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SUBJECT: Program for Regular Cleanup and Removal of Accumulations of
Coal and Float Coal Dust, Loose Coal, and Other Combustibles

Scope

This Program Policy Letter (PPL) applies to Mine Safety and Health (MSHA) enforcement personnel, underground coal mine operators, miners and miners' representatives, and independent contractors working at underground coal mines.

Purpose

The purpose of this PPL is to provide guidance regarding an effective regular cleanup program as required under 30 CFR § 75.400-2 to help prevent underground mine fires and explosions.

Policy

MSHA's cleanup program standard at 30 CFR § 75.400-2 requires mine operators to establish and maintain a program for regular cleanup and removal of accumulations of coal and float coal dust, loose coal, and other combustibles. Such program shall be available to the Secretary or authorized representative. Therefore, mine operators are required to have a written cleanup program.

The written program will explain how the operator will regularly control the accumulation of float coal dust, loose coal and other combustibles in order to prevent fires and explosions. These details could involve the quantity, schedule, and method for rock dust application in critical locations. Mine operators should include the following elements in their written cleanup program:

1. The regular cleanup methods for the removal of accumulations of coal and float coal dusts, loose coal, and other combustibles in all active workings or on diesel-powered and electrical equipment ,
2. The equipment and methods used for applying rock dust to maintain 80% Total Incombustible Content (TIC) as required by § 75.403 and the methods

to continuously apply rock dust to areas where coal dust is generated and float coal dust accumulates; and

3. The means to evaluate the effectiveness of their cleanup program, such as review of preshift examination records, rock dust usage, rock dust sampling results, and compliance history. Mine operators should place emphasis on critical areas such as longwall tailgates, belt transfer points, section returns, and bleeder entries.

Mine operators should consider the use of mechanical rock dust distribution systems in critical areas such as conveyor belt transfers, the returns of active working sections, the tailgates of longwalls, and active pillar lines and bleeder entries on retreating sections. Such areas often require continuous rock dusting with trickle dusters or high-pressure rock dusting machines to maintain the required incombustible content levels and inert float coal dust accumulations. Accumulations of coal and other combustibles must be cleaned up and removed from the mine.

A cleanup program should address the specific conditions and mining methods currently used at a coal mine. If these conditions or methods change, the mine operator should modify the cleanup program. An effective cleanup program should contain sufficient detail to prevent the extreme hazard of a coal dust explosion.

FLOAT COAL DUST

Explosions fueled by float coal dust are one of the greatest potential hazards to underground coal miners. The generation of float coal dust occurs whenever coal is cut or crushed. Float coal dust is generated in underground coal mines by continuous mining machines, longwall shearers, belt conveyors, feeder breakers, stage loaders, and the tires or wheels of mine equipment rolling over loose coal. The liberation of float coal dust occurs wherever coal is transferred, dumped, or loaded. Float coal dust becomes airborne and can be transported long distances by ventilation air currents.

Float coal dust consists of extremely fine coal particles that will pass through a No. 200 sieve (30 CFR § 75.400-1(b)). The National Institute for Occupational Safety and Health (NIOSH) states, "Float coal dust is a serious explosion hazard if it accumulates on top of the rock dust and is not mixed thoroughly with the rock dust."¹ A layer of float coal dust as thin as 0.005 inches (the thickness of a sheet of paper) deposited on top of compliant mine dust (80% TIC) on the mine floor will propagate an explosion.² Nagy states, "Such thin coal dust deposits are almost invisible."³

¹ NIOSH, Float Coal Dust Explosion Hazards, Technology News, No. 515, April 2006.

² NIOSH, April 2006

³ Nagy, John, The Explosion Hazard in Mining, MSHA, IR 1119, 1981, p 36.

The following are proven techniques to reduce float coal dust accumulations and hazards:

1. Minimize the production of float coal dust by maintaining sharp cutting bits on continuous mining machines and longwall shearers and by using and maintaining dust suppression sprays and scrubbers whenever coal is mined.
2. Use a hand-held wash down hose or jet-type water sprays on the continuous mining machines to wet the roof and ribs and to clean the fine coal dust generated by mining prior to leaving the working face. Fine coal dust washed onto the mine floor is easily diluted and rendered harmless with rock dust. Wetting roof and ribs also help rock dust adhere to these surfaces. Shields, hoses, and other areas where float coal dust accumulates on a longwall should be washed off as needed to prevent float coal dust accumulations.
3. Use water sprays, enclosed transfers, and dust collection systems to minimize the liberation of float coal dust at belt transfers, crushers and dumps. Use belt cleaners and water sprays to prevent float dust liberation from the return side of conveyor belts.
4. Use trickle dusters or high-pressure rock dusters in the returns from working sections, the tailgate return of longwalls, in pillaring areas, and downwind of belt transfers to dilute float coal dust. Areas where large quantities of float coal dust are generated or liberated may require that a trickle duster run continuously and other areas may only need trickle dusting a few hours per shift.
5. Periodically apply rock dust to areas where float coal dust may accumulate.
6. Check for the accumulation of float coal dust during required examinations. Float coal dust accumulations in active workings must be cleaned up.

Background

MSHA's post-explosion dust sampling results obtained as part of the Upper Big Branch Mine accident investigation indicated numerous locations at which non-compliant dust samples were found in the mine. The analysis of the evidence shows that a limited amount of methane ignited and propagated into a massive coal dust explosion. MSHA believes that continual rock dusting into the tailgate of longwalls, section returns, and other areas where float coal dust accumulates during mining is a proactive practice to inert float coal dust and to minimize the risk of an explosion. MSHA's analyses of rock dust samples, sampling records, the results of impact inspections and other enforcement data, indicate that some underground coal mine operators are allowing

combustible materials, coal dust and float coal dust to accumulate and are not applying sufficient rock dust in all required areas. Developing and maintaining an adequate cleanup program is an important part of the comprehensive system in 30 CFR Part 75, Subpart E to prevent coal dust explosions in underground coal mines.

Authority

The Federal Mine Safety and Health Act of 1977, as amended, 30 U.S.C. § 801 et seq.; 30 CFR §§ 75.400-75.404.

Internet Availability

This program policy letter may be viewed on the [MSHA home page](#) by choosing "Compliance Info" and "Program Policy Letters."

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