CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
CORPORATE ENVIRONMENTAL, HEALTH AND SAFETY PROCEDURE

CEHSP S03.00 – Hearing Protection and Conservation Program
Revision 12: 09/06/2016
Effective Date: 09/30/2016

CONTENTS

1.0 PURPOSE

IT IS THE POLICY OF CON EDISON TO COMPLY WITH ALL FEDERAL REGULATIONS PERTAINING TO ***HEARING CONSERVATION***. This procedure was developed in accordance with the Occupational Safety and Health Administration's (OSHA) Hearing Conservation Standard, and addresses the implementation and administration of the program throughout Con Edison. This procedure exceeds the OSHA regulation in certain requirements to ensure employee health and regulatory compliance.

2.0 APPLICABILITY

This Corporate Environmental, Health and Safety Procedure (CEHSP) applies to any Con Edison workers required to enter, pass through, or work in areas where noise levels may exceed 85 ***dBA***, regardless of that employee's calculated or measured TWA. Following the requirements of this program will help minimize the hazards associated with noise in the workplace and prevent injuries to persons working at the facility.

3.0 INTRODUCTION

1. Hearing Protection: Employees that have work shift noise exposures less than 85 dBA (TWA) and travel through or enter work areas that contain noise sources greater than or equal to 85 dBA. The following measures are to be taken to protect workers' hearing:
    - Noise monitoring (Area Sampling) performed to categorize noise exposures and post necessary warning signs.
    - Reduce noise sources where practical through replacement, maintenance, isolation, or insulation.
    - Provide employee training (i.e., noise hazards and proper use of hearing protection).
    - Provide hearing protection and require/enforce hearing protection be worn in designated areas.

2. Hearing Conservation: Federal regulations require that private sector employers develop a hearing conservation program and provide worker protection against the effects of noise exposure when sound levels exceed a TWA level of 85 ***decibels*** over an 8-hour work day. When effective ***engineering controls*** and/or ***administrative controls*** are unavailable or while they are being implemented, employers must ensure that employees have appropriate hearing protection, which is properly used and maintained in accordance with the OSHA standard.

To ensure the safety of personnel, this CEHSP presents the minimum requirements for:

- Identifying noise hazards.
- Performing noise surveys (***area monitoring***).
- Obtaining noise measurements.
- Controlling noise.
- Selecting and using hearing protection.
- Audiometric (hearing) testing.
- Employee training.
- Recordkeeping.

4.0 COMPLIANCE REQUIREMENTS

Excessive noise can cause temporary hearing loss, permanent hearing loss, fatigue, annoyance, disruption of concentration, and stress. The effect of noise depends primarily on the intensity and duration of the exposure. Controlling noise will prevent hearing loss and provide a safe and comfortable work environment for Con Edison employees.

The hearing conservation portion of this program must be followed when employees are exposed to work shift noise levels equal to or greater than 85 dBA (TWA), as determined in Section 4.2. Where noise levels exceed 85 dBA, noise reduction measures must be accomplished through the use of engineering and/or administrative controls. If noise reduction through the use of these controls is not possible, all employees must wear hearing protection when operating equipment or working in high noise hazard areas (e.g., sound level measurements $\geq$85 dBA).

4.1 IDENTIFICATION OF NOISE HAZARDS

Con Edison employees perform a variety of operations that bring them into contact with loud noises. Operations and locations where loud noise is generated must be identified and evaluated by local EH&S groups. The hearing conservation subject matter expert (SME) in EH&S is available to assist and advise, if requested. For locations deemed by local EHS not to be areas of noise concern (i.e., no problems communicating, no associated work-related hearing loss and/or complaints) noise measurements are not required to be taken.. [2] R/P

4.2 HEARING CONSERVATION VS HEARING PROTECTION APPLICABILITY DETERMINATION

As discussed in the introduction (section 3), this program contains two aspects: hearing protection and hearing conservation. Under the hearing protection requirement, employees who enter or pass through areas with noise levels greater than or equal to 85 dBA, but are not in noise exposure locations long enough to produce work shift noise exposures greater than or equal to 85 dBA (TWA), are required to wear hearing protection and be trained on the hazards of noise exposures. The following measurement criterion is needed to determine applicability of the hearing conservation aspect of the program.

