

Fort Sill Regulation 40-501

Medical Services

Fort Sill Army Hearing Program

**Department of the Army
Headquarters, USAFCEFS
455 McNair Avenue, Suite 100
Fort Sill, OK 73503
11 October 2021**

UNCLASSIFIED

DEPARTMENT OF THE ARMY
HEADQUARTERS, USAFCoEFS
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FORT SILL, OK 73503
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Fort Sill Regulation 40-501

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Medical Services
Fort Sill Army Hearing Program

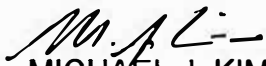
History. This regulation supersedes Fort Sill Regulation 40-501, Fort Sill Army Hearing Program, 17 August 2015.

Summary. This regulation prescribes policies, responsibilities, and procedures for implementing the U.S. Army Hearing Program (AHP) at Fort Sill in accordance with (IAW) references located at Appendix A This regulation is distributed and published solely through the Directorate of Human Resources, Administrative Services Division Homepage at: <http://sill-www.army.mil/USAG/publications.html>


Supplementation. Supplementation of this regulation is prohibited without prior approval from Resource Management Division, Reynolds Army Health Clinic (RAHC), U.S. Army Medical Command, 4301 Wilson Street, Fort Sill, OK 73503.

Suggested Improvements. The proponent for this regulation is RAHC. Users are invited to send comments and suggested improvements at (580) 558-2235 or through the RAHC website. <https://reynolds.tricare.mil/About-Us/Contact-Us>

Applicability. This policy and guidance prescribed by this regulation applies to all Fort Sill units and personnel, tenant units, and personnel living and working at Fort Sill and, as appropriate, to supported and serviced units in the area immediately surrounding Fort Sill.


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1. PURPOSE. This regulation provides guidance and requirements for implementing the U.S. Army Hearing Program at Fort Sill while incorporating additional initiatives which have a direct and positive impact on program effectiveness.

2. APPENDIXES: REFERENCES AND FORMS.

- a. References. Listed in Appendix A.
- b. Explanations and Abbreviations: Listed in Appendix B.
- c. Examples of Hazardous Exposures: Listed in Appendix C.
- d. Unit Inspection Hearing Program Checklist. Listed in Appendix D.
- e. Earplugs and Carrying Case Requisition Information. Listed in Appendix E.
- f. Military Equipment Steady Noise/Impulse Noise Values. Listed in Appendix F.
- g. Hearing Readiness Classification System. Listed in Appendix G.
- h. Range inspection Checklist. Listed in Appendix H.

3. APPLICABILITY. This regulation applies to all units on Fort Sill and Garrison, tenant units, and civilian personnel living, training, and working at Fort Sill.

4. GENERAL.

a. Army Hearing Program: The Army Hearing Program (AHP) represents leadership policies, strategies and processes to prevent noise induced hearing loss among military and Department of Defense (DOD) DA civilian personnel. The hearing program has four major elements: hearing readiness, clinical hearing services, operational hearing services, and hearing conservation. Good hearing enables a Soldier and/or civilian employee to maintain critical situational awareness and effective voice communication in any environment (i.e. garrison, industrial, training, operational and combat missions). This is accomplished by:

(1) Preventing both temporary and permanent hearing loss, and

(2) Improving communication in noise (signal-to-noise or S/N ratio). Civilian personnel will be enrolled in a comprehensive Hearing Conservation Program (HCP) when duties require exposure to hazardous noise or suspected ototoxins (ear poisons) as defined by DA Pam 40-501, para 3-4. Appendix C provides examples of typical exposures that meet the criteria for enrollment in a comprehensive HCP. All Soldiers assigned to Fort Sill, due to military training requirements known to be noise hazardous, are automatically enrolled in the Fort Sill Hearing Program.

b. Hearing loss degrades combat readiness and effectiveness. On today's advanced technology battlefield, Soldiers must be prepared to communicate effectively and perform optimally, which requires good hearing sensitivity. The ability to hear is a proven combat multiplier, preserving the lethality and survivability of the War Fighter, contributing to mission effectiveness and quality of life.

c. Noise-induced hearing loss is one of the most prevalent injuries among military and civilian personnel, representing a significant portion of the annual cost for service-connected disability compensation. Hearing loss and/or its associated symptoms (i.e., tinnitus) results in permanent disability, which in most cases takes place in a training environment and is preventable. It is imperative that emphasis on hearing conservation and preventive measures be maintained. The primary goal of the Army Medical Department is Force Health Protection. Hearing loss prevention is consistent with the goal to prevent or eliminate disease and non-battle related injuries.

d. Nuisance noise is defined as any unwanted sound that interferes with communication or the ability to achieve restful sleep periods. It capitalizes on the non-auditory effects of noise, creating stress and fatigue in dangerous combinations for Soldiers and DA Civilians. Acceptable noise levels are task-specific, for example, the amount of tolerable ambient noise is greater for a Tactical Operations Center (TOC) than for a sleep tent. The presence of unwanted or intrusive noise has been heavily researched and the resulting insights can assist in short and long-term care of deployed Soldiers at all ranks. Preserving ease of communication, including face-to-face briefings or radio communications, significantly reduces stress levels and increases the operating efficiency of all personnel. In addition, sufficient sleep cycles in the rest areas increases the immune system's ability to fight disease, sustains keen perception ability, and preserves higher mental abilities and motor skills. In essence, an alert, combat-ready Soldier is restored. Finally, nuisance noise common to the Garrison community potentially interferes with hearing warning sirens or emergency signals, potentially jeopardizing the safety of all installation personnel.

e. The essential elements of the Fort Sill Hearing Program are listed below with general details provided in DA Pam 40-501, chapters 4-7 and FM 4-02.17, Preventive Medicine Services, Appendix C. Procedures and services pertaining specifically to Fort Sill are provided in the following paragraphs:

- (1) Noise Hazard Identification (para 6).
- (2) Engineering Controls (para 7).
- (3) Hearing Protectors (para 8).
- (4) Monitoring Audiometry & Hearing Readiness (para 9).
- (5) Health Education (para 10).

- (6) Enforcement (para 11).
- (7) Program Evaluation (para 12).
- (8) Operational Hearing Services (para 13).
- (9) Garrison Nuisance Noise (para 14).

Additional Hearing Services available to installation units are outlined in para 15 with contact information provided.

5. RESPONSIBILITIES AND IMPLEMENTATION.

a. The Fort Sill Commanding General

- (1) Meets the requirements of AR 40-5 and AR 385-10.
- (2) Issues a command emphasis letter endorsing the Hearing Program at Fort Sill.
- (3) Includes the AHP as an item of interest in the Command Inspection Program (see AR 1-201).

b. Reynolds Army Health Clinic (RAHC) Commander

- (1) Facilitates medical surveillance and provides staffing oversight for hearing conservation services afforded to all military and identified DA Civilians exposed to hazardous noise IAW AR 40-5 and DA Pam 40-501.
- (2) Appoints on orders a military audiologist to act as the Fort Sill Hearing Program Manager (HPM) for Fort Sill, with tasks outlined in Section C.
- (3) Appoints an individual to act as the Industrial Hygiene Program Manager (IHPM) with responsibilities outlined in Section E.

c. The Fort Sill Hearing Program Manager (HPM) manages and coordinates all aspects of the Hearing Program outlined in this SOP for Fort Sill. These responsibilities include:

- (1) Supervision of staff providing hearing examinations (monitoring audiometry) services at least annually (to include pre- and post-deployment and follow-up evaluations) for all Soldiers and noise-exposed DA Civilians. Uses authorized Defense Occupational Environmental Health and Readiness System for Hearing Conservation (DOEHRS-HC) with its associated audiometric instruments, computers and guidance IAW DA Pam 40-501 paras 3-1, 3-2, 3-3, 3-5, 3-6, and 4-2.

(2) Ensures audiometric testing records are maintained using authorized DD Form(s) 2215 and 2216, which are generated by DOEHRS-HC system. Ensures that all audiometric records are included in the medical record per AR 40-66.

(3) Performs clinical, diagnostic audiometric testing, treatment and rehabilitative services for Soldiers with Hearing Readiness Classification III or IV and clinical diagnostic hearing services to noise-exposed DA Civilians in a way that shows dignity and respect. Addresses inconsistencies in test results in a way that ensures patient confidence, trust, and understanding. Patients referred for diagnostic testing with an audiologist are scheduled for appointments within 30 days of the initial referral.

