

Table of Contents

| | |
|--|----|
| Section I – Introduction | 1 |
| Introduction | 2 |
| Policy Statement | 3 |
| List of Terms | 4 |
| Section II – General Provisions | 6 |
| 1.0 Training & Recordkeeping Requirements | 7 |
| 2.0 Responsibilities | 8 |
| 3.0 Measurement of Noise | 10 |
| 4.0 Employee Rights | 11 |
| 5.0 Audiometric Testing | 12 |
| 6.0 Standard Threshold Shift (STS) | 13 |
| 7.0 Hearing Protection | 14 |
| 8.0 HCP Procedural Flow Chart | 15 |
| Appendix | 17 |
| Appendix A - Hearing Protection | 18 |
| Appendix B – Employee Training Record | 19 |
| Appendix C – Hearing Conservation Program Audit Form | 20 |
| Appendix D – Sample Employee Notification Letter | 21 |

Section I

Introduction

Many operations and pieces of equipment used at Hilscher-Clarke worksites produce noise. Exposure to excessive levels of noise can result in a permanent loss of hearing acuity, development of Tinnitus (i.e., ringing of the ears), a possible increase in blood pressure and stress-related problems. Noise may also cause annoyance or difficulty in communicating or working effectively and safely. Thus, Hilscher-Clarke has instituted a Hearing Conservation Policy and Procedure to protect its employees and contractors from harmful noise. This program and procedure involves:

- ❑ Identification of exposed personnel (monitoring);
- ❑ Implementation of noise-reducing engineering and administrative controls;
- ❑ Use of hearing protectors (plugs, ear muffs);
- ❑ Audiometric testing (baseline and annual); and
- ❑ Training and retraining.

This policy and procedure provides guidelines for the implementation of Hilscher-Clarke's Hearing Conservation Program.

The standards set forth in this policy and procedure, for preventing hearing loss, are based on the Occupational Safety Health Standards for General Industry (29 CFR 1910.95) and Occupational Safety and Health Standards for Construction Industry (29 CFR 1926 parts .21, .52 and .101). The guidance provided for controlling "annoying" noise is based on best management practice and therefore is not mandatory.

Policy Statement

It is the policy of Hilscher-Clarke to provide a safe working environment without exposure to excessive noise levels. Hilscher-Clarke will take measures to reduce workplace noise to acceptable levels. Where such measures fail to reduce sound levels adequately, employees will be provided hearing protection and enrolled in the Hearing Conservation Program, at no cost to the employee.

Hilscher-Clarke will provide assistance; either through the acquisition of equipment or through reassignment to an equivalent job, to any employee who is found to have a noise induced hearing loss as a result of his or her job duties to such a degree that it affects job performance.

This policy and procedure provides guidelines for the implementation of Hilscher-Clarke's Hearing Conservation Program. The program includes the identification and control of noise within work areas through engineering means and administrative control of employee noise exposure along with the selection and use of hearing protectors. It also details the areas of responsibility for the President, Safety Managers, Supervisory Personnel, and Employees.

Additionally, this safety policy and procedures sets forth requirements for:

- Noise Exposure Surveys;
- Audiometric Testing;
- Recordkeeping;
- Employee Training in the use of hearing protection; and
- An evaluation of program effectiveness.

Specific applicability for employee enrollment in the program will be determined based on noise exposure levels. Employees with noise exposures that equal or exceed an 8-hour Time Weighted Average (TWA) sound level of 85 dBA, as determined by an authorized Safety Hygienist, will participate.

This policy and procedure is applicable to Hilscher-Clarke employees and subcontractors who may be exposed to excessive noise levels in both construction and non-construction work.

List of Terms

85 dBA Action Limit – The 8 hour time-weighted average sound level exposure that when exceeded, initiates the requirements of this policy and procedure.

Action Level – The level of noise exposure at which:

- A person must be enrolled in the Hearing Conservation Program, and must be provided audiometric testing.
- Representative noise exposure monitoring is required.
- Hearing protectors and training on noise hazards must be provided to the employee.

The current Action Level is 85 A-weighted decibels (dBA) over an 8 hour period or a dose of 50% of Permissible Exposure Limit (PEL).

Administrative Controls – A procedure that limits daily exposure to noise by control of an employee's work schedule in a high noise environment.

Area Monitoring – The testing of a work area for noise by monitoring the noise in general locations without considering movement of the employee in and out of the different noise areas.