4.2.1 AREA MONITORING AND TASK BASED WORKSHIFT NOISE EXPOSURE WORKSHEET

This section identifies the procedures for performing noise monitoring assessments of operations, the minimum standards for the program, and the personnel responsible for implementing the program.

Technical Services performs noise surveys as follows:

1. A ***baseline survey*** is performed to evaluate the initial conditions of any location or operation identified by local EH&S groups as a potential loud noise concern and determine whether hearing protection is required.

2. Resampling is required when the operating organization notifies Local EH&S that there are changes in operations and/or equipment.

3. If there are no changes to the operations in the area, Technical Services, at the request of local EH&S must perform a noise survey every 3 years to confirm that sound levels have not increased above those originally measured, unless (1) local EH&S has determined that loud noise conditions or operations are no longer present or (2) if the initial baseline survey identified no areas in excess of 70 dB(a) and the operating organization has noted no changes.

4. EH&S Safety & Industrial Hygiene will arrange for an outside vendor to perform baseline and/or 3-year surveys in the event that Technical Services is not available to perform the work within a reasonable period of time.

This sampling involves a walk-around survey using a ***sound level meter*** that meets the performance and accuracy standards established by the most current American National Standards Institute (ANSI) Standard. Sound level meters may be used to:

1. Identify and evaluate individual noise sources.

2. Spot check and verify the noise dosimeter performance.

When performing the noise sampling, it is recommended that the technician record the results on a map to facilitate identification of the sampling locations and the ***noise contours*** in the facility.

When the results of the noise survey show that employees could be exposed to noise levels at or above the TWA exposure of 85 dBA (based on the worst-case or emergency scenarios, not only on anticipated normal work activities), dosimetry must be performed as specified in Section

A task based analysis can be used by local EHS if area noise samples can be broken down designating specific times an employee(s) spends performing tasks in specific noise source locations (click on the following link to access the Work Shift Noise Exposure (TWA) Estimator. For work shift noise exposure estimator determinations 80-85 dBA and/or work shifts greater than 8 hours, contact EHS Safety & Industrial Hygiene to schedule noise dosimetry as per section 4.2.2. Note: the estimator approach is not effective in determining TWAs for employees whose job locations and noises sources greatly fluctuate throughout the day (e.g., maintenance crews and field employees).. [3] R/P

4.2.2 NOISE MEASUREMENT METHODS: PERSONAL MONITORING (DOSIMETRY)

Personal monitoring must be performed using a ***noise dosimeter*** to determine employee exposures to noise. Noise dosimeters are portable units worn by the worker to record the sound levels during the shift. Noise dosimeters used for monitoring must meet the performance and accuracy standards established by the most current ANSI standard.

To evaluate exposures for determining whether workers are in the Hearing Conservation Program (HCP)

- Use 3 dB exchange (doubling) rate.
- Use an 85 dBA criterion level.
- Set the dosimeter at slow response (A scale).
- Use an 80 dBA threshold.

When employee exposures are evaluated, the microphone of the dosimeter must be in the employee's hearing zone, an area on the shoulder preventing the microphone from being bumped or rubbed . The hearing zone is defined as a 2-foot-diameter sphere surrounding the head. When personal monitoring is conducted, the employee performing the noise-generating task must be instructed:

- On the purpose and use of the dosimeter.
- To continue to work in a routine manner.
- To wear the dosimeter throughout the entire shift/sample period.
- Not to cover the microphone with a coat or other clothing.

1. The performance and scheduling of of personal dosimetry studies will be coordinated through EH&S Safety & Industrial Hygiene. [4] R/Management (i.e., planners and supervisors) in conjunction with Local EH&S and EH&S – Safety & Industrial Hygiene shall agree on similar noise exposure groups (SNEGS) and document details of these

decisions to focus on noise dosimetry worst-case sampling. Subordinates (other management employees, union employees and other employees) shall also be informed of SNEG decisions.