(4) Ensures notification of appropriate personnel (Commanders, DA Civilian supervisors, safety and occupational health managers) when an individual has sustained a permanent Significant Threshold Shift (STS) or permanent hearing loss that may endanger the individual and others. Soldiers and their Commander's will receive written notification of a confirmed permanent STS. The civilian audiologist in the Audiology Clinic, Department of Preventive Medicine have a clinical role for Tricare eligible minor family members requiring audiological evaluation in conjunction with ENT evaluations, eligible service members and hearing aid fittings for eligible service members and retirees.

(5) Ensures hearing health education (operational and occupational) is provided at least annually for all Soldiers and hazardous noise-exposed DA Civilians personnel.

(6) Provides hearing program training for installation-directed courses, to include (but not limited to) the annual Safety Day Training briefs for all active duty Soldiers assigned to Fort Sill.

(7) Ensures that appropriately trained personnel fit noise-exposed individuals with approved earplugs, and ensures that the condition and fit of earplugs are examined at least annually.

(8) Conducts unannounced inspections of noise-hazardous areas, including ranges.

(9) Conducts noise surveys in field training environments (TOC, rest and common areas), training Soldiers to understand the non-auditory effects of nuisance noise and to utilize effective noise abatement strategies.

(10) Reports program participation, hearing readiness, and quality assurance through Chief, Preventive Medicine, to the RAHC Commander at least annually. Conducts quarterly MEDPROS reporting to senior command teams.

(11) Provides training, guidance, and technical support for unit-appointed Hearing Program Officers (HPOs) in their appointed responsibilities (outlined in Section H) for managing their unit hearing program.

(12) Provides training for unit medical assets or support personnel in obtaining national certification as hearing conservation technicians. Training requirements must meet standards of the Council for Accreditation in Occupational Hearing Conservation (CAOHC). These individuals will serve as the unit's subject matter expert on hearing conservation and support the unit with annual hearing readiness and operational requirements.

(13) Provides instruction and further education regarding the online blackboard course for battalion and company level HPOs on a regular basis, instructing Soldiers in the requirements and procedures for maintaining/monitoring unit hearing readiness, proper use of hearing protection for training and deployments, nuisance noise abatement strategies, and methods for prevention of acoustic trauma while maintaining critical communication ability.

(14) Upon request, embeds with installation units during field and range exercises to determine practical solutions for difficult hearing protection and communication requirements, using various equipment combinations and strategies.

(15) Coordinates with the Installation Compensation Program Administrator (ICPA) to review claims for occupational hearing loss. Provides consultation and submits written comments through the ICPA to the Department of Labor.

d. Installation Compensation Program Administrator (ICPA). Reports Office of Workers' Compensation Programs (OWCP) claims and awards for hearing loss and STS follow-up compliance to the CG semi-annually.

e. Industrial Hygiene Program Manager (IHPM)

(1) Performs survey of all known and suspected noise-hazardous areas and equipment and ototoxic exposures, and repeats survey within 30 days of any reported changes in equipment or work-site operation using approved and calibrated equipment.

(2) Maintains current inventory of all noise-hazardous areas using DD Form 2214 or 2214C.

(3) Identifies noise and ototoxic-exposed personnel, and the magnitude of their noise exposure. Provides a survey report with pertinent recommendations for appropriate personnel (commanders, supervisors and safety managers) following initial evaluations, re-evaluations or upon request).

(4) Provides the HPM with the number of noise-exposed and ototoxic-exposed civilian personnel for the specific calendar year on an annual basis. This is required to determine HCP participation rates.

f. Chief, Occupational Health (OH)

(1) Coordinates with the IHPM and HPM to identify and maintain a database of all DOD civilians that are exposed to ototoxins and high intensity noise for the HCP.

(2) Schedules placement, periodic and termination audiometric evaluations on DA Civilian personnel exposed to hazardous noise.

(3) Provides appropriately trained personnel to fit noise-exposed DA Civilians with proper size or types of hearing protective devices.

(4) Provides appropriately trained personnel to incorporate annual hearing health education classes in conjunction with ongoing health education as required to promote individual understanding of hearing loss prevention.

(5) Ensures that preformed earplugs and all other hearing protective devices are checked on an annual basis for any signs of deterioration.

(6) Refers individuals for further testing and evaluation as appropriate.

g. Installation Safety Program Manager (per AR 385-10)

(1) Evaluates hearing program compliance during Standard Army Safety and Occupational Health Inspections.

(2) Records and monitors incidence of OSHA Reportable Hearing Loss as occupational illness (repetitive trauma) or as a onetime acoustic trauma on the OSHA log of injury and illness, except OSHA reportable hearing loss directly contributed to combat.

(3) Coordinator for safety issues related to hearing conservation.

(4) Ensures HPM is a member of the installation safety council.

h. Unit Commanders (Primarily Battalion-and Company-level), Directors and Supervisors of noise-exposed personnel.

(1) Appoints on orders an individual (officer, NCO, or DA Civilian staff) to act as the unit Hearing Program Officer (HPO) as his/her primary appointed duty, to manage the unit hearing conservation program with responsibilities outlined in Section I. Ensures HPO completes installation-required training, within three months of receiving appointment orders, for hearing conservation activities. Copy of orders should be kept on file in both the unit and Army Hearing Program clinic.

(2) Endorses the Fort Sill Commanding General's emphasis policy letter on the Hearing Program and stresses the importance of preventive measures with a unit-level Hearing Program emphasis letter and a unit SOP detailing the Hearing Program.

(3) Posts and maintain noise hazard danger and caution signs and decals for all identified areas and equipment IAW AR 420-70 and the Safety Color Code Markings, Signs and Tags Information Guide.

(4) Enforces the mandatory use of hearing protectors for all personnel when around noise hazard areas and takes disciplinary action as appropriate for non-compliance. Requires all Soldiers and hazardous noise-exposed DA Civilians to maintain earplugs and the earplug carrying case as an item of individual equipment. Soldiers will wear the earplugs and earplug carrying case as part of the army combat uniform (ACU), either on the Soldier's front right belt loop of the ACU trousers, on the Soldier's top right row of loops on the Improved Tactical Outer Vest (IOTV), in the left arm pocket of the nomex coverall, or where mission allows.

(5) Consults with Fort Sill HPM for noise-hazardous missions requiring preservation of critical communication ability using communication enhancement/protection systems. Ensures Soldiers are adequately trained with nonlinear systems as required.

(6) Ensures medical threat briefings provided prior to unit deployments include noise hazard descriptions and preventive measures (i.e.; hearing protection and noise abatement strategies) for troops.

(7) Coordinates with the IHPM to properly identify noise-hazardous personnel, areas, and positions for annotation on job descriptions when appropriate. Ensures that annotated job descriptions include requirement to wear personal protective equipment, for example, hearing protectors and noise-survey dosimeters when requested, and to report for scheduled medical examinations as required.

i. Unit Hearing Program Officers/NCOs (HPOs)

(1) Contacts the Fort Sill HPM for guidance and technical support for implementing a comprehensive hearing conservation program for the unit.

(2) Functions as POC for the Hearing Program. Maintains copies of all pertinent regulations, unit education records and unit hearing readiness tracking records. (See Appendix D for Unit Inspection Hearing Program Checklist).

(3) Coordinates and schedules annual, pre-deployment and post-deployment hearing examinations for all Soldiers and hazardous noise-exposed DA Civilians (may schedule entire unit if appropriate) by contacting Fort Sill Army Hearing Program, at RAHC.

(4) Ensures hearing examinations are provided using the authorized Defense Occupational and Environmental Health Readiness System - Hearing Conservation (DOEHRS-HC) audiometer equipment.

(5) May utilize appropriately trained individuals within the unit who are certified by CAOHC as hearing conservation technicians to assist with unit hearing examinations. Contacts the Fort Sill HPM for technician certification course schedules.

(6) Ensures all in-processing personnel receive a hearing examination, to include hearing protection check, fit and initial installation hearing health education.

(7) Maintains tracking system through the Medical Protection System (MEDPROS) for monitoring the Hearing Readiness Classification (HRC) of unit personnel. Reports unit compliance and hearing readiness rates to unit Commander. Ensures Class 4 Soldiers complete required DOEHRS-HC hearing tests and Class 3 Soldiers complete diagnostic evaluations with an installation audiologist in a timely manner.

