# Hearing Conservation Program for TV & Film Productions in the United States

PS\_PRGM HEARING CONSERVATION v0

Prepared by

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Date	Date Description of Revision	
6/17/24	6/17/24 Initial release of template	

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## 1.0 Introduction

This document defines the requirements and base expectations required for establishing a Hearing Conservation Program (HCP). This program is designed for cast/crew employees when exposed to sound pressure levels (noise) that equal or exceed the action level of 85 dBA for an eight-hour time weighted average and may be less for extended work shifts.

Regional variations may apply when necessary to conform to the local Authority Having Jurisdiction (AHJ). All applicable codes and regulations exceeding this document apply, including those imposed by local AHJs.

## 1.1 Purpose

This document prevents occupational noise-induced hearing losses (NIHL) by establishing the minimum policies, procedures, and guidelines regarding occupational exposure to noise.

## 1.2 Scope

Productions shall provide a workplace free from improper and unsafe exposure to noise levels at or above levels of 85 dBA for an eight-hour time weighted average. This program applies to the following:

Production Title:	
Production Company:	

The Production Safety Representative will periodically audit production for compliance with this program. Findings will be reviewed with the Unit Production Manager/Line Producer.

## 1.3 Hearing Conservation Program requirements

The Occupational Safety & Health Administration (OSHA) has determined that an effective hearing conservation program consists of the following elements:

- 1. Monitoring of employee noise exposures,
- 2. The institution of engineering, work practice, and administrative controls for excessive noise,
- 3. The provision of each overexposed employee with an individually fitted hearing protector with an adequate noise reduction rating,
- 4. Employee training regarding noise hazards and protection measures,
- 5. Baseline and annual audiometry,
- 6. Procedures for preventing further occupational hearing loss by an employee whenever such an event has been identified.
- 7. Recordkeeping

This Program shall apply to the following production departments that may be exposed to noise at or above indicated in Table 1. (List all that apply)

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Table 1 - Departments Required to be included in the HCP

Department	Applicability	Site Specific Information

## 2.0 References & Supporting Attachments

Documents referenced in this document are listed in Table 2 – Cited References. Additional references are listed in Supplemental References.

Table 2 - Cited References

Cited Reference	
Document Number	Document Title
29 CFR 1910.95	OSHA Occupational Noise Exposure
Title 8 CCR 5097	Cal/OSHA Hearing Conservation Program
29 CFR 1910.1020/Cal Code of Regulation, Title 8, Section 3204	Access to Employee Exposure and Medical Records
29 CFR 1904.10/Cal Code of Regulation, Title 8, Section 14300.10	Recording Criteria for Cases Involving Occupational Hearing Loss
Supplemental References	
Document Number	Document Title
DHHS (NIOSH) Publication Number 2018-124	Preventing Hearing Loss Caused by Chemical (Ototoxicity) and Noise Exposure
DHHS (NIOSH) Publication Number 2014-127	Buy Quiet Process

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## 3.0 Definitions

The following terms, acronyms, and definitions are used in this document.