– Note: EH&S Safety & Industrial Hygiene has a list of SNEGs documented in the Hearing Conservation Database.

2. Personal monitoring (dosimetry) shall be performed by either EH&S – Safety & Industrial Hygiene or a qualified 3rd party vendor.

3. Worst case noise exposures for SNEGs and/or Sections/Job Titles shall be established amongst stakeholders (i.e., union employees, management employees, planners, supervisors and Local EHS). These discussions shall be documented. Documentation shall include frequency of worst-case noise exposures, noise sources, durations of noise exposures to noise sources and be documented prior to sampling. Documentation shall be submitted to EHS Safety & Industrial Hygiene utilizing the Basic Characterization Intake Form (BCIF), detailed in CEHSP S30.00 - Exposure Assessment.

4. EHS Safety & Industrial Hygiene will verify worst-case sampling for the SNEG via their exposure assessment.

5. A stratified random sample strategy will be developed by EH&S Safety & Industrial Hygiene, Local EH&S, Supervisors and Planners for SNEGs where it is infeasible or difficult to develop a worst case scenario. AIHA's "The Noise Manual 5th Edition" 2003 pg 219-220 will be used to develop a stratified random sample.

6. EH&S Safety & Industrial Hygiene will schedule noise dosimetry in conjunction with Local EH&S, Planners or Supervisors.

7. Employees being sampled will be informed of the noise dosimetry prior to sampling.

8. Dosimetry samples shall be observed by a technician. The technician is responsible for taking notes of specific tasks and their durations and sound level measurements.

9. All personal dosimetry results and notes will be distributed to EH&S Safety & Industrial Hygiene and documented within the SHIMS Industrial Hygiene Exposure Assessment module as well as the Hearing Conservation Database.

Employees will be notified about the results of noise sampling by posting the results of personal dosimetry and area monitoring in the workplace. Employees or their representatives will be provided with an opportunity to observe any noise measurements. [5] R/P

4.3 OCTAVE BAND ANALYSIS

Noise is composed of different frequencies of sound. An octave band analysis permits the measuring of sound in specific frequencies. An octave band analysis provides information that helps to identify the source of the noise and the possible methods to control the noise. When needed, EH&S and/or Technical Services will perform an octave band analysis. This measurement is taken to determine engineering controls and different types of hearing protection. [6] P

4.4. NOISE CONTROL

Noise controls used at Con Edison include:

- Engineering controls that minimize the sound pressure levels generated by noise sources and prevent the multiplication, amplification, and reverberation of noise, for example, enclosures around equipment or around control rooms.
- Administrative controls that remove the employee from the hazard before an unacceptable exposure has occurred. Administrative controls include shift rotation or exposure limitation. Attachment 1 presents acceptable permissible noise exposures indicating the acceptable time periods for specific noise levels.
- Hearing protective equipment such as earplugs and earmuffs. Hearing protective equipment is limited by proper selection and employee use. See Section 4.5 for additional discussion of hearing protection.
- Warning signs that clearly indicate the hazard of high noise levels and the requirements for hearing protection. These signs must be posted at the entrance(s) to, and boundaries of, noise hazard areas. Decals or placards warning of noise hazards also must be attached to power tools and machines that produce hazardous noise levels. Signs and decals must have wording in black letters on a yellow or orange background. The following signs must be used in the facility:
  - "HEARING PROTECTION REQUIRED IN THIS AREA" –This posting indicates that hearing protection is required regardless of the operation being performed
  - "HEARING PROTECTION REQUIRED WHEN OPERATING" –This posting indicates that hearing protection is required only when the equipment is being operated.
  - "HEARING PROTECTION REQUIRED" – This posting is used when uncommon work activity and/or equipment operation result in exposure levels at or above the TWA exposure. [7] R/P

4.5 HEARING PROTECTION

Hearing protectors must be used if engineering or administrative controls fail to reduce the noise exposures to acceptable levels. Supervisors must enforce use of hearing protectors.

- Hearing protectors (muffs, plugs, canal caps, or combination) must be made available to all employees exposed to 85 dBA or greater unless administrative controls are in place and effectively enforced and documented.
- Hearing protectors must be worn in all posted areas. [8] R/P
- Hearing protectors must be worn for identified tasks that are high in noise.

