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Compliance Guide to MSHA's Occupational Noise Exposure Standard

U.S. Department of Labor

Mine Safety and Health Administration

March 2000

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INTRODUCTION - HOW TO USE THIS PUBLICATION

This document is presented in a question and answer format with the questions asked from the perspective of the mine operator.

Who should use this publication?

This publication is intended to be a useful guide for all mine operators, miners, and representatives of miners at coal and metal/nonmetal mines, underground and surface mines, and small and large mines.

What is the purpose of this guide?

This compliance guide provides a summary of the key requirements of the Mine Safety and Health Administration's (MSHA) revised occupational noise exposure standard and information to help you understand and comply with the standard. It particularly should benefit small mine operators who may be unfamiliar with hearing conservation programs.

How can I find what I need quickly?

The Table of Contents can be used to locate topics of interest. Technical terms are defined in Appendix B - Glossary of Terms.

If I follow the guidance in this document, will I be in compliance with the requirements of the new noise standards?

Yes, to the extent that the requirements are discussed here. In addition, MSHA personnel are available to assist you in these efforts and will provide specific guidance upon request. If interested, please contact your local MSHA office listed in Appendix A - Sources of Assistance.

THE PROBLEM

Why has MSHA promulgated a revised noise standard?

Noise is one of the most pervasive health hazards in mining. The National Institute for Occupational Safety and Health (NIOSH) has identified occupational noise-induced hearing loss as one of the ten leading work-related diseases and injuries. MSHA estimated that 13% of the mining population of the United States (about 37,000) would develop material hearing impairment during their working lifetime under the previous noise standards.

Prolonged exposure to hazardous sound levels over a period of years can cause permanent, irreversible damage to hearing. Hearing loss may occur rapidly under prolonged exposure

to high sound levels, or gradually when levels are lower and exposures less frequent. An individual may not notice hearing impairment until after substantial hearing loss occurs. In addition to adversely affecting the quality of life, hearing impairment can jeopardize the safety and productivity of affected miners as well as those around them.

SCOPE OF THE RULE

What mine operators will have to comply with the new noise standard?

The revised rule applies to all mine operators, both coal and metal and nonmetal, underground and surface operations.

EFFECTIVE DATE

When will the new noise standard become effective?

The final rule will become effective on September 13, 2000, one year from the date it was published. By that time, you must have evaluated each miner's noise exposure, enrolled affected miners in a hearing conservation program, provided affected miners with appropriate hearing protection, and implemented required engineering and administrative controls.

Although affected miners must be enrolled in the hearing conservation program by the effective date of the rule, you will have an additional six months to conduct the baseline audiogram (12 months if mobile test vans are used to conduct the testing).

Upon its effective date, the new rule will replace MSHA's existing coal mine noise standards (30 CFR 70.500 - 70.511 and 71.800 - 805), and existing metal and nonmetal mine noise standards (30 CFR 56.5050 and 57.5050).

KEY REQUIREMENTS OF THE RULE

The following pages address the main requirements of the new standard.

EXPOSURE LEVELS

What is the noise exposure "Action Level"?

The "action level" is defined as an 8-hour time-weighted average (TWA_8) sound level of 85 dBA integrating all sound levels from 80 dBA to at least 130 dBA.

What must I do if a miner's exposure equals or exceeds the Action Level?

Section 62.120 requires that if a miner's noise exposure equals or exceeds the "action level" during any work shift, you are required to enroll the miner in a "hearing conservation program" (HCP) that complies with Section 62.150.

This is a *new requirement* for both coal mine operators and metal and nonmetal mine operators. MSHA believes that enrolling miners in an effective HCP at this exposure level will significantly reduce the occurrence and progression of noise-induced hearing loss among miners.

This "action level" is identical to that used by OSHA in its hearing conservation amendment, and results in uniform enforcement levels in both general industry and the mining industry.

What is the "Permissible Exposure Level"?

The "Permissible Exposure Level" (PEL) is defined as an 8-hour time-weighted average (TWA_8) sound level of 90 dBA integrating all sound levels from at least 90 dBA to at least 140 dBA.

Is there a maximum exposure level?

Yes, you must assure that no miner is exposed at any time to sound levels exceeding 115 dBA, even if the miner is wearing hearing protectors.

What must I do if a miner's exposure exceeds the Permissible Exposure Level?

If a miner's noise exposure exceeds the "permissible exposure level" (PEL) during any work shift, Section 62.130 requires you to enroll the miner in an HCP that complies with Section 62.150, and use all feasible engineering and administrative controls to reduce the miner's noise exposure to the PEL. You must also ensure the use of operator provided hearing protection. In addition, you must post administrative controls on the mine bulletin board and provide a copy to the affected miners.

What is the "Dual Hearing Protection Level"?

The "dual hearing protection level" is defined as a TWA_8 of 105 dBA integrating all sound levels from 90 dBA to at least 140 dBA.