Table 3 - Definitions

Term	Definition
25-dB Loss	When a crew member's overall hearing ability in comparison to the audiometric zero is 25 dB or greater (averaged at 2000, 3000, and 4000 Hz).
Action Level	The level of exposure to noise at which the production must take certain actions (implement a hearing conservation program, offer hearing protection, conduct audiometric testing, conduct training, etc.). The OSHA action level for noise is an 8-hour Time Weighted Average of 85 decibels measured on the A-scale, slow response.
Administrative Controls	Measures that reduce the duration, frequency, and severity of exposures (e.g., alternative work scheduling, rest breaks, etc.).
ANSI	American National Standards Institute, a voluntary membership organization that develops consensus standards nationally for a wide variety of devices and procedures.
Access	The right and opportunity to examine and copy.
Audiological	Pertaining to the science of hearing defects and their treatment.
Audiometer	An instrument for measuring objectively the sensitivity of hearing in decibels is referred to as audiometric zero. Pure tone audiometers are standard instruments for industrial use for audiometric testing.
Audiogram	A chart, graph, or table resulting from an audiometric examination showing an individual's hearing threshold levels as a function of frequency.
Baseline Audiogram	The audiogram against which future audiograms are compared.
Cal/OSHA	California Occupational Safety and Health Administration, a state agency in the Department of Industrial Relations, which establishes and enforces safety and health regulations. Cal/OSHA consists of the Division of Occupational Safety and Health (DOSH), the Consultation Service, the Standards Board, and the Appeals Board.
Continuous Sound	Sound where the variation in noise level involves maxima at intervals of 1 second or less.
Decibel (dB)	A unit of measurement of sound level.
Decibels A-Weighted (dBA)	The unit notation "dBA" refers to a unit of measurement of sound level corrected to the A-weighted scale, as defined in ANSI S1.4-1971 (R1976) using a reference of 20 micropascals (0.00002 Newton per square meter).
Engineering Controls	Methods of controlling Crew member exposure to noise by modifying the source, means of transmission, or receiver.
Exposure Records	A record containing information concerning Crew member exposure to noise.
Hearing Conservation Program (HCP)	A program designed to prevent or minimize noise-induced hearing loss through the control of noise with engineering and administrative controls, audiometric testing, crew member training, and the use of hearing protective devices.
Hearing Protective Device (HPD)	Refers to earplugs and earmuffs used to reduce the noise exposure level and the risk of hearing loss.

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Term	Definition
Hertz (Hz)	A unit of measurement of frequency, numerically equal to cycles per second.
Impact Sound	Sound resulting from the striking of one body against another or other collisions.
Impulsive Sound	Sound resulting from a single collision of one mass in motion with the second mass, which may be in motion or at rest (e.g., hammer striking a nail).
Intermittent Sound	Sound where the variation in noise level involves maxima at intervals greater than 1 second.
Medical Pathology	A disorder or disease. For purposes of Title 8 CCR sections 5095-5100, a condition or disease affecting the ear, which should be treated by a physician or specialist.
Noise	Unwanted sound. Also referred to sound pressure levels.
Noise Induced Hearing Loss	Hearing impairment resulting from exposure to loud sound.
Noise Reduction Rating (NRR)	A rating of the adequacy of hearing protective devices developed by the Environmental Protection Agency indicates the decibel reduction for noise attenuation purposes.
Otolaryngologist	A physician specializing in diagnosis and treatment of disorders of the ear, nose, and throat.
OSHA	Occupational Safety and Health Administration located within the U.S. Department of Labor. The agency's responsibilities include promulgating occupational safety and health standards and inspecting workplaces to verify compliance with these standards.
Permissible Exposure Limit (PEL)	Levels of exposure and conditions under which it is believed that nearly all healthy workers may be repeatedly exposed day after day without adverse effects. Currently, the OSHA PEL for noise is 90 dBA as an 8-hour Time Weighted Average (TWA).
Record	Any item, collection, or grouping of information regardless of the form or process by which it is maintained (e.g., paper document, microfiche, or automated data processing).
Representative Exposure	Measurements of a crew member's noise dose or 8-hour Time Weighted Average sound level representative of exposures of other crew members in the workplace.
Sound Level	Ten times the common logarithm of the ratio of the square of the measured A-weighted sound pressure to the square of the standard reference pressure of 20 micropascals.
Sound Level Meter	An instrument for the measurement of sound level.
Standard Threshold Shift (STS)	A hearing shift of an average of 10 dBA or greater at 2000, 3000, and 4000 Hz in either ear, when compared to the initial baseline audiogram, confirmed by a retest audiogram, and determined to be work related.
Temporary Threshold Shift (TTS)	Pull OSHA/Cal OSHA definition. A noise-induced temporary threshold shift is a short-term decrease in hearing sensitivity that displays as a downward shift in the audiogram output. It returns to the pre-exposed level in hours or days, assuming there is no continued exposure to excessive noise.

