

designations listed in this document will be published subsequently in that Order. With the exception of editorial changes, this rule is the same as that proposed in the NPRM.

### The Rule

This action amends Title 14 Code of Federal Regulations (14 CFR) part 71 by modifying Class E surface airspace designated as an extension to Class D surface area at Bozeman, Gallatin Field Airport, Bozeman, MT. Controlled airspace is necessary to accommodate aircraft using the ILS LOC standard instrument approach procedures at the airport. This action is necessary for the safety and management of IFR operations. The geographic coordinates of the airport for Class D airspace, Class E surface area airspace, and Class E airspace extending upward from 700 feet above the surface, are being adjusted in accordance with the FAA's aeronautical database. This action also updates the airport name to Bozeman, Gallatin Field Airport, MT, from Bozeman, Gallatin Field, MT.

The FAA has determined this regulation only involves an established body of technical regulations for which frequent and routine amendments are necessary to keep them operationally current. Therefore, this regulation: (1) Is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034; February 26, 1979); and (3) does not warrant preparation of a regulatory evaluation as the anticipated impact is so minimal. Since this is a routine matter that will only affect air traffic procedures and air navigation, it is certified this rule, when promulgated, will not have a significant economic impact on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. The FAA's authority to issue rules regarding aviation safety is found in Title 49 of the U.S. Code. Subtitle 1, Section 106 discusses the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the agency's authority. This rulemaking is promulgated under the authority described in Subtitle VII, Part A, Subpart I, Section 40103. Under that section, the FAA is charged with prescribing regulations to assign the use of airspace necessary to ensure the safety of aircraft and the efficient use of airspace. This regulation is within the scope of that authority as it modifies controlled airspace at Bozeman, Gallatin Field Airport, Bozeman, MT.

### List of Subjects in 14 CFR Part 71

Airspace, Incorporation by reference, Navigation (air).

### Adoption of the Amendment

In consideration of the foregoing, the Federal Aviation Administration amends 14 CFR Part 71 as follows:

### PART 71—DESIGNATION OF CLASS A, B, C, D AND E AIRSPACE AREAS; AIR TRAFFIC SERVICE ROUTES; AND REPORTING POINTS

■ 1. The authority citation for 14 CFR part 71 continues to read as follows:

**Authority:** 49 U.S.C. 106(g), 40103, 40113, 40120; E.O. 10854, 24 FR 9565, 3 CFR, 1959–1963 Comp., p. 389.

#### § 71.1 [Amended]

■ 2. The incorporation by reference in 14 CFR Part 71.1 of the Federal Aviation Administration Order 7400.9U, Airspace Designations and Reporting Points, dated August 18, 2010, and effective September 15, 2010 is amended as follows:

*Paragraph 5000 Class D airspace.*

\* \* \* \* \*

#### ANM MT D Bozeman, MT [Amended]

Bozeman, Gallatin Field Airport, MT  
(Lat. 45°46'39" N., long. 111°09'07" W.)

That airspace extending upward from the surface to and including 7,000 feet MSL within a 4.4-mile radius of Bozeman, Gallatin Field Airport. This Class D airspace area is effective during the specific dates and times established in advance by a Notice to Airmen. The effective date and time will thereafter be continuously published in the Airport/Facility Directory.

*Paragraph 6002 Class E airspace designated as surface areas.*

\* \* \* \* \*

#### ANM MT E2 Bozeman, MT [Amended]

Bozeman, Gallatin Field Airport, MT  
(Lat. 45°46'39" N., long. 111°09'07" W.)

Within a 4.4-mile radius of Bozeman, Gallatin Field Airport. This Class E airspace area is effective during the specific dates and times established in advance by a Notice to Airmen. The effective date and time will thereafter be continuously published in the Airport/Facility Directory.

*Paragraph 6004 Class E airspace designated as an extension to a Class D surface area.*

\* \* \* \* \*

#### ANM MT E4 Bozeman, MT [Modified]

Bozeman, Gallatin Field Airport, MT  
(Lat. 45°46'39" N., long. 111°09'07" W.)

That airspace extending upward from the surface within 3 miles each side of the 316° bearing of Bozeman, Gallatin Field Airport extending from the 4.4-mile radius of the airport to 15.5 miles northwest of the airport, and that airspace 2.4 miles each side of the

212° bearing of the Bozeman, Gallatin Field Airport extending from the 4.4-mile radius of the airport to 7 miles southwest of the airport.

