



Department of Defense

INSTRUCTION

NUMBER 6055.12
December 3, 2010

USD(AT&L)

SUBJECT: Hearing Conservation Program (HCP)

References: See Enclosure 1

1. **PURPOSE.** This Instruction reissues DoD Instruction (DoDI) 6055.12 (Reference (a)) in accordance with the authority in DoD Directive (DoDD) 5134.01 (Reference (b)) to update policy, responsibilities, and procedures for administering an HCP to prevent occupational illness.

2. **APPLICABILITY.** This Instruction applies to:

a. OSD, the Military Departments, the Office of the Chairman of the Joint Chiefs of Staff and the Joint Staff, the Combatant Commands, the Office of the Inspector General of the Department of Defense, the Defense Agencies, the DoD Field Activities, and all other organizational entities within the Department of Defense (hereafter referred to collectively as the "DoD Components").

b. All DoD military and civilian (appropriated and non-appropriated fund) personnel and operations worldwide.

3. **DEFINITIONS.** See Glossary.

4. **POLICY.** It is DoD policy to:

a. Protect all DoD personnel from hearing loss resulting from operational (to include combat) and occupational noise exposure through a continuing, effective, and comprehensive HCP pursuant to DoDD 4715.1E (Reference (c)).

b. Reduce operational noise exposure to personnel to facilitate mission readiness, communication, and safety.

5. RESPONSIBILITIES. See Enclosure 2.

6. PROCEDURES. See Enclosure 3.

7. RELEASABILITY. UNLIMITED. This Instruction is approved for public release and is available on the Internet from the DoD Issuances Website at <http://www.dtic.mil/whs/directives>.

8. EFFECTIVE DATE. This Instruction is effective upon its publication to the DoD Issuances Website.



Ashton B. Carter
Under Secretary of Defense for
Acquisition, Technology, and Logistics

Enclosures

1. References
 2. Responsibilities
 3. Procedures
 4. DoD Hearing Conservation and Readiness Working Group Functions
- Glossary

TABLE OF CONTENTS

ENCLOSURE 1: REFERENCES.....4

ENCLOSURE 2: RESPONSIBILITIES.....6

 UNDER SECRETARY OF DEFENSE FOR ACQUISITION, TECHNOLOGY, AND LOGISTICS (USD(AT&L)).....6

 DEPUTY UNDER SECRETARY OF DEFENSE FOR INSTALLATIONS AND ENVIRONMENT (DUSD(I&E)).....6

 HEADS OF THE DoD COMPONENTS6

ENCLOSURE 3: PROCEDURES.....8

 GENERAL.....8

 WRITTEN PLAN.....8

 PROGRAM IMPLEMENTATION.....8

 NOISE MEASUREMENT AND ANALYSIS.....9

 NOISE HAZARD SIGNS AND LABELS.....11

 NOISE ABATEMENT.....11

 PERSONAL HEARING PROTECTORS.....12

 EDUCATION.....13

 AUDIOMETRIC TESTING.....14

 ACCESS TO INFORMATION, TRAINING MATERIAL, AND RECORDS.....17

 RECORDKEEPING.....18

 PROGRAM PERFORMANCE EVALUATION.....19

 APPENDIX

 HCP EFFECTIVENESS EVALUATION PROCEDURES.....20

ENCLOSURE 4: DoD HEARING CONSERVATION AND READINESS WORKING GROUP FUNCTIONS22

GLOSSARY23

 ABBREVIATIONS AND ACRONYMS.....23

 DEFINITIONS.....23

TABLE

 Exposure Guidelines for Upper Sonic and Ultrasound Noise10

FIGURE

 Example with Notional Data; STS Rate21

ENCLOSURE 1

REFERENCES

- (a) DoD Instruction 6055.12, "DoD Hearing Conservation Program (HCP)," March 5, 2004 (hereby cancelled)
- (b) DoD Directive 5134.01, "Under Secretary of Defense for Acquisition, Technology, and Logistics (USD(AT&L)), " December 9, 2005
- (c) DoD Directive 4715.1E, "Environment, Safety, and Occupational Health (ESOH)," March 19, 2005
- (d) DoD Instruction 5000.02, "Operation of the Defense Acquisition System," December 8, 2008
- (e) DoD Instruction 6055.1, "DoD Safety and Occupational Health (SOH) Program," August 19, 1998
- (f) Military Standard MIL-STD-882D, "Standard Practice for System Safety," February 10, 2000¹
- (g) Chairman of the Joint Chiefs of Staff Instruction CJCSI 3170.01G, "Joint Capabilities integration and Development System," March 1, 2009
- (h) DoD Instruction 6055.05, "Occupational and Environmental Health (OEH)," November 11, 2008
- (i) American National Standards Institute, ANSI Standard S1.4 through S1.4a, "American National Standard Specification for Sound Level Meters," current edition²
- (j) American National Standards Institute, ANSI Standard S1.40, "American National Standard Specifications and Verification Procedures for Sound Calibrators," current edition²
- (k) American National Standards Institute, ANSI Standard S1.25, "American National Standard Specification for Personal Noise Dosimeters," current edition²
- (l) American Conference of Governmental Industrial Hygienists, "Documentation of the Threshold Limit Values and Biological Exposure Indices," current edition³
- (m) Military Standard MIL-STD 1474D, "Department of Defense Design Criteria Standard – Noise Limits," February 12, 1997
- (n) Subparts 1910.95 and 1910.145 of title 29, Code of Federal Regulations
- (o) Section 4914 of title 42, United States Code
- (p) American National Standards Institute, ANSI/ASA Standard S1.11, "Octave-Band and Fractional-Octave-Band Analog and Digital Filters," current edition²
- (q) American National Standards Institute, ANSI Standard S3.6, "Specification for Audiometers," current edition²
- (r) U.S. Department of Defense, "Military Health System Coding Guidance: Professional Services and Specialty Coding Guidelines," January 2010⁴
- (s) DoD 6025.18-R, "DoD Health Information Privacy Regulation," January 24, 2003

