Section 4
Hearing Conservation Program

Action Items

Hearing Conservation

1. Determine worker noise exposure and then record. (Records must be made available to MHSA inspectors.) Use one of the following methods:
   a. MSHA Data: Obtain from Inspector or get earlier MSHA data from MSHA home page (www.msha.gov) – see “Data Retrieval System”.
   b. Equipment manufacturer’s data.
   c. Data from similar equipment, but be ready to explain why you think the equipment is similar (and therefore, the data are valid.)
   d. Use an SLM or Dosimeter to do your own measurements.
   e. Call Dave Carlson at 906/487-2453 or email dcarlson@mtu.edu for Assistance.

2. Determine which workers’ exposures exceed the Action Level/Permissible Exposure Limit, and who needs to be enrolled in your Hearing Conservation Program. If none exceed the Action Level, you are Done. Simply file your results so you have them when MSHA shows up.

3. If a worker’s 8 hr time-weighted-average level exceeds 85 dBA, follow the summary of actions you may take on the following page. Send notification letter to overexposed worker.

4. If you need to enroll workers in a hearing conservation program, complete the Generic Hearing Conservation Program form in this manual and follow the steps in the program (including training, audiometric testing, hearing protection, installation of feasible engineering and administrative controls, notifications, and recordkeeping).
Part 62 Compliance – How to Comply in a Cost-Effective Way

The minimum requirement to comply with the Part 62 Noise standard is that the mine operator monitor (not necessarily measure) worker exposure to mine noise. Some common-sense suggestions that may minimize operator compliance cost follow:

- Unless the mine operator already has noise measurement data or data from other sources such as equipment manufacturer data or data from similar equipment measured elsewhere, the operator must determine employee exposure. We suggest the operator purchase a low cost ($30 to $40) slow-response sound level meter which measures noise on the A scale between 80 and 140 dBA. Use this instrument to measure the decibel level from all noise sources people are exposed to on the mine site. Determine which, if any, noise sources emit noise at levels above 85 dBA. If there are none, simply keep the measurement data on file to show it to the MSHA inspector when he/she requests it. You’ve fulfilled your requirements.

- However, if sources above 85 dBA are found, you may still need to do nothing more. You should, however, either try to make changes that reduce these sources to levels below 85 dBA, or restrict employees from working regularly or for extended times in these areas using posted warnings and other means. Remember that every 5 dBA increase in noise level above the limit cuts the allowable exposure time in half. Thus a very short exposure to very loud noise can cause a worker, who is otherwise working in a quiet environment, to be overexposed.

- If the MSHA inspector makes measurements and finds that the 8-hour average noise exposure for any miner exceeds 85 dBA, the mine will probably be cited, unless the miner has been enrolled in a hearing conservation program (HCP -- requirements follow in this section). The citation will probably amount to $60 for each violation, unless the miner’s 8-hour average exposure exceeds 90 dBA and the miner is not wearing hearing protection, which may make the violation S&S, where the fine could greatly increase.

- When the operator finds sources of noise in excess of 90 dBA and there is a chance that the 8-hour average exposure of any miner exceeds 90 dBA, the operator should require that the potentially overexposed miner wear hearing protection and also meet the other requirements for those exposed over 85 dBA. The mine operator must also implement feasible engineering controls or control overexposure by restricting access to the work area (posting the area or reducing hours of work in the area etc.).

- Remember that the inspector won’t cite you for noise levels on the minesite, regardless of how high they are. Legal limits are based, not on the noise level, but on the 8-hour average noise level to which the miner is exposed. If workshifts are longer than 8 hours the limits are reduced (for example, 16 hours at 90 dBA is equal to 8 hours at 95 dBA. If you determine that the 8-hour average exposure is 85 dBA and the miner works 16 hours at this noise level, your estimate of his exposure should be increased to 90dBA – or, put in different words, the time a miner can be exposed is cut in half for each 5 dBA increase in the noise level).
• If a miner is thought to be exposed to noise in excess of 105 dBA, this miner should be required to wear double hearing protection (plugs and muffs) and all 90 dBA overexposure legal requirements must also be met. An exposure to 105 dBA for 1 hour is equal to an exposure of 90 dBA for 8 hours (Legal Limits: 90 dBA = 8 hours, 95 = 4 hours, 100 dBA = 2 hours, 105 dBA = 1 hour etc.). Any additional time the miner is exposed to noise in excess of 90 dBA is over the legal limit. No miner can ever be exposed to noise levels in excess of 115 dBA, regardless of the amount or type of hearing protection worn.

