

Hearing Conservation Guidelines for Productions

Purpose of a Hearing Conservation Program

Should a production cast/crew member be working at potentially excessive noise levels as defined by the local Authority Having Jurisdiction (AHJ) (e.g., Cal OSHA), the production management must implement a hearing conservation program. This hearing conservation program (HCP) is a written safety program that outlines the requirements to protect and control cast/crew from potentially damaging noise levels that create Noise Induced Hearing Loss (NIHL).

Disney Production Safety Department has created a templated Hearing Conservation Program to support all Productions. Contact your Production Safety Representative to support implementing a Hearing Conservation Program for those at risk for NIHL.

When is a Hearing Conservation Program Required?

In most regions, a Hearing Conservation Program is required when cast/crew are exposed to noise levels at or above 85 dBA for an 8-hour work shift and lower if working extended work shifts. Production management must create a written HCP for operations that are likely to involve excessive noise levels. These excessive noise levels may occur throughout all phases of a production from prep to wrap, there may be times when cast and crew may encounter high noise levels above 85 dB(A) during certain activities (e.g., construction, prop making, using blanks, special effects, use of equipment, etc.). Continuous, repeated, and uncontrolled exposure to noise levels above 85 decibels (dBA) or short exposure to high noise levels of 130 dBA may increase the risk for hearing damage or permanent hearing loss.

The risk of hearing damage/loss is directly proportional to the following:

- The louder the noise levels, the shorter the amount of time it takes for potential hearing damage/loss to occur.
- The longer the exposure, the greater the risk for hearing damage/loss.

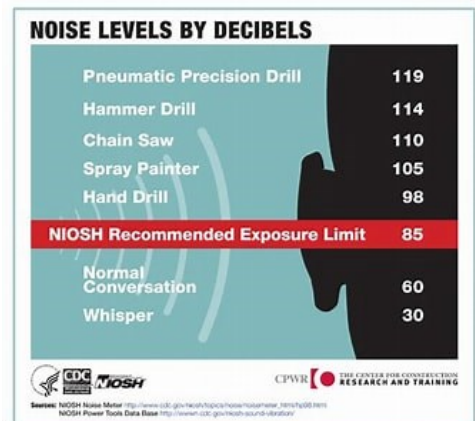
Risk is further increased, when hearing protection is not utilized and there is not enough rest time for ears between exposures.

Noise Assessments & Noise Levels

Noise monitoring assessments provide a basis for managing noise-related hazards and are required by regulatory authorities. A noise screening survey and specialized monitoring is commonly conducted to measure noise levels. If job functions measure levels that exceed 85 decibels those job functions must be included in the productions hearing conservation program. Historical screening has been measured for select TV or Film Production. Most Construction operations at minimum, are required to be included in an HCP if working with power tools and saw operation, among others.

The following are examples of typical noise levels from activities encountered during production activities:

- Normal Conversation: 60 to 70 dBA
- Power Tools: 80 to 110 dBA
- Motorcycles: 80 to 110 dBA
- Music through headphones at Maximum volume, Sporting Events, and Concerts: 94 to 110 dBA
- Sirens from emergency vehicles: 110 to 129 dBA



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- Pyrotechnic/ Mortars/Firearms: 140 to 175 dBA

A good rule of thumb to determine if noise levels are high is if you need to raise your voice to speak to someone close by you are typically above 85 decibels. Please contact your Production Safety Representative to help screen noise levels and select job tasks of concern.

What is required to be implemented for a Hearing Conservation Program?

Regulatory authorities typically require that all employees that work in noise levels more than 85 dBA be included in the Production's Hearing Conservation Program at no cost to the cast/crew. The following must be implemented to protect these cast/crew from NIHL:

Medical Surveillance Program Audiometric testing is provided to all Cast or Crew cast and crew included in the hearing conservation program. This testing includes a baseline audiogram upon employment, annual audiograms during employment, and an exit audiogram upon separation from the company.

Training and Signage Annual training must be conducted for cast and crew included in the hearing conservation program. The training will be tracked in the Genius/Cosmos system for all applicable production cast or crew when they conduct the start-up of a Disney Production. Signs are to be posted in areas where noise levels may exceed exposure limits.

Hearing Protective Devices Hearing Protective Devices must be provided to all cast/crew included in the HCP. A variety of devices are offered and must be adequate to attenuate or reduce the noise levels and provided at no cost to the cast/crew member. The Production Safety Certified Industrial Hygienist (CIHs) can assist with implementing your HCP and evaluating for proper hearing protective devices based on the individual's noise exposure levels.

How to Control Elevated Noise Hazards

Noise exposures are required to be reduced when exposures approach or exceed 85 dBA for an 8 hour-Time-Weighted Average (TWA). Noise exposure can be reduced through engineering controls, administrative controls, and/or hearing protective devices. The Production Safety Industrial Hygiene team will provide production advice and support to properly implement noise control plans.

When controlling noise hazards, the following hierarchy of controls are typical methods that productions can utilize to either eliminate or significantly reduce high level noise exposure.

Engineering Controls Elimination, Substitution, Process Changes, Shielding and Padding, Settings, and Adjustments muffling devices, enclosures, barriers etc.

Administrative Controls Reducing Time, Increasing Distances

Personal Protective Equipment Hearing Protection Device

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Choosing the Right Hearing Protection

When it is not feasible to eliminate high noise levels through engineering or administrative efforts, the next best method to mitigate noise hazards is using hearing protective devices such as earplugs or protective earmuffs. Hearing protection devices are wearable devices that form a seal in the ear canal or can lower the intensity of sound that enters your ears.

Types of Hearing Protection

- Earmuffs
- Earplugs
- Ear Canals

When selecting hearing protection, the most critical aspect that will determine the level of protection provided by hearing protection is the Noise Reduction Rating (NRR). NRR is a rating (number of decibels) that measures how much noise a hearing protection device will block.

- Follow manufacturer instructions when inserting earplugs to create a full seal.
- Inspect earmuffs to ensure the casing is not damaged.
- Consult Production Safety for a list of approved hearing protection devices.

Based on the activities being performed, there may be times when crew members may need to wear double hearing protection (earmuffs and earplugs combined), especially when noise levels may reach 130 dBA or higher. Production Safety Certified Industrial Hygiene team can provide support to advise in selecting the proper devices for your noise exposure levels and tasks.

Permissible Exposure Limits

The following table from the Federal Occupational Health and Safety Administration (OSHA) outlines exposure time limits workers can be exposed to without hearing protection. When noise levels are more than 90 dBA, Production Safety can provide guidance for options of engineering and/or administrative controls. Regulatory authorities mandate implementation of alternative controls when exceeding 90dBA for 8 hours or less depending on exposure times.

Allowable Duration per day, hours	Sound Level dBA
8	90
6	92
4	95
3	97
2	100
1½	102
1	105
½	110
¼ or less	115