(8) Ensures all Soldiers and hazardous noise-exposed DA Civilians meet unit hearing health education requirements annually and maintains training roster as documentation, forwarding to Fort Sill HPM. Coordinates with Fort Sill HPM for health education course.

(9) Provides input to deployment medical threat briefings, and/or to preventive medicine assets, in regards to noise hazards, hearing protection, communication enhancement, and noise abatement strategies relevant to the projected threat of the intended theater of operations.

(10) Requisitions and maintains an adequate supply of approved hearing protectors, including helmets, noise muffs, or preformed (triple-flange, quad-flange or battle plugs/combat arms types) earplugs in preparation for training exercises and deployments. Earplugs requisition information is provided in DA Pam 40-501, table 7-3, 7-4, and 7-5.

(11) Must maintain an adequate supply of approved hand-formed (Sound Guard, SuperFit 30, and SuperFit 33) earplugs for visitors or personnel not possessing preformed earplugs.

(12) Ensures that approved earplugs are selected and fitted by a hearing program technician or appropriately trained personnel. Ensures these earplugs are examined at least annually to ensure proper fit and condition. Coordinate with Fort Sill HPM for earplug fitting training.

(13) Ensures aviation or CVC type helmets and noise muffs are examined for proper fit and condition at least semi-annually.

(14) May obtain noise muffs through commercial sources as well as through the Federal Supply System.

(15) Ensures approved earplugs carrying case is provided, free of charge, to all Soldiers and hazardous noise-exposed DA Civilians. Ensures appropriate wear of earplugs and earplug case by unit Soldiers. (See Appendix E for order information)

(16) Prepares a unit SOP detailing Hearing Program implementations at unit level. Reviews unit range SOP for inclusion of hearing conservation procedures. Contacts Fort Sill HPM for assistance with preparing a unit SOP.

(17) Immediately refers Soldiers suffering hearing loss due to range exercises to the HPM for evaluation and disposition.

j. Soldiers and Noise-Exposed Personnel

(1) Reports for in/out-processing, pre/post-deployment, annual and termination hearing program DOEHRS-HC examinations. Complete follow-up testing, as required, when changes in hearing are detected.

(2) Maintains a pair of preformed earplugs and an earplug carrying case as an item of personal protective equipment, and keeps earplugs and carrying case in their possession as part of their uniform as directed.

(3) Correctly wears approved and properly fitted hearing protectors when exposed to hazardous noise (i.e. weapons firing, tactical vehicles, motorcycles, motorboats, power tools, MOUT, etc.).

(4) Reports for hearing health education briefings annually.

(5) Immediately reports suspected hearing loss following weapons firing or exposure to blasts/explosions in the combat or training environment to their supervisor for appropriate medical attention.

(6) Provide all pertinent information regarding noise exposure and use of hearing protective devices in noise hazardous areas. All Soldiers and hazardous noise-exposed DA Civilians will ensure their best effort is put forth when taking a DOEHRS-HC or diagnostic hearing test.

6. NOISE HAZARD IDENTIFICATION

a. As a part of the Industrial Hygiene Program, the IHPM

(1) Conducts noise surveys of all suspected noise-hazardous areas, vehicles, and equipment at least once and within 30 days of any change in operations.

(2) Determines the TWA for all DA Civilians routinely working in hazardous noise areas and Soldiers working in hazardous noise industrial-type operations at least once and within 30 days of any change in operations affecting noise levels.

(3) Supervises and ensures industrial hygiene staff completes visits to each potentially noise-hazardous area at least once a year to fulfill requirements of AR 385-10.

b. Industrial hygiene technicians or personnel trained in the use of noise measurement equipment-

(1) Will perform noise surveys as required. Guidance for performing noise surveys is provided in USACHPPM TG 181. Details for survey equipment and calibration guidelines are outlined in DA Pam 40-501, para 7-5.

(2) Noise surveys will be completed and documented using the DOEHRS-HC DD Form 2214 and/or DD form 2214C to identify hazardous noise survey results. Reports will be distributed and maintained IAW DA Pam 40-501, para 3-2.

c. Military and DOD civilian personnel may request a noise survey any time potentially noise-hazardous equipment is purchased or following any change in operations. In addition, previous noise survey records for specific locations can be requested. Record and survey requests can be directed to the IHPM at (580) 558-8484 or by reporting to the Industrial Hygiene, Department of Preventive Medicine, in BLDG 4301.

d. Posting:

(1) The unit Commander or supervisor ensures that danger/caution signs and decals are posted at entrances to, on the periphery of, and on noise-hazardous equipment and vehicles in accordance with the Safety Color Code Markings, Signs and Tags Information Guide. In addition, 29 CFR 1910.95 must be posted in all industrial, noise-hazardous areas.

(2) The IHPM ensures applicable 85 dBA and 140 dBP noise contours are established and advises the unit Commander or supervisor where to locate contour signs.

7. ENGINEERING CONTROLS

a. The most desirable hearing conservation measure is reducing noise levels at their source and eliminating harmful health effects. Implementation is generally feasible, if technologically and operationally practicable and cost effective. Procuring new equipment, vehicles or facilities offers the ideal opportunity to implement noise controls. The objective is to review all acoustic specification before purchase to ensure, if possible, a steady-state level less than 85 dBA at all personnel work locations during normal operations.

b. Control measures for existing equipment and facilities to reduce steady-state noise levels below 85 dBA and impulse noise levels below 140 dBP should be employed to the maximum extent possible. In some instances, the implementation of engineering controls requires funding which is rank ordered on the installation hazard abatement plan per AR 385-10 and TB MED 503. In other instances, simple maintenance of the equipment,

vehicles, or facilities will eliminate or control the hazard. Details for effective maintenance noise-control measures can be found in DA Pam 40-501, para 7-10.

c. An industrial hygienist from the Department of Preventive Medicine, can be consulted for engineering control recommendations and follow-up measures. The section is located inside RAHC and can be contacted at (580) 558-8484.

8. HEARING PROTECTORS

a. All personnel working within or visiting potentially noise-hazardous areas must have hearing protectors with them at all times. Military personnel will wear the earplug case containing preformed or hand-formed earplugs as a standard part of the uniform.

b. Hearing protection devices (HPDs) consist of earplugs, noise muffs, ear canal caps, noise-attenuating helmets, or a combination of these. A list of approved hearing protection devices for government purchase can be found in Appendix E, which includes an example of a typical HPD purchase for a military unit. Personnel may select the type of protector desired, unless the selection is medically contraindicated or inappropriate for a particular noise-hazardous environment. In-depth descriptions and maintenance recommendations of approved HPDs can be found in DA Pam 40-501, paras 6-3 and 6-5.

c. HPDs are issued at no charge to all military personnel and to all DOD civilians working in potentially noise-hazardous areas. An earplug carrying case must also be provided at no charge with each set of preformed earplugs. This case can also be used for hand-formed earplugs. HPDs are considered required personal protective equipment for military deployments.

d. Initial Fittings & Annual Integrity Checks. Medically-certified preformed earplug fittings will be completed during in-processing activities at the SRP for military, and as required during the Occupational Health Services entry physical for DOD civilians. Earplug re-fits and integrity checks can be completed during annual, pre-, or post-deployment hearing evaluations. Organic unit assets that are CAOHC certified hearing technicians and/or Hearing Program Officers (HPOs) who have been issued a certificate of completion from the Fort Sill Hearing Program are qualified to complete integrity checks. Units without certified technicians may request support from the Fort Sill Hearing Program Manager.

e. Requisition. HPOs must requisition HPDs through their Medical Supply Officers (MSOs) using appropriate national stock numbers (DA PAM 40-501 Table 7-3, 7-4, and 7-5). The SuperFit 30 and SuperFit 33 (small and large size) foam earplugs are credit card purchases through the GSA website or through the Defense Medical Logistical Support System (DMLSS).

f. Protector Requirements. Civilians and military personnel must wear appropriate hearing protection when working with or around equipment, tactical vehicles or weapons that produce hazardous levels of noise. Definitions of hazardous noise are listed below.

Examples of steady-state and impulse noise levels produced by common military equipment are included in DA PAM 40-501 Table 7-1. Appendix F, F-1, F-2 and F-3 provides examples for commonly used firing systems and the noise hazard levels associated.