*Paragraph 6005 Class E airspace areas extending upward from 700 feet or more above the surface of the earth.*

\* \* \* \* \*

#### ANM MT E5 Bozeman, MT [Amended]

Bozeman, Gallatin Field Airport, MT  
(Lat. 45°46'39" N., long. 111°09'07" W.)

That airspace extending upward from 700 feet above the surface within a 13.5-mile radius of Bozeman, Gallatin Field Airport, and within 4.8 miles northeast and 13 miles southwest of the 316° bearing of the airport extending from the 13.5-mile radius to 24.4 miles northwest of the airport.

Issued in Seattle, Washington, on June 10, 2011.

**John Warner,**

*Manager, Operations Support Group, Western Service Center.*

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## DEPARTMENT OF LABOR

### Mine Safety and Health Administration

#### 30 CFR Part 75

#### RIN 1219–AB76

### Maintenance of Incombustible Content of Rock Dust in Underground Coal Mines

**AGENCY:** Mine Safety and Health Administration, Labor.

**ACTION:** Final rule.

**SUMMARY:** This final rule replaces the Mine Safety and Health Administration's Emergency Temporary Standard (ETS) pursuant to section 101(b) of the Federal Mine Safety and Health Act of 1977. The final rule adopts the requirements contained in the ETS. Under the final rule, mine operators must maintain the incombustible content of combined coal dust, rock dust, and other dust to at least 80 percent in underground areas of bituminous coal mines. The final rule further requires that the incombustible content of such combined dust be increased 0.4 percent for each 0.1 percent of methane present.

Accumulations of coal dust can ignite, resulting in an explosion, or after an explosion, they can intensify flame propagation, increasing the severity of explosions. The final rule, like the ETS, reduces both the potential for a coal mine explosion and the severity of explosions should they occur.

**DATES:** *Effective date:* June 21, 2011.

**FOR FURTHER INFORMATION CONTACT:**

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**SUPPLEMENTARY INFORMATION:** MSHA is  
including the following outline to assist  
the public in finding information in the  
preamble.

- I. Introduction
- II. Discussion of Final Rule
- III. Regulatory Economic Analysis
  - A. Executive Order (E.O.) 12866 and E.O.  
13563
  - B. Population at Risk
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  - D. Compliance Costs
  - E. Net Benefits
- IV. Feasibility
  - A. Technological Feasibility
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- V. Regulatory Flexibility Act (RFA) and  
Small Business Regulatory Enforcement  
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  - A. Definition of a Small Mine
  - B. Factual Basis for Certification
- VI. Paperwork Reduction Act of 1995
- VII. Other Regulatory Considerations
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  - B. Executive Order 13132: Federalism
  - C. The Treasury and General Government  
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Families
  - D. Executive Order 12630: Government  
Actions and Interference With  
Constitutionally Protected Property  
Rights
  - E. Executive Order 12988: Civil Justice  
Reform
  - F. Executive Order 13045: Protection of  
Children From Environmental Health  
Risks and Safety Risks
  - G. Executive Order 13175: Consultation  
and Coordination With Indian Tribal  
Governments
  - H. Executive Order 13211: Actions  
Concerning Regulations That  
Significantly Affect Energy Supply,  
Distribution, or Use
- VIII. References
- IX. Final Rule—Regulatory Text

**I. Introduction**

Rock dust is a pulverized stone used  
to cover coal dust and render  
accumulations of it inert. The Mine  
Safety and Health Administration  
(MSHA) defines “rock dust” under 30  
CFR 75.2 as:

Pulverized limestone, dolomite, gypsum,  
anhydrite, shale, adobe, or other inert  
material, preferably light colored, 100  
percent of which will pass through a sieve  
having 20 meshes per linear inch and 70  
percent or more of which will pass through  
a sieve having 200 meshes per linear inch;  
the particles of which when wetted and dried  
will not cohere to form a cake which will not  
be dispersed into separate particles by a light

blast of air; and which does not contain more  
than 5 percent combustible matter or more  
than a total of 4 percent free and combined  
silica (SiO<sub>2</sub>), or, where the Secretary finds  
that such silica concentrations are not  
available, which does not contain more than  
5 percent of free and combined silica.

Mine operators are required to apply  
rock dust in underground bituminous  
coal mines to reduce the explosion  
potential of coal dust and other dust  
generated during mining operations.  
Effective and frequent rock dust  
application is essential to protect miners  
from the potential of a coal dust  
explosion, or if one occurs, to reduce its  
severity.

When drafting the Federal Coal Mine  
Safety Act of 1952, Public Law 49–77  
(1952), the Congress recognized a need  
to prevent major disasters in  
underground coal mines. At that time,  
the Congress particularly noted the  
threat of coal mine explosions due to  
accumulations of coal dust.