Audiogram – A chart, graph, or table representing how loud various frequencies must be before an individual can detect them 50% of the time. Normal is considered to be 25 Decibels (dB) (this test shows an individual's hearing threshold levels).

Audiometric Testing – Testing conducted for measuring the sensitivity of a person's hearing threshold in decibels. The testing also establishes a baseline hearing threshold to determine if hearing loss has occurred.

Baseline Audiogram – An audiogram against which future audiograms are compared. This

may also be called a reference, preplacement or entrance audiogram.

Decibel (dBA), A-Weighted – A sound level reading in decibels made on the A-scale of a sound meter that approximates the response of the human ear. The decibel scale is logarithmic and every 3 dBA is a doubling of the sound level.

Dose – The cumulative amount of noise that a person is exposed to over a certain period of time. Exposure to 95 dBA for 4 hours would be equivalent to a dose of 100% while exposure to 90 dBA for 8 hours would also be equivalent to 100%.

Engineering Controls – Any mechanical device or physical barrier that reduces the sound level at the source or along the path of transmission.

Hearing Conservation Program – The program of employee protection against noise.

Hertz (HZ) – The unit of measure for noise frequency in cycles per second. (1 cycle/second=Hz).

Noise Dosimeter – An electronic instrument that takes the various noise levels along with the exposure times and integrates them into one cumulative measurement that indicates the percentage of the safe dose for that time period.

Noise Reduction Rating (NRR) – A measure of the amount of noise reduction provided by a given hearing protection device.

Permissible Exposure Limit (PEL) – The maximum allowable noise exposure, established by OSHA as a legal limit. The current PEL for noise is 85 dBA over an eight-hour period.

Personal Monitoring – The testing of a work area for noise by monitoring the individual employee’s movement into and out of different work areas.

Sound Level Meter – An electronic instrument for the measurement of sound levels.

Standard Threshold Shift (STS) - An average hearing threshold shift of 10 dB or more in

Shift in either ear at 2000, 3000, and 4000 hertz. This may be temporary or permanent.

Time Weighted Average – The sound level which, if constant over an 8 hour (TWA) workday exposure, would result in the same noise dose as measured.

Section II

General Provisions

1.0 Training & Recordkeeping Requirements

- 1.1** The formal written Hearing Conservation training program is to provide employees with the necessary understanding, skills, and knowledge to safely perform their jobs. Employees who are exposed to noise exceeding the 8 hour time-weighted average (85 dBA) or the peak (140 dB) must be trained in the following:
 - The effects of noise on hearing.
 - When and/or where hearing protectors are required.
 - The purpose of hearing protectors.
 - The advantages, disadvantages, and attenuation of various types of protectors (Appendix A).
 - The purpose of audiometric testing, including an explanation of the test procedures.
- 1.2** Initial and refresher training are to be provided to employees. Refresher training must be conducted annually and whenever:
 - An employees duties change;
 - Whenever hazards at the worksite change; or
 - An evaluation of the Hearing Conservation program identifies inadequacies in the employee's knowledge.
- 1.3** Appendix B presents a training certification form to document the affected employees' training on Hilscher-Clarke's Hearing Conservation Program.
- 1.4** Recordkeeping requirements shall include, but not be limited to:
 - 1.4.1** Records on area noise testing exposure will be accurately maintained for 5 years.
 - 1.4.2** All employee audiometric test records will be actively maintained for the duration of employment plus 5 years. Records will then be removed and handled according to Hilscher-Clarke's records retention policy.
 - 1.4.3** Audiometric test records will include:
 - Name and job classification;
 - Date of the audiogram;
 - Examiner's name;
 - Date of audiometer calibration; and
 - Employee's most recent noise exposure assessment.
 - 1.4.4** Certification of training with name, identity of trainers and training dates.
 - 1.4.5** Records will be provided on request to employees, former employees, and OSHA inspectors/auditors.

2.0 Responsibilities

2.1 The **President** shall be responsible for the following:

- Review and update of Hilscher-Clarke's Hearing Conservation Program to conform to current CFR standards.
- Insure compliance with standards set forth in this program and policies by periodic inspection of work sites per the Hearing Conservation Audit Form (Appendix C).
- Ensuring that stipulations and exposure limits described in this supplement are included in specifications and contract documentation for work to be performed by subcontractors.
- Provide oversight, general administration, and monitoring of Hilscher-Clarke's Audiometric Contractor's performance.
- Responding in writing to questions (also submitted in writing) that cannot be resolved by the Safety Manager and Supervisors within 21 days of receipt of request.
- Reviewing and evaluating Audiometric test data, with Safety Manager, for trends or problems.
- The President may delegate the responsibility of various aspects of the Hearing Conservation Program to a Qualified Organization. However, the President's ultimate responsibility for his/her aspects of the program cannot be delegated.