Hearing Conservation – Questions and Answers to Inform You of What is Required

1) MSHA requires that mine operators monitor worker exposure to noise. T ___, F ___. True -- Monitoring is not the same as measuring. The mine operator has various options including: a) actual measurements, b) using data from similar equipment, c) using data MSHA has taken, d) using equipment manufacturer data.

2) What is required when the 8-hour time-weighted average exposure for a worker is greater than 85 dBA? When the 85 dBA “Action Level” is exceeded, the miner must be enrolled into a hearing conservation program and offered hearing protection. The miner must wear this hearing protection if the baseline (first) audiometric testing will not be done within 6 months of enrollment or if an annual audiogram indicates that the miner has incurred a Standard Threshold Shift (10 dB shift) in a miner’s hearing as determined by averaging the results measured at 2000, 3000 and 4000 hertz. The use of hearing protection does not eliminate the need to take the other required actions.

3) What is required when the 8-hour time-weighted average exposure for a worker is greater than 90 dBA? In addition to the requirements for exceeding 85 dBA, when the 90 dBA permissible exposure limit (PEL) is exceeded, the operator must require that the hearing protection be worn and must also implement feasible engineering or administrative controls. The use of hearing protection does not eliminate the need to take the other required actions.

4) What is required when the 8-hour time-weighted average exposure for a worker is greater than 105 dBA? In addition to the requirements for exceeding 90 dBA, the operator must require that dual hearing protection (plugs and muffs) be worn. The use of dual hearing protection does not eliminate the need to take the other required actions.

5) What is the maximum sound level a miner can be exposed to? If a 30-second test indicates the miner is exposed to more than 115 dBA, the exposure level is out of compliance – the miner must never be exposed to this level of noise with or without hearing protection.

6) Which of the following are correct? Noise-induced hearing loss a) can be prevented by reducing the time exposed to noise that is too loud (over 85 dBA), b) is reversible, c) can be prevented by wearing adequate hearing protection. a and c are correct.
7) What is the permissible exposure limit (PEL) for noise? The PEL for noise is a 100% dose equal to a noise level of 90 dBA for 8 hours, 95 dBA for 4 hours, 100 dBA for 2 hours, 105 dBA for 1 hour etc.

8) If the 8-hour time-weighted-average noise exposure level (TWA) for a miner is over 90 and increases by 5 dBA, the time the miner can legally work in the noisier area decreases by how much? By 50% or 1/2.

9) If the length of the miner’s workshift doubles, the time-weighted-average noise level above 90 dBA to which the miner can be exposed is decreased by ____ dBA. By 5 dBA.

10) Does MSHA regulate: a) mine noise or b) miner exposure to mine noise? MSHA does not regulate mine noise. The law requires that every mine either have data that shows that the 8-hour time-weighted-average exposure of every miner is below 85 dBA, or that the appropriate action be taken.

11) Pick the correct items -- A miner who is put into a hearing conservation program must a) be monitored b) be offered hearing protection, c) be offered audiometric testing, d) receive hearing conservation training. All are correct.

12) Pick the incorrect items -- An audiometric test: a) provides a record over a number of sound frequencies of how loud noise must be for you to hear it, b) corrects your hearing problems, c) lets you and the mine operator know how fast you are losing your hearing, d) helps the operator determine if your hearing loss is work related, e) provides the operator with information needed to assess the effectiveness of controls, f) is automatically sent to MSHA. b and f are incorrect. Data are reported to MSHA by the mine operator, only when an annual audiogram reveals a 25 dB shift in a miner’s hearing as determined by averaging the results measured at 2000, 3000 and 4000 hertz.

