

Coal Mine Dust Control— Continuing the Fight Against Black Lung

U.S. Department of Labor
Mine Safety and Health Administration (MSHA)



Respirable coal mine dust can cause lung diseases such as coal workers' pneumoconiosis (CWP), emphysema, silicosis, and bronchitis—known collectively as black lung. Black lung can lead to lung impairment, permanent disability, and even death. While there is no cure for black lung, there are important and potentially life-saving measures that MSHA requires to be undertaken to reduce exposure to respirable coal mine dust and prevent disease. Even though these measures have been required for many years, new cases of black lung disease continue to occur among the nation's coal miners, even in younger miners.

Recently, MSHA conducted a targeted enforcement initiative that focused on miners' exposures to respirable coal mine dust at selected underground coal mines. As a result of the lessons MSHA learned during this initiative, the agency requests that underground coal mine operators conduct audits of their respirable dust monitoring and control programs and address any deficiencies.

Dust sampling programs did not adequately address proper maintenance of sampling equipment or ensure that samples are collected at the required times (either on shifts or days).

Mine operators should always:

- Maintain equipment properly (sampling units).
- Clean and inspect sampling head assemblies.
- Collect respirable dust samples at required times (production shifts/days).

Mine operators did not provide adequate oversight of the dust sampling practices of their certified persons.

Certified persons should always:

- Be aware of the regulatory requirements for the proper collection of respirable dust samples.
- Conduct thorough pre-sampling shift checks.
- Maintain the sample in the appropriate location.
- Operate sampling unit portal-to-portal.
- Know what is being certified by signing the dust data card.

Dust controls were not always maintained in accordance with the MSHA-approved mine ventilation plan. Mine operators should update the dust control portions of the approved ventilation plans, keeping them current, and provide training to miners. Mine operators should properly maintain dust controls, including:

Water sprays

- Maintain water pressure as specified in the plan.
- Keep the same type of sprays as specified.
- Maintain sprays; clean or replace dirty sprays.

Roof bolter dust collectors

- Maintain dust box door seals.
- Check vacuum hoses for leaks.
- Verify that the hoses match approval requirements.
- Provide that the “clean side” of collector is not contaminated.
- Maintain dust box door latches.
- Vacuum setting should meet the approval requirement.

Dust scrubber

- Maintain ductwork to keep it clean and clear
- Ensure that the air quantity is maintained
- Measure air quantity correctly

Air quantity

- Match the air at the end of curtain to the plan requirement
- Provide air where specified in the plan.

Miners had trouble determining which type(s) of dust controls to use and how to evaluate their effectiveness due to ambiguities in ventilation plans.

Mine operators should:

- Specify the type of water spray, the orifice size, the spray pattern, the water volume at the minimum pressure to be used, the location where each type of spray will be used, and the minimum number of sprays that will be maintained.
- Detail where and when either exhausting or blowing ventilation will be used.
- Establish the line curtain for directing the face ventilating air as a specific distance from the point of deepest penetration of the face.
- Specify the location of curtains where roof bolting is being performed. The distance from the face is important to the effectiveness of ventilation.

Adequate attention is not given to dust reduction efforts. Mine operators must ensure the effectiveness of their dust controls and implement practices to minimize the generation of dust in their mines. Existing engineering control measures can maintain dust levels in compliance during each shift.

Operators are responsible for providing a safe and healthful mining workplace. They must design an adequate plan, implement and monitor it, and revise it, as needed. MSHA has prepared specific information for miners and mine operators to use as a tool for ending black lung disease. The information gives specific instructions on actions to take to eradicate this illness. Use the information as a guide to **Act NOW** and **END** black lung disease. For further information, go to www.msha.gov.

–Remember–

Black lung disease is NOT curable, but it is preventable!