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## 4.0 Responsibilities

The following responsibilities are defined for each job function:

## 4.1 Production Management (Line Producer, UPM)

- Ensure that adequate resources are provided to properly implement the HCP for all cast/crew.
- Engage an approved medical provider or vendor.
- Ensure noise assessment results are communicated to affected crew members within 15 days.

## 4.2 Department Head

- Understand and comply with this program.
- Partner with Production Safety to coordinate noise control efforts.
- Verify crew members attend the training as required.
- Verify crew members attend initial, annual and follow-up STS audiometric testing.
- Select and provide the correct HPDs for Crew members with assistance from Production Safety
- Ensure effective HPDs are provided to and used by crew members covered in this program.
- Ensure crew members with STS restrictions wear hearing protection as required.
- Notify production safety whenever a change in equipment or process takes place that may change noise exposure levels to crew members.

#### 4.3 Crew Members

- Understand and comply with this program.
- Participate in noise exposure assessments.
- Complete Hearing Conservation Training (HCT).
- Participate in audiometric testing and follow-up actions as directed.
- Report hearing related problems to audiometric technician or physician.
- Report problems relating to the Hearing Conservation Program as they arise.
- Use and care for Hearing Protective Devices (HPDs) as required.
- Follow safe work practices.

## 4.4 Approved Medical Provider or Vendor

- Conduct baseline and annual audiogram.
- Notify production management and production safety that a retest is required within 30 days when a crew member has experienced a Standard Threshold Shift or Temporary Threshold Shift.
- Brief crew members of the purpose and mechanics of the audiogram.
- Ensure audiometric hearing booths are tested/calibrated annually to provide an appropriate test environment that does not interfere with the accuracy of the audiometric thresholds.
- Ensure audiometers are calibrated daily.
- Ensure audiometer exhaustive calibrations are completed annually or any time an audiometer requires certain types of maintenance.
- Ensure compliance with all OSHA regulations or local AJH.
- Maintain audiometric test equipment and test records.
- Medical Provider will allow the review of all audiograms as needed and notify production safety if an STS has occurred.

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• If the comparison of a retest and baseline indicates an STS, the Medical Provider will inform production safety in writing, immediately or within 21 days of determination.

# 4.5 Disney Production Safety (e.g., Certified Industrial Hygienists (CIH) or qualified consultants)

- Recommend procedures to help identify, eliminate or control new and existing noise exposures.
- Establish Production Similar Exposure groups (SEGs) to be evaluated for noise levels.
- Assist in coordinating third party noise exposure monitoring of crew members as needed, and locations that may be exposed to noise over 85 dBA action level on an eight-hour time weighted average (TWA) basis.
- Review noise monitoring results and providing technical assistance to production management for establishing an Exposure Control Action Plan.
- Determine appropriate noise reduction rating (NRR) hearing protection devices for applicable crew members.
- Provide recommendations on reducing exposure.
- Provide a list of Corporate Recommended vendors approved by Disney to support medical surveillance and personal protective devices.
- Review all noise induced hearing loss cases obtained from the Approved Medical Provider report.
- Provide guidance on program compliance.
- Maintain all records in accordance with Record Retention Policy.
- Provide methods and procedures to mitigate assessed potential high noise hazard issues.

### 5.0 Hazard Evaluation Process

The following details the process to identify, evaluate and control risks and hazards with occupational noise exposure that follows the local AHJ regulations.

#### 5.1 Noise Assessment

Initial noise surveys are conducted to identify the areas where cast/crew noise exposures may exceed an 85 dB 8-hour TWA. When preliminary information indicates that a crew member's exposure may equal or exceed an 8- hour Time Weighted Average (TWA) of 85 decibels (dBA), or equivalent 50% dose, Production Safety will ensure that personal monitoring is representative of the crew member's exposure. Historical data for select job functions may also be used to support assessments.

Personal monitoring will be conducted with a calibrated audio dosimeter that will measure all continuous, intermittent, and impulsive sound levels between 80–130 decibels on the "A-weighted" scale (slow response).

Additional monitoring will be conducted if changes in production, equipment, processes, or controls suggest that noise exposures may have increased. Employees identified with exposure levels at or above an 8-hour TWA of 85 dB will be notified with the monitoring results and must enroll in the Hearing Conservation Program.