2.2 The **Safety Manager** shall be responsible for the following:

- Coordinating training, with the Supervisor, and enrolling employees as required in this program.
 - Enrolling employees found to be exposed to noise levels that exceed the permissible limits in Hilscher-Clarke's Hearing Conservation Program.
- Working with purchasing to assure that a variety of Personal Protective Equipment that meets Hilscher-Clarke's requirements for an 8-hour work cycle maximum exposure of 85 dBA Time Weighted Average (TWA) is purchased.
- Responsible for requesting monitoring for suspect areas identified by the Supervisor or as identified in the worksite Hazard Assessment procedure (See Hilscher-Clarke's Personal Protective Equipment Policy and Procedure.)
- Conducting noise surveys to establish the noise levels at various work sites; and posting the appropriate signs in specific areas, operations, or equipment that may expose employees to noise above 85 dBA.
- Notifying Supervisor and affected employees within 21 days of receiving the report on their hearing tests or if the results of noise monitoring indicates the employee's routine 8 hour TWA exceeds 50% of the PEL.
- Ensure that engineering or administrative control alternatives are evaluated and implemented before employees are included in the Hearing Conservation Program.
 - Ensuring that employee's wear approved hearing protection to maintain their noise exposure below the permissible noise exposure limit.
- Ensure that employee audiometric test records are maintained in the employees' personnel file per the terms of this policy and procedure.
- Ensure that all cases where a STS occurs are recorded on the OSHA log 300 as an occupational illness.

2.0 Responsibilities (cont.)

Safety Manager (cont.)

- With the approval of the President, the Safety Manager may delegate the responsibility of various aspects of the Hearing Conservation Program to a Qualified Organization (as approved by the President). However, the Safety Manager's ultimate responsibility for his/her aspects of the program cannot be delegated.

2.3 Supervisory Personnel shall be responsible for the following:

- Coordinating noise monitoring at their worksite with the Safety Manager.
- Communicating appropriate needs to the Safety Manager and President.
- Scheduling employees for hearing tests and training if the employees are included in the Hearing Conservation Program (HCP).
 - Employees who are placed in a job where excessive noise levels (90 dBA or above) occur will be scheduled for audiometric tests within 90 days of their placement. This will include both new hires and employees transferred into high noise jobs.
- Enforcing the use of hearing protection through disciplinary action as prescribed in Hilscher-Clarke's Disciplinary Program.
- Ensuring that an adequate supply and variety of hearing protection is maintained at their worksite and that employees are reminded and transported for evaluation or treatment.
- With the approval of the Safety Manager, the Supervisor may delegate the responsibility of various aspects of the Hearing Conservation Program to another Qualified Person, Competent Person, or Qualified Organization (as approved by the Safety Manager). However, the Supervisor's ultimate responsibility for his/her aspects of the program cannot be delegated.

2.4 All Employees shall be responsible for the following:

- Complying with all applicable guidelines contained in this safety policy and procedure.
- Informing their Supervisor and/or Safety Manager if a change occurs in the workplace that results in exposure to higher noise levels.
- Use noise control measures or wear and maintain hearing protection as required.
- Attend training on noise exposure and the requirements of the HCP.
- Employees included in the HCP will have medical evaluations and follow-up audiograms scheduled by Hilscher-Clarke as a condition of employment.
- Report any complicating medical problems to their Supervisor or Safety Manager as soon as possible.

2.5 Hilscher-Clarke's Audiometric Contractor is responsible for:

- Scheduling and conducting baseline and annual audiometric tests at the request of the President and/or Safety Manager.
- Evaluate baseline and annual audiograms to establish a hearing threshold and annual retests will be compared to the baseline to determine if a STS has occurred.
- Comply with all requirements of the OSHA standard on hearing conservation including test location, equipment calibration, and recordkeeping requirements.