13) What is a standard threshold shift. A standard threshold shift occurs when an annual audiogram reveals a 10 dB shift in a miner’s hearing as determined by averaging the results measured at 2000, 3000 and 4000 hertz.

14) When is hearing protection of importance to protect a miner’s hearing? Whenever the miner is exposed to loud noise (greater than 85 dBA), both on and off the job.

15) Which of the following are advantages of ear muffs? a) glasses do not affect them, b) better to use in hot environment, c) less infections, d) easier to use, e) less costly, f) easier to carry and store. c and d are correct.

16) Which of the following are advantages of ear plugs? a) Glasses do not affect them, b) better to use in hot environment, c) less infections, d) easy to use, e) less costly, f) easier to carry and store. a, b, e, and f are correct.

17) Does MSHA require a certain noise reduction rating for ear plugs? No -- MSHA doesn’t rely on the listed ratings, but requires that the products used by miners be commercial rated products.
18) What care is required for hearing protectors? *Reusable plastic plugs should be cleaned with soap and water, dried and stored in a clean, dry place. Replace them if they show signs of wear. For muffs, inspect the inner lining and replace them when there is evidence of wear, tears or cracks.*

19) How are ear plugs correctly installed? *Follow the manufacturer’s instructions.*

For disposable foam plugs these usually include:

- Wash and dry hands before inserting.
- Use thumb and forefinger to roll into a small crease-free cylinder.
- With the opposite hand, pull the upper back of the ear outward and upward.
- Insert the plug and hold at least 10 seconds, giving it time to expand making a tight seal.
- Don’t worry about pushing the plug in too deep – it’s too short to hurt you.

Reusable plastic plugs are simply inserted by using the opposite hand to pull the upper back of the ear outward and upward and inserting the plug.

If you have a correct seal with plugs or muffs, your voice will sound louder and hollow. Try covering your ears completely with your hands to see what plugs or muffs should do.

20) How often does the operator need to determine your exposure to noise? *Initially and then only when a change is made that may affect your noise exposure level. If noise exposure has not changed, further monitoring may not be necessary.*

21) How often does the operator need to provide hearing conservation training to people that are enrolled in an HCP. *Within 30 days after enrollment in an HCP and once per year by the end of the same month it was done the previous year.*

22) Must a miner who is in an HCP be informed of noise measurement results? *Yes – the miner must be informed in writing within 15 days of the measurements.*

23) Must a miner be informed of audiometric testing results and interpretation? *Yes – the miner must be informed in writing within 10 working days of the mine receiving the results.*

24) What records must the operator have for MSHA? *Records of annual HCP training for enrolled employees, records of audiometric testing and records of employee notification of audiometric testing results and of exposure determination results (including if the action, PEL or dual-hearing protection level was exceeded) and the corrective action the operator is taking.*
Generic Hearing Conservation Program

Developed by

Michigan Technological University

Dave Carlson & Phil Eggerding
Instructions for filling out Generic Company Hearing Conservation Program Policy

Page 1: General company information.
It is not necessary to fill out this page if this HCP Policy will be included as a subpart in a larger Company Policy Manual.

Page 2: 62.110 – Noise Exposure Assessment
Noise Exposure Assessment – Place a check mark by those noise assessment methods that will be used at your company.

Page 3: 62.160 – Hearing Protectors
Check off and fill in the information on the various types of hearing protectors that will be used at your mine.

Page 4: 62.170 thru 62.175 – Audiometric Testing
Check off whether your mine requires audiometric testing or not. Check off method your company will use to do audiometric testing.

Hearing Conservation Program Check-List
This checklist is provided to aid you in assuring full compliance with the standard.

Forms
The following forms are available for use in your HCP. In the standard, MSHA does not specify the types of forms to be used. Some of these example forms would be better suited to large companies – others, to small companies. Most of these forms may be downloaded from our web site at: www.mine-safety.mtu.edu.

