**County of Henrico**

**Hearing Conservation Program**

**Department of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**County of Henrico**

**Hearing Conservation Program**

Under the Virginia Occupational Safety & Health (VOSH) Standard for Occupational Noise Exposure (29 CFR 1910.95) all workers exposed to an 85 dBA Time Weighted-Average (TWA) must participate in a comprehensive, written hearing conservation program. For a work shift longer than 8 hours, the 85 dBA TWA is reduced. For example, exposures that exceed 83.4 dBA for a 10-hour work shift and exposures that exceed 82.1 dBA for a 12-hour work shift necessitate inclusion in a hearing conservation program. An effective hearing conservation program shall include:

1. An assessment of noise exposure
2. Annual audiometric tests of exposed workers
3. Maintenance of noise and hearing data records
4. Noise abatement and/or administrative controls
5. Availability of appropriate hearing protection
6. Employee training and education

An ongoing noise exposure evaluation program is required under the VOSH Standard for Occupational Noise Exposure (29 CFR 1910.95) when data and information indicate that any employee’s exposure may equal or exceed an 8-hour Time-Weighted Average of 85 dBA. Monitoring shall be repeated whenever there is a change in the process or equipment that increases noise exposure so that: 1) Additional employees may be exposed at or above the action level or 2) the attenuation (effectiveness) provided by the hearing protectors being used by the employees may be rendered inadequate. A complete sound survey of all affected work areas is recommended at least every two years.

Once noise levels are determined, and if the TWA exceeds 85 dBA, the County will provide the following to all affected employees:

1. Annual hearing tests
2. Annual hearing conservation training
3. Hearing protection (optional or mandatory)
4. A copy of the Noise Standard (posted in a common area or available electronically)
5. Notification of the results of the sound survey

If the noise level exceeds 90 dBA, the Noise Standard requires that engineering and administrative control measures must be investigated, evaluated and where feasible, utilized to reduce employee exposures. All procedures related to the Hearing Conservation Program, including noise reduction measures, shall be documented.

# Engineering Controls to Reduce Noise Levels

* Contact the manufacturer of machinery or equipment for noise abatement suggestions
* The purchase of quieter equipment or routine maintenance to reduce noise levels
* Reduction of noise level at the source
	1. Substitution of materials (i.e., plastic for metal)
	2. Dampening or reducing surface vibration
	3. Increasing the distance between the employee and the noise source
	4. Enclosures or sound insulation material
	5. Relocation of job tasks which may be completed out of high noise areas

Administrative Controls to Reduce Noise

When engineering controls alone cannot reduce the noise below 85 dBA, administrative methods may be used to minimize employee exposure such as worker rotation from high noise levels to quieter areas.

MANAGING THE HEARING CONSERVATION PROGRAM

All employees at \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ who are exposed to a noise level of 85 dBA or above will be in the hearing conservation program and have their hearing checked annually by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. All results of the hearing tests will be kept in/at \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Employees will be scheduled as follows \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Testing will begin in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ for all employees requiring the annual hearing test. Each employee’s supervisor or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ will notify that employee of the test.

It is the responsibility of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to ensure that contractors providing hearing tests to employees and that the tests meet OSHA requirements. It will be the responsibility of \_\_\_\_\_\_\_\_\_\_\_\_\_\_ to obtain and file the following documentation ANNUALLY from the contractor providing the hearing tests: Current audiometer calibration check records, last audiometer check, both background noise level records, and current audiometer technician certification. If a mobile van used for testing cannot provide these records, then another testing center will be used.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ will provide a file for the audiograms which is separate from other medical or personnel files. These files will be kept confidential.

HEARING CONSERVATION TRAINING

Hearing Conservation Training is required annually for all employees with noise exposures of 85 dBA TWA or greater. The goal of the training is to orient employees to the purpose of hearing protection, the use of hearing protection and plant policy regarding the hearing conservation program.

The following topics will be included in the employee training of the hearing conservation program:

1. The effects of noise on hearing
	* It can take many years to occur, and the employee may not realize the gradual hearing loss. The loss occurs without any pain and cannot be corrected by any known medical or surgical treatment. A good rule of thumb to remember is that if you have to raise your voice at a distance of three feet, you are in an area with a possible hazardous noise level. Repeated unprotected noise exposure will cause a permanent hearing loss. The hearing conservation program at \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ has been established to ensure that if you ever have a standard threshold shift, your noise exposure can be lessened by using engineering or administrative controls or more effective hearing protection. Thus, the problem can be controlled.
2. The purpose of the annual hearing test and an explanation of the test procedures.
* The purpose of the annual hearing test is to monitor hearing. Periodic audiometric testing provides an “early warning” of hearing disability. Factors such as noisy hobbies, ear infections, diseases of the ear as well as general illness may also cause hearing loss. All employees’ hearing will be checked upon employment and once a year thereafter. You will be notified of any changes in your hearing. You can not “fail” the test and you will not lose your job due to the results of the test.
1. The purpose of hearing protectors, instructions on selection, the advantages, disadvantages, fitting use and care.
* The proper use of hearing protection will prevent many types of hearing loss. You must wear the required hearing protection properly and regularly to reap the benefits of the protection. You should have already been fitted by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ for your size and type of ear plug. If you have any problems with the fit of your hearing protectors, contact \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

HOW TO PROPERLY WEAR HEARING PROTECTORS

It is an OSHA requirement that the employer ensure the proper initial fitting and that the employer provide training in the use and care of all hearing provided to employees.

