

**TAMPA ELECTRIC COMPANY  
ENERGY SUPPLY  
HEARING CONSERVATION PROGRAM**

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<b><u>OSHA HEARING CONSERVATION STANDARD 29 CFR 1910.95</u></b>	

# **TAMPA ELECTRIC COMPANY ENERGY SUPPLY HEARING CONSERVATION PROGRAM**

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## **PURPOSE**

The purpose of the Hearing Conservation Program is to reduce hearing loss related to potential occupational exposure to noise within TECO Energy Supply.

## **INTRODUCTION**

Tampa Electric is dedicated to providing a safe workplace for its employees. The Hearing Conservation Program represents the company's continuing commitment to meet its moral and legal obligations relative to the prevention of hearing loss from exposures to noise and other source causes.

It is the policy of Tampa Electric, Energy Supply, to utilize engineering methods to control noise exposure when feasible. When not feasible, noise exposure shall be controlled by the elements contained in this program.

This program contains the following elements:

- Employee Training
- Engineering Controls
- Noise Exposure Evaluation
- Signage / Posting
- Audiometric Testing
- Audiometer Calibration
- Employee Counseling
- Hearing Protection
- Documentation / Recordkeeping

## **SCOPE**

In the Energy Supply Group of Tampa Electric, the group requiring participation in the hearing conservation program has been determined to be:

- All non-administrative plant employees of Big Bend, Bayside, and Polk
- All air services technicians in the Environmental Services Department

It should be noted that all Energy Supply Employees shall be offered the opportunity and encouraged to receive annual training and annual audiograms in accordance with this program.

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## ROLES AND RESPONSIBILITIES

Station Directors and Department Directors are responsible for the implementation of this program for employees under their authority.

The Joint Departmental Committee Safety Programs is responsible for reviewing, maintaining and revising this program as necessary. Responsibilities supporting this objective may be assigned to others as designated.

All Personnel (employees, contractors, and visitors) are responsible for using hearing protection equipment according to the designed purpose and within the requirements of this program.

## EMPLOYEE TRAINING

**Target Audience** - All employees identified in the scope section of this program.

**Frequency** – Initial training shall be provided to each affected employee prior to the assignment of tasks which may result in exposure to noise greater than or equal to 85 decibels based upon an eight-hour time-weighted average.

Retraining shall be conducted annually and documented.

**Methods** – Training shall be accomplished through Computer-Based Training, by PowerPoint presentation with video, or other training materials determined adequate by the Safety Department.

At a minimum, the content of the training shall include:

- Effects of noise on hearing
- Purpose of hearing protectors
- Advantages and disadvantages of various types
- Attenuation of various types
- Instructions on selecting, fitting, use, and care
- Purpose of audiometric testing and an explanation of the test procedures

**Documentation** – All training shall be documented electronically in Cority. Classroom training will require the attendees to sign a roster and that information will later be transferred into Cority. When Computer Based Training is used, the training may be documented in the separate CBT program database or transferred into Cority, where practical.

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## **ENGINEERING CONTROLS**

When modifications are made or new equipment is installed, consideration shall be given to the effect that the modification or new equipment will have on ambient noise levels. Whenever it is technologically and economically feasible, all new installations and modifications shall maintain or reduce the ambient sound pressure level in the vicinity of their installation.

## **NOISE EXPOSURE EVALUATION**

### Sound Level Mapping

Each facility shall be evaluated for the purpose of determining the scope of its Hearing Conservation Program.

The evaluation shall be accomplished by a Sound Pressure Level Grid Survey.

These evaluations shall be conducted initially at each facility. These evaluations shall be repeated whenever a change in production, process, equipment, or controls increase noise exposures.

### Noise Dosimetry

Dosimetry shall be performed as determined by the Safety Department. All noise exposure monitoring results shall be maintained as required by OSHA regulations.

## **SIGNAGE / POSTING**

Signs shall be posted at all areas that require hearing protection.

A copy of the **OSHA Occupational Noise Exposure Standard (29 CFR 1910.95)** shall be posted in an area that is readily accessible to all employees.

## **AUDIOMETRIC TESTING**

### General

Prior to the commencement of employment in our power generating stations, employees shall receive an audiometric test. All non-administrative plant employees and Tampa Electric Energy Supply employees who routinely are exposed in areas of the Energy Supply Facilities that have noise levels equal to or greater than 85 dBA shall receive an annual audiometric test.

All testing will be performed in accordance with OSHA regulations.