1. Hearing Conservation Program Training Record – Used to record the HCP Training for single individuals.
2. Hearing Conservation Program Training Class Roster – can be used as a record of HCP training for a large group.
3. Record Of Baseline Audiometric Testing – Lists those employees who have been baseline tested.
4. Record of Annual Audiometric Testing – Lists the annual audiometric tests done on company employees.
5. Hearing Conservation Program Employee Enrollment Record (Comprehensive) – A form that can be used to track all HCP aspects of employees enrolled in HCP.
6. Employee Noise Exposure Record – A form used to track Noise exposure of a large number of employees.
30 CFR Part 62 Hearing Conservation Program

GENERAL COMPANY INFORMATION

MSHA ID Number: ______________
Company Name: _______________________________________________________
Company Address: ______________________________________________________
City, State & Zip Code: _________________________________________________
Mine Name: ___________________________________________________________

Person responsible for health and safety training at the mine (Name and Position)

Responsible Person: _____________________________________________________
Position/Title: _________________________________________________________
Phone Number: _________________________________________________________
E-mail (optional): _____________________________________________________

The attached Hearing Conservation Program complies with the following subparts of CFR 30:
62.110 – Noise Exposure Assessment
62.160 – Hearing Protectors
62.170 thru 62.175 – Audiometric Testing
62.180 – Training
62.190 – Records
62.110 – Noise Exposure Assessment

Noise Exposure Assessment

At least one of the following method(s) will be used to assess employee exposure to noise (All that apply are checked):

___ 3. Mine Safety & Health Administration (MSHA) compliance sampling data. (Copies of all such data will be included in records kept for this Hearing Conservation Program.)
___ 4. Equipment manufacturer's noise specifications. (Copies of all such data will be included in records kept for this Hearing Conservation Program.)
___ 5. Data from similar equipment.

Observation of Monitoring

This mine will provide the miners and their representatives with an opportunity to observe noise exposure monitoring and will give them prior notice of the date and time monitoring will take place.

Miner Notification of Exposure

This mine will notify a miner in writing within 15 days when his or her noise exposure equals or exceeds the action level, permissible exposure level or dual hearing protection level (provided this mine has not notified the miner of a similar exposure within the prior 12 months.) A record of notification will be kept at the mine for at least 6 months after the overexposure situation is corrected.
62.160 – Hearing Protectors

The following two Hearing Protection Devices will be routinely offered (at no cost) to employees requiring such devices at this company. *The law requires two types of muffs and two types of plugs be offered.*

Hearing protection Device #1
Type:
___ In-Ear (Ear Plug)     ___ Over-the-Ear (Ear Muff)     ___ Ear Canal Cap
___ Other (Describe:) _______________________________________________________
Manufacturer: _______________________________________________________________
Ordering Information: _________________________________________________________

Hearing Protection Device #2
Type:
___ In-Ear (Ear Plug)     ___ Over-the-Ear (Ear Muff)     ___ Ear Canal Cap
___ Other (Describe:) _________________________________________________________
Manufacturer: _______________________________________________________________
Ordering Information: _________________________________________________________

Hearing Protection Device #3
Type:
___ In-Ear (Ear Plug)     ___ Over-the-Ear (Ear Muff)     ___ Ear Canal Cap
___ Other (Describe:) _________________________________________________________
Manufacturer: _______________________________________________________________
Ordering Information: _________________________________________________________

Hearing Protection Device #4
Type:
___ In-Ear (Ear Plug)     ___ Over-the-Ear (Ear Muff)     ___ Ear Canal Cap
___ Other (Describe:) _________________________________________________________
Manufacturer: _______________________________________________________________
Ordering Information: _________________________________________________________

In the event that the employee has a medical condition that prevents the use of the original choices offered the following additional choices will be made available.

