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MSHA  
Office of Standards, Regulations, and Variances  
RIN 1219-AB64  
1100 Wilson Boulevard  
Arlington, VA22209-3939

[www.regulations.gov](http://www.regulations.gov)

RE: Lowering Miners' Exposure to Respirable Coal Mine Dust, Including  
Continuous Personal Dust Monitors; proposed rule.  
*75 Federal Register 64412*

### 3M Company Comments

Dear Sir/Madam:

The 3M Company (hereinafter "3M") respectfully submits the following comments in response to the Mine Safety and Health Administration's (MSHA) *Federal Register* Notice published October 19, 2010 (75 FR 64412), wherein the agency solicited comments on a proposed rule regarding, among other items, lowering miners' exposure to respirable coal mine dust. 3M appreciates the opportunity to present these comments.

3M, through its Occupational Health and Environmental Safety (OH&ES) Division, is a major manufacturer and supplier of respiratory protective devices throughout the world. 3M has invented, developed, manufactured and sold approved respirators since 1972. We have developed numerous training programs, videos, computer programs and technical literature to help our customers develop and administer effective respirator programs. Our sales people have trained and fit tested hundreds of thousands of respirator wearers throughout the world. Our technical staff has performed basic research on the performance of respirators and their uses, presented and published these data in numerous forums and participated in the development of the ANSI Z88 standards on respiratory protection. In sum, we have substantial experience in all phases and applications of respiratory protection.

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We appreciate the opportunity to add our comments and knowledge to the rulemaking record and look forward to the promulgation of a protective and useful standard.

Sincerely,

A handwritten signature in black ink, appearing to read "Robert A. Weber". The signature is written in a cursive style with a large initial "R".

Robert A. Weber  
Manager, Regulatory Affairs, Quality Assurance and Technical Service  
3M Occupational Health & Environmental Safety Division

RAW:CEC/  
Enclosure

**Lowering Miners' Exposure to Respirable Coal mine Dust, Including Continuous Personal  
Dust Monitors; proposed rule.**  
[75 FR 64412]

3M supports Mine Safety and Health Administration's (MSHA) efforts to reduce miner's exposure to respirable coal mine dust by revising the Agency's existing standards on miners' occupational exposure to respirable coal mine dust including lowering the existing exposure limit. We agree that reducing coal miners' exposure to respirable coal mine dust will reduce the risk that they will suffer material impairment of health or functional capacity over their working lives. This proposal would require that the mine operator take corrective action when the standard is exceeded by any amount. During the interim period for installing environmental controls, the proposed rule would require that the operator make respiratory equipment available to affected miners. When properly selected, fitted, maintained and used, respirators can reduce miners' occupational exposure to respirable coal mine dust.

While this proposed rule would require that respirators be made available to miners and require training, which is necessary for proper respirator use, we are concerned that the provisions of these coal mine regulations are not sufficient for ensuring proper selection and fitting of respirators. The current regulations for coal mines in 30 CFR §72.710 require that approved respirators shall be selected, fitted, used and maintained in accordance with the provisions of the American National Standards Institute's "Practices for Respiratory Protection ANSI Z88.2-1969." This standard, however, is grossly outdated. There have been many changes in the field of respiratory protection since 1969 especially in the area of respirator selection. If the mine operator is required to make respirators available, MSHA must ensure they be the proper type. Following §72.710 alone will not ensure proper selection.

***Proposed Revisions in MSHA Standards Related to Respirator Use***

**§70.209(e) and (g)**

These proposed paragraphs would require mine operators to make approved respirators available to affected miners (i) during the time of abatement or (ii) if a valid air sample exceeded the applicable exposure limits. 3M agrees with this approach. This is consistent with accepted industrial hygiene practice of requiring respiratory protection during these situations until engineering or environmental controls can be installed.

**§72.700(a)**

The proposed §72.700(a) requires NIOSH approved respirators to be made available to all persons being overexposed during installations and updating of engineering controls. However, once the respirator is made available, it must be properly used in order to reduce exposure. Of course, part of proper use includes training (which is proposed to be addressed in §72.700(b)).

## §72.700(b)

The proposed §72.700(b) is a necessary step to proper respirator use by requiring that training be provided prior to use, unless the miner has received training on the types of respirators made available within the previous 12 months. This proposed paragraph further states that the training shall include: the care, fit, use and limitations of each type of respirator made available. We agree that these topics should be included in a respirator training program.

The above training topics are similar to those required by Occupational Safety and Health Administration (OSHA) in 29 CFR §1910.134. We suggest adding one additional topic to the proposed §72.700(b). Training should also include an explanation as to why respirators are necessary. This is a topic OSHA includes in its regulations and that experience in general industry has shown to be useful since 1980. This topic is required because it helps address the situation identified by MSHA that, even when made available, miners may not use them. While education on this topic may not prevent nonuse in all cases, hopefully it will help motivate the worker that is concerned about his or her health.

These proposed paragraphs, however, only address two elements required to maximize the protection afforded by respirators. For many years, other elements have been identified as important and have been included in the concept of a “respiratory protection program”. While the document incorporated in §72.710 is outdated, it does include several requirements for a respirator program.

Therefore, we believe that in addition to making respirators available and providing training, §72.700 should include a requirement that when respirators are required, the operator must implement a respiratory protection program as described in §72.710 *at a minimum* (see below comments on out datedness of Z88.2-1969). The current regulations for coal mines identify many program elements in 30 CFR § 72.710 when it states that approved respirators shall be selected, fitted, used and maintained in accordance with the provisions of the American National Standards Institute’s “Practices for Respiratory Protection ANSI Z88.2-1969.”