4.5.1 Requirements for Proper Selection

The following factors must be considered when selecting hearing protection:

- ***Attenuation*** (to lessen or weaken): Hearing protectors must reduce employee noise exposure to a level of 85 dBA or below. To determine attenuation levels of hearing protection (i.e., ear muffs and ear plugs), the following equation should be used:
  - TWA- (Noise Reduction Rating ((NRR)-7)/2)= real world attenuation

    - TWA= 100 dBA
    - NRR for ear plugs= 30dB
    - 100 dBA- ((30-7)/2)=87 dBA
  - Ear muffs worn in conjunction with ear plugs provides only an additional 5 dB of additional noise exposure attenuation.
  - 87 dBA-5 dBA=82 dBA
  - In units other than A weighting contact EHS Safety & Industrial Hygiene.

- Comfort: Comfort is one of the most important considerations in selecting hearing protection. The user is more likely to wear hearing protection that is comfortable than hearing protection that is uncomfortable.

- Frequency of exposure, i.e., once a day, once a week, very infrequently, frequently.

- Other factors, for example, how the hearing protection fits when used with other protective devices, such as welding helmets.

Personnel must be given a variety of protective devices to choose from to ensure comfort, fit, and proper attenuation. [9] R/P

4.5.2 Requirements for Proper Use

Hearing protection is only effective in reducing noise exposure if it is used and maintained properly.

If disposable earplugs are used, the manufacturer's instructions must be followed to ensure effective hearing protection. After a pair of disposable earplugs has been used, they may not be reused by another person.

Earmuffs must be inspected by wearers before use and on a regular basis to ensure that they are maintained and in good condition. The manufacturer's instructions must be followed to ensure proper use, cleaning, and maintenance. [10] R/P

4.6 AUDIOMETRIC TESTS

The Occupational Health Department (OHD) is responsible for all audiometric testing. All applicants for employment must be given a hearing screening by OHD (without cost to the employee) as a standard part of the pre-employment examination. Safety Administrators must identify to the OHD those employees who are exposed to noise levels of 85 dBA or greater for an 8-hour TWA. These individuals must have their hearing tested annually to look for signs of deterioration. The testing program administered by OHD includes:

- ***Baseline/reference audiograms***.
- Annual ***audiograms***.

Daily biological calibrations must be performed by OHD personnel operating the equipment. All calibration records must be kept on file in OHD. An exhaustive calibration must be performed on audiometers biennially. Audiometers must be acoustically calibrated annually.

Follow-up audiometric testing must be performed at the Hearing Conservation Clinic as required by the OHD. The Personnel Representative must be notified if an employee fails to contact OHD for a required follow-up evaluation appointment.

4.6.1 Baseline Evaluations

An initial baseline/reference audiogram must be obtained within 6 months of employee's first exposure at or above the TWA exposure of 85 dBA. This baseline provides a reference against which subsequent hearing tests can be compared to evaluate changes in hearing.

4.6.2 Annual Evaluations

An annual audiometric examination must be given to each person enrolled in the hearing conservation program.

The annual hearing testing must be arranged, where possible, with other occupational health examinations. When an employee requires only an annual hearing test, contact OHD Services for an appointment. When possible, the hearing test will be given at the Occupational Health Mobile Unit.

4.6.3 Standard Threshold Shifts

In the event a ***standard threshold shift (STS)*** is identified during the annual hearing test, the employee, his local organization, and the Section Manager of Industrial Hygiene (IH) in EH&S must be notified in writing by Occupational Health Department about the finding within 10 business days of the determination. This notification must indicate the need to schedule follow-up testing within the next 11 business days. All retesting shall occur within 21 business days from the initial audiogram. In addition, the following actions must be taken:

- Employees not wearing hearing protection must be fitted with and required to use appropriate hearing protection.
- Employees already wearing hearing protection must be refitted and retrained in the proper use of hearing protection, and provided with hearing protection offering higher attenuation.
- The employee must be referred for a clinical audiological evaluation or otological examination, as appropriate. [11] R/P
- If the follow-up audiogram confirms a STS and meets OSHA recordable criteria (29 CFR 1904.10), the case must be recorded in the SHIMs module within 7 days. Subsequent testing, evaluation and examination, which provides sufficient evidence denouncing a STS and OSHA recordable criteria, must be submitted to EH&S Safety & Industrial Hygiene. EH&S Safety & Industrial Hygiene will review documentation and take necessary steps to void the associated case(s) from the SHIMs module.