(1) *Steady-state noise levels of ≥ 85 dBA* (regardless of duration) – requires single hearing protection.

(2) *Steady-state noise levels of ≥ 103 dBA* (regardless of duration) – requires double protection (i.e.; earplugs and helmets or earplugs and noise muffs).

(3) *Steady-state noise exposure > 108 dBA* – exposure is not permitted.

(4) *Impulse noise levels of ≥ 140 dBP* – requires single hearing protection.

(5) *Impulse noise levels > 165 dBP, but less than or equal to curve Z* per MIL-STD 1474D, requirement four, DA PAM 40-501 Table 7-2, personnel must wear earplugs in combination with noise muffs or a noise-attenuating helmet.

(6) *Impulse noise levels greater than curve Z*, TSG must approve exposure.

(7) *Combat scenarios and HPDs.* In combat, Soldiers should wear hearing protectors, especially when firing weapons or riding in tactical vehicles or aircraft. Hearing protectors improve readiness and prevent permanent or temporary threshold shifts which impair the ability to communicate and to detect and localize quiet or low level combat sounds.

(8) *Combat scenarios and communication requirements.* In combat, Soldiers should use appropriately fitted nonlinear HPDs (i.e.; combat arms earplugs) or communication enhancement systems when impairment to hearing is detrimental to mission requirements (i.e.; dismounted infantry operations).

9. MONITORING AUDIOMETRY & HEARING READINESS. Monitoring audiometry detects changes in an individual's hearing sensitivity. This information identifies individuals who are highly susceptible to noise-induced hearing loss, allows for early identification of and intervention for hearing loss, and evaluates the effectiveness of the hearing conservation program. Hearing Readiness (HR) specifically focuses on ensuring Soldiers have the required physical capabilities, personal protective equipment (i.e.; HPDs) and medical equipment that are needed to deploy. The main component of HR is monitoring audiometry. All hearing evaluations are to be completed on the DOEHRS-HC audiometer with results recorded on DD forms 2215 (Reference Audiogram) and 2216 (Hearing Conservation Data).

a. DOD Civilians. Reference audiograms for new civilian personnel with a potential for hazardous noise exposure must be performed as soon as possible, but not later than 30 days after initial exposure or after STS on periodic test. Hearing tests can be

administered by the CAOHC certified technicians in the Soldier Readiness Program clinic or Army Hearing Program clinic.

b. All noise-exposed and/or ototoxic exposed civilian personnel must receive reference, 90-day, annual, and termination audiograms. Follow-up hearing tests, 1 and 2, must also be provided, if required. Civilians who are hearing impaired, working in noise-hazardous areas must have reference and termination audiograms.

c. Termination audiograms must be conducted as part of out-processing or when a worker will cease to work in a designated noise-hazardous area.

d. Soldiers. All Soldiers, regardless of potential noise exposure, must receive reference, pre-/post-deployment, annual and termination audiograms, and obtain follow up test within 90 days after STS on periodic test IAW DA PAM 40-501. Audiograms are required every 12 months.

e. Deployable Status. In order to be deployable, Soldiers must maintain a Hearing Readiness Classification (HRC) of Class 1 or Class 2. Appendix G provides the four basic HRC categories with definitions. To meet hearing readiness requirements, HCOs may schedule unit Soldiers for their DOEHRS-certified hearing tests by CO, BN or BDE by contacting the SRP site or Fort Sill Army Hearing Program.

f. Recordkeeping. Soldiers and DOD civilians will be provided with a copy of all hearing test results for the medical record. All DOEHRS-HC data will be forwarded to the DOEHRS-Data Repository, maintained at Aberdeen Proving Grounds, on at least a weekly basis (daily uploads are strongly recommended) .

g. MEDPROS. The Medical Protection System (MEDPROS) HR module is used to track and monitor individual and unit level HR. D2215 and 2216 audiograms are stored in the DOEHRS-DR and are used to calculate the HR status for MEDPROS. The DOEHRS-DR feeds the MEDPROS system on a weekly basis. HPOs can obtain unit Hearing Readiness (HR) reports through the MEDPROS Hearing Readiness Reporting Options function. Soldiers and HPOs can obtain copies of test results through the MEDPROS Web Data Entry portal. In summary:

(1) Soldiers with an HRC of Class 1 or 2 are deployable.

(2) Soldiers with an HRC of Class 3A-C are non-deployable and require a referral to an audiologist for the completion of a diagnostic evaluation, profile and/or MAR2 (required for H3 profiles).

(3) Soldiers with an HRC of Class 3D-E are non-deployable and require either a hearing aid fitting and/or a six month supply of batteries for issued hearing aid(s).

(4) Soldiers with an HRC of Class 4A require an annual DD2215/16 hearing evaluation.

h. The Hearing Program Manager will ensure installation test equipment, test methods, clinical services, diagnosis, medical and MEDPROS coding, referrals and notification processes (including OSHA reportable hearing losses) are in compliance with DA Pam 40-501, para 7-3 through 7-7 and FM 4-02.17 Appendix C, para C-9 through C-10.

10. HEALTH EDUCATION. The HPM or designee must provide hearing conservation health education at least annually to ALL military and noise-exposed civilian personnel. Instruction requirements and educational materials are detailed in DA Pam 40-501, paras 8-1 and 8-2. Unit HPOs are required to track annual unit requirements, coordinate instruction blocks by contacting the Hearing Program Manager at (580) 558-8424 and maintain documentation for completion of course (i.e.; sign-in rosters) .

11. ENFORCEMENT.

a. Command Emphasis. The unit commander or supervisor of personnel working in noise-hazardous areas must endorse the installation commander's command emphasis letter explaining the importance of the Army Hearing Program, the Fort Sill Hearing Program, and the wearing of the earplug carrying case with appropriately fitted, authorized, pre-formed earplugs inside the case, ready for use as part of the uniform.

b. Compliance Measures.

(1) Military and civilian supervisors of noise-hazardous areas must enforce the mandatory use of hearing protectors and take disciplinary action (i.e.; counseling statements) as appropriate for non-compliance. Commanders must enable unit safety officers and HPOs to bring units into compliance with the Fort Sill Hearing Program.

(2) The Hearing Program Manager will conduct unannounced inspections of noise-hazardous areas (including motor pools, ranges, etc.) to ensure compliance with both the Hearing Program and with hearing protective devices requirements. Inspection results will be reported through command channels as appropriate. Appendix H provides a copy of the range inspection form that will be used.

(3) The IHPM will inspect noise-hazardous areas to ensure compliance with Hearing Program and HPD requirements during both announced and unannounced surveys.

12. PROGRAM EVALUATION. The Hearing Program will be evaluated using both external and internal reports IAW DA Pam 40-501, paras 10-2 and 10-3. Program effectiveness, quality assurance, and compliance indicators will be forwarded to the MEDDAC Commander on a regular basis as required.

13. OPERATIONAL HEARING SERVICES (OHS). The primary objective of operational hearing services is to enhance Soldier survivability. Hearing is a critical sense that directly affects mission success. Activities in garrison are geared towards preserving the ability to

hear in a deployed, combat environment to enable the Soldier to detect the enemy and communicate effectively in noise. Garrison OHS includes communication enhancement/protection devices, hearing loss prevention tactics and noise surveillance/abatement strategies.

a. Tactical Communication and Protective Systems (TCAPS). TCAPS are systems with active filters that protect hearing in the combat environment while improving the ability to hear on radios and among dismounted team members during missions.

(1) Contact the Fort Sill HPM for information regarding TCAPS use and procurement.

(2) Commanders must ensure their units are provided the opportunity to train with TCAPS and understand the use and importance of these devices in maintaining effective communication and situational awareness.

b. Noise Surveillance and Abatement. For suspected *hazardous* noise levels, refer to section 6 for standard procedures. For *nuisance* noise abatement, contact the Fort Sill HPM for training and assistance. Field environments, including TOCs, rest areas and motor pools, will be assessed with strategies for effective abatement outlined in verbal and written reports. HPOs will be trained in abatement during required operational and hearing readiness training courses and are responsible for implementing recommendations. Nuisance noise is not normally recognized, addressed or limited, but its effects (stress, fatigue) can be devastating on the Soldier, the unit, and the mission.