3.0 Measurement of Noise

- 3.1** Whenever it is suspected that an employee's exposure routinely equals or exceeds an 8-hour TWA of 85 dBA or a dose of 50%, the Company will order a "Noise Measurement" to be performed. The results of the measurements are used to determine which, if any, controls are appropriate to reduce employee exposure to noise.
 - 3.1.1** This will include the monitoring of continuous, intermittent, and impulse sound between 80 and 130 decibels.
 - 3.1.2** All instruments will be of the proper type and will be calibrated prior to use.
- 3.2** This "Noise Measurement" will be repeated whenever a change in the work area occurs where additional employees are exposed above the action level or where the previously issued hearing protection is inadequate for protecting the employee(s).
- 3.3** The President and/or Safety Manager will notify the Supervisor, in writing, of employees who are confirmed to be exposed to excessive levels of noise, regardless of the use of hearing protectors.
 - 3.3.1** Notification will include a statement regarding the Supervisor's responsibility to enroll the employee(s) in a medical surveillance program, implement feasible engineering controls, or provide hearing protectors. A copy of the notice will be provided to Hilscher-Clarke's Human Resources Representative.
- 3.4** When applicable a copy of the most current noise measurement results will be posted in the job trailer at each individual worksite for the duration of the project.
- 3.5** Employees are not to be exposed to impulsive or impact noise exceeding 140dB peak sound pressure level.

4.0 Employee Rights

- 4.1 Employees will be notified, in writing, by their Safety Manager if exposed at or above the 85 dBA TWA.
- 4.2 Employees must be allowed to observe or have a representative observe area noise monitoring.
- 4.3 Once enrolled in the HCP, employees will receive an initial baseline audiogram and will be retested annually for as long as they remain enrolled.
 - 4.3.1 These tests will be conducted at no charge to the employee.
- 4.4 Employees may choose from a variety of styles of hearing protection and will be instructed in how to wear and maintain the protection selected.
- 4.5 Employees will have access to their monitoring and audiometric testing records.

5.0 Audiometric Testing

- 5.1 Audiometric testing will be provided to all employees whose exposure routinely exceeds an 8 hour Time Weighted Average (TWA) of 85 dBA.
- 5.2 Properly certified or licensed audiologists, otolaryngologists, physicians or Supervisory Personnel will conduct testing.
- 5.3 Whenever an employee is routinely exposed at or above the action level, a baseline audiometric test must be conducted within 6 months.
- 5.4 Audiometric tests must not be conducted until the employee has at least 14 hours without exposure to workplace noise (i.e., over a weekend) or has been furnished and worn hearing protection for this period.
- 5.5 Annual retesting will be conducted if an employee continues to be routinely exposed to an 8 hour TWA or 85 dBA or more.
- 5.6 Retesting will include a comparison of an employee's baseline audiogram with the annual retest to determine if a threshold shift has occurred.
- 5.7 If a standard threshold shift is indicated, the Safety Manager will notify the employee in writing within 21 days (See Appendix D).

6.0 Standard Threshold Shift (STS)

- 6.1** Any STS must be evaluated by a physician or other licensed professional to determine if it is work-related.
 - 6.1.1** This evaluation will be done at no cost to the employee.
- 6.2** Employees who are wearing hearing protection, who experience a STS, will be refitted and retrained on its use.
- 6.3** The Hilscher-Clarke approved Audiometric Contractor will refer for additional clinical audiological or otological examination any employee who has experienced a STS whom he/she suspects as having a medical problem that caused such a shift.
 - 6.3.1** Such referrals may also be made if the Contractor suspects that medical problems of the ear have been caused or aggravated by hearing protection.
- 6.4** When a STS has occurred, it must be recorded on the OSHA log 300 as an occupational illness. The date listed for the occupational illness will be the date that the STS is first diagnosed.