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All annual testing shall be forwarded to a certified audiologist for review, evaluation, interpretation and validation.

## AUDIOMETERS AND TEST BOOTHS

All onsite audiometric testing performed as part of Tampa Electric's Hearing Conservation Program shall be conducted using a microprocessor-controlled audiometer. This audiometer shall meet or exceed ANSI standard S3.6-1969.

## CALIBRATION AND TESTING

### Functional Testing

Functional testing of the audiometer shall be performed **PRIOR TO EACH DAY'S TESTS** by the Tampa Electric permanent contract nurse using an electro-acoustic ear in accordance with the audiometer manufacturer's instructions. If this test indicates that the audiometer is not functioning properly, then audiometric testing cannot be performed until the instrument is repaired.

### Acoustic Calibration

Acoustic calibration of the audiometer shall be conducted **ANNUALLY**. Documentation of this calibration shall be maintained at each first aid facility by the nurse.

### Exhaustive Calibration

Exhaustive calibration of the audiometer shall be conducted **EVERY TWO YEARS**. It should be noted that acoustic calibration is incorporated into exhaustive calibrations. Therefore, additional acoustic calibration is not required in years that exhaustive calibration is performed. Documentation of this calibration shall be maintained at each first aid facility by the nurse. This calibration shall be performed by a qualified vendor.

### Test Booth Attenuation Testing

Test booth attenuation testing shall be conducted initially and whenever a change has occurred that could increase the noise level inside of the test booth. This testing shall be conducted by the Safety Department and sound pressure levels within the audiometric test room should not exceed the following levels:

Frequency HZ	500	1 K	2K	4 K	8 K
Sound Pressure Level dB	<30	<30	<35	<42	<41

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These levels are more conservative than those required by OSHA and have been adopted by both the CERTIFIED AUDIOLOGIST and Tampa Electric Energy Supply in order to assure higher integrity and quality of testing.

## TYPES OF AUDIOGRAMS

Baseline - the results of a hearing test on an individual who has not been exposed to noise in excess of 80 dBA for at least 14 hours.

It should be noted that effective use of hearing protection will meet this requirement of reducing noise exposure to below 80 dBA. Employees must receive a baseline audiogram at time of employment or when instructed by consulting audiologist.

Annual - After the baseline audiogram, each employee shall be given an annual audiogram. Annual audiograms may be administered during the employee's work shift regardless of noise exposure since effective exposure is attenuated by the proper use of hearing protection in designated areas.

Retest - employees must be retested when and as instructed by the consulting audiologist.

## ADMINISTERING THE AUDIOGRAM

Prior to testing, and if necessary, during testing, employees will be instructed as to what they will hear and how they should respond.

All audiometric tests shall be recorded on the audiometric examination form contained in Cority and must be filled out completely each time a test is conducted. The printed audiogram shall be attached to the audiometric examination form.

## AUDIOGRAM PROCESSING

Each audiogram shall be forwarded to a certified audiologist for review, evaluation, interpretation and validation.

## AUDIOGRAM EVALUATION AND VALIDATION

All completed audiograms received by a certified audiologist will be evaluated for completeness, reviewed and validated. If judged to be invalid, the audiogram will be returned to the nurse with the inadequacies identified and specific suggestions provided for correction. Retesting shall be conducted, and this process should be repeated until a valid test is obtained.

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## AUDIOGRAM INTERPRETATION AND RECOMMENDATION

Once judged valid, using professional judgment, the certified audiologist analyzes the audiogram, taking into consideration relevant factors such as variance from normal, configuration of audiogram, medical history, age, previous test results, occupational noise

exposure history, sociocusis, etc. Based on this analysis, the audiologist interprets the audiogram test results as indicating either normal hearing, variance possibly due to noise exposure, variance possibly due to medical reasons, and / or other reasons.

After all audiograms received from a facility are validated and interpreted by a certified audiologist, an information report will be forwarded to the nurse. The report displays the audiometric data in an organized manner and all recommended follow-up action.

The nurse is responsible for implementing all recommended follow-up actions. If retesting is recommended, it must be **COMPLETED AND RESULTS FORWARDED TO A CERTIFIED AUDIOLOGIST WITHIN 21 DAYS.**

## **EMPLOYEE COUNSELING**

### General

All employees will be counseled as to the results of their most recent hearing test whenever the Certified Audiologists deem, based on their professional judgment, that an employee's hearing test showed characteristics which are audiologically significant.