 Employee hearing protection training is required:

* + 1. Annually during Hearing Conservation Training
		2. Each time an employee shows a Standard Threshold Shift change in hearing.

To prevent a hearing loss, hearing protectors must be worn correctly and taken care of. Keep your ear plugs clean by washing them in warm soapy water and make sure they are completely dry before inserting them in your ears. Inspect your hearing protection regularly. If they become damaged, hard, worn out, then \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ will replace them with a new pair.

Due to the fact that everyone has different size ear canals, each person will be fitted by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to ensure they receive the right size. Each employee will be instructed on how to put their personal hearing protectors in and also be given the chance to practice in front of the Hearing Conservationist. Two different types of hearing protectors will be provided to employees. If there is a problem with the fit comfort of your hearing protectors, see \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and you will be given a different type of protection.

HOW LONG WILL HEARING PROTECTION LAST?

Sponge plugs: 1 or 2 days

Custom plugs: 18-24 months

Insert plugs: 4-6 months

Muffs: Replace when worn out

The life of the hearing protector is dependent upon the care it is given. A sponge type hearing protector is disposable. But, as long as it is clean, it may be used until it no longer expands. How long the hearing protection lasts is unique to each employee depending on the chemical make-up of their body.

 **Two-step Process to Insert Ear Plugs**

FIRST

Put your left arm

 over your head and with

your left hand pull up

 on your right ear.

SECOND

With your right hand insert the ear plug.

 Switch hands and insert the other plug in the same manner.

Remember, both plugs must be worn for

complete protection

**Recordkeeping**

Records are an important part of any effective hearing conservation program. The information contained in these records reflects the quality and effectiveness of the plant hearing conservation program.

Several documents are required to be maintained under the VOSH Noise Standard once the “Action Level” had been initiated. Some of these records must be retained for specified periods as shown in the following table. It is also required that these records be provided, upon request, to employees, former employees, representatives designated by the individual employee and the Virginia Department of Labor & Industry, i.e., VOSH.

THE FOLLOWING RECORDS/DOCUMENTATION IS REQUIRED BY VOSH:

1. Sound Survey (retain sampling data at least two years)
2. Employee notification on the results of the sound survey
3. Post VOSH Noise Standard (29 CFR 1910.95).
4. Audiometric Hearing Tests (retain records for at least the duration of employment)
	* Annual: for all affected employees
	* Baseline: must be provided to affected employees within six months of hire
5. Audiogram Evaluation Requirements
	* Standard Threshold Shift Requirements
	* Physician review
6. Hearing Protectors (Personal Protective Equipment designed for hearing protection)
7. Hearing Conservation Training
8. Audiometer
	* acoustic calibration check
	* exhaustive calibration check
	* biological calibration check
	* self-listening check
9. Booth (if testing is done on site)
	* background noise
10. Recording hearing loss on the County of Henrico OSHA 300 log

EMPLOYEE NOTIFICATION ON THE RESULTS OF THE SOUND SURVEY

Employees must be notified of the results of the sound survey. Whether written or verbal notification is used, documentation must be maintained. It is recommended that the results of the survey be posted in a central location. Keep the records for two years.

POSTED VOSH NOISE STANDARD

It is an VOSH requirement that the Noise Standard be PERMANENTLY posted in a central location.

HEARING TESTING

The two types of hearing tests are annual hearing tests and baseline hearing tests. Annual hearing testing is required for employees with 85 dBA TWA or higher noise exposures. Testing can be done anytime during the day. Baseline hearing testing shall be done when an employee is initially hired. The baseline is extremely important because it is the reference against which future audiograms are compared to determine the extent to which an employee’s hearing is deteriorating. VOSH says a baseline must be done within six months of the hire date. If a mobile van is used, the baseline is required within one year of an employee’s first exposure at or above the “Action Level”. However, the employee must wear protection for any period exceeding six months until the baseline is obtained. If a company gives the baseline before the grace period is up then the company may be liable only for subsequent hearing loss.) It is required that the baseline audiogram be preceded by at least 14 hours without exposure to workplace noise, or noise outside of work hours (such as target shooting). Time that hearing protection is worn may be included as part of the 14 hours without exposure to noise. The employer shall also notify the employee that they need to avoid non-occupational noise exposure during the 14 hours prior the audiometric test. Documentation of this notification is strongly recommended.

A retest audiogram can be conducted to verify or confirm a hearing threshold result. Times when a retest may be needed:

1. If an employee has suffered a Standard Threshold Shift, the employer may obtain a retest within 30 days and use the results of the retest as the annual audiogram.
2. The Audiologist or Physician can request a retest to confirm test results.
3. When problems are suspected by the test administrator.