What must I do if a miner's exposure exceeds the Dual Hearing Protection Level?

If a miner's noise exposure exceeds the "dual hearing protection level" during any work shift, Section 62.140 requires you to provide and ensure the concurrent use of both plug type and

muff type hearing protectors, in addition to the actions required for noise exposures which exceed the PEL.

ENGINEERING AND ADMINISTRATIVE CONTROLS

What are my responsibilities for installing engineering noise controls and implementing administrative noise controls?

Section 62.130 of the rule requires all mine operators to use all feasible engineering and administrative noise controls to reduce miners' noise exposures within the PEL without adjustment for the use of hearing protectors. Until now, this requirement has applied only to metal and nonmetal mines.

You can choose either engineering controls or administrative controls, or a combination of both, as long as the controls you choose reduce the miner's noise exposures to the PEL. If a single control method fails to reduce exposure to the PEL, you must use both feasible engineering and administrative controls as necessary to reduce exposure to the PEL. When administrative controls are used, you must post the procedures for the controls and provide a copy to the affected miners.

What if the feasible engineering and administrative controls do not adequately reduce the noise exposure to miners?

If a miner's noise exposure exceeds the PEL despite the use of all feasible engineering and administrative controls, Section 62.130 requires you to:

- continue to use the controls to maintain the miner's exposure as low as feasible;
- provide and require the use of hearing protectors;
- enroll the miner in a hearing conservation program; and
- post procedures for administrative controls on the mine bulletin board and provide a copy to the affected miners.

Although hearing protectors must be provided and used if the engineering and administrative controls fail to reduce the miner's noise exposure to the PEL, they are not accepted in lieu of such controls.

How will MSHA determine if a citation is warranted when evaluating whether I have implemented all feasible controls?

Because the objective of Section 62.130(a) is to reduce noise exposure to the PEL, once you comply with the requirements of this section by (1) using all feasible engineering and administrative controls to reduce the miners' noise exposures; (2) by enrolling the affected

miners in a HCP; (3) by providing and requiring miners to use personal hearing protectors; and (4) posting procedures for administrative controls on the mine bulletin board and providing a copy to the affected miners, you will be in compliance with this section and no citation will be issued under paragraph (a) even though a miner's noise exposure may continue to exceed the PEL.

On the other hand, if MSHA determines that you failed to install all feasible controls or you failed to implement any of the requirements under paragraph (a), you will be out of compliance and appropriate citations will be issued.

As stated before, if a miner's noise exposure exceeds the PEL despite the use of all feasible engineering and administrative controls, the rule requires you to (1) continue to use the controls to maintain the miner's exposure as low as feasible; (2) provide and require the use of hearing protectors; and (3) enroll the miner in a hearing conservation program.

MSHA expects that few operators will have difficulty reducing noise levels to the PEL using feasible controls. There are a few instances, however, where we recognize that noise levels cannot currently be reduced to the PEL using feasible controls. In those situations, MSHA will continue to work with operators and equipment manufacturers to develop controls which provide the best protection for miners.

How will MSHA determine if engineering and administrative controls are feasible?

Both technological and economic feasibility will be considered by MSHA in determining if a particular noise control is feasible. Under MSHA's prior noise standards for metal and nonmetal mines, the Mine Safety and Health Review Commission (Commission) ruled that a control is considered feasible when it:

- reduces exposure;
- is technologically achievable; and
- is economically achievable.

Consistent with Commission case law, MSHA considers three factors in determining whether engineering controls are feasible at a particular mine: (1) the nature and extent of the exposure; (2) the demonstrated effectiveness of available technology; and (3) whether the committed resources are wholly out of proportion to the expected results. A violation under the final standard would entail MSHA determining that a miner has been overexposed, that controls are feasible, and that you failed to install and maintain such controls.

The Commission further ruled that a control need not reduce exposure below the PEL in order to be feasible, as long as there is a significant reduction (generally 3 dBA or more). Sometimes, however, a single control may achieve less than 3 dBA reduction and still be considered feasible if its use, in combination with other controls, achieves 3 dBA or more

reduction. Additionally, a control may be considered feasible if it achieves 3 dBA or more of reduction in a particular frequency band, but not 3 dBA over all frequency ranges. Such reduction may complement the hearing protectors being worn, since most hearing protectors do not decrease noise evenly over all frequency bands.

MSHA believes that feasible engineering and administrative noise controls exist for most types of mining equipment. MSHA staff are available to assist mine operators in both identifying noise problems and determining the controls that have been successful in reducing noise. Appendix A contains a list of MSHA offices and phone numbers throughout the country that may be contacted for assistance.

NOISE EXPOSURE ASSESSMENT

What are my responsibilities for determining miners' noise exposure?

Section 62.110 requires you to establish a system of monitoring that evaluates each miner's noise exposure sufficiently to determine continuing compliance with the rule. The rule specifies how a miner's noise dose is to be determined, but otherwise it is performance-oriented and neither the sampling equipment nor intervals of monitoring are specified.

