordance with instructions provided. Earmuff performance may be degraded by anything that compromises the cushion-to-circumaural flesh seal. This includes other pieces of personal protective equipment such as eyewear, masks, face shields, and helmets.

Maintenance of Hearing Protective Devices

Reusable earplugs, such as the triple flange or formable devices should be washed in lukewarm water using hand soap, rinsed in clean water, and dried thoroughly before use. Wet or damp earplugs should not be placed in their containers. Cleaning should be done after each use and prior to another employee wearing the same HPD.

Earmuff cushions should be kept clean. The plastic or foam cushion may be cleaned in the same way as earplugs, but the inside of the muff should not get

wet. When not in use, ear muffs should be placed in open air to allow moisture that may have been absorbed into the cups to evaporate.

Hearing Protection Performance Information

The maximum of sound attenuation one gets when wearing hearing protection devices is limited by human body and bone conduction mechanisms. Even though a particular device may provide outstanding values of noise attenuation the actual noise reductions may be less because of the noise surrounding the head and body bypasses the hearing protector and is transmitted through tissue and bone pathways to the inner ear. Note: The term "double hearing protection" is misleading. The attenuation provided from any combination earplug and earmuff is not equal to the sum of their individual attenuation values.

MANDATORY USE (Equipment & Tasks)

Use of hearing protective devices (HPD) is mandatory when operating, working around or within 45 feet of the unobstructed vicinity of:

- Gasoline-powered lawn mowers, leaf-blowers, gasoline-powered weed-eaters, chainsaws;
- Any electrical generator, permanent or portable;
- Powered brush or limb chippers, diesel or gasoline-powered tractors, backhoes, end-loaders, forklifts, or other "heavy equipment";
- At any other place that the noise-level is measured or thought to be excessive.

If you are in doubt, wear your hearing protective devices.

MEDICAL SURVEILLANCE

Notification

Upon identification of employees whose 8-hour TWA equals or exceeds 85 dBA, the local Human Resources representative will inform the employee(s) and the

employees' Supervisor, in writing, of the need to enroll certain employee(s) in the Hearing Conservation Program. Information supplied to Human Resources representative will include the employee(s) name, supervisor's name, telephone number, and the noise levels recorded in the employee's work area, including dosimetry data. It will be the responsibility of the Supervisor and the local Human Resources representative to enroll the employee in the Hearing Conservation Program. In work locations where either through administrative or engineering controls, noise levels are found to have fallen such that the employee's 8-hour TWA is below 80 dBA, the Regional Safety Council representative shall notify the employee(s), the employee's Supervisor, local Human Resources and the Corporate Risk Management Department by memo, that the employees working in that area are no longer required to be enrolled in the Hearing Conservation Program. The final decision as to an employee's enrollment status will be left with the Corporate Risk Management Department. The results of area and personal monitoring shall be forwarded to the local Human Resources representative and the Regional Safety Council representative upon completion of the noise surveys. Any personnel experiencing difficulty in wearing assigned hearing protection (i.e., irritation of the canals, pain) will be advised to immediately report this to their supervisor and make arrangements to go to pre-determined medical care providers for evaluation as soon as possible.

Audiometric Testing

The Corporate Risk Management Department has the responsibility for administering the Audiometric Testing Program portion of the Fairpoint Communications, Inc. Hearing Conservation Program. The object of the audiometric testing program is to identify workers who are beginning to lose their hearing and to intervene before the hearing loss becomes worse. Audiometric testing will be provided to all employees whenever employee noise exposures equal or exceed an 8-hr. time-weighted average (TWA) of 85 dBA. Annual retesting will be performed for all enrolled in the Hearing Conservation Medical Surveillance Program.

TRAINING

The training and education program will provide information about the adverse effects of noise and how to prevent noise-induced hearing loss. At a minimum, all training will cover the following topics:

- Noise-induced hearing loss;
- Recognizing hazardous noise;
- Symptoms of overexposure to hazardous noise;
- Hearing protection devices - advantages and limitations.
- Selection, fitting, use, and maintenance of Hearing Protective Devices.
- Explanation of noise measurement procedures.

- Hearing conservation program requirements.

Employees will also be provided with copies of the OSHA noise standard (29 CFR 1910.95) and other handouts describing the Fairpoint Communications, Inc.'s Hearing Conservation Program.

(FairPoint employees shall be encouraged to use hearing protective devices when they are exposed to hazardous noise during activities at home; e.g., from lawn mowers, chain saws, etc.

Corporate Risk Management will provide refresher training.

Supervisors must contact their respective local Human Resources representative to schedule training for new personnel assigned to work in noisy environments and for retraining of current personnel.

RECORDKEEPING

Hearing Conservation Program records will include the following:

Record	Location
Medical Evaluation and Audiograms	Local HR Department
Training Records	Local HR Department
Hearing Conservation Program Manual	Local HR Department, Web Site
Hazard Evaluations	Local HR Department, Regional Safety Council Member Risk Management / Safety

All non-medical records (example: work area and equipment surveys) will be maintained for a period of five years. Results of hearing tests and medical evaluations performed for hearing conservation purpose& as well as noise exposure documentation shall be recorded and shall be a permanent part of an employee's health record.

All personnel who routinely work in designated hazardous noise areas shall be identified and a current roster of such personnel shall be maintained by the local Human Resources Department, and updated periodically.