



DEPARTMENT OF FIRE AND RESCUE SERVICES

	<h1>GENERAL ORDER</h1> <h2>150.10</h2>	
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Originating From	Issue Date	Revision Date	Attachments
Administration	6/5/2002	N/A	A

SUBJECT: Hearing Conservation Program

APPLICABILITY: All Personnel

POLICY:

The Howard County Department of Fire and Rescue Services (DFRS) shall administer a continuing, pro-active **Hearing Conservation Program (HCP)**.

1 THE HEARING CONSERVATION PROGRAM SHALL CONSIST OF THE FOLLOWING ELEMENTS:

- 1.1 Identification of Noise Exposure
- 1.2 Monitoring Work Areas
- 1.3 Audiometric Testing
- 1.4 Audiometric Evaluation & Notification
- 1.5 Hearing Protectors
- 1.6 Training
- 1.7 Record Keeping



2 OCCUPATIONAL NOISE EXPOSURE

- 2.1 Noise, or unwanted sound, is one of the most pervasive and invisible occupational health threats. Sound consists of pressure changes in a medium, caused by vibration or turbulence. Exposure to high levels of noise causes hearing loss: an impulse of very loud sound rapidly or lower level of loud sound for longer periods of time. Temporary hearing loss usually results from short term exposures to noise, with normal hearing returning after a period of rest (Noise reduction). Generally, prolonged exposure to cumulative high noise levels over a period of time gradually causes permanent damage and hearing loss.

3 MONITORING

- 3.1 The HCP requires monitoring noise exposure levels in a manner that accurately identifies noise at or above 85 decibels (dB) measured over eight working hours, or

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eight hour time-weighted average sound (TWA).

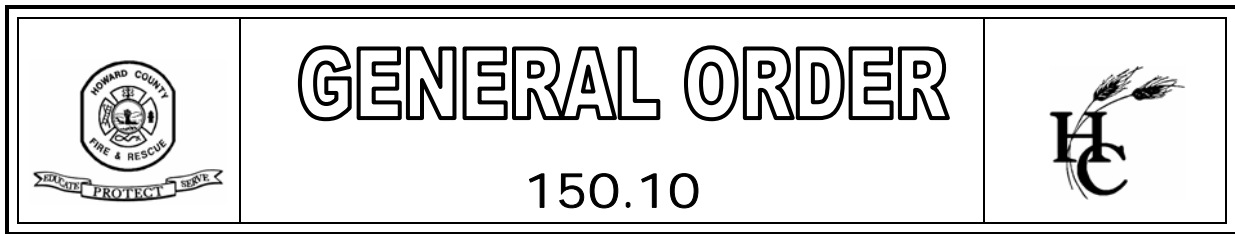
- 3.2 Noise exposure shall be monitored if equivalent to or greater than a noise exposure received in eight hours where the noise level exceeds an eight hour time-weighted average sound (TWA) of 85 dB.

Permissible Noise Exposure

Duration per day, hours	Sound Level dBA slow response
8	90
6	92
4	95
3	97
2	100
1 ½	102
1	105
½	110
¼ or less	115
When the daily noise exposure is composed of two or more periods of noise exposure of different levels, their combined effect should be considered. Exposure to impulsive or impact noise should not exceed 130dB peak sound pressure level. (Source:29 CFR 1910.95)	

- 3.3 Noise exposure measurements shall include all continuous, intermittent, and impulsive noises within 80 dB to 130 dB range and must be taken during a typical work situation.
- 3.4 Monitoring shall be completed annually or repeated when changes in the work area, equipment or other controls increase noise exposure.
- 3.5 Instruments used for monitoring exposure limits shall be calibrated to the manufacture's specifications. Monitoring will be completed by Howard County DFRS with cooperation of the Howard County Office of Risk Management.