(1) Ideal noise levels for the field environment that allow for maximum efficiency:

(2) TOCs and common areas – noise levels not exceeding 55 dBA SIL preserve the ability to communicate comfortably at distances up to 15 feet.

(3) Sleep Areas – steady-state noise levels of ≤ 40 dBA allow for sufficient sleep cycles. In noisy environments, however, ‘maskers’ or broadband noise (such as a fan) may be required to eliminate the negative effects of relatively low-level intrusive noise (i.e.; intermittent field radio communications). The impact of *intrusive noise* varies (i.e.; intermittent landings of rotary and fixed-wing aircraft or tactical vehicles entering/leaving the compound). The sound level will depend on the engine type and distance from the source. For example, a UH-60 helicopter will produce up to 90 dBA of intrusive noise inside a sleeping tent located 150 yards from the landing pad. This level of intrusive noise can be expected to awaken approximately 40% of tent occupants. The use of disposable foam earplugs is the best remedy for situations involving regular intrusive noise.

c. Basic Abatement Strategies. Basic strategies for nuisance noise abatement in the field are as follows:

(1) Move generators away from tents and use air conditioner extension hoses whenever feasible. The Inverse Square Law predicts that doubling the distance from a sound source decreases intensity levels by 6 db.

(2) Place generators behind natural berms or enclose three sides of generators with sand bags, leaving room for proper ventilation. Point vented side of generator (normally the loudest side of equipment) away from tents.

(3) Design the TOC layout for maximum efficiency (i.e.; provide briefing areas away from radios). Determine which strategies work in the field environment before deployment.

(4) Provide foam earplugs for sleep tents to reduce effects of intrusive noise and ensure maximum ability to achieve Rapid Eye Movement (REM) sleep for Soldiers.

14. GARRISON NUISANCE NOISE. Nuisance noise produced by vehicles (i.e.; excessive engine noise or stereo volume levels) and on post housing must be kept to a minimum to avoid interference with the detection of warning sounds or emergency vehicle signals. Nuisance noise is a citable offense in accordance with local ordinances. Car stereos detectable at distances of ≥ 20 feet from the vehicle is excessive with violators subject to appropriate disciplinary action.

15. HEARING SERVICES. Maintaining good hearing is an individual and organizational responsibility. All commanders are encouraged to utilize the resources of the Fort Sill HPM for the development and maintenance of their unit level hearing program.

a. Additional operational hearing services, including range and worksite consultations, custom hearing protection services, and hearing technician certification workshops are available to installation units.

b. Contact the Hearing Program at (580) 558-8424 for more information and/or assistance.

APPENDIX A
REFERENCES

AR 40-5, Army Public Health Program, 12 May 2020.

AR 40-66, Medical Record Administration and Health Care Documentation, 17 June 2008.

AR 40-501, Standards of Medical Fitness, 27 June 2019.

AR 385-10, Army Safety Program, 24 February 2017.

DA PAM 385-11, Army Guidelines for Safety Color Codes, Signs, Tags, and Markings, 25 June 2013.

DA PAM 40-501, Army Hearing Program, 8 January 2015.

Center for Health Promotion and Prevention Medicine (CHPPM) Form 326, Assessing the Effects of Sound on Sleep, 1 November 2005.

DD Form 2214, Noise Survey, 1 January 2000.

DD Form 2214C, Noise Survey Continuation Sheet, 1 January 2000.

DD Form 2215, Reference Audiogram, 1 January 2000.

DD Form 2216, Hearing Conservation Data, 1 January 2000.

Field Manual 4-02, Army Health System, 17 November 2020.

MIL-STD-1472F, DoD Design Criteria Standard Human Engineering, 23 August 1999.

Safety Color Code Markings, Signs and Tags Information Guide. (Copies are available from the U.S. Army Safety Center, ATTN: CSSC-SM, Fort Rucker, AL 36362-2563).

29 CFR 1910.95, Occupational Noise Exposure (Copies are available from the Superintendent of Documents, U.S. Government Printing Office, WASH, DC 20402).

APPENDIX B

EXPLANATIONS AND ABBREVIATIONS

Explanations:

Audiogram - A written representation of human hearing. Audiograms may be written in graph or serial format.

- Serial – Uses numbers in a table to depict thresholds. The forms used to record hearing thresholds for hearing conservation are serial audiograms.

DD2215 Reference audiogram, also called a baseline audiogram.

DD2216 Periodic, Annual, Pre-/Post-deployment, 90-Day, Follow-up, Termination or Other audiograms

- Graph - Uses a graph to depict threshold. Decibel - unit of measurement for sound, abbreviated dB.

Frequency - is perceived by the listener as pitch. The unit of measure for frequency is Hertz (Hz). Humans can detect pitches ranging from 20-20,000 Hz.

Intensity- is perceived by the listener as loudness. Intensity is measured in decibels (dB). Decibels are normally referenced to a scale, such as dBA or dBHTL. The A scale is used for measuring noise, the HTL scale is used for measuring individual hearing ability. The term **SIL** indicates the speech interference level of background noise.

Ranges of Hearing

- -10 - 25 dB HTL Normal hearing
- 26 - 40 dB HTL Mild hearing loss
- 41 - 55 dB HTL Moderate hearing loss
- 56 - 70 dB HTL Moderately severe hearing loss
- 71 - 90 dB HTL Severe hearing loss
- 91 + dB HTL Profound hearing loss

Threshold - Represents the softest sound level a listener can detect about 50% of the time the sound is presented. Human hearing is measured with an audiometer. The unit of measure for human hearing is dB (HTL) (Hearing Threshold Level). Audiometers usually measure hearing from 0 to 110 dial. 0 dB does not mean the absence of sound. It represents a reference of the softest sound level the human hearing mechanism can detect.

Abbreviations:

AHP – Army Hearing Program (as redefined in the RAR of AR 40-5)

BMSOs – Brigade Medical Supply Officers

CHPPM – Center for Health Promotion and Preventive Medicine

CAOHC – Council for the Accreditation in Occupational Hearing Conservation. Board certification (or military course equivalent) required for hearing technicians

CEPD – Communication Enhancement/Protection Device

DOEHRS-HC – Defense Occupational Environmental Health and Readiness System-Hearing Conservation

DOEHRS-DR – Defense Occupational Environmental Health and Readiness System-Data Repository

HCP – Hearing Conservation Program

HCS – Hearing Conservation Services

HPDs – Hearing Protection Devices, traditional earplugs, ear muffs, canal caps, etc.

HPM – Hearing Program Manager

HPOs – Hearing Program Officers/Non-Commissioned Officers, appointed by commanders at the unit level (i.e.; BDE, BN, CO)

HR – Hearing Readiness

HRC – Hearing Readiness Classification

IHPM – Industrial Hygiene Program Manager

OWCP – Office of Workers' Compensation Programs

REM Sleep – rapid eye movement sleep, a state of sleep that recurs cyclically several times during a normal period of sleep and that is characterized especially by increased neuronal activity of the forebrain and midbrain, depressed muscle tone, dreaming, and rapid eye movements

SOP – Standard Operating Procedure

STS – Significant Threshold Shift - a change in an individual's hearing levels. Can be positive (hearing has worsened) or negative (hearing has improved)

TOC – Tactical Operations Center

TSG – The Surgeon General

APPENDIX C

EXAMPLES OF HAZARDOUS EXPOSURES

The following provides examples of typical exposures that meet the criteria for enrollment in a comprehensive Hearing Conservation Program:

1. Impulse & impact noise >140 decibels peak measurement (dBP):
 - a. All weapons firing, including blanks (annual or periodic).
 - b. 9-mm through 50-Caliber. Ammunition
 - c. Grenades
 - d. Mortar fire
 - e. Artillery fire
 - f. Armament from all tracked and wheeled combat vehicles
 - g. Demolition with explosives
 - h. Most training rounds and simulators

2. TWA of >85 A-weighted decibels (dBA):
 - a. Operating, occupying or maintenance operations of tactical vehicles that require hearing protection (per TM/FM or operator's manual).

 - b. Operating, occupying or maintenance operations of aircraft that require hearing protection (per TM/FM or operator's manual).

 - c. Operating on or around heavy equipment or noisy machinery requiring hearing protection (per TM/FM or operator's manual).