Under the Federal Coal Mine Health  
and Safety Act of 1969 (Coal Act),  
Public Law 91–173, Congress  
emphasized, among other things, the  
need for interim safety standards to  
improve control of combustibles—such  
as loose coal—that propagate  
explosions. The Congress also  
recognized the need to prevent coal dust  
from accumulating in explosive  
quantities and to prevent coal dust  
explosions. Congress included language  
related to rock dusting, which provided:

Where rock dust is required to be applied,  
it shall be distributed upon the top, floor, and  
sides of all underground areas of a coal mine  
and maintained in such quantities that the  
incombustible content of the combined coal  
dust, rock dust, and other dust shall be not  
less than 65 per centum, but the  
incombustible content in the return  
aircourses shall be no less than 80 per  
centum. Where methane is present in any  
ventilating current, the per centum of  
incombustible content of such combined dust  
shall be increased 1.0 and 0.4 per centum for  
each 0.1 per centum of methane where 65  
and 80 per centum, respectively, of  
incombustibles are required. [Conference  
Report No. 91–761, Section 304(d)].

The Congress retained this Coal Act  
provision in the Federal Mine Safety  
and Health Act of 1977 (Mine Act). The  
higher limit for return airways was  
determined in large part because fine  
“float” coal dust (100 percent < 200  
mesh or 75 micrometers (µm)) tends to  
collect in these airways.

On September 23, 2010, under section  
101(b) of the Mine Act, MSHA  
published an ETS, notice of public  
hearings, and notice of close of  
comment period (75 FR 57849) revising  
the existing standard at 30 CFR 75.403,  
“Maintenance of incombustible content

of rock dust” applicable to underground  
areas of bituminous coal mines. The  
ETS served both as an emergency  
temporary final rule with immediate  
effect and provided an opportunity for  
notice and comment. Under the Act,  
MSHA is required to promulgate a final  
rule within nine months after  
publication of an ETS.

The legislative history of the Mine Act  
reinforces the statutory language  
regarding the ETS providing  
opportunity for comment “so that all  
views can be carefully considered in  
connection with the issuance of a  
permanent standard.” S. Rept. No. 95–  
181, 24 (1977). With publication of this  
final rule, MSHA has fulfilled its  
obligations under section 101(b) of the  
Mine Act.

MSHA held four public hearings on  
the ETS: St. Louis, Missouri, October 26,  
2010; Birmingham, Alabama, October  
28, 2010; Lexington, Kentucky,  
November 16, 2010; and Charleston,  
West Virginia, November 18, 2010. The  
public comment period closed on  
December 20, 2010. In addition to  
testimony provided by the mining  
community at the public hearings,  
MSHA received comments to the  
rulemaking record. Comments are  
discussed below.

To clarify MSHA’s enforcement under  
the ETS, the Agency issued Program  
Information Bulletin (PIB) No. P10–18,  
“Accumulation of Combustible  
Materials and Rock Dust,” on September  
21, 2010 (September 2010 PIB). The PIB  
emphasized that underground coal mine  
operators had not been rock dusting in  
all required areas and were not  
maintaining the required levels of rock  
dust applications in compliance with  
the previous MSHA standard of no less  
than 65 per centum in intake aircourses,  
and no less than 80 per centum in  
return aircourses under 30 CFR 75.403.

On October 14, 2010, MSHA issued  
Procedure Instruction Letter No. 10–V–  
16, “Accumulation of Combustible  
Materials and Rock Dust” (October 2010  
PIL). The October 2010 PIL provided  
instruction for MSHA enforcement  
personnel regarding accumulation of  
combustible materials and rock dust. In  
the 2010 PIL, MSHA emphasized each  
mine operator’s responsibility to comply  
with the ETS by October 7, 2010, for  
newly mined areas; and November 22,  
2010, for all other areas of the mine.  
MSHA provided instruction to Agency  
personnel for enforcing the ETS and for  
taking spot rock dust samples at  
applicable mines.

**II. Discussion of Final Rule**

Final 30 CFR 75.403 retains the  
requirements of the ETS verbatim to

ensure continuous protection for underground bituminous coal miners from grave danger due to hazards of coal dust explosions. Mine operators must maintain the incombustible content of the combined coal dust, rock dust, and other dust in all areas of underground bituminous coal mines to at least 80 percent. Where rock dust is required, it must be distributed upon the top, floor, and ribs of all underground areas of a bituminous coal mine and maintained in such quantities that the incombustible content of the combined coal dust, rock dust, and other dust will be at least 80 percent. The final rule, like the ETS, increases the incombustible content in all areas, other than return air courses, from 65 percent to 80 percent. In addition, the final rule, like the ETS, requires that where methane is present in any ventilating current, the percent of incombustible content of such combined dust shall be increased 0.4 percent for each 0.1 percent of methane.