Whatever method you choose, it must be able to accurately:

- determine if miners' noise exposures equal or exceed the action level (85 dBA), or exceeds the PEL (90 dBA) or dual hearing protection level (105 dBA);
- determine the effectiveness of the engineering and administrative controls used;
- identify areas of the mine where the use of hearing protectors is required; and
- ensure that audiometric test providers are provided the necessary information to properly evaluate miners' audiograms.

How do I determine a miner's noise dose?

Section 62.110 requires that a miner's noise dose:

- be made without adjustment for the use of any hearing protection;
- integrate all sound levels over the appropriate range (80 to at least 130 dBA for action level and 90 to at least 140 dBA for permissible exposure level and dual hearing protection level);
- reflect the miner's full work shift;
- use a 90-dB criterion level and a 5-dB exchange rate; and
- use the A-weighting and slow response instrument settings.

The final rule does not allow a mine operator to consider the effect of hearing protection when determining a miner's noise dose.

What type of instruments would I use to determine a miner's noise exposure?

Sound level meters and personal noise dosimeters are the most common instruments used to assess noise exposure. MSHA believes that most mine operators will use personal noise dosimeters because they are easy to use, they calculate the miner's exposure based on noise measurements the dosimeter collects during the period worn, and many models actually contain multiple dosimeters so the AL, PEL, and DHPL are determined simultaneously.

MSHA sampling and compliance determinations will be primarily based on full-shift samples collected using personal noise dosimeters. Other sampling methods can be effective even though sampling with a dosimeter is the easiest and most accurate sampling method.

The ***sound level meter*** (SLM) contains a microphone, an amplifier, frequency response networks, and some type of indicating meter. The SLM indicates the sound level pressure in decibels (dB) by measuring sound pressure then amplifying and scaling it. To determine compliance with regulations, you should use the "A" scale because it most closely approaches the way our ears receive and perceive sound pressures. Sound level meter readings are commonly used to help identify the source of a miner's noise exposure and for noise surveys of the workplace.

A ***noise dosimeter*** measures personal exposures to noise and is the instrument MSHA uses to determine compliance. It consists of a microphone (placed in the miner's hearing zone) and a case containing the microprocessor controlled monitor. The dosimeter continuously monitors, integrates, and records the sound energy to which a miner is exposed during the shift. It uses this information to calculate the daily noise dose. Most dosimeters also keep track of the highest decibel level recorded and indicate if there has been exposure above 115 dBA (the maximum allowable exposure to non-impact noise under MSHA regulations). Most dosimeters can also function as a sound level meter.

If you want to conduct your own noise monitoring, equipment may be either purchased, rented, or borrowed. Sound level meters currently cost about $500 to $1,000, while personal noise dosimeters currently range in price from about $750 to $1,500. Smaller companies may find it more economical to rent equipment than to purchase it. Names of equipment suppliers can be found in the Yellow Pages under headings such as: "Safety Equipment," "Industrial Hygiene," or "Engineers-Acoustical." You may also find names and addresses of equipment suppliers on the Internet by searching for such terms as "noise dosimeter manufacturers."

How will MSHA evaluate my noise monitoring efforts?

MSHA intends to evaluate the effectiveness of your method of assessing miners' noise exposure by how well they achieve the above goals. You may not need to evaluate each miner's noise exposure individually, provided that the established monitoring system serves to detect each miner's exposure equaling or exceeding the action level (85 dBA), or exceeding the PEL (90 dBA) or dual hearing protection level (105 dBA). Depending upon the circumstances, monitoring areas of the mine or representative job tasks may provide you with sufficient information to determine compliance. You also could use the results of MSHA sampling, information from equipment manufacturers on the sound levels produced by their equipment, or information from insurance carriers to determine compliance with the rule. MSHA sampling results may be obtained by contacting the local district office.

Can miners and their representatives observe my noise monitoring?

Section 62.110(c) requires you to give affected miners and their representatives the opportunity to observe required monitoring, and to give them prior notice of the date and time that such monitoring is to be conducted. The standard does not require you to pay miners or their representatives for the time taken to observe such monitoring.

Am I required to notify a miner if his or her noise exposure equals or exceeds allowable levels?

Section 62.110(d) requires you to notify a miner, in writing, within 15 calendar days of determining that his or her noise exposure equals or exceeds the action level, exceeds the permissible exposure level or exceeds the dual hearing protection level. The notification is required unless you have notified the miner of an exposure at that level within the prior 12 months.

The notification must include the level of noise to which the miner was exposed to and the corrective action being taken. Additionally, you must maintain a copy of the notification, or a list on which the relevant information is recorded, for the duration of the affected miner's exposure at or above the action level and for at least 6 months thereafter.

