

or other quartz analytical techniques in the future, the definition of "quartz" has been expanded in the proposed rule to provide MSHA the flexibility to use alternative analytical techniques once these techniques have been demonstrated to provide quartz measurements that are equivalent to the currently used analytical method.

Respirable Dust

The existing definition has been modified by transferring the requirement for what constitutes an approved sampling device to the proposed new definition of the term "approved sampling device" above.

Verification Limits

"Verification limits" would mean the maximum equivalent dust concentration for which the dust control parameters, specified in the ventilation plan for a particular MMU, have been verified as effective in maintaining dust levels during the entire production shift. Under the proposed rule, MSHA will require mine operators to address both respirable coal mine dust exposure and the potential for exposure to quartz when designing the dust control parameters specified in a mine ventilation plan by proposing two separate respirable dust limits—2.0 mg/m³ for respirable coal mine dust and 100 µg/m³ for respirable quartz dust for verification sampling.

The Dust Advisory Committee recognized that a significant quartz exposure hazard continues to exist in coal mines, especially for operations such as roof bolting. Based on recent MSHA data (April 23, 2002), 298 or (58 percent) of the 517 producing underground coal mines are operating on a reduced applicable dust standard due to the presence of high quartz levels in the working environment. This data also shows that 65 percent of the more than 470 roof bolters and 27 percent of the MMUs required to be sampled bimonthly by mine operators must comply with a reduced dust standard. The number of reduced standards in effect indicates that quartz exposure remains a significant health risk for miners.

Under the current program, miners can be exposed to excessive quartz levels during the period of time necessary to establish the applicable dust standard that would apply to a particular MMU. For example, consider a recent situation where an MSHA dust sample of a roof bolter was 0.9 mg/m³, which complied with the applicable dust standard of 1.3 mg/m³. However, the results of quartz analysis indicated that the actual concentration of quartz

dust in the mine environment at the time of sampling exceeded 270 µg/m³, or more than two and a half times the permissible level of 100 µg/m³. The only action that MSHA could take in this particular situation is to initiate the process of establishing a new applicable dust standard, which, on average, can take at least one month or longer. During this period, the existing applicable dust standard remains in effect.

Under the proposed rule, MSHA would require operators to incorporate dust control parameters in mine ventilation plans that are designed to effectively control exposure to both respirable coal mine dust and quartz dust. To ensure the adequacy of the operator's dust control strategy, MSHA would determine the mass of quartz contained in each verification sample and express the concentration of quartz in the mine air as an airborne concentration and not as a percentage as has been the long-standing practice.

MSHA believes that by requiring operators to anticipate exposure to quartz dust in the initial design of the dust control parameters, especially at those operations with a quartz exposure history, and by adopting the new procedures for setting a reduced dust standard as outlined in section III.B., the level and quality of miner health protection in the workplace will be significantly enhanced.

Verification Production Level (VPL)

"Verification production level (VPL)" would mean the tenth highest production level recorded in the most recent 30 production shifts. It is an estimate of the 67th production percentile within a MMU. Under the proposed rule, the VPL is the minimum production level at which the operator must demonstrate the adequacy of the plan parameters in controlling respirable dust. To enable the operator to establish the VPL required under proposed § 75.371(f), the operator would be required to begin maintaining records of the amount of material produced by each MMU during each shift in accordance with proposed § 75.370(h) of this title.

If records for 30 production shifts are not available to establish a VPL, as in the case of a new MMU, the operator would use the minimum production actually achieved on any shift used to verify the adequacy of the plan parameters as the VPL. For example, assume an operator initiates verification sampling at a longwall MMU. If the dust concentration measurements obtained on the first shift exceed either 1.85 mg/m³ for respirable coal mine dust or 93

µg/m³ for quartz dust but not the verification limits, the operator would need to sample at least two more shifts according to Table 70–1 to verify the adequacy of the plan parameters, provided that no sample exceeds 1.93 mg/m³ for respirable coal mine dust or 97 µg/m³ for quartz dust. If the highest production level was achieved on the third shift sampled and the dust concentration measurements obtained on that shift were low enough according to Table 70–1 to verify the plan parameters on a single shift, the operator would establish a VPL equal to the production achieved on that shift. If, on the other hand, the dust concentration measurements obtained on the third shift with the highest production level were not low enough to verify the plan parameters on a single shift and a determination of the plan's adequacy was based on these three shifts, the operator's VPL would be the minimum production achieved during verification sampling. In any case, the VPL would become part of the operator's ventilation plan.

Working Face

"Working face" would mean any place in a coal mine in which work of extracting coal from its natural deposit in the earth is performed during the mining cycle.

Sections 70.100 Through 70.101

Respirable Dust Standards

Section 70.100 Respirable Dust Standards When Quartz Is Not Present

MSHA is proposing no substantive changes in existing § 70.100(a) and (b), except for removing the reference to § 70.206 (Approved sampling devices; equivalent concentrations) from existing paragraphs (a) and (b) and replacing it with revised § 70.2. The requirements contained in revised § 70.2 are similar to the previous standard in § 70.206. The proposed rule retains the applicable dust standard of 2.0 mg/m³ in existing paragraph (a) and the intake air standard for respirable dust of 1.0 mg/m³ in existing paragraph (b), which have been in effect since 1972.

Section 70.101 Respirable Dust Standard When Quartz Is Present

MSHA is proposing to retain the existing formula (10 divided by the concentration of quartz, expressed as a percentage) for reducing the applicable dust standard below 2.0 mg/m³ in proportion to the percentage of quartz when the quartz content of the respirable dust in the mine atmosphere exceeds 5.0 percent. However, the Agency is proposing to change the