Noise Awareness and Hearing Conservation Program

Introduction:

Evidence is well established that worker exposure to noise of sufficient intensity and duration can result in hearing damage. Noise-induced hearing loss rarely results from just one exposure; it can progress unnoticed over a period of years. Initial noise-induced hearing loss occurs at the higher frequencies where the consonant portion of speech is found, making communications difficult.

Engineering controls such as mufflers on heavy equipment exhausts or on air release valves are required where possible. 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. Noise exposure is often not constant and is difficult to control with either engineering or administrative solutions. Hearing protection is often the only choice available.

Employees will be given the opportunity to select hearing protective devices from a variety of suitable ones provided by the Safety and Health Manager. 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 85 dB(A) or lower. Audiometric testing will be provided by Pagoda Electrical, Inc.'s physician to all employees with exposure to noise levels of 80 dB(A) or greater.

Area noise monitoring will be conducted by the Safety and Health Manager using a sound level meter to determine the need for personnel monitoring or engineering controls. If any work areas register levels of 80 dB(A) or greater, personnel monitoring will be conducted. Personnel monitoring is accomplished by using noise dosimeters which are worn by employees for their full work shift. The cumulative noise dose for the employee is then read at the end of their work shift.

Policy:

It is the policy of Pagoda Electrical, Inc. 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 personal protective equipment.

Pagoda Electrical, Inc. shall address and has instituted a Noise Awareness training program for employees before initial assignment and on an annual basis. This training program is designed for all employees who are exposed to a noise action level or work in high noise areas. The training shall be repeated annually for each employee.

The primary goal of Pagoda Electrical, Inc.'s Hearing Conservation Program is to reduce, and eventually eliminate hearing loss due to workplace noise exposures. The program includes the following elements:

a. Work environments will be surveyed to identify potentially hazardous noise levels and personnel at risk.
b. Environments that contain or equipment that produces potentially hazardous noise should, wherever it is technologically and economically feasible, be modified to reduce the noise level to acceptable levels.
c. Where engineering controls are not feasible, administrative controls and/or the
use of hearing protective devices will be employed.
d. Periodic 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.
e. Education is vital to the overall success of a hearing conservation program. An
understanding by employees of the permanent nature of noise-induced hearing loss, Pagoda Electrical, Inc. hearing conservation program, and the employee's responsibilities under the program are all essential for program effectiveness.

Hearing Conservation Program

Pagoda Electrical, Inc. shall administer a continuing, effective hearing conservation program, whenever employee noise exposures equal or exceed an 8-hour time-weighted average sound level (TWA) of 85 decibels measured on the A scale (slow response) or, equivalently, a dose of fifty percent.

Monitoring Program.

When information indicates that any employee's exposure may equal or exceed an 8-hour time-weighted average of 85 decibels, Pagoda Electrical, Inc. shall develop and implement a monitoring program.

The sampling strategy shall be designed to identify employees for inclusion in the hearing conservation program and to enable the proper selection of hearing protectors.

Where circumstances such as high worker mobility, significant variations in sound level, or a significant component of impulse noise make area monitoring generally inappropriate, Pagoda Electrical, Inc. shall use representative personal sampling to comply with the monitoring requirements of this paragraph unless Pagoda Electrical, Inc. can show that area sampling produces equivalent results.

All continuous, intermittent and impulsive sound levels from 85 decibels to 130 decibels shall be integrated into the noise measurements.

Instruments used to measure employee noise exposure shall be calibrated to ensure measurement accuracy.

Responsibilities:

Safety and Health Manager-

The Safety and Health Manager is responsible for developing, implementing, and administering Pagoda Electrical, Inc. Hearing Conservation Program. Additional responsibilities include:

1. Identification of work areas and equipment within Pagoda Electrical, Inc. facilities where noise levels equal or exceed 80 dBA.

2. Identification, through personnel monitoring, of Pagoda Electrical, Inc. employees whose noise exposure level equals or exceeds an 8-hour TWA (Time-Weighted Average) of 80 dBA. Notification of employee exposure measurements is sent to the Safety and Health Manager to be included in employees' medical files.

3. Annual remonitoring of identified at-risk employees.

4. Resurvey of work areas and equipment where noise levels exceed 80 dBA every 2 years.

5.Training of employees in the need for, proper use and care of hearing protection devices.

6. Identification of noise control measures (including engineering and administrative controls) and recommendations.

The Safety and Health Manager is also responsible for coordinating and scheduling health and safety training courses and seminars. The Safety and Health Manager also maintains documentation of the training courses presented in accordance with the Safety Program requirements.