The exposure notification can be based on monitoring conducted by you, insurance carriers, consultants, mining associations, state agencies, or by monitoring conducted by MSHA inspectors. You must assure, however, that the miner's noise dose was appropriately determined following the minimum requirements specified in the rule.

Based on your noise monitoring system, if no miner's noise exposure equals or exceeds the action level, or exceeds the permissible exposure level, dual hearing protection level or maximum allowable level, then you do not need to establish a hearing conservation program. Each of these requirements are specifically described elsewhere in this guide.

HEARING CONSERVATION PROGRAM (HCP)

What must I include in my Hearing Conservation Program?

Section 62.150 specifies that a hearing conservation program (HCP), established to comply with this rule, must include:

- a system of monitoring (Section 62.110);
- the provision and use of hearing protectors (Section 62.160);
- audiometric testing (Section 62.170 - 175);
- training (Section 62.180); and
- recordkeeping (Section 62.190).

You are required to establish an HCP meeting the above provisions when a miner's noise exposure equals or exceeds the action level.

How are Personal Hearing Protectors addressed under a HCP?

Section 62.160 requires you to provide hearing protectors to any miner whose noise exposure equals or exceeds the action level. You must also train the miner on subjects including but not limited to, types of hearing protectors, the value of wearing hearing protection and of audiometric tests. You must also provide the miner a choice of hearing protectors, including at least two muff type and two plug type hearing protectors.

The hearing protectors that you provide must be in good condition, fitted, and maintained in accordance with the manufacturer's instructions. The hearing protectors provided, along with any replacements, at no cost to the miner. If a miner's noise exposure exceeds the dual hearing protector level, you must provide both a muff type and plug type protector.

Although you are required to offer hearing protectors to any miner whose noise exposure equals or exceeds the action level, the standard does not require that a miner wear hearing protection unless:

- the miner's noise exposure equals or exceeds the action level and the miner has incurred a standard threshold shift in his or her hearing;
- the miner's exposure equals or exceeds the action level and it will be longer than 6 months before he or she can receive a baseline audiogram; or
- the miner's exposure exceeds the PEL (90 dBA) or dual hearing protection level (105dBA).

Although you should consider a hearing protector's noise reduction rating in choosing the selection of hearing protectors to offer to a miner, MSHA believes a more important consideration is the comfort and fit of the protector.

Do I have to offer audiometric (hearing) testing to miners enrolled in a HCP?

Audiometric testing must be offered to each miner enrolled in the HCP; however, miners are not required to take the test.

Section 62.170 requires that audiometric tests be provided at no cost to the miner. Additionally, it requires that the tests be conducted by a physician, an audiologist, or a qualified technician under the direction or supervision of a physician or an audiologist. There are also specific requirements for conducting baseline audiograms, annual audiograms, and revised baseline audiograms for miners enrolled in a hearing conservation program.

The requirements for audiometric testing under Sections 62.170 through 62.175 are similar, although less detailed, than those under OSHA's hearing conservation amendment. Mine operators who have established audiometric testing programs consistent with OSHA requirements will not need to make any changes to comply with this new rule.

Are there any other requirements related to audiometric testing?

Yes, there are provisions for establishing baseline audiograms, subsequent annual audiograms, and revised baseline audiograms which are discussed below.

Section 62.170(a) requires you to establish a baseline audiogram for each miner enrolled in an HCP. The baseline audiogram will be used to evaluate changes in a miner's hearing sensitivity when compared with subsequent annual audiograms. You may use the results of a miner's existing audiogram as the baseline audiogram if it meets the testing requirements in Section 62.171.

The baseline audiogram must be provided within 6 months of enrolling a miner in an HCP, or 12 months if a mobile test van is used. You must notify the miner to avoid high levels of noise for at least 14 hours immediately before the baseline audiogram, and not expose the miner to workplace noise during that 14-hour period. You may substitute the use of hearing protectors for this quiet period. MSHA recommends that you strive to keep miner's noise exposures to below the action level of 85 dBA during the quiet period.

The rule also allows you to establish a new or revised baseline audiogram if the miner has been away from the mine for more than 6 consecutive months.

Section 62.170(b) requires that after the baseline audiogram has been established, you must continue to offer subsequent audiograms at intervals not exceeding 12 months for as long as the miner remains in the HCP. These annual audiograms must also be provided at no cost to the miner.

Section 62.170(c) requires that an annual audiogram be regarded as a revised baseline audiogram when a physician or audiologist determines that:

- there was a significant improvement in the miner's hearing threshold as compared to the baseline audiogram; or
- a standard threshold shift revealed by the audiogram is permanent.

Are audiometric test procedures spelled out in the new noise standard?

Yes. Section 62.171 contains minimum specifications for conducting audiometric tests. It requires that audiometric testing be conducted in accordance with scientifically validated procedures, and that they be pure tone, air conduction, hearing threshold examinations, with test frequencies at 500, 1000, 2000, 3000, 4000, and 6000 hertz. Each ear must be tested separately.