3. Known or suspected ototoxins (ear poison):
 - a. Arsenic
 - b. Carbon disulfide
 - c. Carbon monoxide*
 - d. Cyanide
 - e. Lead and derivatives
 - f. Manganese
 - g. Mercury and derivatives
 - h. N-hexane
 - i. Stoddard solvent
 - j. Styrene*
 - k. Trichlorethylene*
 - l. Tolulene*
 - m. Xylene*

*High-priority ototoxin

APPENDIX D

UNIT INSPECTION HEARING PROGRAM CHECKLIST

(For use of this form see AR 40-5, AR 385-10, AR 600-8-101; DA PAM 40-501)

Unit Hearing Program Officer:		Inspector Name/Phone	
Inspected Unit:		Date of Assessment:	Score:
<p>1. TASK(S): Hearing Readiness/Conservation - To Conserve Hearing for Combat Readiness.</p> <p>2. CONDITIONS(S): In a garrison environment with the assistance of hearing personnel, achieve a minimum of 18 points.</p> <p>3. STANDARDS: Commendable - Unit must attain a score of 23 - 26 points with no on-the-spot corrections. Meets standard = 18 - 22. Needs Improvement = below 18.</p> <p style="text-align: center;">0 = Not Attempted, 1 = In Progress, 2 = Complete</p>			
Item	Inspector Comments	Points	
1. A unit Hearing Program Officer/NCO (HPO) is appointed on orders. He/she completed the HPO blackboard course within 3 months of receiving appointment orders.			
2. A Hearing Program SOP and Command Emphasis letter is available and signed by the current Commander.			
3. There is a CD or hard copy binder containing all Hearing Program Regulations and Documents (see reference list above).			
4. The unit HPO is able to access MEDPROS to assess unit readiness. A function system is in place to monitor Hearing Readiness Classifications of all Soldiers.			
5. The HPO tracks STS (significant threshold shifts aka decreased hearing) by regularly checking MEDPROS HRC reports. Soldiers are required to return within 30 days for follow-up testing if STS is present.			
6. The unit HPO tracks all Soldiers as they in-process to ensure a current DD Form 2215/16 is completed and on record.			
7. All Soldiers are tested annually while in garrison or have pre/post deployment(s) exams completed within 6 months of movement. The unit readiness rate for annual/pre/post-deployment testing is ≥ 90%.			
8. There is a unit policy that each Soldier will have one set of pre-formed earplugs (must be medically fit). IAW DA PAM 40-501 Soldiers are required to wear ear pro on the front right belt loop of OCP trouser, tactical vest, and the left arm pocket of the aircrew uniform or coverall, or wherever the commander and mission determine is most appropriate to ensure easy access and use.			
9. Hearing protection (noise muffs, replacement noise muff, CVC or SPH4 helmet seals, pre-formed earplugs and three sizes of disposable hand formed earplugs) is available at the unit. The unit supply section has a current NSN list of approved hearing hearing protection devices. The supply is sufficient for pending range/FTX operations. There is a person at the unit that is medically trained to fit earplugs.			
10. All noise hazardous equipment (including tactical vehicles) and work areas have been identified and marked with proper danger and caution signs, and decals at eye level.			
11. Soldiers working in or around posted noise hazardous areas are required to use hearing protection at all times. There are consequences included in the unit Hearing Program SOP if Soldiers are found without hearing protection in identified areas.			
12. There is a unit Range/FTX SOP that requires the HPO or designated personnel to inspect and ensure Hearing Protection is worn properly before a Soldier is allowed to enter a live fire range /blank fire FTX / MOUT center.			
13. Documented Hearing Conservation (HC) education is conducted annually. It is documented IAW DA PAM 40-501, para, 4-7.			
			
Unit POC Signature		Inspectors Signature	
<p>NOTES: Units may contact Army Hearing Program @ 531-2693 for the following:</p> <ul style="list-style-type: none"> - Schedule hearing test sessions & earplug integrity checks - Questions regarding follow-up STS procedures - Schedule education briefings with HPM - Help with MEDPROS access for HPO - Training to medically fit hearing protection 			

APPENDIX E

EARPLUG AND CARRYING CASE REQUISITION INFORMATION

STANDARD ITEMS:

Type & Size	Nomenclature	NSN	Fitting Requirements
Triple-flange (small) \$3.88 / package	Earplug, hearing protection, triple-flange 24 ea. / package (12 pair)	6515-00-442-4821	Small size fits (~10%) Size fitting <u>REQUIRED</u> (contact fitting POC below)
Triple-flange (medium) 3.93/package	Earplug, hearing protection, triple-flange 24 ea. / package (12 pair)	6515-00-442-4818	Medium size fits (~85%) Size fitting <u>REQUIRED</u> (contact fitting POC below)
Triple-flange (large) \$3.93 / package	Earplug, hearing protection, triple-flange 24 ea. / package (12 pair)	6515-00-467-0092	Large size fits (~5%) Size fitting <u>REQUIRED</u> (contact fitting POC below)
Quad-flange (regular size - fits most) \$69.97 / box	Earplug, hearing protection, quad-flange, 100 pair / box	6515-01-492-0443	Reg size fits most (~90%) Size fitting <u>REQUIRED</u> (contact fitting POC below)
Sound Guard Foam Earplugs Hand-formed \$29.58 / box	Earplug, hearing protection, Foam, 200 pair / box (orange/green color)	6515-00-137-6345	Medium size fits most. Orange color <u>must not show</u> after insertion Disposable "back-up" use
Aearo SuperFit 30 Foam Earplugs Hand-Formed \$25.00 / box	Earplug, hearing protection, Foam, 200 pair / box (yellow / orange / yellow color)	Aearo#310-1009 www.GSAAAdvantage.gov	For small ear canals. Orange fitting ring <u>must not show</u> after insertion. Disposable "back-up" use.

Aearo SuperFit 33 Foam Earplugs Hand-Formed \$27.00 / box	Earplug, hearing protection, Foam, 200 pair / box (yellow / orange / yellow color)	Aearo#310-1008 www.GSAAdvantage.gov	For large ear canals. Orange fitting ring <u>must not show</u> after insertion. Disposable “back- up” use.
Earplug Carrying Case \$7.61 / package	Earplug carrying case 20 / package	6515-01-100-1674	

OPTIONAL ITEMS:

Quad-flange (small) \$139.93/package	Earplug, hearing protection, 4-flange, 200 ea./package (100 pair)	6515-01-461-7931	Option for all small ears Size-fitting <u>REQUIRED</u>
Combat Arms Earplugs (small, O.D. green)	Combat arms earplug (single-ended), 100 pairs/box	6515-01-576-8837	For small-size fits. (~20%) Size-fitting <u>REQUIRED</u>
Combat Arms Earplugs (regular, desert tan)	Combat arms earplug (single-ended), 100 pairs/box	6515-01-576-8861	For regular-size fits. (~70%) Size-fitting <u>REQUIRED</u>
Combat Arms Earplugs (large, coyote brown)	Combat arms earplug (single-ended), 100 pairs/box	6516-01-576-8869	For large-size fits. (~10%) Size-fitting <u>REQUIRED</u>
Skull Screws (one size fits most)	Latest technology for foam Earplugs, 200 pair per box	6515-01-576-8796	One size fits most, not fitting required.
Moldex BattlePlug (small, yellow)	Corded earplug with adjustable Filter, 50 pairs/box	426-4J, 6497	For small-size fits. (~20%) Size-fitting <u>REQUIRED</u>
Moldex BattlePlug (medium, O.D. green)	Corded earplug with adjustable Filter, 50 pairs/box	426-4J, 6498	For regular-size fits. (~70%) Size-fitting <u>REQUIRED</u>
Moldex BattlePlug (large, coyote brown)	Corded earplug with adjustable Filter, 50 pairs/box	426-4J, 6499	For large-size fits. (~10%) Size-fitting <u>REQUIRED</u>

Moldex BattlePlug (Small Refill)	Replacement Tip (yellow, size small) 50 pair per box	Model #: 6487T	Size-fitting <u>REQUIRED</u>
Moldex BattlePlug (Medium Refill)	Replacement Tip (green, size medium) 50 pair per box	Model #: 6488T	Size-fitting <u>REQUIRED</u>
Moldex BattlePlug (Large Refill)	Replacement Tip (brown, size large) 50 pair per box	Model #: 6489T	Size-fitting <u>REQUIRED</u>
SureFire – Sonic Defender EP4 (small)	Corded earplug with adjustable filter – triple flange, 25 pairs/box	6515-01-622-1984	For small-size fits. (~20%) Size-fitting <u>REQUIRED</u>
SureFire – Sonic Defender EP4 (medium)	Corded earplug with adjustable filter – triple flange, 25 pairs/box	6515-01-622-2539	For regular-size fits. (~10%) Size-fitting <u>REQUIRED</u>
SureFire – Sonic Defender EP4 (large)	Corded earplug with adjustable filter – triple flange, 25 pairs/box	6515-01-622-2558	For large-size fits. (~10%) Size-fitting <u>REQUIRED</u>
Comply tips, standard	Couples to communications ear-plug, 6 pairs	5965-01-504-0071	Size-fitting <u>REQUIRED</u>
Comply tips, slim	Couples to communications ear-plug, 6 pairs	5965-01-504-0072	Size-fitting <u>REQUIRED</u>
Comply tips, short	Couples to communications ear-plug, 6 pairs	5965-01-504-0073	Size-fitting <u>REQUIRED</u>

Point of Contact –

Earplug Fitting and Instructions: Contact Fort Sill Hearing Program Manager at (580) 558-8424.