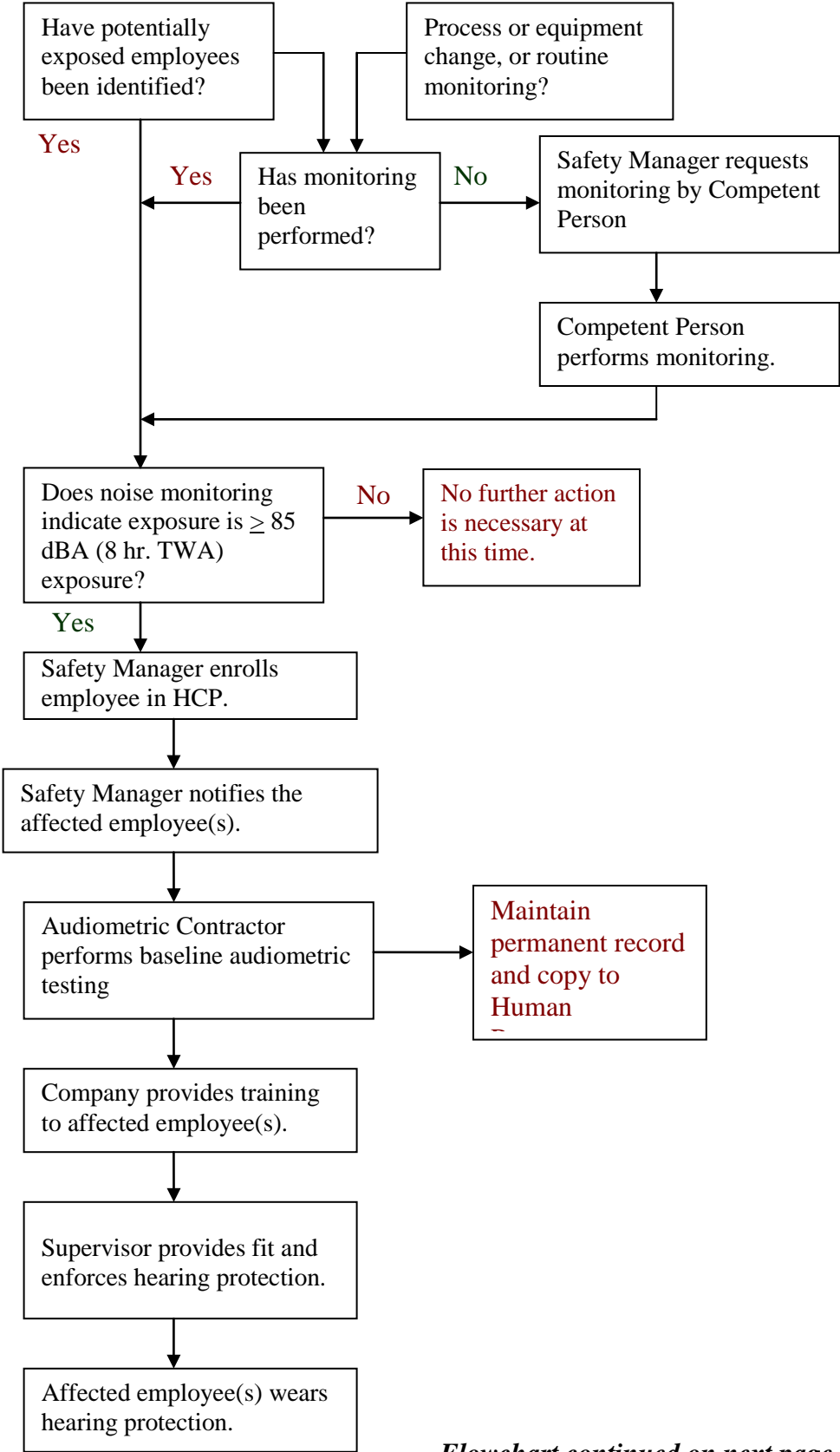
7.0 Hearing Protection

- 7.1 Employees will be provided with and required to wear hearing protection when exposed to 85 decibels or greater even if the employee has not had a baseline audiogram or experienced a STS.