¹ Available at http://www.combatindex.com/mil_docs/pdf/std/0800/MIL-STD-882D.pdf

² ANSI standards may be obtained for a fee from ANSI at <http://webstore.ansi.org>

³ May be obtained for a fee from <http://www.acgih.org/store/ProductDetail.cfm?id=652>

⁴ Available at http://www.tricare.mil/ocfo/bea/ubu/coding_guidelines.cfm

- (t) DoD Instruction 6055.07, "Accident Investigation, Reporting, and Record Keeping," October 3, 2000
- (u) DoD 5400.11-R, "Department of Defense Privacy Program," May 14, 2007
- (v) Parts 160 and 164 of title 45, Code of Federal Regulations
- (w) Joint Publication 1-02, "Department of Defense Dictionary of Military and Associated Terms," current edition

ENCLOSURE 2

RESPONSIBILITIES

1. UNDER SECRETARY OF DEFENSE FOR ACQUISITION, TECHNOLOGY, AND LOGISTICS (USD(AT&L)). The USD(AT&L) shall:

a. Serve as the principal DoD point of contact with Federal regulatory agencies controlling occupational exposure to hazardous noise.

b. Integrate safety management principles and values consistent with DoDI 5000.02 (Reference (d)) into all phases of the system life cycle to identify and manage risk for those systems that have the potential to expose personnel to noise above hazardous noise levels.

2. DEPUTY UNDER SECRETARY OF DEFENSE FOR INSTALLATIONS AND ENVIRONMENT (DUSD(I&E)). The DUSD(I&E), under the authority, direction, and control of the USD(AT&L), shall:

a. Establish, as an integral element of the DoD Safety and Occupational Health Committee (see DoDI 6055.1 (Reference (e))), the DoD Hearing Conservation and Readiness Working Group to provide technical advice on operational (including combat-related) and occupational noise exposures in accordance with the provisions of Enclosure 4.

b. Monitor the effectiveness of this Instruction through the annual program reviews and data calls.

3. HEADS OF THE DoD COMPONENTS. The Heads of the DoD Components conducting operations involving operational (including combat-related) and occupational noise exposures shall:

a. Establish and maintain HCPs to implement this Instruction.

b. Annually evaluate the effectiveness of their HCPs.

c. Appoint subject matter experts on hearing loss and noise exposures to the DoD Hearing Conservation and Readiness Working Group.

d. Implement combat-related hearing conservation and readiness measures to the extent safely feasible with primary focus on requirements that facilitate communication, protection, and situational awareness.

e. Communicate noise hazard risks of legacy systems and equipment to designers, developers, and requirements or capabilities officers to support integration of noise controls into

systems design performance or capabilities and associated capabilities (requirements) documents in accordance with Reference (d), Military Standard MIL-STD-882D (Reference (f)), and Chairman of the Joint Chiefs of Staff Instruction 3170.01G (Reference (g)).

ENCLOSURE 3

PROCEDURES

1. GENERAL. The Heads of the DoD Components shall implement the procedures in this enclosure unless otherwise specified.

2. WRITTEN PLAN. The DoD Components shall prepare a written plan for the implementation of a comprehensive HCP. Such plans shall address acquisition during the design process, combat-related hearing conservation measures, occupational and operational noise exposure computation and monitoring, noise abatement, hearing protectors, methods for estimating the adequacy of hearing protector attenuation, training, audiometric testing requirements, audiometric test rooms, audiometric measuring instruments, acoustic calibration of audiometers and sound level meters, recordkeeping, and program evaluation.

3. PROGRAM IMPLEMENTATION
 - a. HCPs shall be implemented when personnel are occupationally exposed to:
 - (1) Continuous and intermittent noise (20 to 16,000 hertz (Hz)) that has an 8-hour time-weighted average (TWA) noise level of 85 decibels A-weighted (dBA) or greater.
 - (2) Impulse noise sound pressure levels (SPLs) of 140 decibels peak (dBP) or greater.
 - (3) Ultrasonic exposures, which occur under special circumstances that require specific measurement and hazard assessment calculations. (See paragraph 4.k. of this enclosure.)

