

SECTION 6: NOISE AND HEARING CONSERVATION PROGRAM / REPORTS

Employee's exposure to excessively high sound pressure levels or high intensity noise can cause irreversible hearing loss. If noise levels cannot be reduced to within acceptable levels by technically and economically feasible controls, then employees must be protected by adequate personal protective equipment.

Hearing Conservation Program Elements:

I. Evaluation of Noise Exposure

Exposure measurements shall accurately reflect employee exposures. This is done with area sound level surveys and personal dosimetry. Area noise monitoring shall be used to determine noise levels in a given plant, specific area location, or while performing a particular job task. Sound level meters shall be set to the A scale, slow response for measurement of continuous noise. Impulse noise peaks shall be measured with a sound level meter with a peak hold capacity. Noise dosimeters used to evaluate employee exposures shall conform to the appropriate governing standard for personal dosimeters such as specified in ANSI:S1.25-1978. The microphone of the dosimeter shall be placed outside the employee's clothing on his shoulder. According to 29 CFR 1910.195, monitors shall use the following settings: 80 dBA threshold, 90 dBA criterion level and use a 5 dBA doubling rate. These instruments are to integrate all continuous, intermittent, and impulsive sound levels from 80 to 130 dBA. The personal dosimeters in Louisiana Division (i.e. Dupont MK2, Quest 14,15, or 27) meet these ANSI standards. To ensure accuracy all sound level meters and personal dosimeters are to be calibrated according to manufacturer's instructions before and after each use. Additional monitoring may be required in some areas. Monitoring shall be repeated in a timely manner, whenever a change occurs in production, process, equipment, or controls could result in new or additional exposures leading to greater than 50% daily dose, or may result in exposure exceeding 90 dBA.

II. Hearing Protection

When excessive noise exposures cannot be reduced by feasible administrative or engineering controls, employees shall be provided with suitable hearing protectors to ensure proper fit and comfort. Hearing protectors must be worn if 1) an employee's noise exposure exceeds 85 dBA as an 8-hr. TWA or 2) an employee is working in an area with sound pressure levels are above 90 dBA or performing a task which generates greater than 90 dBA. All hearing protection shall be chosen which can attenuate below 90 dBA for the noise source and can ensure that the 8 hr. time weighted average will not exceed 85 dBA. The equation used for calculating the attenuation of a hearing protector is an OSHA Method which subtracts seven from the product Noise Reduction Rating (NRR). The corrected NRR of the hearing protector is then subtracted from the average sound level in dBA, to obtain the attenuated sound level in dBA. Note: an additional 5 dB is added to the corrected NRR when using dual

Hearing Conservation Program Elements:

II. Hearing Protection (continued)

hearing protection (both plugs and muffs). See Appendix B, page 14 of the Corporate Program Requirements for Hearing Conservation for examples. Hearing Signs: "CAUTION" signs shall be posted in work areas in which the sound pressure level may exceed 90 dBA, alerting the employee that hearing protection is required. Where sound pressure levels exceed 105 dBA, "DANGER" signs shall be posted to alert employees that a combination of plugs and muffs may be required.

III. Training and Education of Personnel

All employees whose noise exposure equals or exceeds an 85 dBA 8-hr. TWA or exceeds a 90 dBA Ceiling, must participate in an annual training program. The training shall consist of 1) the contents of the hearing conservation program, 2) results of area sound level surveys and personal dosimetry, 3) the effects of noise on hearing, 4) the type and purpose of hearing protectors; and instructions on selection, fitting, use, and care for them, and 5) the purpose of audiometric testing and an explanation of the test procedures and results. This training shall be documented, kept in the plant for the current year, and transferred to the Industrial Hygiene Department for the remainder of the 75 year retention period.

IV. Audiometric Testing Program

A baseline audiogram is given to all employees upon initial employment. As a minimum, all employees receive an annual audiogram when their noise exposure may exceed an 85 dBA 8-hr. TWA. The audiometric testing is performed in accordance with OSHA standard 29 CFR 1910.95 and the results are reviewed with the employees at the time of testing.

V. Control of Noise

The preferred method for noise reduction is feasible engineering controls. Any new equipment or process changes will be evaluated for the potential impact of noise in the area and when feasible will be engineered to keep noise levels below 85 dBA.