Supervisors-

It is the responsibility of Supervisors to ensure that all of their employees exposed to noise levels equal to or greater than 80 dBA have access to appropriate hearing protective devices in the work area. Supervisors are also responsible for enforcing the use of hearing protective devices and engineering and administrative controls in designated noise hazardous areas.

Employees-

Employees are responsible for wearing and maintaining hearing protective devices as instructed. Employees exposed to excessive levels of noise must also participate in annual training programs and the medical surveillance program which includes audiometric testing.

NOISE EVALUATION AND SURVEILLANCE PROCEDURES

Identification of Hazardous Noise Areas-

The Safety and Health Manager will identify work areas within Pagoda Electrical, Inc. facilities where noise levels equal or exceed 80 dBA. Records shall be maintained by the Safety and Health Manager and updated at least every two years to determine if any alteration in noise levels has occurred. Those areas where the noise levels are below 80 dBA will not be routinely monitored. Identification of hazardous noise areas and equipment and any subsequent noise monitoring will be conducted by the Safety and Health Manager.

Signs will be posted at the entrance to any work area where noise levels exceed 80 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.

Hearing protection will be worn by all employees working in areas exposed to an 8-hour time-weighted average of 85 decibels or greater. Employees will wear hearing protection in signed areas while on an owner client facility.

Equipment which produces noise levels greater than 85 dBA, or 120 dB peak sound pressure levels shall also be appropriately labeled.

Noise Measurements and Exposure Assessments

In order to effectively control noise it is necessary that the noise be accurately measured according to standard procedures and that the measurements be properly evaluated against accepted criteria. All noise monitoring will be conducted in accordance with established standard operating procedures.

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 85 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.

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 spend time working.

A rough sketch of the area will 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 at least once every two years to determine if any changes have occurred that would warrant remonitoring 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 equals or exceeds 80 dBA on an 8-hour TWA (Time-Weighted Average) will be referred to the Safety and Health Manager for inclusion in the Hearing Conservation Medical Surveillance Program.

Remonitoring of Hazardous Noise Areas

All areas where noise levels equal or exceed 85 dBA shall be remonitored at least every two years. Employees who work for extended periods of time (>2 hours) in the high noise areas and where their 8-hour TWA (Time-Weighted Average) equals or exceeds 85 dBA will be monitored every year to determine their personal noise exposure.

Whenever an employee exhibits a standard threshold shift, as determined by the Safety and Health Manager, the employee's work place shall be remonitored to identify and ameliorate the cause.

Remonitoring Due to Changes

Any area with noise levels that equal or exceed 85 dBA shall also be remonitored 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 85 dBA on a time-weighted average basis. Areas where the noise levels have dropped below 85 dBA due to alterations in equipment, controls or process changes shall be eliminated from the monitoring program.

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

Pagoda Electrical, Inc. shall make hearing protectors available to all employees exposed to an 8-hour time-weighted average of 85 decibels or

greater at no cost to the employees. Hearing protectors shall be replaced as necessary. Employees shall be properly trained in the use, care and fitting of protectors

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, or
- 120 dB peak sound pressure level or greater

Types of Hearing Protective Devices Hearing protective devices include the following:

a. 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.

1. 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.

2. 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.

2. Formable Earplugs (continued)

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.

3.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.

b. 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 will be given the opportunity to select hearing protective devices from a variety of suitable ones provided by Pagoda Electrical, Inc. Office of Health and Safety. 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 85 dBA or lower.

Issuance of Hearing Protective Devices

"Hearing Protector Attenuation."

Pagoda Electrical, Inc. shall evaluate hearing protector attenuation for the specific noise environments in which the protector will be used. Please refer to

OSHA Regulations 29 CFR 1910.95 Appendix B: "Methods for Estimating the Adequacy of Hearing Protection Attenuation" for evaluation methods that are available. Attenuation rate can be determined by the equation: NRR – 7 = Attenuation Rate.

The issuance of hearing protective devices is handled through the Safety and Health Manager. The Safety and Health Manager 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 (hearing protective devices) 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 Safety and Health Manager will dispense ear muffs when necessary and will maintain a supply of disposable earplugs.

Use of Hearing Protective Devices

a. Always use and maintain HPDs as originally intended and in accordance with
instructions provided.
b. 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, faceshields, and helmets.

Maintenance of Hearing Protective Devices

a. 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 as needed.
b. Earmuff cushions should be kept clean. The plastic or foam cushions may be cleaned in the same way as earplugs, but the inside of the muff should not get wet. When not n 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.

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.