NOTIFICATION OF “QUIET PERIOD” PRIOR TO

BASELINE HEARING TEST

County of Henrico

It is an VOSH Noise Standard requirement that personnel be free from high noise exposure for 14 hours before your baseline test.

Avoid the following sources of noise prior to the hearing test:

 WORKPLACE NOISE

 LAWN MOWERS

 LEAF BLOWERS

 WEED TRIMMERS

 CHAIN SAWS

 POWER TOOLS

 SMALL ENGINES

 CAR RACES

 SNOW MOBILES

 SMALL AIRPLANES

 POWER BOATS

 ALL FIREARMS (hunting, target shooting, skeet shooting)

 LOUD MUSIC (live concerts, walkman or other headset radio, stereos, ear buds, etc.)

Please wear hearing protection until your baseline hearing test is completed to minimize noise exposure on and off the job.

I have been notified of the need to avoid occupational and non-occupational noise prior to my test.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Employee Signature Date

HEARING CONSERVATION TRAINING

It is required that all employees with noise exposure of 85 dBA TWA or greater be included in hearing conservation training annually. Documentation of this training should be maintained.

AUDIOMETER

If testing is done on site by a qualified Henrico County employee or an audiometric test technician, then the following checks must be made:

1. Acoustic Calibration Check annually
2. Exhaustive Calibration Check at least every two years
3. Biological Calibration Check each day prior to testing
4. Self-Listening Check each day prior to audiometric testing.

BOOTH

If testing is done on site by our company nurse or hearing conservationist, then the following must be done:

1. Noise levels inside the booth must be checked with the ventilation fan on and off, each time the booth location or environment changes.
2. With no change in the environment or location, it is recommended that the background noise levels be checked every three years.

RECORDING HEARING LOSS ON THE OSHA 300 LOG

Certain types of hearing loss and/or tinnitus must be recorded on the Occupational Illness or Injury form. Record hearing loss on the illness side under repeated trauma. Enter the data on the 300 form within six days of knowing there has been a Standard Threshold Shift of 25 dBA. This is cumulative which means that if an employee suffers a 10 dBA shift this year and a 15 dBA next year, the STS of 25 dBA would be listed on next year’s OSHA 300 log.

STANDARD THRESHOLD SHIFT

A Standard Threshold Shift is a change in hearing threshold relative to the baseline audiogram of an average of 10 or more dBA at 2000, 3000, and 4000 Hz. If a Standard Threshold Shift has occurred, the employee must be informed in writing within 21 days of the determination. Employees will be trained in using hearing protectors, and in care of the hearing protectors. If the employee is already using hearing protectors, they will have to be retrained and refitted. If necessary, hearing protectors can be changed to a different type.

EXAMPLE OF A STANDARD THRESHOLD SHIFT AT 2000, 3000, and 4000 Hz

|  |  |  |  |
| --- | --- | --- | --- |
| COMPANY   ACME  | PLANT  Plant 1 | NAME  E. B. Brown | Noise Level (TWA) |
| SOCIAL SECURITY NO.  000-01-0000 | BIRTH DATE  1/31/59 | SEX  M | HIRE DATE  5/7/85  | EMPLOYEE NO. |
| TESTNO | DATE | EXAM TYPE | RIGHT EAR | LEFT EAR |
| YR | MO | DAY | 500 | 1000 | 2000 | 3000 | 4000 | 5000 | 6000 | 500 | 1000 | 2000 | 3000 | 4000 | 5000 | 6000 |
| 1 | 77 | 04 | 15 | 0 | 10 | 10 | 35 | 35 | 75 | 85 | NR | 5 | 15/10 | 35 | 45 | 55 | 70 | 85 | 0.85 |
| 2 | 89 | 04 | 01 | 2 | 10 | 15 | 40 | 40 | 80 | 85 | NR | 10 | 5/10 | 45 | 65 | 70 | 75 | 85 | 0.87 |
| 3 | 90 | 04 | 05 | 2 | 5 | 25 | 50 | 45 | 80 | NR | NR | 15 | 15/20 | 55 | 85 | NR | NR | NR | 0.88 |

STANDARD THRESHOLD SHIFT NOTIFICATION

I have been notified of a Standard Threshold Shift on my last annual hearing test. As a result of my Standard Threshold Shift, I was fitted/refitted with \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

hearing protectors and received instructions in the proper way to wear and care for this protector. I understand that the use of this hearing protection is mandatory.

Signature\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

County of Henrico Hearing Conservation Program Training Record

I have been through the Hearing Conservation Training Program at \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

And I understand that wearing hearing protectors is mandatory in designated areas of the plant. In the area where I work, hearing protection is mandatory. I have received my hearing protectors and realize that additional hearing protectors are available in/at \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. The following topics were included in training:

1. The effects of noise on hearing.
2. The purpose of the annual hearing test.
3. The purpose of wearing protectors and types of hearing protectors available as well as their proper fit and care.

Employee Signature \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_