Audiometric tests conducted in accordance with current OSHA requirements also comply with MSHA's rule.

This section also requires you to compile and maintain an audiometric test record for each miner tested which must include:

- name and job classification of the miner tested;
- a copy of all of the miner's audiograms conducted under this part;
- evidence that the audiograms were conducted in accordance with Section 62.171(a);
- any exposure determination for the miner conducted in accordance with Section 62.110; and
- the results of any follow-up examinations.

You are required to keep a copy of the above test records for the duration of the affected miner's employment, plus at least 6 months, and make the records available for inspection by an authorized representative of the Secretaries of Labor and Health and Human Services.

Who evaluates audiograms conducted under the provisions of this standard to determine if a hearing loss has occurred?

Section 62.172 requires that you have a physician, audiologist, or a qualified technician who is under the direction or supervision of a physician or audiologist, determine if:

- the audiogram is valid;
- a standard threshold shift occurred; or
- a reportable hearing loss occurred.

How soon must I obtain the results of audiograms and what actions must I take?

Section 62.172 requires that you must obtain the results of any required audiogram and the interpretation of the results from the person evaluating the audiogram within 30 calendar days of the testing. If the audiogram is determined to be invalid, a retest must be offered within 30 days of receiving the determination.

If an annual audiogram demonstrates that the miner has incurred either a standard threshold shift or reportable hearing loss, you offer one retest within 30 calendar days of receiving the results, and may use the results of the retest as the annual audiogram.

In determining whether a standard threshold shift or reportable hearing loss has occurred, allowance may be made for the contribution of aging (presbycusia) to the change in hearing level by adjusting the baseline, the revised baseline or the annual audiogram. Section 62.172(c)(1) lists the procedures to follow in making such an adjustment. If used, the adjustment for aging must be applied consistently to all audiometric test records - baseline, revised baseline, and annual audiograms. See page 13 for the age adjustment from Part 62.

What must I do if an audiogram cannot be obtained due to a miner having possible medical problems affecting one or more ears?

Section 62.173 requires you to refer a miner for a clinical audiological evaluation or an otological examination (which checks for diseases of the ear), as appropriate, when a valid audiogram cannot be obtained due to a suspected medical pathology of the ear which the physician or audiologist believes was **caused or aggravated by the miner's occupational exposure to noise or the wearing of hearing protectors**. This follow-up evaluation must be at no cost to the miner.

If the physician or audiologist concludes that a valid audiogram cannot be obtained due to a medical pathology of the ear which is **unrelated to the miner's occupational exposure to noise or the wearing of hearing protectors**, you must instruct the physician or audiologist to inform the miner of the need for an otological examination. You are not responsible for the cost of such otological examination.

Table 62-3.--Age Correction Value in Decibels for Males (Selected Frequencies)

Age (years)	kHz		
	2	3	4
20 or less	3	4	5
21	3	4	5
22	3	4	5
23	3	4	6
24	3	5	6
25	3	5	7
26	4	5	7
27	4	6	7
28	4	6	8
29	4	6	8
30	4	6	9
31	4	7	9
32	5	7	10
33	5	7	10
34	5	8	11
35	5	8	11
36	5	9	12
37	6	9	12
38	6	9	13
39	6	10	14
40	6	10	14
41	6	10	14
42	7	11	16
43	7	12	16
44	7	12	17
45	7	13	18
46	8	13	19
47	8	14	19
48	8	14	20
49	9	15	21
50	9	16	22
51	9	16	23
52	10	17	24
53	10	18	25
54	10	18	26
55	11	19	27
56	11	20	28
57	11	21	29
58	12	22	31
59	12	22	32
60 or more	13	23	33

Table 62-4.--Age Correction Value in Decibels for Females (Selected Frequencies)

Age (years)	kHz		
	2	3	4
20 or less	4	3	3
21	4	4	3
22	4	4	4
23	5	4	4
24	5	4	4
25	5	4	4
26	5	5	4
27	5	5	5
28	5	5	5
29	5	5	5
30	6	5	5
31	6	6	5
32	6	6	6
33	6	6	6
34	6	6	6
35	6	7	7
36	7	7	7
37	7	7	7
38	7	7	7
39	7	8	8
40	7	8	8
41	8	8	8
42	8	9	9
43	8	9	9
44	8	9	9
45	8	10	10
46	9	10	10
47	9	10	11
48	9	11	11
49	9	11	11
50	10	11	12
51	10	11	12
52	10	12	13
53	10	13	13
54	11	13	14
55	11	14	14
56	11	14	15
57	11	15	15
58	12	15	16
59	12	16	16
60 or more	12	16	17

Am I required to take corrective actions when an audiogram indicates a standard threshold shift? .

Section 62.174 addresses follow-up corrective action when a miner is found to have incurred a standard threshold shift in hearing sensitivity. A standard threshold shift is a change in hearing sensitivity for the worse relative to the miner's baseline audiogram, or revised baseline audiogram, of an average of 10 dB or more at 2000, 3000, and 4000 Hz in either ear.