MEDICAL SURVEILLANCE

Notification

Upon identification of employees whose 8-hour TWA (Time-Weighted Average) equals or exceeds 85 dBA, the Safety and Health Manager will recommend to the employee's Supervisor, in writing, of the need to enroll certain employee(s) in the Hearing Conservation Medical Surveillance Program. Information supplied to the Safety and Health Manager 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 to enroll his/her employee in the Hearing Conservation Medical Surveillance 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 Safety and Health Manager shall notify the employee's Supervisor, 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 Pagoda Electrical, Inc.. Physician.

The results of area and personal remonitoring shall be forwarded to the Clinic 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 Pagoda Electrical, Inc. Physician for evaluation as soon as possible.

Audiometric Testing

Pagoda Electrical, Inc. Physician has the responsibility for administering the Audiometric Testing Program portion of Pagoda Electrical, 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 with exposure to noise levels of 85 dBA or greater. Annual retesting will be performed for all personnel enrolled in the Hearing Conservation Medical Surveillance Program.

Baseline Audiogram

Within 6 months of an employee's first exposure at or above the action level, Pagoda Electrical, Inc. shall establish a valid baseline audiogram against which subsequent audiograms can be compared.

"Mobile test van exception." Where mobile test vans are used to meet the audiometric testing obligation, Pagoda Electrical, Inc. shall obtain a valid baseline audiogram within 1 year of an employee's first exposure at or above the action level. Where baseline audiograms are obtained more than 6 months after the employee's first exposure at or above the action level, employees shall wear hearing protectors for any period exceeding six months after first exposure until the baseline audiogram is obtained.

Testing to establish a baseline audiogram shall be preceded by at least 14 hours without exposure to workplace noise. Hearing protectors may be used as a substitute for the requirement that baseline audiograms be preceded by 14 hours without exposure to workplace noise.

Pagoda Electrical, Inc. shall notify employees of the need to avoid high levels of non-occupational noise exposure during the 14-hour period immediately preceding the audiometric examination.

Annual audiogram.

At least annually after obtaining the baseline audiogram, Pagoda Electrical, Inc. shall obtain a new audiogram for each employee exposed at or above an 8-hour time-weighted average of 85 decibels.

Evaluation of audiogram

Each employee's annual audiogram shall be compared to that employee's baseline audiogram to determine if the audiogram is valid and if a standard threshold shift has occurred

If the annual audiogram shows that an employee has suffered a standard threshold shift, Pagoda Electrical, Inc. may obtain a retest within 30 days and consider the results of the retest as the annual audiogram. If a comparison of the annual audiogram to the baseline audiogram indicates a standard threshold shift has occurred, the employee shall be informed of this fact in writing, within 21 days of the determination.

Pagoda Electrical, Inc. shall ensure that the following steps are taken when a standard threshold shift occurs:

- Employees not using hearing protectors shall be fitted with hearing protectors, trained in their use and care, and required to use them.
- Employees already using hearing protectors shall be refitted and retrained in the use of hearing protectors and provided with hearing protectors offering greater attenuation if necessary.
- The employee shall be referred for a clinical audiological evaluation or an otological examination, as appropriate, if additional testing is necessary or if Pagoda Electrical, Inc. suspects that a medical pathology of the ear is caused or aggravated by the wearing of hearing protectors.
- The employee is informed of the need for an otological examination if a medical pathology of the ear that is unrelated to the use of hearing protectors is suspected.

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:

a. Noise-induced hearing loss;
b. Recognizing hazardous noise;
c. Symptoms of overexposure to hazardous noise;
d. Hearing protection devices – advantages and limitations.
e. Selection, fitting, use, and maintenance of HPDs.
f. Explanation of noise measurement procedures.
g. Hearing conservation program requirements.

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

Pagoda Electrical, Inc. 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.

Noise awareness training shall be updated to be consistent with changes in personal protective equipment (PPE) and work processes and will include instruction, proper techniques of wearing and on the proper use and fit of hearing protectors

All personnel identified for inclusion in the hearing conservation program should receive a minimum of one hour of initial instruction in the requirements of the program. Ideally this will be done when hearing protection is dispensed. Appropriate refresher training annually thereafter and will be provided by the immediate supervisor. Supervisors will be provided annual training by the Office of Health and Safety.

Supervisors must contact the OHS Training Activity to schedule training for new personnel assigned to work in noisy environments and for retraining of current personnel.

Pagoda Electrical, Inc. shall train each employee who is exposed to noise at or above an 8-hour time weighted average of 85 decibels in accordance with the requirements of this section. Pagoda Electrical, Inc. shall institute a training program and ensure employee participation in the program.

The training program shall be repeated annually for each employee included in the hearing conservation program. Information provided in the training program shall be updated to be consistent with changes in protective equipment and work processes.