4.6.4 Qualified Testing Personnel

Audiometric tests must be performed by a certified or licensed audiologist, otolaryngologist, or a physician, or by a technician who is certified by the Council of Accreditation in Occupational Hearing Conservation. Technicians who operate a microprocessor audiometer do not need to be certified. OSHA requirements for testing procedures, equipment, and calibration requirements will be followed. [12] R/P

4.6.5 Audiometric Test Records

Each audiometric test record must identify:
- The audiometric reference level to which the audiometer was calibrated at the time of testing.
- The date of the last audiometer calibration.
- The name, job classification, and social security number of the employee tested.
- Date of the audiogram.
- The examiner's name.
- Employee's most recent noise exposure assessment.

Con Edison also must maintain records of the measurements of the background sound pressure levels in the audiometric test rooms. [13] R/P

4.7 TRAINING

All employees covered by this procedure (see Section 2.0) must receive initial training along with annual refresher training under the guidance of The Learning Center and EH&S. Safety Administrators or designees are responsible for scheduling the actual training. This training must, at a minimum, review the following:
- Effects of noise on hearing.
- Principles of noise control.
- Purpose of hearing protectors.
- Advantages, disadvantages, and attenuation characteristics of various types of hearing protectors.
- Instructions on selection, fitting, use, and care of hearing protectors.
- Purpose of audiometric testing and explanation of test procedures.

During the training, personnel must demonstrate that they understand the requirements for proper use of hearing protection. The Learning Center must keep a record for each employee trained in hearing conservation that includes the employee name, number, date of training, course content, and instructor name. All participating employees must sign an attendance sheet. The Learning Center and local training administrator will enter records of training into the TLC Registration System. [14] R/P

4.8 RECORDKEEPING

The OHD must maintain records of audiograms for the duration of the affected employee's employment plus 10 years. Records of noise monitoring must also be retained for the duration of employment plus 10 years. These records are available for inspection by authorized persons.

Technical Services Laboratories must enter facility noise survey results into Con Edison's Safety and Health Information Management System (SHIMS), under the Industrial Hygiene module.

Results of personal noise dosimetry studies that are conducted by EH&S Safety & Industrial Hygiene shall be maintained as exposure assessments for a minimum of the employee's period of employment plus 10 years.

Any area or personal noise monitoring collected by Operating Organizations shall be promptly copied to EH&S for inclusion with corporate records as indicated above.

The following records must be maintained by the Safety Administrator as follows:

- A copy of OSHA standard 29 CFR 1910.95, Occupational Noise Exposure, which must be made available to any employee requesting it and which must be posted in all facilities/stations that have areas of noise levels in excess of 85 dBA.
- Training records for Con Edison personnel must be retained for 3 years.
- Records of special actions or engineering controls installed to control noise exposures must be retained permanently.

Personnel must follow Con Edison's policy for requesting records that are required to be kept by this program, in accordance with the OSHA standard for access to employee and exposure medical records. [15] R/P

4.9 PROGRAM REVIEW

EH&S must review this program when there are regulatory, administrative, or programmatic changes. This review will ensure that the program is effectively implemented and that the implementation is consistent with the conditions at Con Edison. These reviews must be coordinated by EH&S.

The findings of the formal program reviews must be recorded and maintained by EH&S. Changes to the program must be communicated to all organizations involved in implementing the program. [16] P

5.0 DEFINITIONS

Area Monitoring: Noise monitoring in a specific work area.

Attenuation: Reduction of the intensity of the average sound pressure level, measured in decibels, usually through the use of engineering controls (acoustical barriers), distance, or hearing protectors (earplugs or earmuffs).