APPENDIX G

HEARING READINESS CLASSIFICATION SYSTEM

Hearing Readiness Classification

HRC 1	H1 standards + annual testing within past 12 months	
HRC 2	H2 or H3 standards + DA Form 3349 (profile) + H3 must have SPRINT and MAR2 completed + annual testing within past 12 months	
HRC 3	H2 or H3 standards + annual testing within past 12 months	
	HRC 3A	Needs audiologic evaluation
	HRC 3B	Needs DA Form 3349 (profile)
	HRC 3C	MAR2 not complete
HRC 4	No annual testing within past 12 months or requires follow-up testing	
	HRC 4A	No annual testing within past 12 months
	HRC 4B	STS identified, requires follow- up testing
	HRC 4C	STS identified, did not complete follow- up testing within 90 days

APPENDIX F NOISE LEVELS

The sound levels listed in tables B-1 and B-2 are the highest typical measured values under normal operation. For most items of equipment there may be several normal operating conditions. Each condition generates a different noise level. For example, there is a 5 to 10 dB difference in noise at the driver position of a truck depending on window closure and auxiliary equipment such as heater fans. There can also be some variation among individual units of the same type of equipment. Different test reports may list somewhat different levels.

Section F-1
STEADY-STATE NOISE










Photo	Model	Name, Condition	Location	Speed km/hr (mph) or	Sound Level dB(A)
	M966, also: M996 M997 M998 M1037 and other non- heavy	High mobility multi- wheeled vehicle (HMMWV), at 2/3 payload	Crew positions	0(idle)	78
				48(30)	84
				88(55)	94
	M996 M997	HMMWV mini and maxi ambulance, at 2/3 payload	Patient areas	up to 88 (55)	less than 85
	M1097 M1097A2 M1113 M1114	HMMWV heavy variants, at 2/3 payload	Crew positions	up to 50 (31)	less than 85
				64(40)	88
				80(50)	92
				96(60)	98
	M1097	HMMWV heavy variant, at full payload	Crew positions	up to 40 (25)	less than 85
				96(60)	100
	M1008 M1009 M1010 M1028	Commercial utility cargo vehicle (CUCV)	In cab	below 88 (55)	less than 85
				88(55)	85 to 91

Photo	Model	Name, Condition	Location	Speed km/hr (mph) or	Sound Level dB(A)
	M1010	Ambulance	Patient Areas	all speeds	below 85
	M1080 chassis, includes M1078 M1079 M1081	Light medium tactical vehicles (LMTV 2 1/2 ton trucks), 2/3 payload	In cab	0 idle 72(45) 75(46) 88(55)	80 84 85 89
	M1092 and M1096 chassis, except M1089 wrecker	Medium tactical vehicles (MTV 5 ton trucks), 2/3 payload	In cab	0 idle 72(45) 75(46) 88(55)	80 84 85 89
	M1089	5 ton wrecker, towing, 2/3 payload	In cab	up to 48 (30) 56(35)	less than 85 87
	M984E1	Heavy Expanded Mobility Tactical Truck (HEMTT)	In cab	64(40) and below 72(45)	below 85 93.1
	M44A3 series includes M35A3 M35A3C M36A3	2 1/2-ton truck, extended life program (ESP), 2/3 payload	In cab	Idle 16(10) 32(20) 80(50)	72-81 85 87 97
	M1070	Heavy Equipment Transporter (HET), loaded	In cab	All speeds	Below 85

Photo	Model	Name, Condition	Location	Speed km/hr (mph) or	Sound Level dB(A)
	M1074 M1075	Palletized load system, 16.5 tons	In cab, windows closed Windows open	All speeds 88(55) below 88(55)	85 or below 87 below 85
	M113A3 family including M106A2 M1064A3 M1059A3 M58A3 M730A2 M901A3 M981A3	Armored Personnel Carrier A3 version. M113, M113A1, M113A2, OSV(BMP2) have similar noise levels		Idle 16(10) 32(20) 48(30) 63(40)	85-92 106 109 114 118
	M1A2, M1, M1A1 M1 chassis similar	Abrams tank Grizzley breacher, Wolverine Heavy assault bridge (HAB)	In vehicle	Idle Tac idl 16(10) 48(30) 63(40)	93 103 108 114 117
	M2A2 M2, M3, M2A1, M3A1, M3A2 similar	Bradley Fighting Vehicle	In vehicle	Idle 16(10) 32(20) 61(38)	74-95 110 115 115
	M88A2	Hercules recovery vehicle	In vehicle	various	89 to 106

Photo	Model	Name, Condition	Location	Speed km/hr (mph) or	Sound Level dB(A)
	M270	Multiple Launch Rocket System (MLRS) vehicle	In vehicle	Idle Moving, various speeds	83-98 99 to 111
	M109A3E2 other versions similar	Paladin, 155 mm self-propelled howitzer	In vehicle	Idle Moving, various speeds	83-98 99 to 111
	MEP-802A	5 kW Tactical Quiet Generator(TQG)	Operator panel	Rated load	80
	MEP-803A	10 kW TQG	Op panel	Rated load	81
	MEP-804A	15 kW TQG	Op panel	Rated load	84
	MEP-805A	30 kW TQG	Op panel	Rated load	84
	MEP-806A	60 kW TQG	Op panel	Rated load	87
	CH-47D	Chinook helicopter	Cockpit		102.5

Photo	Model	Name, Condition	Location	Speed km/hr (mph) or	Sound Level dB(A)
	UH-60A	Blackhawk helicopter	Pilot copilot		106 106
	YAH-64	Apache helicopter	Pilot copilot		104 101.3
	OH-58D	Kiowa helicopter	Right seat Left seat		101.6 100.3
	UH-1H	Huey helicopter	Pilot/copilot Max in rear		101.9 102.9

Section F-2

IMPULSE NOISE





Photo	Model	Name, Condition	Location	Sound Level dB(P)
	M16A2	5.56mm rifle	Shooter	157
	M9	9mm pistol	Shooter	157
	M249	5.56mm Squad Automatic Weapon (SAW) fired from a HMMWV	Gunner	159.5
	M60	7.62mm machine gun fired from a HMMWV	Gunner	155









Photo	Model	Name, Condition	Location	Sound Level dB(P)
	M2	0.50 caliber machine gun fired from a HMMWV	Gunner	153
	MK 19 Mod 3	machine gun fired from a HMMWV	Gunner	145
	M26	Grenade	At 50 ft	164.3
	M3	MAAWS recoilless rifle	Gunner	190
	M72A3	Light Antitank Weapon (LAW)	Gunner	182
		JAVLIN	Gunner open Position	159.9
			Gunner enclosed position & Gunner fighting position	166.2
				172.3
	M119	105MM towed howitzer at charge 8	Gunner	183
	M198	155mm towed howitzer firing M203 propellant	Gunner	178

Photo	Model	Name, Condition	Location	Sound Level dB(P)
	M109A5/6	Paladin, 155mm self-propelled howitzer firing M4A2 zone 7 charge	In fighting compartment, hatches open except driver's	166.1
	M110A2	8-inch self-propelled howitzer firing M106 projectile with a M188A1 zone 9 propelling charge,	Gunner	176.9
	M224	60mm mortar, M888 round, charge 4, QE 800 mil	0.5 m from the muzzle, 0.9 m above ground, 105 degree azimuth	185
		TOW II Missile from HMMWV	Gunner	179.4
	M29A1	81 mm mortar, M374A3 round with charge 4	1 m from the muzzle, 0.9 m above ground, 135 degree azimuth	178.8