 - b. Acquisition programs shall include implementation of noise assessment and engineering control measures through the systems engineering and systems safety process as directed by Reference (d) when:
 - (1) Legacy systems have recognized noise exposure concerns as indicated by personnel exposures at or above 85 dBA or 140 dBP.
 - (2) New systems are considered likely to create noise exposures at or above 85 dBA or 140 dBP.
 - (3) Communication is anticipated to be potentially impaired by background noise caused by new equipment.

4. NOISE MEASUREMENT AND ANALYSIS

a. Assess noise in all potentially hazardous noise work areas initially and reassess when operations change using the risk management process in DoDI 6055.05 (Reference (h)).

b. Assign a risk assessment code (RAC) to all potentially hazardous noise areas and operations in accordance with Reference (e).

c. Maintain a current inventory of all potentially hazardous noise areas and operations to include, as a minimum, noise levels, RACs, and the types of control measures used.

d. Conduct noise surveys with only trained personnel. Training requirements will be specified by the DoD Components.

e. Use instrumentation that meets or exceeds requirements for a type 2 sound level meter (SLM) in American National Standards Institute (ANSI) Standard S1.4 (Reference (i)). Those instruments must have been subjected to a complete electro-acoustic calibration no more than 1 year before the survey. An acoustical calibration check must be performed on the instruments before and after each day's measurements. The acoustical calibrator must comply with ANSI Standard S1.40 (Reference (j)) and be accurate to within plus or minus 1 decibel (dB), and must have been subjected to a complete electro-acoustic calibration no more than 1 year before the survey.

f. Measure continuous and intermittent noise levels using "A" weighting, with the meter response set to "slow."

(1) When personal noise dosimeters are used for worker exposure measurements, integrate all sound levels from 80 dBA to 130 dBA, at a minimum. Dosimeters shall meet or exceed specifications in ANSI Standard S1.25 (Reference (k)). The DoD Components shall use a time-intensity exchange rate of 3 dB.

(2) Area monitoring may be used as a screening tool to determine potential personnel exposure. Conduct representative personnel sampling in circumstances such as high worker mobility, significant variations in noise levels, or a significant component of impulse noise.

(3) Personal noise monitoring should be conducted for the entire length of the work shift. Partial shift monitoring should only be conducted when noise levels are consistent throughout the shift and the portion monitored is representative of the entire shift.

g. Compute worker noise exposure regardless of any attenuation provided by hearing protectors.

h. When exposures to steady-state noise below 130 dBA occur simultaneously within the same 24-hour period as exposure to impulse noise above 130 dB C-weighted peak, apply the hazard criteria separately (i.e., the allowable exposure to steady-state noise (e.g., engine noise) shall not be reduced because of exposure to impulse noise (e.g., weapon firing)).

i. Measure impulse noise levels using calibrated SLMs that:

- (1) Meet or exceed specifications in Reference (i).
- (2) Have a peak hold circuit.
- (3) Have a rise time not exceeding 35 microseconds.
- (4) Are capable of measuring peak SPLs in excess of 140 dB peak SPL.

j. If SLMs meeting the requirements of paragraph 4.i. of this enclosure are not available, use an equivalent data acquisition system capable of indicating peak pressure level with a rise time not exceeding 35 microseconds and capable of measuring peak SPLs in excess of 140 dB for impulse noise measurements.

k. Use the values listed in the following table as a guide in the control of upper sonic and ultrasonic noise exposure. In the workplace where ultrasound is produced and hearing protection is not already used for audible noise, evaluate the impact of possible ultrasonic noise and provide hearing protective devices if sound pressure levels exceed those specified in the Table. Those levels above 20 kilohertz (kHz) are for the prevention of possible hearing loss from sub-harmonics of those frequencies. (See American Conference of Governmental Industrial Hygienists Documentation (Reference (l)).) Consultation with appropriate DoD Component technical centers may be required in measuring or evaluating equipment producing those levels.

Table. Exposure Guidelines for Upper Sonic and Ultrasound Noise

One-Third Octave Band Center Frequency (kHz)	One-Third Octave Band SPL (dB re 20 micropascals (μPA))
10	80
12.5	80
16	80
20	105
25	110
31.5	115
40	115
50	115

l. For acquisition and development of new systems, identify prospective noise levels through reference to data from existing systems, modeling of anticipated noise levels, and measurement of noise levels in new or modified systems and equipment during the test and evaluation stage. Military Standard MIL-STD 1474D (Reference (m)) provides guidance on acoustical noise limits, testing requirements, and measurement techniques for determining conformance to the noise limits. These parameters should be considered:

- (1) Noise source management.
- (2) Installation considerations that affect noise generation resulting in personnel exposures.
- (3) Relevant abatement technologies and their status.
- (4) Estimate of numbers of personnel to be affected through the system life cycle.
- (5) Projection of readiness, personnel exposure, and health impacts.

m. If ototoxic chemicals are present in hazardous noise areas, be aware the chemicals may act in an additive or synergistic mode to increase the risk of hearing loss. Reference (h) has more detailed information on chemical hazards.