#### 5.1.1 Risk Control

Risks associated with noise shall be identified and controlled by factoring in effectiveness and feasibility of hierarchy of controls. Appropriate risk controls shall be established for hazards identified during the hazard evaluation process. Each engineering and administrative control selected shall be considered and evaluated against The Hierarchy of Controls.

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## 5.2 Hierarchy of Controls

Production management with the assistance of the production safety department will assist in determining if the implementation of feasible engineering and/or administrative controls where exposures exceed 85 dBA TWA. Efforts should focus on feasible engineering controls to reduce exposure to noise.

Where an existing or potential hazard cannot be eliminated, the hierarchy of controls will be implemented. The Production Safety Industrial Hygiene team will assist the Production management in developing an Exposure Control Plan that follows the hierarchy of controls.



https://www.cdc.gov/niosh/topics/hierarchy/default.htm.

#### 5.2.1 Hearing Protection Devices (HPDS)

A hearing protection device is a personal safety product that is worn to reduce the harmful auditory and/or annoying effects of noise at or above the action level (85 dBA). HPDs should be viewed as a last resort when other means such as engineering and administrative controls are not practical or economical. Crew members who work in high noise areas shall be provided with several HPD options available to them at no cost. HPDs should not be shared with anyone and be periodically replaced as necessary. Crew members shall be instructed in the proper use, fitting and maintenance of HPDs per training. Personal/portable stereo headphones shall not be used as HPDs.

Hearing protective devices must meet the following criteria:

- Attenuate crew member exposure at least 85 dBA as a TWA.
- Attenuation is reevaluated whenever crew member noise exposures increase to the extent that the hearing protective device provided may no longer provide adequate attenuation.

Crew members must wear HPDs whenever the following occurs:

- Noise levels exceed 85 dBA on an 8-hour TWA basis or an equivalent 50% dose.
- Impulsive or impact sound exceeds 140 db.

HPD Limitations and additional guidelines

- HPD's are not to be modified in any way. Modifying HPD's will invalidate NRR.
- Follow all manufacturer guidance regarding use and care

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## 6.0 Signage / Labels

The placement of signs/labels shall be determined by the Hazard Evaluation process. Signs shall meet all local AHJ requirements.

Caution signs to inform personnel of the potential hazards (Figure 1) shall be placed at all entrances to locations where noise exposure levels exceed the permissible levels.

Figure 1: Typical Hazard Identification Sign



## 7.0 Procedures For Medical Surveillance

Cast/Crew who must be included in this hearing conservation program must also be included in the medical surveillance program for noise. The following procedures will be implemented:

### 7.1 Audiometric Testing

Audiometric testing will be made available to all crew members whose exposure exceeds 85 dBA over an 8-hour TWA or is above the short-term levels described in Table 1, Title 8, § 5096. Audiometric testing will be provided at initial assignment (baseline) and annually thereafter. Audiometric testing will be performed by a licensed or certified technician, audiologist, or physician. Audiometric testing is:

- Provided at no cost to crew members enrolled in HCP.
- Conducted by medical provider who are certified by the Council of Accreditation in Occupational
  Hearing Conservation, or who has satisfactorily demonstrated competence in administering
  audiometric examinations, obtaining valid audiograms, and effectively use, maintaining, and
  checking calibration and proper functioning of the audiometers being used.

All testing equipment and processes must meet or exceed the requirements as described in the Occupational Safety and Health Administration's (OSHA) Standard 29 CFR § 1910.95 and California Code of Regulations, Title 8, Subchapter 7, Group 15, § 5095-5100.

#### 7.1.1 Baseline Audiogram

A valid baseline audiogram must be established for crew members in the Hearing Conservation Program within 6 months of program enrollment per 29 CFR § 1910.95(g) (5) and California Code of Regulations, Title 8, Subchapter 7, Group 15, § 5095-5100. While OSHA does require baseline and annual audiograms for these employees, it may not be feasible to perform annual audiometric exams as most productions last below 1 year and are temporary or seasonal employees on production. Therefore, annual audiograms will only be performed if working on the production for more than 1 year.