Unless a physician or audiologist determines that the standard threshold shift is neither work-related nor aggravated by occupational noise exposure, you must take the following action within 30 calendar days of receiving evidence or confirmation of a standard threshold shift:

- retrain the miner in accordance with Section 62.180 of the final rule;
- provide the miner with the opportunity to select a new or different hearing protector from among those offered by the mine operator in accordance with Section 62.160 of this part; and
- review the effectiveness of any engineering and administrative controls to identify and correct any deficiencies.

What are my requirements for notifying and reporting the results of audiometric testing to the affected miners?

Section 62.175 provides notification and reporting requirements pertaining to the required audiometric testing.

Within 10 working days of receiving the results of any required audiogram or follow-up evaluation, you must notify a miner in writing of the following:

the results and interpretation of the audiometric test, including any finding of a standard threshold shift or reportable hearing loss; and the need and reasons for any further testing or evaluation, if applicable.

A reportable hearing loss is a change in hearing sensitivity for the worse, relative to the miner's baseline audiogram, or revised baseline audiogram, of an average of 25 dB or more at 2000, 3000, and 4000 Hz in either ear.

You must report to MSHA any reportable hearing loss, unless a physician or audiologist has determined that the loss is neither work-related nor aggravated by occupational noise exposure. Reportable hearing losses are considered by MSHA as a noise-induced hearing loss under part 50, and are to be reported to MSHA on Form 7000-1. This is in addition to the current reporting requirements of Part 50.

What are the training requirements for miners enrolled in Hearing Conservation Programs?

Section 62.180 requires that you provide a miner with specific, noise-related training within 30 days of enrollment in an HCP. The training must be repeated at least every 12 months for as long as the miner's noise exposure continues to equal or exceed the action level.

The training must include instruction that addresses the following:

- effects of noise on hearing;
- purpose and value of wearing hearing protectors;
- various types of hearing protectors offered by the mine operator and the care, fitting, and use of each type;
- advantages and disadvantages of the hearing protectors offered;
- general requirements of MSHA's noise rule;
- mine operator's and miner's respective tasks in maintaining mine noise controls; and
- purpose and value of audiometric testing and a summary of the procedures.

You are required to certify the date and type of training given each miner, and maintain the miner's most recent certification for as long as the miner is enrolled in the HCP and for at least 6 months thereafter.

What are my recordkeeping requirements under the new noise standard?

Section 62.190 addresses access to records that mine operators are required to maintain. Under Section 62.110(e), noise exposure assessment; Section 62.171(c), audiometric test procedures; Section 62.175(b), notification of results and reporting requirements; and Section 62.180(b), training.

The following table shows the individuals and records that you must provide access to, and at what cost.

Recordkeeping Requirements Table

Requestor	**Record**	**Cost**
Miner, or with the miner's written consent, the miner's designee	All required records that the mine operator must maintain for that individual miner	1st copy at no cost, additional copies at reasonable cost
Representative of miners	Training certifications, and any notices of exposure determinations for the miners whom he or she represents	1st copy at no cost, additional copies at reasonable cost
Former miner	His or her own exposure records	1st copy at no cost, additional copies at reasonable cost
Authorized representatives of the Secretary of Labor and Health and Human Services	All required records	Allow government to make copy.

The rule also addresses what records are to be maintained by successor operators and how long those records are to be kept.

APPENDIX A - SOURCES OF ASSISTANCE

MSHA is in the process of developing several documents to assist you in complying with this rule. These include the following:

- Engineering and Administrative Control Handbook;
- Noise Exposure Monitoring Reference Guide;
- Audiometric Testing Reference Guide;
- Hearing Protector Noise Reduction Rating Reference Guide;
- Question and Answer Pamphlet;
- Compliance Check List.

As these documents are finalized, they will be available on MSHA's web site at: *http://www.MSHA.gov*, or through MSHA's Technical Information Center Library at:

National Mine Health and Safety Academy
Attention: Distribution Center
Department of Instructional Materials
P.O. Box 1166
Beckley, WV 25802-1166
Telephone: 304-256-3257
FAX: 304-256-3368
e-mail: MSHADistributionCenter@dol.gov

You may also direct questions and concerns regarding MSHA's noise standards, policy, sampling, and controls to the Coal Health Division or the Metal and Nonmetal Division of Health, your local MSHA District Office, or to MSHA's Office of Technical Support. Addresses and telephone numbers for these offices are listed below and can be found on MSHA's web site.