5. NOISE HAZARD SIGNS AND LABELS

- a. All potentially hazardous noise areas must be clearly identified by signs located at their entrances or boundaries.
- b. Each tool or piece of equipment producing noise levels greater than 85 dBA, including vehicles, shall be conspicuously marked to alert personnel of the potential hazard. The exception shall be when an entire space is designated as a hazardous noise area and the equipment is stationary. Exteriors, but not interiors, of military combatant equipment are excluded from this requirement. Professional judgment and discretion shall be exercised when labeling tools and equipment.
- c. Signs describing (with words or other visual symbols) the potential hazard and the protective measures taken shall be used to designate hazardous noise areas and equipment (e.g., “Caution,” “Hazardous Noise,” “Hearing Protection Required When in Operation”). All signs shall, as a minimum, comply with subpart 1910.145 of title 29, Code of Federal Regulations (CFR) (Reference (n)) as prescribed by Reference (e).

6. NOISE ABATEMENT

- a. Engineering controls shall be the primary choice for eliminating personnel exposure to potentially hazardous noise. All practical design approaches to reduce noise levels to below hazardous levels by engineering principles shall be explored. Priorities for noise control resources shall be assigned based on the applicable RAC. Where engineering controls are undertaken, the design objective shall be to reduce steady-state levels to below 85 dBA, regardless of personnel exposure time, and to reduce impulse noise levels to below 140 dBP SPL. Engineering controls shall be applied to “military-unique workplaces,” but within the

constraints of maintaining mission readiness. An evaluation shall be conducted after engineering noise controls are implemented to verify effectiveness in controlling noise levels.

b. New equipment being considered for purchase shall have the lowest sound emission levels that are technologically and economically feasible and compatible with performance and environmental requirements. (See section 4914 of title 42, United States Code (Reference (o)).)

c. Acoustics shall be included in specifications for all new facilities, equipment, and substantial modification projects, and weapon systems and subsystems. (See Reference (f).) The objective shall be to ensure, if possible, a steady-state level less than 85 dBA at all personnel locations during normal operation, and if not possible, to as low an exposure level as is feasible.

7. PERSONAL HEARING PROTECTORS

a. The use of personal hearing protectors for limiting noise exposure is considered an interim protective measure while engineering control measures are being explored. Such devices shall constitute a permanent measure only if engineering controls are not technologically, economically, or operationally feasible.

b. The DoD Components shall issue personal hearing protectors at no cost to all personnel working or training in hazardous noise environments, operating noise-hazardous equipment, or training or working in operational settings.

c. All DoD facilities with hazardous noise areas and employing individuals trained in fitting of preformed earplugs shall maintain an adequate supply of all sizes of approved preformed earplugs. All hazardous noise facilities shall maintain an adequate supply of disposable earplugs and noise muffs. Adequate supplies of hearing protection shall be maintained in work areas readily accessible to required users, including pathways leading to high noise areas. Hearing protectors shall be replaced as necessary (e.g., dirty, damaged).

d. All DoD Components shall ensure proper initial fitting and supervise the correct use of all hearing protectors.

e. The hearing protectors provided must be capable of attenuating worker noise exposure below an 8-hour TWA of 85 dBA. If hearing protectors do not provide sufficient attenuation, administrative control of exposure shall be necessary.

f. An earplug carrying case (national stock number (NSN) 6515-01-100-1674, olive drab color; NSN 6515-01-533-6168, Navy blue color) will be provided at no cost. That case may also be used for disposable earplugs.

g. Preformed sized earplugs shall be fitted and issued only under the supervision of personnel specifically trained to fit earplugs. For recruits likely to be assigned to occupational noise hazardous duties, the ideal time to initially fit appropriate hearing protection and provide education on the prevention of hearing loss is during basic training and prior to any exposures to hazardous noise.

h. Personnel may use custom earplugs only if they cannot be properly fitted with approved hearing protectors or if a custom device is required for special circumstances. Preformed or custom molded musician's earplugs shall be provided to Service band members. Only audiologists, otolaryngologists, and medical providers professionally trained in custom earpiece fabrication may take impressions of the ear necessary to make the custom earplugs.

i. Medical personnel trained to fit and condition preformed and custom earplugs must examine the fit and condition of preformed and custom earplugs at least annually.

j. All civilian and military personnel working or training in hazardous noise environments shall receive annual training in the proper selection, fit, use, and care of personal hearing protectors and be able to demonstrate a proper fitting technique.

k. Personnel working in or entering designated hazardous noise areas shall always carry hearing protectors. When noise sources are operating, personnel shall wear their hearing protection devices regardless of exposure time. All personnel exposed to gunfire or artillery fire in test or training situations must wear hearing protectors. Commanders will dictate the use of hearing protection in combat, based on mission requirements and the ability of the hearing protection to facilitate communication and situational awareness.

l. The DoD Components should assess the adequacy of hearing protectors, using any generally accepted method for assessing attenuation, when hearing protectors are used in very high noise environments or for extended exposure periods. The impact on communication and situational awareness of selected hearing protectors should be considered in addition to the attenuation characteristics.

m. All levels of supervision and management, by personal example and direction, shall mandate and ensure the use of required hearing protectors. Additionally, the DoD Component programs shall encourage peer pressure to strengthen compliance. For noncompliance, management shall consider appropriate disciplinary action as a corrective measure against the offender and the supervisor.