Audiogram: A chart, graph, or table resulting from an audiometric test. An audiogram shows an individual's hearing threshold level as a function of frequency (***Hertz*** [Hz]).

Baseline/Reference Audiogram: An audiometric test given to determine the hearing threshold prior to exposures to noise. This baseline provides a reference to which subsequent hearing tests can be compared to evaluate changes in hearing.

Baseline Survey: A measurement of parameters, e.g., noise levels, at a specific point in time in order to define existing conditions and variations with time.

dBA: A sound pressure level (or decibel) measured on the A scale which reflects the human ear's relative response to different frequencies.

Decibel (dB): A unit used to represent the relative magnitude of sound.

Engineering Control: Any mechanical device, physical barrier, enclosure, or other design procedure that reduces the sound level at the source of noise generation or along the path or

propagation of the noise to the individual. This does not include protective equipment such as earmuffs, earplugs, or administrative controls.

Hearing Conservation: The prevention or minimizing of noise-induced hearing loss through the use of engineering controls, administrative procedures, and/or hearing protection devices.

Hertz: Unit of measurement of frequency, numerically equal to cycles per second.

Noise Contour: A representation, i.e., drawing on a floor plan, of noise levels.

Noise Dosimeter (Audiodosimeter): Portable unit that can be worn by the worker and that records the sound levels during the shift. This instrument is usually attached at the individual's shoulder (closest to the ear), and measures and integrates sound levels generated by work. The results obtained indicate the exposure of the worker to noise. This instrument measures or profiles sound in areas or at tasks over a given time period.

Octave Band: A division of the audible range of frequencies into subgroups such that in each division the upper frequency limit is twice the lower limit. Octave band analysis provides a more detailed analysis of distribution of sound energy in specific frequencies.

Octave Band Analysis: The measuring of pressure levels of a sound in a specific frequency band.

Sound Level Meter: A calibrated instrument used to measure sound pressure levels and which reports the results in dB.

Standard Threshold Shift: An increase in an individual's threshold of hearing as determined by a comparison of the results for an annual audiogram to a baseline audiogram. OSHA defines a standard threshold shift as an average increase of 10 dB or more at 2000, 3000 and 4000 Hertz in either ear.

Time-Weighted Average (TWA): The allowable combination of sound level and duration of exposure that an employee may experience, taking into account effects of averaging fluctuations above and below that level. The TWA is obtained by averaging over time the various sound levels experienced over the entire work shift.

6.0 RESPONSIBILITIES

Occupational Health Department (OHD): The Director of OHD must:

- Maintain the results of hearing tests.
- Inform employees, local organizations, the local EH&S Manager, and EH&S if a standard threshold shift is identified, and whether such a shift is considered work-related.
- Inform employees if a standard threshold shift is identified.

Employees: Employees must wear hearing protection as identified. In addition, they must be able to request through IH a review of their records, request through OHD to receive a copy of their hearing test and/or noise exposure records, and to review the results of noise surveys posted in their work areas.

Environment, Health, and Safety (EH&S): EH&S performs the following functions:

- Reviews applicable regulations and ensures that procedures meet all regulatory requirements.
- Revises procedures as applicable.
- Reviews/approves controlled documents prior to release.
- Distributes updates and changes.
- Reviews training prepared by the Learning Center.
- Provides technical assistance to Safety Administrators.
- Arranges for personal dosimetry.

Facility or Site Manager Responsible for Compliance: The Con Edison designated individual within each operating organization who is responsible for ensuring compliance with federal, state, and local regulations, and this procedure.

Law Department: The Law Department assists EH&S by reviewing changes to these procedures in light of all applicable statutes and regulations to ensure that the procedures meet all legal requirements.

Learning Center: The Learning Center and Operating Organizations are responsible for developing, reviewing, and assisting in OSHA-required training. The Learning Center also maintains records of training.

Occupational Health Department (OHD): OHD manages the hearing conservation testing program, coordinates the scheduling of examinations, and ensures that audiometric testing equipment is properly maintained.