Pagoda Electrical, Inc. shall ensure that each employee is informed of the following:

- The effects of noise on hearing;
- The purpose of hearing protectors, the advantages, disadvantages, and attenuation of various types, and instructions on selection, fitting, use, and care; and
- The purpose of audiometric testing, and an explanation of the test procedures.

Access to information and training materials.

Pagoda Electrical, Inc. shall make available to affected employees or their representatives copies of the OSHA standard 29 CFR 1910.95 (l) (1, 2, 3) and shall also post a copy in the workplace.

Pagoda Electrical, Inc. shall provide to affected employees any informational materials pertaining to the OSHA standard that are supplied to Pagoda Electrical, Inc. by the Assistant Secretary.

Pagoda Electrical, Inc. shall provide, upon request, all materials related to Pagoda Electrical, Inc.'s training and education program pertaining to the OSHA standard to the Assistant Secretary and the Director.

PROGRAM EVALUATION

Periodic program evaluations will be conducted to assess compliance with federal and state regulations and Pagoda Electrical, Inc. Program requirements. Both the

monitoring and audiometric testing portions of Pagoda Electrical, Inc. Hearing Conservation Program will be reviewed annually to assure its quality and effectiveness.

An evaluation of the Program, including wearer acceptance, appraisal of protection afforded, and field audits of hearing protection use and record keeping will be conducted at least annually. Items to be considered include:

a. Standard operating procedures
b. Training records and course content for supervisors and employees.
c. Maintenance of HPDs (hearing protection devices)
d. Field audits of HPD use
e. Review of recorded threshold shifts on OSHA log.

The findings of Pagoda Electrical, Inc. Hearing Conservation Program evaluation will be documented, and this documentation will list plans to correct faults in the program and set target dates for the implementation of the plans.

RECORDKEEPING

All non-medical records (ex., 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 purposes 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 and by the Safety and Health Manager, and updated periodically.

"Transfer of records." If Pagoda Electrical, Inc. ceases to do business, Pagoda Electrical, Inc. shall transfer to the successor employer all records required to be maintained by this section, and the successor employer shall retain them for the remainder of the period prescribed:

"Record retention." The successor employer shall retain records required in this paragraph for at least the following periods.

- Noise exposure measurement records shall be retained for two years.
- Audiometric test records shall be retained for the duration of the affected employee's employment.

NOISE

Supervisors and exposed workers must become aware of and understand about the adverse effects of noise and how to prevent noise-induced hearing loss. People exposed to hazardous noise must take positive action, if progressive permanent hearing loss is to be prevented. Each exposed worker and supervisor should know the following.

A. Noise exposure may result in permanent damage to the auditory system and there is no medical or surgical treatment for this type of hearing loss. Though the use of a hearing aid may provide some benefit, normal hearing will not be restored. Many people don’t realize loud sounds can cause hearing loss. Furthermore, in its initial stages, the person may not notice a problem since noise-induced hearing loss is invisible, painless, and occurs in the high frequencies. It is dangerous to ignore the temporary characteristics of noise-induced hearing loss (such as ringing or buzzing in the ears, excessive fatigue, etc.).

B. Each person should know how to recognize hazardous noise even if a noise survey has not been conducted an/or warning signs posted. Recognizing and understanding the adverse effects of off-duty noise exposures is also important. The best rule to follow is: “If you have to shout at arms length (approximately three feet) to talk face-to-face, you are probably being exposed to hazardous levels of noise.”

C. Preventing noise-induced hearing loss is accomplished by reducing both the time and intensity of exposure. Reducing exposure time is accomplished by avoiding any unnecessary exposure to loud sound. Reducing intensity is usually accomplished by wearing personal hearing protection. Each person must be able to properly wear and care for the particular type of hearing

protection selected. Speech communication is difficult in high intensity noise. However, most people don't realize it's easier to understand speech if hearing protection is worn in a hazardous noise environment. Hearing protection reduces the noise and the level of speech, resulting in a more favorable listening level. Hearing protection reduces the intensity of frequencies above the speech range; thus, reducing the noise and accentuating speech. People who claim wearing hearing protection makes it difficult to hear speech are probably in noise levels less than 85 dBA or have already developed a hearing loss.

D. Each person must know how to tell if they have been overexposed to loud sound. Overexposure may occur even while wearing hearing protection. Earplugs and/or earmuffs alone may not be enough protection. Each time a temporary threshold shift (TSS) occurs, a certain degree of permanent loss results. The recognizable symptoms of overexposure are described as "dullness in hearing or ringing in the ears."