8. EDUCATION

a. All personnel routinely working in designated hazardous noise areas shall receive annual training on:

- (1) The effects of noise on hearing.
- (2) The purpose of hearing protection.
- (3) The advantages, disadvantages, and attenuation of various hearing protectors.
- (4) Instructions on selection, fit, use, and care of hearing protectors.

(5) Mandatory requirement of assigned protective equipment, and administrative actions that may follow for failure to wear.

(6) The purpose of audiometric testing.

(7) An explanation of the audiometric test procedures.

(8) The fact that hearing loss may lead to disqualification from current duties.

b. All personnel shall be encouraged to use hearing protectors when exposed to hazardous noise during off-duty activities.

c. Service acquisition executives and occupational health professionals will work with the Defense Acquisition University to ensure that curriculums identify relevant risk factors associated with noise generation and provide access to information related to noise control technologies.

9. AUDIOMETRIC TESTING. The Military Services shall use the Defense Occupational and Environmental Health Readiness System (DOEHRS) – Hearing Conservation for hearing conservation and readiness monitoring.

a. Personnel exposed to hazardous noise levels delineated in paragraph 3.a. of this enclosure shall be placed in a hearing testing surveillance program. That program shall include pre-placement, periodic (at least annually), and termination audiograms. Individual medical readiness is also a key factor in identifying military and civilian populations for audiometric testing. Personnel infrequently or incidentally entering designated hazardous noise areas need not participate in the audiometric testing program. Whenever feasible, hearing testing capabilities shall be established in theaters of operation.

b. All hearing conservation audiometric surveillance testing shall:

(1) Be performed by a licensed audiologist, otolaryngologist, or other qualified physician; or by a technician who has attended training approved by the Council for Accreditation in Occupational Hearing Conservation or equivalent military training. A technician who performs audiometric tests shall be responsible to an audiologist, an otolaryngologist, or other qualified physician.

(2) Be conducted in a testing environment with background octave band SPLs not greater than:

(a) 500 Hz, 27 dB.

(b) 1000 Hz, 29 dB.

(c) 2000 Hz, 34 dB.

(d) 4000 Hz, 39 dB.

(e) 8000 Hz, 41 dB.

(3) For the test environment, be resurveyed annually using equipment conforming at least to the Type 1 requirements of Reference (i) and the order 3 extended range requirements of ANSI Standard S1.11 (Reference (p)).

(4) Include pure tone, air conduction, hearing thresholds for each ear at the test frequencies of 500, 1000, 2000, 3000, 4000, and 6000 Hz. This Instruction does not preclude testing at 8000 Hz.

(5) Be performed on audiometers calibrated to the specifications of ANSI Standard S3.6 (Reference (q)).

(6) Occur on audiometers that have received a functional operation check before each day's use for specifications in subpart 1910.95 of Reference (n) as prescribed by Reference (e).

c. Military personnel exposed to hazardous noise shall receive a reference audiogram (DD Form 2215, "Reference Audiogram,") as soon as possible after entering active duty, but prior to noise exposure. All civilian personnel being considered for employment in an occupational specialty or area that involves routine exposure to hazardous noise shall receive a reference hearing test. The audiometric test used as a reference test must be administered prior to but as close as possible to the actual date of anticipated noise exposure. All reference hearing tests shall be preceded by at least 14 hours without exposure to hazardous noise. This requirement may not be met by wearing hearing protective devices. Reference hearing tests will not be conducted if there is evidence of a transient medical condition that would affect hearing.

d. A termination audiogram (DD Form 2216, "Hearing Conservation Data/Period/Annual/Termination") shall be conducted within 12 months of such change in noise exposure status whenever an individual no longer is routinely exposed as defined in section 4 of this enclosure. In addition, all military personnel exposed to hazardous noise will receive a termination audiogram recorded prior to leaving Military Service.

e. A significant threshold shift (STS) constitutes a change in hearing threshold relative to the initial reference audiogram of an average of 10 dB or more at 2000, 3000, and 4000 Hz, in either ear. Age corrections will not be applied. A single frequency 15 dB shift at 1000, 2000, 3000, or 4000 Hz is considered an early warning flag with no requirements for follow-up testing or referrals, but with a requirement to counsel the patient and check hearing protection.