Operating Organizations: Unless otherwise indicated, operating organizations are responsible for compliance with federal, state, and local regulations, and this procedure. Specifically, each will arrange for a survey with Astoria Technical Services laboratory to conduct area surveys and is responsible for evaluating employee complaints with the assistance of EH&S when needed. The Operating Organization will ensure that results of monitoring are posted in the workplace.

Supervisor: Supervisors ensure that areas are evaluated, high noise level areas are identified, personnel are provided with and use proper hearing protection, and personnel are available to participate in training and hearing tests.

7.0 REFERENCES

4.0 COMPLIANCE REQUIREMENTS

[1] 29 CFR 1910.95(a)-(c) (circumstances under which hearing conservation program is required).

4.2 IDENTIFICATION OF NOISE HAZARDS

[2] See Note 3 below.

4.3 NOISE SURVEY REQUIREMENTS (AREA MONITORING)

[3] 29 CFR 1910.95(d) (monitoring); 29 CFR 1910,95, Appendix A, Noise Exposure Computation (Mandatory); 29 CFR 1910.95, Appendix G, Monitoring Noise Levels Non-Mandatory Informational Appendix (noting that many companies choose to remonitor once every year or two to ensure that all exposed employees are included in their hearing conservation program). NOTE: The OSHA standard does not require noise surveys every three years; Con Edison requires such surveys as a matter of policy to confirm sound levels have not increased. NOTE: The standard requires representative personal sampling when circumstances make area monitoring inappropriate; as a matter of policy, Con Edison requires personal monitoring whenever a survey shows employees could be exposed to noise levels at or above 85 dBA.

4.3 NOISE MEASUREMENT METHODS: PERSONAL MONITORING (DOSIMETRY)

[4] **NOTE: This section compiles several regulatory requirements and recommendations on the particulars of how dosimetry should be performed.**

[5] 29 CFR 1910.95(e) (employee notification); 29 CFR 1910.95(f) (employee observation of monitoring). NOTE: The OSHA standard requires employers to notify each employee exposed at or above an 8-hour TWA of 85 decibels of the results of monitoring; Con Edison fulfills this requirement by posting the monitoring results.

4.4 OCTAVE BAND ANALYSIS

[6] NOTE: This section provides a brief overview of octave band analysis.

4.5 NOISE CONTROL

[7] 29 CFR 1910.95(i) (hearing protectors). NOTE: The OSHA standard does not require specific engineering or administrative controls. This section provides an overview of the hearing conservation measures implemented by Con Edison.

4.6 HEARING PROTECTION

[8] 29 CFR 1910.95(b)(i) (requires feasible administrative or engineering controls when employees subject to sound exceeding regulatory levels); 29 CFR 1910.95(i)(1) (specifying when hearing protection must be made available); 29 CFR 1910.95(i)(2) (specifying when hearing protection must be worn). NOTE: Con Edison requires employees to wear hearing protection under a broader range of circumstances than those specified in the OSHA standard.

[9] 29 CFR 1910.95(j) (hearing protection attenuation); 29 CFR 1910.95, Appendix B, Methods for Estimating the Adequacy of Hearing Protector Attenuation (Mandatory); 29 CFR 1910.95(i)(3) (requiring employer to give employees choices among suitable hearing protection). NOTE: The OSHA standard requires hearing protection to attenuate employee exposure to an 8-hour TWA of 90 decibels (85 decibels for employees who have experienced a standard threshold shift). Con Edison requires hearing protection to attenuate employee exposure to 85 decibels for all employees as a matter of policy.

[10] 29 CFR 1910.95(i)(5) (requiring proper fitting and use of hearing protectors). NOTE: The OSHA standard does not specifically address the use of particular types of hearing protectors. Con Edison has developed the procedures in this CEHSP relating to ear muffs and disposable earplugs as a matter of policy.