Testing to establish a baseline audiogram shall be preceded by at least 14 hours without exposure to workplace noise, but hearing protection devices may be used as a substitute for this requirement.

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#### 7.1.2 Annual Audiogram

Crew members assigned to participate in the HCP are scheduled for a new audiogram annually. Testing shall be preceded by at least 14 hours without exposure to workplace noise. Hearing protection devices may be used as a substitute for this requirement. Testing at the beginning of the shift is optimal, whenever possible, to obtain the best measure without exposure.

Crew members whose last workplace was a Disney production and completed a baseline/exit audiogram within 365 days may not be required to redo a baseline or annual audiogram.

#### 7.1.3 Evaluation Of Audiogram

The approved medical provider/vendor evaluates the audiogram and compares it to the baseline audiogram. The provider will work with the production management and production safety to implement any AHJ requirements.

#### 7.1.4 STS Retest Audiogram Process

Approved medical provider/vendor will reschedule an audiogram exam with a crew member within 30 days following the audiogram if an STS is determined. If they miss their retest appointment, the medical provider/vendor will notify production management to ensure the crew member completes audiogram prior to the expiration of the 30 days allowed for the retest.

• The crew member is reminded the retest must be preceded by at least 14 hours without exposure to workplace noise. Hearing protection may be used as a substitute for the requirement, although 14 hours without exposure to noise is strongly encouraged.

If the Crew member has not retested by the end of the 30-day period, their potential hearing loss becomes an OSHA recordable.

#### 7.1.5 STS Determination

The medical provider/vendor will work with production safety to determine if the STS is related to a workplace noise exposure and what further actions need to be completed. Considerations of multiple potential impacts such as noise exposure outside of work, the crew member's age, medical conditions, and medication.

#### 7.1.6 STS and TTS Investigation & Action Plan

When a crew member is identified to have an STS or a TTS by the medical provider/vendor, production safety along with production management shall investigate potential causes for the shift. The following information shall be reviewed to ensure proper corrective actions are taken:

- Review of crew member's daily activities and tasks
- Review of noise surveys or dosimetry of the work area
- Review hearing protection available and verify feasibility to control noise hazards.
- Review of equipment being used by the employee.

After a thorough review, production management with assistance with production safety shall put in place a corrective action plan to minimize the affected employee's exposure. A corrective action plan can consist of any of the following:

- Implementation additional HPD's that have been evaluated by production safety and have adequate Noise Reduction Rating (NRR)
- Adjust tool and equipment settings to reduce noise output.
- Implementation administrative controls that can consist of adjusting task duration, employee rotation, adding hearing conservation signage, or training.
- Completing additional noise surveys or dosimetry.

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## 8.0 Awareness Training

Crew members enrolled in the HCP must receive training. The training shall include the following topics:

- The effects of noise on hearing.
- The purpose of hearing protection devices, the advantages, disadvantages, attenuation of several types, and instructions on selection, fitting, use, and care.
- The purpose of audiometric testing, and an explanation of the test procedures.
- The information provided in this training will be updated to be consistent with changes to the regulations.

## 9.0 Recordkeeping

Accurate records will be maintained in accordance with Fed OSHA, Cal/OSHA, company record retention programs, and other applicable regulations.

#### 9.1 Records

Records include the following:

- Noise exposure assessments.
- Audiometric examination records that include the following information:
- Crew member's name and job classification.
- Date of audiogram.
- Examiner's name.
- Date of the last acoustic or exhaustive calibration of the audiometer.
- Crew member's most recent noise exposure assessment.
- Audiometric test room records are maintained with the medical provider.

### 9.2 Record Retention

- Production management shall retain noise exposure assessment in accordance with Production Safety Record Retention Program.
- The medical provider retains audiometric test records in accordance with Disney Production Safety's record retention policy.

#### 9.3 Access to Records

Records shall be provided upon request within 15 working days.

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