f. Follow-up audiometric testing (DD Form 2216) shall be conducted when an individual's audiogram shows an STS relative to the applicable reference audiogram for each ear. Further review and/or evaluation are required, if the STS persists, to validate the existence of a permanent noise-induced threshold shift and/or to determine if further medical referral is

required. An audiologist, an otolaryngologist, or other physician shall perform evaluations to determine whether the STS is work-related or has been aggravated by occupational noise exposure.

g. When a negative STS (improvement in hearing threshold from the reference audiogram) is noted on the periodic audiogram, one follow-up test is required and may be administered the same day as the periodic test. Noise-free hours are not required in the presence of a negative STS. The results of the follow-up test may be used to create a reestablished reference audiogram.

h. When a positive STS (decrease in hearing threshold from the reference audiogram) is noted on the periodic audiogram (DD Form 2216), two noise-free follow-up tests are administered to confirm that the decrease in hearing is permanent. Those two follow-up tests must be preceded by at least 14 hours noise free (<80 dBA); both follow-up noise-free tests may be administered on the same day but not on the same day as the periodic audiogram. If the results of the first follow-up test do not indicate an STS, a second follow-up test is not required. For DoD civilians, the follow-up testing must be conducted within 30 days of the periodic test showing the STS. For active duty members, 30 days remains the recommended window to complete follow-up testing, but may be extended up to but not beyond 90 days. Should the time be exceeded, the STS remains unresolved and the process starts anew with the next test.

i. When an audiologist or a physician confirms the positive threshold shift is permanent, the individual shall be notified in writing within 21 days of such determination, and the condition will be documented in the individual's medical record and coded into the Armed Forces Health Longitudinal Technology Application per standards outlined in the Military Health System coding guidelines (Reference (r)). The individual shall be refitted with hearing protection, instructed in its care and use, and strongly encouraged to wear the hearing protection. Supervisors shall be notified, in writing, that the worker has experienced a decrease in hearing. The notification shall not contain additional details without prior written authorization by the worker in accordance with the requirements for a valid authorization consistent with DoD 6025.18-R (Reference (s)). The supervisor shall also be advised that any discussion of a worker's hearing abilities with non-authorized personnel is strictly prohibited. In accordance with subparagraph C7.2.1.5.4. of Reference (s), workers shall be informed, in writing, that their supervisors are notified that they have experienced a decrease in hearing.

j. A revised reference audiogram shall be established when the STS is confirmed on the second follow-up test. The original and reestablished reference audiograms will be retained in the patient's medical record on a DD Form 2215. A revised reference audiogram will also be established when the hearing threshold demonstrated on the periodic and follow-up audiograms indicate significant improvement over the existing reference audiogram. For a positive STS (worsening), the reviewing audiologist or physician shall choose one of these options for reestablishing the reference audiogram:

- (1) Use the results of the most recent follow-up test;

(2) Use the results of the diagnostic audiology evaluation that was conducted following the current STS (if all pertinent examiner and audiometer information are available for the DD Form 2215); or

(3) Conduct a separate hearing test and use its results to complete a new DD Form 2215.

k. Medical referrals for STS should be completed as quickly as possible upon completion of the follow-up testing process and are the responsibility of the local medical facility. Medical evaluation timeline will be set by each DoD Component.

l. Permanent STS resulting from chronic exposure to hazardous noise shall be recorded as an illness in accordance with DoDI 6055.07 (Reference (t)) if the STS results in hearing thresholds that meet both of these criteria:

(1) An STS occurs (an average 10 dB or greater threshold decrease at 2, 3, and 4 kHz) in either ear from the applicable reference.

(2) Hearing thresholds for the current hearing test average 25 dB or greater at 2, 3, and 4 kHz from audiometric zero for the shifted ear.

m. DoD Components shall ensure that medical referrals include comprehensive audiometric testing sufficient to determine type and degree of hearing loss, and possible causation to assist in determining work-relatedness. Reports should include recommendations for hearing aids, hearing protection, further medical referral, and include noise exposure history and an interpretation of tests results to explain the type and degree of hearing loss. The clinical outcomes shall be documented and properly coded in the Electronic Health Record.

10. ACCESS TO INFORMATION, TRAINING MATERIAL, AND RECORDS. On request, the DoD Components shall provide:

a. Personnel with copies of DoD Component Directives issued on the HCP and the latest approved Occupational Safety and Health Administration standard. (See subpart 1910.145 of Reference (n).)

b. Affected personnel with any information on the DoD Component HCP that is supplied to the DoD Component by the Assistant Secretary of Labor for Occupational Safety and Health.

c. Workers, former workers, and representatives designated in writing by the individual employees with copies of all records about the audiometric testing and noise exposure of a specific worker, as described in Reference (h).