At a minimum, we recommend that the wording to §72.700(b) be revised to read, “b) When required to make respirators available, the operator shall follow the requirements in §72.710 in addition to making respirators available and providing training.” Making respirators available does not ensure respiratory protection unless a complete respirator program is implemented. The ANSI Z88.2-1969 standard incorporated by reference into the coal mine regulations outlines a respiratory protection program to be followed.

This 1969 ANSI standard, however, is grossly outdated in several areas including respirator selection and fit testing. The 1969 edition of ANSI Z88.2 does not provide the operator with the appropriate information to select the proper respirator which must be made available. Since 1969, respirator particle filters have changed and respirator assigned protection factors have been developed. To select the proper particle filter for respirable dust, the operator will need to know if an N-, R- or P-series filter should be selected. This will be determined by the other types of aerosols in the air. For example, equipment that would release oily materials in the air such as diesel engines or pneumatic tools would require selecting an R- or P- series filter. This

classification of particle filters into these series occurred in 1995, obviously well after the passage of the 1969 standard.

The 1969 standard also fails to address dust concentration levels, even though it is commonly accepted today that selecting the correct respirator type is dependent upon the respirable dust concentration. For example, a quarter mask respirator would be acceptable for use up to five (5) times the respirable dust exposure limit whereas a half mask respirator could be used up to ten (10) times the respirable dust exposure limit. In addition, ANSI Z88.2-1969 recommends certain types of respirators for uses in which NIOSH no longer approves those respirators. In order to meet the requirement of §72.710 of ensuring “the maximum amount of respiratory protection,” the OSHA respiratory protection standard needs to be incorporated or MSHA needs to develop its own updated respiratory protection standard.

The 1969 edition of ANSI Z88.2 also does not identify the current acceptable fit test methods or provide fit testing procedures to be used. Respirator experts believe that fit testing is an important part of training needed to provide assurance that each wearer has learned how to fit the respirator – a requirement of the proposed paragraph § 72.700(b).<sup>(3)</sup>

As a result of the many changes in the field of respiratory protection, especially in the area of respirator selection, a better recommendation would be for MSHA to update §72.710 to incorporate a more recent edition of the ANSI standard, for example “American National Standard for Respiratory Protection, ANSI Z88.2-1992” or, even better, to adopt the OSHA standard for respiratory protection, 29 CFR 1910.134.<sup>(1,2)</sup> The OSHA standard is the most current set of guidelines for respiratory protection in the US.

#### **75 Federal Register 64446**

MSHA states that “MSHA experience indicates that even when respirators are made available, miners may not use them because they can be uncomfortable and impractical to wear while performing work duties. This experience provides more reason why “making respirators available” is not sufficient and a respiratory protection program must be implemented when respirators are used. The respirator program as outlined by OSHA includes provisions for program evaluation [29 CFR 1910.134(l)] that require the employer to conduct evaluations of the workplace to ensure that the written respiratory protection program is being properly implemented, and to consult employees to ensure that they are using the respirators properly including wearing the respirator while performing work duties. The provisions of 29 CFR 1910.134(e), *Medical evaluation*, recognize that using a respirator may place a physiological burden on employees that varies with the type of respirator worn, the job and workplace conditions in which the respirator is used, and the medical status of the employee. Accordingly, this OSHA paragraph specifies the minimum requirements for medical evaluation that employers must implement to determine the employee’s ability to use a respirator. These requirements would identify those miners that may not be able to use a respirator due to health issues or determine a respirator type that is compatible with their health issues.

### **§72.700(c)**

This proposed paragraph requires that “[a]n operator shall keep a record of the training at the mine site for two years after completion of the training. An operator may keep the record elsewhere if the record is immediately accessible from the mine site by electronic transmission. Upon request from an authorized representative of the Secretary, Secretary of HHS, or representative of miners, the operator shall promptly provide access to any such training records.”

We read this language to indicate that a miner would receive training prior to use of a respirator with the training being repeated any time the training is more than one year old. Based on the expected interim nature of respirator use we believe this interval is sufficient as it approaches the frequency provided by many other respirator use standards and regulations.

### **§72.701 Respiratory equipment; gas, dusts, fumes, or mists.**

This section points out another area where the MSHA standards for respiratory protection have become outdated. In 1998, NIOSH changed the limitations of air purifying respirators used to reduce the inhalation hazards from gas. This change eliminated the use of warning properties as an indicator to determine when the chemical cartridge should be changed because it is no longer effective for removing the gas. NIOSH now requires a cartridge change schedule to be established. The MSHA regulations neither reflect this change nor do they provide the operator with guidance on what requirements would need to be met in order to establish a change schedule. The OSHA respiratory protection standard addresses the change schedule requirement.

### **References**

1. ANSI. (1992) American National Standard for Respiratory Protection, ANSI Z88.2-1992. New York: American National Standards Institute, Inc.
2. OSHA (2010) Respiratory Protection, 29 CFR 1910.134. Code of Federal Regulations. Washington DC: Government Printing Office p.420-446.
3. ANSI. (2001) American National Standard for Respirator Fit Testing Methods, ANSI/AIHA Z88.10. Fairfax, VA: American Industrial Hygiene Association.