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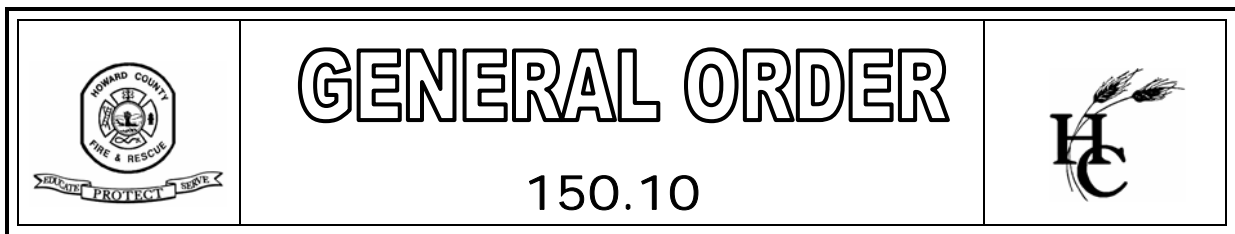
4 AUDIOMETRIC TESTING

- 4.1 Howard County DFRS shall conduct audiometric testing during pre-employment and annual physical exams provided by the Licensed Health Care Provider (LHCP). The DFRS audiometric testing shall include initial (baseline) audiogram, annual audiograms, training, and follow up procedures.
- 4.2 The audiometric testing shall be administered by DFRS's LHCP. The LHCP shall be a licensed or certified audiologist, an otolaryngologist, or a physician who is responsible for the program.
- 4.3 All Audiometric testing shall meet the requirements of
 - 4.3.1 OSHA 29 CFR 1910.95 (g), (h) Occupational Noise Exposure and MOSH "Hearing Conservation".
 - 4.3.2 NFPA 1500 Fire Department Occupational Safety & Health Program, Section 5-11 Hearing Protection
 - 4.3.3 NFPA 1582 Medical Requirements for Firefighters, Section 3 - 4.2
- 4.4 Where audiometric testing indicates a significant hearing loss Standard Threshold Shift (STS) for an individual, the department shall address these conditions on an individual basis. The LHCP shall notify the department and the employee within 21 days from the time the determination is made of the STS. The LHCP will determine the amount of hearing loss for the individual and any specialized follow up care or treatment.
- 4.5 If an STS is identified by the LHCP, the individual shall be fitted or refitted with adequate hearing protectors and/or shown how to use them. The department shall supply and require the employee to wear the hearing protection until the LHCP determines if and when the individual may discontinue hearing protectors based on subsequent audiometric test by the LHCP.
- 4.6 Personnel who experience an acute hearing loss as a result of a severe or moderate exposure should be sent to the LHCP for evaluation and treatment. Personnel may be placed on restricted duty (Noise Reduction) based on the LHCP recommendation.

5 HEARING CONSERVATION

- 5.1 Hearing protectors shall be provided to all personnel where anticipated noise exposure levels are 85 dB or above.

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5.2 Hearing protectors shall be worn by personnel:

- 5.2.1 While performing activities listed in **Attachment A**. Personal Hearing Protection Devices (PHPD) shall be worn unless the protective equipment would create an additional hazard to the user.
- 5.2.2 If an initial (baseline) audiometric test has not been completed within six months of employment/membership. (29 CFR 1910.95)
- 5.2.3 Personnel who have incurred a STS by the LHCP.

5.3 Personnel shall be fitted with appropriate hearing protection by DFRS personnel who are trained in fitting hearing protectors, determining which size and type protector which is most suitable for working conditions.

5.4 Hearing protectors should be comfortable to wear and have a Noise Reduction Rating (NRR) that reduces the noise to 90 dB. For those individuals with STS, the NRR should be reduced to 85 dB.

6 TRAINING

6.1 Personnel shall be trained annually in the effects of noise; the purpose of hearing conservation, advantages and disadvantages of various types of hearing protectors; the selection, fit, and care of protectors; and the purpose of audiometric testing.