11. RECORDKEEPING

a. All hearing conservation audiometric testing data shall be maintained in accordance with References (e) and (h). All such testing data, unless de-identified, constitutes personally identifiable information and is protected from unauthorized disclosure by DoD 5400.11-R (Reference (u)). In addition, testing data and other hearing loss data that become part of an individual's electronic medical record consistent with paragraphs 9.i. or 10.c. of this enclosure, or that otherwise are maintained by the Military Health System, constitute protected health information pursuant to parts 160 and 164 of title 45, CFR (Reference (v)) and Reference (s).

b. Results of hearing tests performed for hearing conservation and exposure documentation shall be a permanent part of an individual's electronic medical record. The DoD Components using Military Service audiometric databases shall capture hearing tests on a DD Form 2215 or a DD Form 2216, as appropriate.

c. Noise exposure data shall be kept for the duration of employment plus 30 years as prescribed in Reference (h) and recorded on a DD Form 2214, "Noise Survey," or in the equivalent format with automated measurement equipment or a health hazard inventory system (e.g., DOEHRIS-Industrial Hygiene) containing at least the mandatory data elements.

d. All personnel who are routinely exposed to hazardous noise shall be identified using names and other appropriate identifiers by DoD Component designees to those responsible for medical surveillance and health education. Individual commands shall update this information and provide a current roster to the appropriate medical authority at least annually.

e. Each DoD Component shall export hearing test data captured on a DD Form 2215 or DD Form 2216 to the DOEHRIS Data Repository for assessing the effectiveness of its HCP.

f. Each DoD Component shall use output from the DOEHRIS Data Repository (or other written notification) for the OSHA recordkeeping requirements in Reference (t).

g. The following DD forms, or computer-generated facsimiles, shall be used in the appropriate elements of each DoD Component's program:

- (1) DD Form 2214.
- (2) DD Form 2214C, "Noise Survey (Continuation Sheet)."
- (3) DD Form 2215.
- (4) DD Form 2216.
- (5) DD Form 2217, "Biological Audiometer Calibration Check."

h. Hearing test data and noise exposure data are personally identifiable information (unless they have been de-identified) consistent with Reference (u).

12. PROGRAM PERFORMANCE EVALUATION

a. The DoD Components shall evaluate their HCP effectiveness annually based on the percentage of hazardous noise workplaces characterized, index of unacceptable noise exposures, prevalence of STSs during the periodic audiograms, and on the percent of identified personnel receiving periodic audiograms. (See the appendix to this enclosure.)

b. Acquisition program evaluations should consider the effectiveness of programs in managing risk in accordance with References (d) and (f). Noise generation, personnel exposures, and signal control shall be considered in the context of life-cycle risk management and combat capability.

Appendix

HCP Effectiveness Evaluation Procedures

APPENDIX TO ENCLOSURE 3

HCP EFFECTIVENESS EVALUATION PROCEDURES

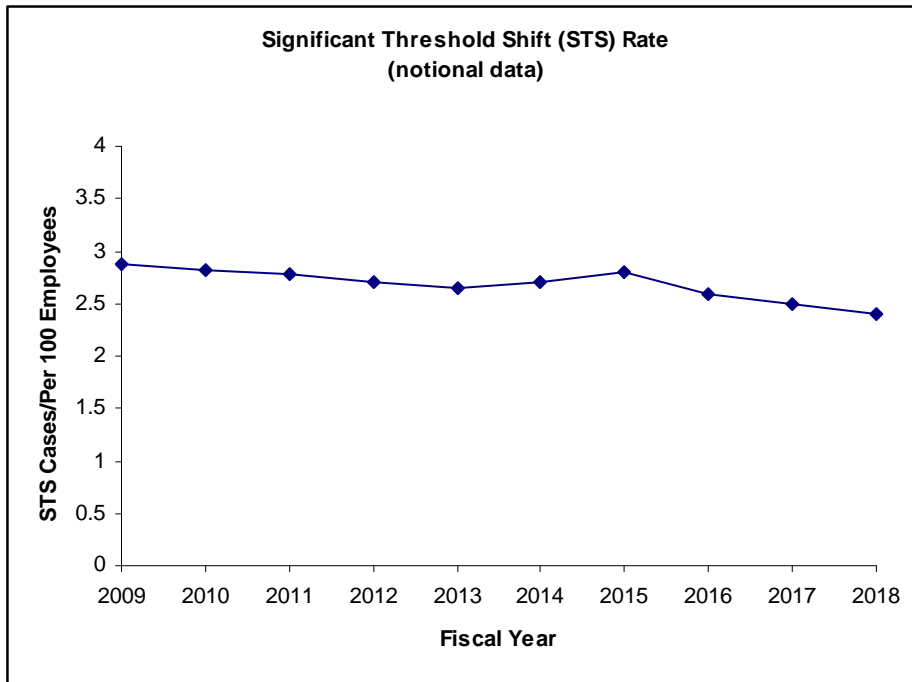
The DoD Components shall evaluate effectiveness of the HCP by monitoring hazard assessment and outcome metrics. Two hazard assessment metrics will be used: percentage of noise hazardous workplace characterizations completed, and index of unacceptable noise exposures. These metrics are defined in Reference (h) and are designed to assess the hazard assessment process. STS rates and audiogram completion rates will be the minimum outcome metrics for monitoring and reporting. The DoD Components are encouraged to develop additional metrics to assist in measuring program effectiveness.

a. STS Rates. STS rates should be monitored over time to identify rate changes that are consistent with changes due to effective prevention strategies and/or processes (STS rates reduction). An example with notional data is shown in the Figure. Other factors that may influence STS rates and considered in reviewing STS rates include:

- (1) Criteria used for placing workers on periodic monitoring.
- (2) Frequency distribution of continuous and intermittent noise exposures for civilian and military personnel in industrial operations.
- (3) Distribution of age and gender for the exposed population.

b. Audiogram Completion Rates. This metric corresponds to the occupational exam completion rate in Reference (h).

