

Scenario I			Scenario II		
Dust Mass	SiO ₂ Mass	% SiO ₂	Dust Mass	SiO ₂ Mass	% SiO ₂
1.7	0.136	8.0	1.7	0.17	10.0
1.0	0.04	4.0	1.0	0.08	8.0
2.5	0.3	12.0	2.5	0.15	6.0
MSHA's Method	Average of % SiO ₂ = 8.0		MSHA's Method	Average of % SiO ₂ = 8.0	
Commenter's Method	$\frac{\text{Sum (SiO}_2\text{ Mass)}}{\text{Sum (Dust Mass)}} = 9.2\%$		Commenter's Method	$\frac{\text{Sum (SiO}_2\text{ Mass)}}{\text{Sum (Dust Mass)}} = 7.7\%$	

These examples show that for situations where MSHA would have determined a quartz percentage of 8.0 percent, the commenter's method would yield 9.2 percent in one case and 7.7 percent in the other.

C. Respirable Dust Control Program for Underground Coal Mines

The primary focus of the underground coal mine respirable dust program is to limit the concentration of respirable dust to which miners are exposed in the work environment. To ensure that miners are not being exposed to excessive concentrations of respirable dust, current regulations require mine operators to:

- Design a mine ventilation plan that effectively controls respirable dust under typical mining conditions;
- Implement the plan's dust control parameters when approved by MSHA before commencing production;
- Maintain the dust control parameters specified in the approved plan and monitor their function and operation through required on-shift examinations; and
- Evaluate the effectiveness of dust control parameters with bimonthly samples in order to provide reasonable assurance that such parameters continue to function as intended.

In addition, each plan must be suitable to the conditions and mining system in use at the mine. These plans provide detailed requirements for the protection of miners by specifying engineering controls. These engineering controls may include:

- The quantity and the velocity of the air current used to ventilate the MMU;
- The number, type, and location of water sprays;

- The pressure and quantity of water delivered by the sprays; and
- Additional environmental controls, such as dust scrubbers or devices which collect mine air and filter out dust particles.

Plans also contain procedures for maintenance of dust control equipment used on the mining machine and roof bolter. Mine operators frequently do not describe all dust controls in use at the mine. If such information is not included in the plan, it is impossible for MSHA to enforce those provisions or to determine if the ventilation plan provisions as approved are adequate to protect miners from overexposure.

When an operator submits a proposed mine ventilation plan or revision in accordance with § 75.370, the MSHA district office reviews it for completeness and adequacy. The district manager will approve the plan if it meets MSHA requirements, and he or she is confident that the dust control parameters specified will have a reasonable likelihood of maintaining dust concentrations within the allowable limits. Most proposed plans or revisions are approved immediately, or tentatively approved, based on engineering judgement, or experience, or both, until they are assessed by MSHA sampling or, to a lesser extent and only under certain circumstances, by mine operator bimonthly sampling. Generally, MSHA takes samples within 60 days of plan approval. Current regulations prohibit a mine operator from initiating any mining activity without an approved ventilation plan. MSHA allows operators to commence mining by granting tentative approval. However, under the existing process, plans may be implemented which are

later determined to be inadequate under typical mining conditions.

1. Proposed Procedures for Evaluating, Approving, and Monitoring Ventilation Plan Requirements

The dust control portion of the mine ventilation plan is the key element of an operator's strategy to control respirable dust in the work environment, thereby protecting miners. In recognition of this, MSHA is proposing to make a number of changes to the process for evaluating, approving, and monitoring mine ventilation plans, many of which are based on the Dust Advisory Committee's recommendations. These are addressed in detail under proposed §§ 70.201 through 70.220 of the preamble.

Consistent with the Dust Advisory Committee recommendations, MSHA is proposing to add provisions to verify the effectiveness of the ventilation plan in controlling dust, at a production level which will demonstrate the plan's effectiveness under typical operating conditions. Dust control parameters and production associated with samples on a given shift would be recorded in order to demonstrate that parameters specified in the ventilation plan continue to be effective in controlling respirable dust.

This proposed rule requires a ventilation plan to include all engineering or environmental controls necessary for maintaining dust concentrations at acceptable levels. A plan must also include any specific work practices or other means used to supplement these controls in order to minimize the dust exposure of individual miners. Unlike plans under the existing program, mine operators will have to identify all measures necessary for achieving continuous