6.2 Personnel shall be trained during their first six months of employment/membership.

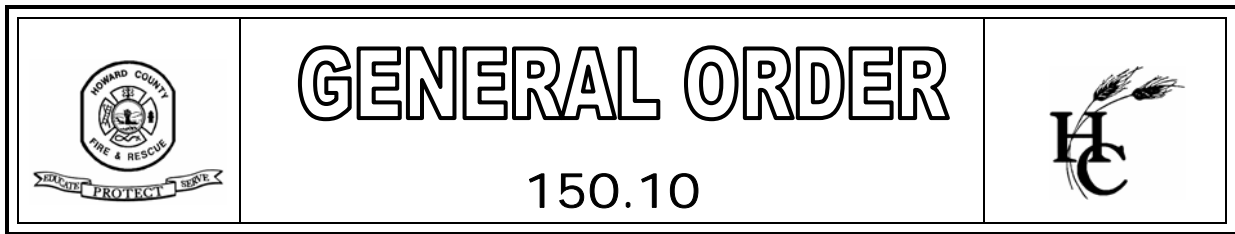
7 RECORD KEEPING

7.1 Noise exposure measurement records shall be kept for two years. Records of audiometric testing shall be maintained for the duration of the employment/membership of the affected personnel.

7.2 Audiometric testing records shall include:

- 7.2.1 Name and Job class
- 7.2.2 Date
- 7.2.3 Examiner's name
- 7.2.4 Date of last acoustic or exhaustive calibration
- 7.2.5 Measurements of background sound pressure levels in audiometric test rooms
- 7.2.6 Most recent individual noise exposure measurement.

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8 NOISE CONTROL

- 8.1 All Fire and Rescue apparatus should be designed to meet interior noise levels of 90 dB or less. (NFPA 1500)
 - 8.1.1 All Fire and Rescue apparatus shall be equipped with Personal Hearing Protective Devices for all seated positions that are identified through the Noise Monitoring Program (Attachment A).
 - 8.1.2 Each individual shall be provided with PHPD upon initial hire/membership into the Howard County DFRS.
 - 8.1.3 PHPD shall be provided at all Mobile or stationary air cascade filling sites.
 - 8.1.4 Each station shall provide individual disposable PHPD for replacement of used devices.



- 8.2 Equipment purchased shall be evaluated for noise levels before being purchased. The following is a list of examples that should be considered before purchase:
 - 8.2.1 Shrouds on all Federal Q sirens.
 - 8.2.2 Location of electronic sirens and air horns on apparatus.
 - 8.2.3 Muffler systems on all tools and equipment purchased (If practicable).
 - 8.2.4 Cab insulation for all vehicles (Noise levels below 90dB.).
 - 8.2.5 Personal Hearing Protection Devices provided in all apparatus.

- 8.3 All personnel shall notify the Occupational Safety & Health office if personnel identify a high noise location in the workplace. The Occupational Safety & Health officer shall conduct "Noise Monitoring" to determine the noise levels in the specific work place site.

Approved:

Joseph A. Herr
Fire Chief

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HEARING CONSERVATION PROGRAM

Attachment A

Equipment	Cutters Edge Saws	Required
	Electric Ram Fan	Required within 10'
	ICS Concrete Saw	Required
	PPV Gas fan	Required within 10'
	Stihl Saws	Required
	Ventmaster Saws	Required
	Any construction equipment located on a workplace site. (Collapse rescue, Trench, Loaders, Jack Hammers, etc)	Recommended
Apparatus	Normal Driving Operation without Siren and/or Air Horn	Recommended
	Emergency Response with Siren and/or Air Horn	Required*
	Pumping Apparatus	Required*
	Filling air cylinders	Required
	<p style="margin: 0;">*</p> <p style="margin: 0;">a. Apparatus riding positions without communication headsets must have windows up while operating the siren and/or air horn.</p> <p style="margin: 0;">b. Required when a headset connection is installed on a pump panel and/or attached to a portable.</p>	