Figure. Example with Notional Data; STS Rate



ENCLOSURE 4

DoD HEARING CONSERVATION AND READINESS WORKING GROUP FUNCTIONS

1. Provide hearing conservation advice to the DUSD(I&E) through the Director for Environmental Readiness and Safety (ER&S).
2. Under the direction of the DUSD(I&E), develop procedures to further define membership, chairmanship, and operation.
3. Include representatives from the Office of the DUSD(I&E) and the DoD Components pursuant to its charter.
4. Meet at the call of the working group chair or Director for ER&S to share information, discuss items of mutual interest, and recommend policies to include new and revised DOEHRS requirements.
5. Submit an annual report to the Director for ER&S with working group accomplishments and a work plan for future actions.

GLOSSARY

PART I. ABBREVIATIONS AND ACRONYMS

ANSI	American National Standards Institute
CFR	Code of Federal Regulations
dB	decibel
dBA	decibel A-weighted
dBC	decibel C-weighted
dBp	decibel peak
DoDD	DoD Directive
DoDI	DoD Instruction
DOEHRS	Defense Occupational and Environmental Health Readiness System
DUSD(I&E)	Deputy Under Secretary of Defense for Installations and Environment
ER&S	Environmental Readiness and Safety
HCP	Hearing Conservation Program
Hz	hertz
kHz	kilohertz
μPA	micropascal
NSN	national stock number
RAC	risk assessment code
SLM	sound level meter
SPL	sound pressure level
STS	significant threshold shift
TWA	time-weighted average
USD(AT&L)	Under Secretary of Defense for Acquisition, Technology, and Logistics

PART II. DEFINITIONS

Unless otherwise noted, these terms and their definitions are for the purpose of this Instruction.

audiogram completion rates. The percentage of workers identified as requiring periodic audiograms who receive their audiograms.

dB. A unit of measurement of SPL. When used to measure SPL, a dB is equal to 20 times the common logarithm of the ratio of the existing sound pressure to a reference sound pressure of 20 μ PA.

dba. The standard abbreviation for sound levels measured with an instrument set to the A-weighting network. The A-weighting network reduces the contribution of lower frequencies, which are of less concern for hearing conservation. Used in the measurement of steady-state noise.

dbc. The standard abbreviation for sound levels measured with an instrument set to the C-weighting network. The C-weighting network corresponds to the ear's response for levels above 85 dB.

dbp. Standard abbreviation for peak sound level equal to 20 times the common logarithm of the ratio of the highest instantaneous sound pressure to a reference sound pressure of 20 μ PA. Used in the measurement of impulse noise.

Hz. A unit of measure of frequency, numerically equivalent to cycles per second.

impulse and/or impact noise. A short burst of acoustic energy consisting of either a single impulse or a series of impulses. The pressure-time history of a single impulse includes a rise of 40 dB or more in 1 second or faster to a peak pressure, followed by a somewhat slower decay of the pressure envelope to ambient pressure, both occurring within 1 second. When the intervals between impulses are less than 500 milliseconds, the noise is considered continuous, except for short bursts of automatic weapons fire, which are considered impulse noise.

life cycle. Defined in Joint Publication 1-02 (Reference (w)).

military-unique workplaces. Defined in Reference (e).

periodic audiogram. A 90-day, annual, termination, pre-deployment, post-deployment, or other hearing test compared to the reference audiogram to monitor changes in hearing.

potentially hazardous noise. Exposure to steady-state noise having an 8-hour TWA noise level greater than or equal to 85 dBA, or exposure to impulse and/or impact noise levels of 140 dbp or greater, regardless of duration.

potentially hazardous noise area. Any area where workers are likely to be exposed to noise levels equal to or greater than an 8-hour TWA of 85 dBA, or where impulse noise levels are greater than or equal to 140 dbp.

reference audiogram. A baseline audiogram free from auditory fatigue and other transient otologic pathology, against which future audiograms are compared.

STS. An average change of plus or minus 10 dB at 2000, 3000, and 4000 Hz, relative to the reference audiogram, in either ear, without age corrections.

STS rates. The number of STSs identified during periodic audiograms, regardless of the findings of follow-up audiometry, for each 100 workers identified as potentially exposed to hazardous noise and tested during the reporting period.