Pittsburgh Safety and Health Technology Center
Physical and Toxic Agents Division
Cochrans Mill Road,
P.O. Box 18233
Pittsburgh, PA 15236
Office: 412-386-6980
Fax: 412-892-6154
Contact: Dennis Giardino

Coal Mine Safety and Health

Division of Health
4015 Wilson Blvd.
Arlington, VA 22203
Office: 703-235-1358
Fax: 703-235-1517
Contact: Keith Watson

District 1
The Stegmaier Bldg, #034
7 N. Wilkes-Barre Blvd.
Wilkes-Barre, PA 18702
Office: 570-826-6321
Fax: 570-826-6207
Contact: Charles Moore

District 2
RR1, Box 736
Hunker, PA 15639
Office: 724-925-5150, x.111
Fax: 724-925-6190
Contact: Thomas Todd

District 3
5012 Mountaineer Mall
Morgantown, WV 26501
Office: 304-291-4277
Fax: 304-291-4196
Contact: William Ponceroff

District 4
100 Bluestone Road
Mt. Hope, WV 25880
Office: 304-877-3900, x125
Fax: 304-877-3927
Contact: Ronnie Bowman

District 5
P.O. Box 560
Norton, VA 24273
Office: 540-679 0230
Fax: 540-679-1663
Contact: William Strength

District 6
4159 North Mayo Trail
Pikeville, KY 41501
Office: 606-432-0944
Fax: 606-437-9988
Contact: Jerry Taylor

District 7
HC 66, Box 1762
Barbourville, KY 40906
Office: 606-546-5123
Fax: 606-546-5245
Contact: Randy Kline

District 8
2300 Old Decker Rd, #200
Vincennes, IN 47591
Office: 812-882-7617
Fax: 812-882-7622
Contact: Bryan Sargeant

District 9
P.O. Box 25367
Denver, CO 80225-0367
Office: 303-231-5462, x105
Fax: 303-231-5553
Contact: Bob Cornett

District 10
100 YMCA Drive
Madisonville, KY 42431
Office: 502-821-4180, x 245
Fax: 502-825-0949
Contact: Robert Smith

District 11
135 Gemini Circle, # 213
Birmingham, AL 35209
Office: 205-290-7300, x 128
Fax: 205-290-7389
Contact: Judy McCormick

Metal and Nonmetal Mine Safety and Health

Division of Health
4015 Wilson Blvd.
Arlington, VA 22203
Office: 703-235-8307
Fax: 703-235-9173
Contact: Doris Cash

Northeast District
230 Executive Drive, # 2 Cranberry Township, PA 16066-6415 Office: 724-772-2333, 2334, 2335
Fax: 724-772-0260
Contact:Joseph M. Denk

Southeast District
135 Gemini Circle, # 212
Birmingham, AL 35209 Office: 205-290-7294, 7297, 7298
Fax: 205-290-7299
Contact: Cindy Kinard

North Central District
Federal Bldg, U.S. Courthouse 515 W. 1st Street, #333 Duluth, MN 55802-1302
Office: 218-720-5448
Fax: 218-720-5650
Contact: George Schorr

South Central District
1100 Commerce Street, Rm. 4C50 Dallas, TX 75242-0499
Office: 214-767-8401
Fax: 214-767-8405
Contact: Steven O. Viles

Rocky Mountain District
P.O. Box 25367, DFC
Denver, CO 80225-0367
Office: 303-231-5465
Fax: 303-231-5468
Contact: Ron Renowden

Western District
2060 Peabody Rd., Suite 610 Vacaville, CA 95687
Office: 707-447-9844
Fax: 707-447-9816
Contact: Jaime Alvarez

Additionally, information is available on noise-induced hearing loss, hearing conservation, audiometric testing services, and related issues from other governmental agencies, professional associations and academia. Names, mailing addresses, and web site addresses for several of these organizations are listed below. Some of these organization's web sites provide links to other web sites on noise and hearing conservation.

National Institute for Occupational Safety and Health (NIOSH)
Publications and Technical Information and Assistance
(9:00 - 4:00 daily, EST)
1-800-35-NIOSH
(1-800-356-4674)
Fax: 513-533-8573
http://www.cdc.gov/niosh/homepage.html

Occupational Safety and Health Administration (OSHA)
U.S. Department of Labor
200 Constitution Ave., N.W.
Washington, D.C. 20210
http://www.osha.gov

PROFESSIONAL ASSOCIATIONS

Mention of the following organizations does not constitute endorsement of them by MSHA or a validation of the information they present.