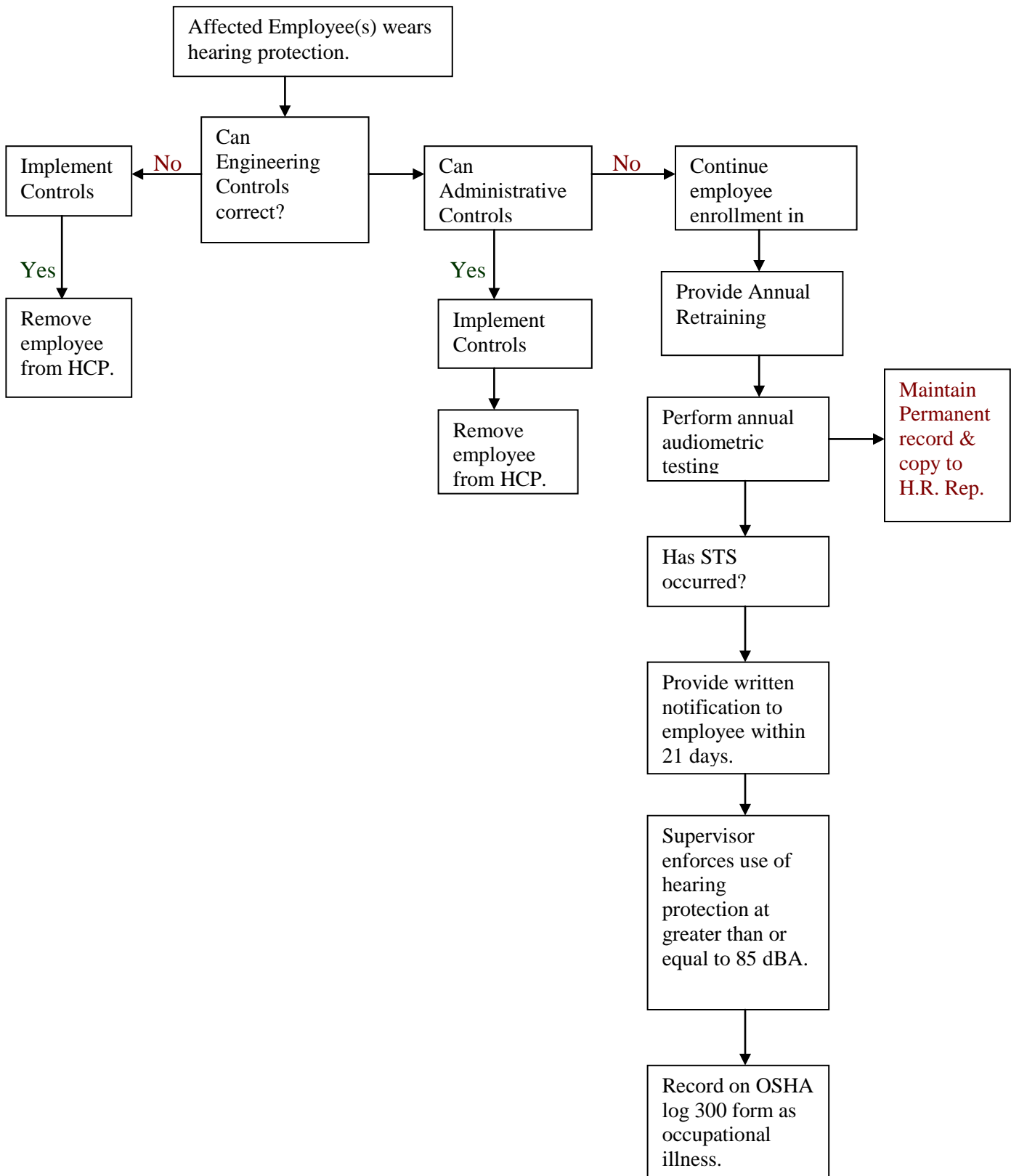
- 7.2 All equipment and work areas identified at 85 dBA or above will be placarded or posted that hearing protection is required.
- 7.3 Replace hearing protection whenever it becomes too worn to effectively protect the employee.
- 7.4 A variety of hearing protectors will be available for employee selection at each Hilscher-Clarke work site.
- 7.5 Training on the use and care of hearing protection will be provided by the Safety Manager.
- 7.6 All hearing protection will be properly fitted and its use supervised.
- 7.7 Hearing protection must be adequate to reduce employee exposure to 90 dBA or below if no STS has occurred or to 85 dBA or below if a STS has occurred.

8.0 HCP Procedural Flow Chart



Flowchart continued on next page.

8.0 Procedural Flow Chart (cont.)



Appendix



HEARING PROTECTION

Noise can be more than a nuisance. It may cause you to lose your hearing — either temporarily or permanently. The severity of hearing loss depends on:

- ◆ How loud the noise is (intensity);
- ◆ How high-pitched the noise is (frequency);
- ◆ How long you are exposed to the noise — hourly, daily, weekly, monthly;
- ◆ Whether the noise is continuous (impact every second or less) or intermittent;
- ◆ The age of the person exposed to the noise; individual susceptibility of the person exposed to the noise.

Types of Earplugs

- Formable earplugs - come in two varieties, the disposable kind made of waxed cotton or acoustical fibers that can be molded to your ears, and the semi-disposable type made of molded foam, which can be used for up to a week.
- Premolded earplugs- are made of soft silicone rubber or plastic and are reusable.
- Custom-molded earplugs - are molded to fit the individual by inserting silicone rubber or plastic molding compound into each ear and allowing it to set. The compound may then be used as earplugs or as molds for earplugs.