Section F-3

CHARACTERISTICS OF INDIVIDUAL EQUIPMENT NOISE

The following paragraphs summarize additional noise exposure considerations for common Army equipment:

a. Trucks and High Mobility Multi-wheeled Vehicles (HMMWV). Noise levels increase with increasing speed and, for the HMMWV, with increasing load. The levels are below 85 dBA at low to medium speeds and can be over 100 dBA at top speed for some models. When driven mostly at low speeds with short periods at moderate or high speed trucks and HMMWVs are not hazardous. They can be hearing hazards to unprotected Soldiers if operated for long time periods at high speed.

b. Bradley Fighting Vehicle (BFV) and derivatives. The major noise source is the drive train, particularly the action of the track links as they round over the sprockets, idlers and wheels. For this reason, high noise levels (101 to 115 dBA) occur when the vehicle is in motion. The crew wears the combat vehicle crewman's (CVC) helmet which has integral hearing protectors. A CVC with active noise reduction (ANR) providing added noise protection is available on newer models. The passengers (infantry squad) must rely on their own hearing protectors such as earplugs. These are less effective than the CVC with ANR. For training, the exposure time in moving carriers is restricted depending on the hearing protectors worn and the speed of the vehicle. The severest restriction is on exposure of passengers wearing the less effective earplugs.

c. M113 Armored Personnel Carrier and derivative vehicles. Among the loudest of Army equipment. Noise sources and hearing protection are similar to the BFV. Levels are very high when moving.

d. Abrams Tank and derivative vehicle (Wolverine and Grizzly).

(1) Steady noise levels range from 96 to 117 dBA when moving. The crew wear the CVC helmet which has integral hearing protectors.

(2) On the tank, impulse noise levels at exterior commander and loader positions are above or just below the limit of hearing protector effectiveness for training depending on caliber (105 or 120 mm), cartridge model, and tube elevation. The drivers hatch should be closed at all times when firing the main gun. Training with crew heads above the hatch plane is not permitted per the user manuals for certain defined conditions. These restrictions are not applicable to battle situations.

e. Helicopters. In flight, helicopter crews wear the helicopter crew helmets which have integral hearing protectors. Passengers must rely on their own hearing protectors such as earplugs or ones supplied by the air operations. Training restrictions on exposure time apply, as discussed for the BFV.

f. Generators. Diesel powered generators form the Tactical Quiet Generator (TQG) series are quiet at the operator panel and other close-in areas if the covers are in place. Older generators have been loud with levels above 100 dBA at the panel and above 85 dBA up to several meters away. High levels are generated by TQG if the covers are removed.

g. Impulse noise from weapons. All firearms produce impulse noise levels requiring hearing protection at crew positions for training. Some produce levels under certain conditions, which exceed the safe training limit for crews wearing hearing protectors.

(1) Small arms- rifles pistols, machine guns, and 40 mm grenades. Noise levels at gunner positions are low to moderate. The hazard can be serious because of the large number of rounds that can be fired by the individual shooter. Noise levels are higher in front and to the side of the muzzle than to the rear. For small arms levels at about 5 feet to the side can be higher than at the shooter position. Except very near the muzzle, all levels are within the mitigation capability of hearing protectors.

(2) Mortars. Noise levels range from low to very high because of the wide variation in charge increments and head locations. The requirement to load the cartridge through the muzzle places the head close to the muzzle, which is the source of the impulse. For the top charge on the large ground mount mortars, a safe noise level for training occurs only at 2 m from the muzzle, no higher than 0.9 m above ground. Some mortars include a funnel-shaped blast-attenuating device on the muzzle.

(3) Howitzers without fighting compartments. For the 155 mm towed and 8-inch self-propelled howitzers the levels are medium to high depending on the charge increment, but are below the training exposure limit for protected Soldiers.

(4) Howitzers with fighting compartments. For the 155 mm self-propelled howitzers the walls of the fighting compartment tend to attenuate the peak levels but the reverberation within the compartment aggravate the noise exposure. For some higher charges the front, top, and side hatches should be closed during training fire.

(5) Tanks. The levels above the turret hatches can be very high for some cartridges and at some tube elevations. For these, training fire with crew heads above the hatch plane is not recommended. Levels below the hatch plane, even with the hatch open, are lower.

(6) Rocket launcher vehicles. Impulse noise in the MLRS, Avenger, and FOG-M launchers are low to medium.

APPENDIX H

RANGE INSPECTION CHECKLIST

RANGE INSPECTION FOR WEAPONS FIRING LINE AREA (For use of this form see DA Pam 40-501.)			
		1. DATE:	
		2. TIME:	
3. UNIT:		4. LOCATION/RANGE:	
5. UNIT COMMANDER:		6. PHONE NUMBER:	
7. OIC/SAFETY OFFICER ON SITE:		8. PHONE NUMBER:	
9. INSPECTOR:		POC: FORT SILL ARMY HEARING PROGRAM MANAGER AT 580-558-8424	
10a. SAFETY AND HEALTH			
Reference DA PAM 385-63 and AR 385-10		*Must have a 'go' in all critical items	
	GO	NO GO	REMARKS
	a	b	c
ARMY SAFETY AND HEALTH INSPECTION			
1. * All personnel within the hearing hazard/hearing protection zone wearing appropriate hearing protection.		<input type="checkbox"/>	<input type="checkbox"/>
		Note: # W/O ANY HEARING PROTECTION: <input style="width: 100px;" type="text"/>	
2. Range Safety Officer (RSO) addresses risk of hearing injury and enforces mandatory use of hearing protectors.		<input type="checkbox"/>	<input type="checkbox"/>
3. OIC/RSO established appropriate areas (hearing protection zone) requiring wear of hearing protection.		<input type="checkbox"/>	<input type="checkbox"/>
4. Process is in place to ensure hearing protection (earplugs/muffs) are being worn appropriately (i.e., visual or physical check being performed by trained personnel)		<input type="checkbox"/>	<input type="checkbox"/>
5. > 90% are wearing pre-fitted (quad-/triple-flange or Combat arms) earplugs or earmuffs (foam earplugs available for visitors not possessing pre-fitted earplugs)		<input type="checkbox"/>	<input type="checkbox"/>
		NOTE: # W/O PRE-FITTED PLUGS: <input style="width: 100px;" type="text"/>	
OVERALL (requires minimum 4 out of 5 for Go):		<input type="checkbox"/>	<input type="checkbox"/>
		See below for recommended corrective actions.	
*MUST HAVE A 'GO' ON THIS CRITICAL ACTION			
10b. CORRECTIVE ACTIONS			
Recommended Corrective Actions (Checked block(s) are for corresponding NoGo on item(s) above):			
<input type="checkbox"/>	1. Ensure all personnel are provided with approved preformed earplugs (quad/triple-flange or combat arms). (Unit-appointed Hearing Program Officer may contact Installation Army Hearing Program Manager for support services)		
<input type="checkbox"/>	2. Enforce the mandatory use of hearing protectors, and include this in unit SOP. Take disciplinary action as appropriate for non-compliance, IAW DA Pam 40-501, para 8-4.		
<input type="checkbox"/>	3. Refer to DA Pam 385-63, Range Safety, or as defined in the manuals for the weapon system. (NOTE: Should not remove plugs between firing - prevent plugs to be loose/fall out while firing & causing hearing injury).		
<input type="checkbox"/>	4. Implement process to perform check for proper wearing of earplugs or muffs. (Commander or Unit-appointed Hearing Officer may contact Installation Army Hearing Program Manager for instruction).		
<input type="checkbox"/>	5. Ensure all Soldiers retain a pair of pre-fitted (quad-/triple-flange or combat arms) earplugs and carrying case as an item of individual equipment, and wear the carrying case on the belt loop of the ACU.		
IAW DA Pam 385-10: Occupational safety and health inspections will be conducted to evaluate how well safety and health standards/requirements are being implemented and maintained. IAW DA Pam 40-501: Inspection results are reported through command channels to the installation commander, the unit commander, to include safety managers and industrial hygiene managers.			