American Conference of Governmental Industrial Hygienists
1330 Kemper Meadow Dr.
Suite 600
Cincinnati, OH 45240
Office: 513-742-2020
Fax: 513-742-3355
http://www.acgih.org

American Industrial Hygiene Association
2700 Prosperity Avenue
Suite 250
Fairfax, VA 22031
Office: 703-849-8888
Fax: 703-207-3561
http://www.aiha.org

American National Standards Institute
11West 42nd Street
New York, NY 10036
Office: 212-642-4900
Fax: 212-398-0023
http://www.ansi.org

American Speech-Language-Hearing Association (ASHA)
10801 Rockville Pike
Rockville, MD 20852
Office: 1-800-638-8255
Fax: 301-897-7355
http://www.asha.org

Council for Accreditation in Occupational Hearing Conservation (CAOHC)
611 East Wells St.
Milwaukee, WI 53202-3816
Office: 414-276-5338
Fax: 414-267-3349
http://www.caohc.org/related_websites.html (for links to related web sites)

National Hearing Conservation Association (NHCA)
9101 E. Kenyon Ave.
Suite 300
Denver, Co 80237
Office: 303-224-9022
Fax: 303-770-1812
http://www.hearingconservation.org (home page and links to their listing of professional service organizations) and *http://www.hearingconservation.org/links.htm* (for links to related web sites)

University of Wisconsin-Whitewater
http://facstaff.uww.edu/bradleys/ohc/home.html (this is their occupational hearing conservation home page which provides links to many other sources of educational materials and information)

National Council of Acoustical Consultants
66 Morris Avenue, #1A
Springfield, NJ 07081-1409
Office: 973-564-5859
Fax: 973-564-7480
http://www.ncac.com

National Safety Council
1121 Spring Lake Drive
Itasca, IL 60143-3201
Office: 630-285-1121
Fax: 630-285-1315
http://www.nsc.org

Oklahoma State University-Department of Environmental Safety and Health
http://www.pp.okstate.edu/ehs/links/noise.htm (this web site is their online safety library of noise and hearing conservation information)

APPENDIX B - GLOSSARY OF TERMS

Access. The right to examine and copy records.

Action level. An 8-hour time-weighted average sound level (TWA_8) of 85 dBA, or equivalently a dose of 50%, integrating all sound levels from 80 dBA to at least 130 dBA.

Audiologist. A professional, specializing in the study and rehabilitation of hearing, who is certified by the American Speech-Language-Hearing Association (ASHA) or licensed by a state board of examiners.

Baseline audiogram. The audiogram recorded in accordance with Section 62.170 of this part against which subsequent audiograms are compared to determine the extent of hearing loss, except in those specific situations in which this part requires the use of a revised baseline audiogram for such a purpose.

Criterion level. The sound level which, if applied for 8 hours, results in a dose of 100% of that permitted by the standard.

Decibel (dB). A unit of measure of sound pressure levels, defined in one of two ways, depending upon the use:

(1) For measuring sound pressure levels, the decibel is 20 times the common logarithm of the ratio of the measured sound pressure to the standard reference sound pressure of 20 micropascals (µPa), which is the threshold of normal hearing sensitivity at 1000 Hertz (Hz).

(2) For measuring hearing threshold levels, the decibel is the difference between audiometric zero (reference pressure equal to 0 hearing threshold level) and the threshold of hearing of the individual being tested at each test frequency.

Dual hearing protection level. A TWA_8 of 105 dBA, or equivalently, a dose of 800% of that permitted by the standard, integrating all sound levels from 90 dBA to at least 140 dBA.

Exchange rate. The amount of increase in sound level, in decibels, which would require halving of the allowable exposure time to maintain the same noise dose. For the purposes of this part, the exchange rate is 5 decibels (5 dB).

Hearing protector. Any device or material, capable of being worn on the head or in the ear canal, sold wholly or in part on the basis of its ability to reduce the level of sound entering the ear, and which has a scientifically accepted indicator of noise reduction value.

Hertz (Hz). Unit of frequency numerically equal to cycles per second.

Medical pathology. A condition or disease affecting the ear.

Miner's designee. Any individual or organization to whom a miner gives written authorization to exercise the miner's right of access to records.

Permissible exposure level. A TWA_8 of 90 dBA, or equivalently, a dose of 100% of that permitted by the standard, integrating all sound levels from 90 dBA to at least 140 dBA.

Qualified technician. A technician who has been certified by the Council for Accreditation in Occupational Hearing Conservation (CAOHC), or by another recognized organization offering equivalent certification.

Reportable hearing loss. A change in hearing sensitivity for the worse, relative to the miner's baseline audiogram or, in the case of a revised baseline audiogram where one has been established in accordance with §62.170(c)(2), relative to such revised baseline audiogram, of an average of 25 dB or more at 2000, 3000, and 4000 Hz in either ear.

Revised baseline audiogram. An annual audiogram designated, as a result of the circumstances set forth in §62.170(c)(1) or §62.170(c)(2) of this part, to be utilized in lieu of a miner's original baseline audiogram in measuring changes in hearing sensitivity.

Sound level. For purposes of this part, the sound pressure level in decibels measured using the A-weighting network and a slow response, expressed in the unit dBA.

Standard threshold shift. A change in hearing sensitivity for the worse relative to the miner's baseline audiogram, or relative to the most recent revised baseline audiogram where one has been established, of an average of 10 dB or more at 2000, 3000, and 4000 Hz in either ear.

Time-weighted average - 8 hour (TWA_8). The sound level which, if constant over 8 hours, would result in the same noise dose as is measured.