

existing rule without reducing protection to the miners.

*D. Section 57.5060(e)*

Existing § 57.5060(e) prohibits mine operators from using personal protective equipment (respirators) to comply with the DPM concentration limit except under specific circumstances and only with the advance approval of the Secretary based on an application submitted by the mine operator. The effect of this provision would be to require mine operators, in most situations, to control DPM concentrations by implementing engineering and work practice controls, with limited respirator usage as provided under § 57.5060(d).

MSHA emphasizes that the hierarchy of controls presupposes that certain types of industrial hygiene controls are inherently superior to other types of controls in reducing or eliminating hazardous exposures. Preference is given to controls that remove or eliminate the hazard from the work place. Engineering controls and changes in work practices that remove or eliminate the hazard are therefore the preferred methods for controlling hazardous exposures, and in accordance with the principle of hierarchy of controls, must be implemented first before resorting to the use of personal protective equipment as a means of compliance. Personal protective equipment is considered an acceptable control option only after all feasible engineering and administrative controls have been fully implemented. Under the hierarchy of controls concept, if engineering and administrative controls alone are not capable of reducing exposures to the applicable limit, these controls would need to be used and maintained, but in addition, the mine operator would be required to provide appropriate personal protective equipment to affected miners and would have to ensure the equipment is properly used.

Engineering controls, in both the existing rule and the proposal, are meant to refer to controls that reduce or remove the DPM hazard from the workplace by applying such methods as substitution, isolation, interception, enclosure, and ventilation. In the existing rule, administrative controls were uniquely defined as “worker rotation” and prohibited as an acceptable DPM control method because it fails to eliminate the exposure hazard and results in placing more miners at risk. In the proposal, this unique definition is removed and administrative controls are meant to refer to the historically recognized

controls such as specified changes in the way work tasks are performed that reduce or eliminate the hazard. Worker rotation is then specifically prohibited as an administrative control in proposed § 57.5060(e).

Since existing § 57.5060(e) provided certain exceptions to the prohibition on the use of personal protective equipment, MSHA does not believe that its proposed revisions will result in significantly greater respirator usage or decrease the level of protection afforded to miners. The Agency’s proposal, therefore, serves primarily to simplify the understanding of the rule’s requirements for controlling DPM exposures, to achieve consistency with MSHA’s other exposure-based rules for metal and nonmetal mines, and to reduce unnecessary paperwork.

*E. Section 57.5061(a)*

Under existing § 57.5061(a), the Secretary would have determined compliance with “an applicable limit on the concentration of diesel particulate matter pursuant to § 57.5060.” In accordance with the DPM settlement agreement, the Agency proposes that § 57.5061(a) be changed to specify that MSHA would determine compliance with “the PEL”. MSHA is proposing to replace the term “A concentration limit” in this section with the term “PEL” to reflect that MSHA proposes to enforce a personal exposure limit to limit miners’ exposure to DPM. These are conforming changes and do not result in a decrease of protection to the miners.

*F. Section 57.5061(b)*

Compliance determinations under existing § 57.5061(b) are based on total carbon measurements. MSHA is proposing that compliance determinations made under § 57.5061(b) would be based on elemental carbon measurements instead of total carbon in accordance with the proposed change in the interim limit in § 57.5060. Copies of the NIOSH 5040 Analytical Method can be obtained at [www.cdc.gov/niosh](http://www.cdc.gov/niosh), or by contacting MSHA’s Pittsburgh Safety and the Health Technology Center, P.O. Box 18233, Cochran’s Mill Road, Pittsburgh, PA 15236.

*G. Section 57.5061(c)*

Under existing § 57.5061(c), the Secretary would have determined the appropriate sampling strategy for conducting compliance sampling utilizing personal sampling, occupational sampling, or area sampling, based on the circumstances of a particular exposure. The Agency proposes that § 57.5061(c) be changed to specify that only personal sampling

would be utilized for compliance determination.

The Agency believes that personal sampling alone will result in an accurate determination of miner exposure to DPM. Proposed § 57.5060(a) establishes a DPM limit that specifically relates to the exposure of miners to DPM. Since the proposed limit relates to the exposure of miners, the appropriate sampling method to determine compliance is personal sampling. In this respect, the proposed rule’s sampling method for compliance determination is consistent with the Agency’s longstanding practice of utilizing personal sampling to determine compliance with exposure limits for airborne contaminants in the metal and nonmetal sector.

Under proposed § 57.5061(b), MSHA would utilize elemental carbon as the surrogate for DPM sampling. This is a conforming change in the paragraph. Personal sampling allows for the accurate determination of DPM exposure when elemental carbon is utilized as the DPM surrogate.

The Agency anticipates several benefits of standardizing personal sampling as the compliance sampling method. MSHA expects that mine operators and miners are already familiar with personal sampling, since MSHA utilizes it routinely when compliance sampling for noise, dust, and other airborne contaminants. Utilizing personal sampling eliminates possible disputes that could have arisen over whether an area sample was obtained “where miners normally work or travel.” Mine operators who choose to conduct environmental monitoring for DPM under § 57.5071 using MSHA’s compliance sampling method will not need to anticipate which sampling method MSHA would most likely have selected, personal, area, or occupational, based on the circumstances of a particular exposure. Personal sampling avoids situations where area sampling is intended to capture the exposure of a particular miner for most or all of the work shift, but that miner moves to a new location during the shift. Personal sampling for elemental carbon avoids the problem of determining compliance for an equipment operator who is a smoker and who works inside an enclosed cab. Under the existing rule, this miner could not be sampled inside the cab due to interference from tobacco smoke, and area sampling outside the cab would not capture that miner’s DPM exposure.

MSHA received numerous comments in response to the ANPRM concerning the proposed elimination of area and occupational sampling. Most supported