4.7 AUDIOMETRIC TESTS

[11] 29 CFR 1910.95(g) (audiometric testing program); 29 CFR 1910.95(h) (audiometric testing requirements). NOTE: Con Edison requires hearing screen for applicants for

employment as a matter of policy. Also, the OSHA standard requires companies to take steps following indications of a standard threshold shift unless a physician determines that the shift is not work-related or aggravated by occupational noise; Con Edison requires follow-up measures as a matter of policy for all employees who experience an STS. The CEHSP includes various Con Edison-specific procedures for implementing the audiometric testing program.

[12] 29 CFR 1910.95(g)(3) (individual authorized to perform audiometric tests); 29 CFR 1910.95(g)(4) (requirements for audiograms); 29 CFR 1910.95, Appendix C, Audiometric Measuring Instruments (Mandatory); 29 CFR 1910.95, Appendix D, Audiometric Test Rooms (Mandatory); 29 CFR 1910.95, Appendix E, Acoustic Calibration of Audiometers (Mandatory); 29 CFR 1910.95, Appendix F, Calculations and Application of Age Corrections to Audiograms (Non-Mandatory). NOTE: In addition to the individuals listed in the CEHSP, the OSHA standard allows testing by persons who have demonstrated competence in administering examinations. Con Edison does not allow such persons to perform tests as a matter of policy.

[13] 29 CFR 1910.95(m)(2) (recordkeeping for audiometric tests). NOTE: Con Edison requires that the audiometric tests include the employee's social security number as a matter of policy.

4.8 TRAINING

[14] 29 CFR 1910.95(i) (requiring employer to provide training use and care of hearing protection); 29 CFR 1910.95(k) (training); 29 CFR 1910.95(l)(3) (access to information and training materials). NOTE: The OSHA standard does not require training on the principles of noise control; Con Edison requires such training as a matter of policy. Also, the OSHA standard does not require employees to demonstrate an understanding of the proper use of hearing protection nor does it require records of employee training. Con Edison has implemented these requirements as a matter of policy.

4.9 RECORDKEEPING

[15] 29 CFR 1910.95(l) (access to information and training materials); 29 CFR 1910.95(m) (recordkeeping). NOTE: The OSHA standard only requires employers to retain copies of exposure measurements (two years) and audiometric tests (duration of employment). Con Edison has developed the recordkeeping/retention requirements in this section as a matter of policy.

4.10 PROGRAM REVIEW

[16] NOTE: The OSHA standard does not require reviews of hearing conservation programs. Con Edison requires such reviews as a matter of policy to ensure the program remains current and effective.

REVISION HISTORY

Revision Date	Revision #	Summary of Change	Author
08/29/2014	9	Periodic Review completed. Corporate EHS changed to EHS – Safety & Industrial Hygiene.	S. Mahoney
10/29/2014	10	Updated Attachment 1, Table 1 to reflect 2014 ACGIH TLV for Noise.	S. Mahoney
09/29/2015	11	Updated Section 4.21 to allow for Local EHS qualified by Industrial Hygiene to perform Noise studies.	S. Mahoney
09/06/2016	12	Remove qualification of local EH&S by Industrial Hygiene in Section 4.2.1 to perform noise survey of work areas every 3 years. Added statement “Hearing protectors must be worn for identified tasks that are high in noise” in Section 4.5 Hearing Protection.	S. Ng

ATTACHMENT 1
PERMISSIBLE NOISE EXPOSURES[1,2, 3]

	Duration per day	Sound Level (dBA)
Hours	**24**	**80**
	16	**82**
	8	**85**
	4	**88**
	2	**91**
	1	**94**
Minutes	**30**	**97**
	15	**100**
	7.50	**103**
	3.75	**106**
	1.88	**109**
	0.94	**112**
Seconds	**28.12**	**115**
	14.06	**118**
	7.03	**121**
	3.52	**124**
	1.76	**127**
	0.88	**130**
	0.44	**133**
	0.22	**136**
	0.11	**139**

1. Table 1 from 2014 ACGIH TLV for Noise .
2. Engineering or administrative controls are required if employees are exposed to sounds exceeding the limits specified in this table. If these types of controls are not feasible, hearing protection must be provided. Hearing protection must attenuate exposures to an acceptable level.
3. No exposure to continuous, intermittent, or impact noise in excess of a peak C-weighted level of 140 dB.