The Certified Audiologist will provide the nurse with employee specific, two-part counseling forms for each employee that will receive counseling. Based on this analysis, the audiologist interprets the audiogram test results as indicating variance due to noise exposure, variance possibly due to medical reasons, and / or other reasons.

The first part of the form serves to notify the employee of the date, location and time of counseling. The nurse will complete this section and provide it to the employee.

The second part of the form will be completed during the counseling session. **Employee counseling must be completed within 21 days** from receipt of the forms from the CERTIFIED AUDIOLOGIST.

The nurse shall make detailed written comments on the form while conducting the counseling session. The form shall be dated and signed by both the employee and the nurse.

Following the counseling session, two copies of the completed form shall be made. One copy shall be provided to the employee. The other copy shall be filed and maintained by the nurse for confirmation that the counseling has been performed.

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The original shall be kept in the employee's medical file.

## **HEARING PROTECTION**

Appropriate hearing protection will be provided by each facility for employees required to wear hearing protection.

Each facility will provide employees with the opportunity to select from a variety of suitable hearing protectors. Hearing protection at each facility must be evaluated and approved by the Safety Department. A NIOSH Method 1 evaluation will be conducted for each type of hearing protection to verify suitability for our work environment. The NIOSH Method 1 evaluation is used since, according to OSHA (1910.95 Appendix B), this is the most accurate method to determine hearing protection effectiveness since it uses the largest amount of spectral information from the individual employee's noise environment.

Hearing protection shall be properly worn in designated (posted) hearing protection areas.

## **DOCUMENTATION AND RECORDKEEPING**

Records of audiometric test results, noise exposure evaluations, employee counseling and employee training shall be maintained. These records shall be made available to affected employees, their representatives, or OSHA upon request.

### Audiometric Testing Records

Audiometric testing records shall be maintained in Cority.

### Noise Exposure Evaluations

Noise exposure evaluations shall be maintained by the Safety Department.

### Employee Counseling Records

All employee counseling forms shall be retained in the individual employee's medical file for the employee's length of service plus 30 years.

### Employee Training Records

Employee training records shall be maintained electronically in Cority.



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## Audiometer Calibration Records

Documentation of all acoustic and exhaustive audiometer calibrations shall be maintained indefinitely by the Plant Nurse.

## OSHA Recordkeeping

Recordable OSHA cases will be identified by the CERTIFIED AUDIOLOGIST on the information report. The Safety Department will appropriately record these cases on the plant's OSHA 300 log.

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## APPENDIX A GLOSSARY

**Action level** - An 8-hour time weighted average of 85 decibels measured on the A-scale, slow response.

**Audiogram** - A chart, graph, or table resulting from an audiometric test showing an individual's hearing threshold levels as a function of frequency.

**Certified Audiologist** - A professional, specializing in the study and rehabilitation of hearing, who is certified by the American Speech-Language-Hearing Association or licensed by a state board of examiners.

**Baseline audiograms** - The audiogram against which future audiograms are compared.

**COMBI (Comprehensive Occupational Medicine for Business and Industry)** – COMBI is the preferred provider for medical examinations as well as the provider of the Energy Supply Medical Review Officer. COMBI has locations at 9210 Florida Palm Drive, Tampa, Florida, and 3810 Drane Field Road, Unit 15, Lakeland, Florida 33811

**Decibel (dB)** - Unit of measurement of sound level

**Hertz (HZ)** - Unit of measurement of frequency, numerically equal to cycles per second.

**NIOSH Method 1** - A method used for determining the attenuation of hearing protection by comparing the levels of noise in the workplace at certain frequencies and comparing with the attenuation of the hearing protection at these frequencies. According to OSHA, this is the most accurate method of hearing protection evaluation since it uses the largest amount of spectral information from the individual employee's noise environment.

**Noise dosimeter** - An instrument that integrates a function of sound pressure over a period of time.

**OSHA** – Occupational Safety & Health Administration

**Representative exposure** - Measurement of an employee's 8-hour time-weighted average sound level that is representative of the exposures of other employees in the workplace.

**Sound level meter** - An instrument for the measurement of sound level.

**Standard Threshold Shift** – A standard threshold shift is a change in an individual's hearing threshold relative to their baseline audiogram at an average of 10 dB or more at frequencies of 2000, 3000, and 4000 Hz in either ear.

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**Time-weighted average sound level** - That sound level, which if constant over an 8-hour exposure, would result in the same noise dose as is measured.