Hearing Protection Device – Alternate #1
Type:
___ In-Ear (Ear Plug)     ___ Over-the-Ear (Ear Muff)     ___ Ear Canal Cap
___ Other (Describe:) _________________________________________________________
Manufacturer: _______________________________________________________________
Ordering Information: _________________________________________________________

Hearing Protection Device – Alternate #2
Other devices recommended by the physician who determined that the original choices were not suitable.

Hearing Protector Training
Training will be done on provided hearing protectors within 30 days of enrollment in the Hearing Conservation Program and thereafter, during annual refresher training.
62.170 thru 62.175 – Audiometric Testing

Audiometric testing will be offered to employees whose noise exposure is at or above the Action Level. The choice checked below reflects this mine's policy on requiring audiometric testing.

___ This mine requires baseline audiometric testing as a condition of employment.
___ This mine does not require a baseline audiometric test as a condition of employment.

Baseline audiometric testing will be provided within 6 months of enrollment in the Hearing Conservation Program (12 months if mobile lab is used.) The choice checked below reflects this mine's policy on audiometric testing.

___ Audiometric testing will be performed by our mine operation. The following is the name of the qualified Audiometric testing person:

__________________________________________________________________

___ The following Audiometric Testing Service will be used for testing of our employees.
Name of Audiometric Testing Service: ___________________________________
Address: ___________________________________________________________

_________________________________________________________________
Other Contact information: ___________________________________________

Audiometric testing will be offered annually to all employees who have been baseline tested.

Employee Notification
(Sample Notification Letters are in the Forms found under “Noise” at http://www.mine-safety.mtu.edu.

Within 10 working days of receiving the results of an audiogram, or of a follow-up evaluation required under § 62.173 of Part 62, this mine will notify the miner in writing of the following:
1. The results and interpretation of the audiometric test, including any finding of a standard threshold shift or reportable hearing loss; and
2. The need and reasons for any further testing or evaluation, if applicable.

Note: When evaluation of the audiogram shows that a miner has incurred a reportable hearing loss as defined in Part 62, this mine will report such loss to MSHA as a noise-induced hearing loss in accordance with part 50 of 30 CFR. (Unless a physician or audiologist has determined that the loss is neither work-related nor aggravated by occupational noise exposure.)
62.180 – Training

Within 30 days of a miner's enrollment into the Hearing Conservation Program, this mine will provide the miner with training. This mine operation will give training every 12 months thereafter if the miner's noise exposure continues to equal or exceed the action level. Training will include:

1. The effects of noise on hearing.
2. The purpose and value of wearing hearing protectors.
3. The advantages and disadvantages of the hearing protectors to be offered.
4. The various types of hearing protectors offered by the mine operator and the care, fitting, and use of each type.
5. The general requirements of this standard.
6. The mine operator's and miner's respective tasks in controlling the miner's exposure to noise.
7. The purpose and value of audiometric testing and a summary of the procedures.

This mine will certify the date and type of training given each miner, and maintain a record of this training for as long as the miner is enrolled in the Hearing Conservation Program, and for at least 6 months thereafter.

(Sample Training Certificates are in Forms found under “Noise” at http://www.mine-safety.mtu.edu.

62.190 – Records

A person's access to this mine operations Part 62 records will be in accordance with 30 CFR Part 62.190.
**Hearing Conservation Program Check-List**

Any miner found to have a noise exposure on the 80 to 130dB scale of greater than or equal to 66% (50% with 2dBA error factor) will be included in a Hearing Conservation Program that meets the requirements established by 62.150.

Miner's Name: _____________________________________________ AL %Dose: __________
Mine ID: ______________________ Event Number: ________________ Date Sampled: ______

**62.150 - Hearing Conservation Program Review**

NOTE: After completion of this review or if you have any questions about compliance with any part of the "Hearing Conservation Program" requirements consult with the District Industrial Hygienist or Health Specialist.

**62.110- Noise Exposure Assessment**

YES / NO 62.110(a) Has the miner's noise exposure been evaluated by the mine operator? Note: If the operator has included the miner in a hearing conservation program without assessing exposure to the "Action Level" a citation may not be warranted.