Using Earplugs

- Earplugs screen out harmful noise while allowing you to hear your coworkers.
- Earplugs can reduce noise levels by up to 30 decibels.
- Check the Noise Reduction Rating (NRR) on your earplugs' package. The higher the number, the better the protection.
- Earplugs are lightweight, inexpensive and low-maintenance.
- Earplugs are the protectors of choice for work in hot, enclosed environments or in situations where you keep hearing protectors on all day.
- They're easily worn with eyeglasses and hard hats and other head protection.
- Follow the manufacturer's instructions exactly when inserting earplugs.
- To work properly, earplugs must completely fill your ear canal.
- Make sure your hands are clean when inserting earplugs. Dirt and oils could cause an infection.
- Keep reusable earplugs clean by washing them after each use in warm, soapy water.

Types of Earmuffs

- Earmuffs consist of cushioned cups made of molded plastic filled with foam, liquid or air that are attached to a band that can be worn over your head, behind your neck or under your chin.
- Cap-mounted earmuffs can be attached to hard hats.
- Dielectric earmuffs have no metal parts, for workers exposed to high voltage.
- Electronic earmuffs reduce hazardous noises while magnifying sounds you need to hear.

Using Earmuffs

- Earmuffs reduce noise by about 20-30 decibels.
- The NRR on your earmuffs indicates their effectiveness.
- Inspect the condition of your earmuffs before each use.
- Your earmuffs should fit comfortably, without the headband being too tight or too slack.
- Earmuff cups should adjust up and down and in and out for a good fit.
- To work correctly, earmuffs must form a seal around your ears, completely enclosing them, without pinching your earlobes.
- No hair or clothing should stick out from under the cups.
- You can use earplugs with earmuffs for added protection.
- Follow the manufacturer's instructions for proper cleaning and storage.
- Be sure to replace hardened, cracked, or worn earmuff cushions.



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Hearing Conservation Program Audit

| |
|---|
| Worksite/Project Identifying Name _____ |
| Physical Address _____ |
| Name of Person Performing Audit _____ Date of Audit _____ |

| Area | Satisfactory | Action Required | Corrective Action Date |
|--------------------------------------|---------------------|------------------------|-------------------------------|
| Employee Knowledge | | | |
| Last Date of Training | | | |
| Use of Hearing Protectors | | | |
| Program Administration | | | |
| Written Program Available | | | |
| Records | | | |
| Training | | | |
| Inspections | | | |
| Noise Level Testing | | | |
| Annual Audiometric Tests | | | |
| Employee Test Notification | | | |
| Threshold Shift Records | | | |
| Safeguards | | | |
| Engineering Safeguards | | | |
| Administrative Safeguards | | | |
| Training Safeguards | | | |
| Equipment Inspection | | | |
| Hearing Protectors | | | |
| Noise Meters | | | |
| Calibration Equipment | | | |
| Area Inspection | | | |
| Signs Posted | | | |
| Employees Wearing Hearing Protection | | | |
| Notes | | | |
| | | | |

Appendix D – Sample Employee Notification Letter

(Place on Company Letterhead)

(Insert Today's Date)

Dear *(insert employee name)*:

Hearing test results have been returned to this office. Four degrees of findings have been identified:

- Category I – Normal Hearing
- Category III – Mild to Moderate Hearing Loss
- Category IVT – Significant Hearing Loss Identified & Additional Audiological Testing Recommended
- Category IVM – Significant Hearing Loss Identified With Possible Medical Involvement

Your hearing test, given on *(insert date of test here)*, indicated a significant hearing loss and additional testing is recommended (Category IVT).

We value your hearing abilities. We are committed to safeguarding all of our employees from hazardous conditions in the work site. Hearing protection will be a necessary part of your Personal Protective Equipment as you perform specific aspects of your job. Please see that you have the appropriate hearing protection device(s) and that the device(s) is (are) properly fitted to working in conditions that expose you to high noise levels.

If you have any questions, please advise your Safety Manager or contact *(insert additional contact names and phone numbers)*.

When you have read this letter, please sign, date, and return the original copy to your immediate supervisor.

Thank You,

(Insert Name)

Safety Manager

Employees Signature

Date

(After employee signs, give copy to employee)