YES / NO 62.110(d) Has the mine operator informed the miner in writing within the last twelve months of exposure determination?

**62.160 - Hearing Protectors**

YES / NO 62.160(a) Has the mine operator provided the miner with a selection of hearing protection at no cost.

**62.170 through 62.175-Audiometric Testing**

YES / NO 62.170 Has the mine operator offered to the miner an audiometric test at no cost?

YES / NO 62.170 Has audiometric testing been conducted every 12 months.

YES / NO 62.171 Is an audiometric test record maintained for the miner that documents: 1) name and job classification, 2) copy of all audiograms, 3) evidence that the audiogram is scientifically valid, 4) any exposure determination, and 5) results of follow-up exams.

YES / NO 62.175(a) Has the mine operator provided, within 10 working days, the miner with a written record of the results of the audiogram.

YES / NO 62.170(b) Has a reportable hearing loss been incurred by the miner (25dBA reduction) and has a 7000-1 been filed with MSHA?

Date of Baseline Audiometric Test: ____________________________
Date of Last Audiometric Test: ______________________________

**62.180 - Training**

YES / NO 62.180(a) Has the mine operator trained the miner on 1) effects of noise on hearing, 2) use, care, fitting of, advantages, disadvantages, and types of hearing protection devices, 3) requirements of Part 62, 4) noise controls and 5) purpose and value of audiometric testing.

YES / NO 62.180(a) Has training been provided within 12 month of last HCP training.

YES / NO 62.180(b) Has the mine operator certified the date and type of training.

Date of Training: ____________________________
Hearing Conservation Program Check-List (use when exposure at/above 66% dose)

EMPLOYEE SAMPLED: __________________ OCCUPATION: ____________

MINER IS ENROLLED IN HEARING CONSERVATION PROGRAM: YES NO (Circle One)
(If “NO” is circled, do not complete the remainder of this form)

DATE MINER ENROLLED IN HEARING CONSERVATION PROGRAM: ____________

Basis for enrolling miner in Hearing Conservation Program (check one)
__ Miner enrolled in Hearing Conservation Program because exposure at or above Action Level; OR
__ Miner enrolled in Hearing Conservation Program even though monitoring indicates noise exposure
   less than Action Level; OR
__ Miner enrolled in Hearing Conservation Program without monitoring

62.110 Noise Exposure Assessment (check if complied with)
__ System of monitoring evaluates noise exposure sufficiently to determine continuing compliance

NOISE EXPOSURE LEVEL DETERMINED BY MINE OPERATOR: ____________

__ Miner who is exposed at or above Action Level, Permissible Exposure Level, or Dual Hearing
   Protection Level is notified in writing within 15 days (not required more than once per year)

DATE OF MINER NOTIFICATION: _______________

62.160 Hearing Protectors (check if complied with)
__ Hearing protectors provided at no cost to miner
__ Hearing protectors in good condition, properly fitted, maintained
__ Mine operator insures miner wears hearing protectors when noise exposure equals or exceeds PEL

62.170 – 62.175 Audiometric Testing (check if complied with)
__ Baseline testing offered and provided within 6 months of enrolling in HCP (12 months for mobile lab)

MINER ACCEPTED OFFER OF AUDIOMETRIC TESTING: YES NO (Circle One)

IF MINER ACCEPTED OFFER, DATE OF BASELINE AUDIOGRAM: ____________

__ Annual audiometric testing offered every 12 months thereafter

DATES OF ANNUAL AUDIOGRAMS: __________________________________________

__ Within 10 days of receiving audiometric test results, mine operator notifies miner in writing of results
   and interpretation of test and, if necessary, need and reasons for further testing or evaluation

NOTE: If any audiogram irregularity is observed, send all related records to District IH for review

62.180 Training (check if complied with)
__ HCP training provided within 30 days of enrollment in HCP, and at intervals not less than 12 months

DATE OF MOST RECENT HEARING CONSERVATION PROGRAM TRAINING: ____________

62.190 Records (check if complied with)
__ AR given access to all required records within 24 hrs of request