In developing the final rule, MSHA considered its accident investigation reports of mine explosions in intake air courses that involved coal dust (Dubaniewicz 2009); the National Institute for Occupational Safety and Health's (NIOSH) Report of Investigations 9679 (Cashdollar *et al.*, 2010), "Recommendations for a New Rock Dusting Standard to Prevent Coal Dust Explosions in Intake Airways"; MSHA's experience and data; public comments on the ETS; and testimony provided at the public hearings. MSHA believes that the requirements of the final rule are necessary to continue to protect underground bituminous coal miners from grave danger.

In the 1920s, the U.S. Bureau of Mines (the Bureau) conducted industry-wide surveys of coal dust particle size produced by mining. The Bureau conducted large-scale explosion tests using dust particles of the size range obtained from the survey to determine the amount of rock dust required to prevent explosion propagation. The results of this research were the basis for the interim safety standard under the Coal Act and the standard promulgated under the Mine Act.

Mining technology, equipment, and methods have changed significantly since the 1920s. In the latest study, NIOSH and MSHA collaborated to conduct a survey to update information about existing coal dust particle size distribution in underground bituminous coal mines. MSHA inspectors collected a variety of dust samples from intake and return airways from these mines. NIOSH found that the coal dust particle size distribution in intake airways is

much finer than in mines of the 1920s because of the significant changes in mining methods and equipment (Cashdollar *et al.*, 2010).

Given the results of this latest coal dust particle size survey, NIOSH conducted a series of large-scale dust explosion tests at the NIOSH Lake Lynn Experimental Mine (LLEM) using the dust survey results to determine the incombustible content necessary to prevent explosion propagation. NIOSH determined that to significantly decrease the potential for propagation of explosions, the finer coal dust particle size found in intake airways requires a greater incombustible content than the 65 percent required under MSHA's standard at that time, since the explosion hazard increases as the coal dust particle size decreases. Based on the results of the LLEM testing, NIOSH recommended an 80 percent total incombustible content (TIC) in both intake and return airways of bituminous coal mines. In addition, despite survey indications that return dust particle sizes are finer than those in past studies, NIOSH found that the existing requirement of 80 percent TIC is still sufficient for these areas, in the absence of methane. The testing showed that the TIC required to prevent flame propagation becomes much less dependent on coal particle size as the TIC approaches and exceeds 80 percent (Cashdollar *et al.*, 2010). Therefore, the results of the experiments support MSHA's final rule requiring 80 percent TIC for all areas of underground bituminous coal mines.

In 2009, NIOSH published a paper examining past mine explosions to identify the ignition locations and ignition sources responsible for the most severe explosion events ignited in intake air courses resulting in death (Dubaniewicz 2009). MSHA reviewed all of the accident reports identified by NIOSH for the period from 1976 through 2001 (26 years). MSHA determined that there were six explosions that resulted in 46 fatalities in which rock dusting conditions and practices in intake air courses contributed to the severity of the explosions. These explosions occurred at: Scotia Mine in 1976; Adkins Coal Company, No. 11 Mine in 1981; No. 1 Mine, RFH Coal Company in 1982; Southmountain Coal Company Mine No. 3 in 1992; No. 9 Mine, Day Branch Coal Company in 1994; and Jim Walter Resources, Inc. No. 5 Mine in 2001.

The Scotia Mine, Scotia Coal Company, experienced two explosions in 1976: March 9 and March 11. The first explosion, which claimed the lives of 15 miners, resulted from the ignition

of a large methane accumulation. Coal dust entered into this explosion, but only to a minor degree. The second explosion, which claimed the lives of eleven miners, started as a methane explosion and coal dust entered into the explosion and aided in the propagation of the explosion (DOL/MSHA 1993).

On December 7, 1981, an explosion at the Adkins Coal Company, No. 11 Mine resulted in fatal injuries to eight miners. A coal dust explosion occurred when a blown-out shot ignited coal dust put into suspension by other blasts of the coal face. Sufficient quantities of rock dust were not applied to the mine surfaces and coal dust deposited on the floor, roof, and ribs from previously mined areas ignited and propagated the explosion away from the face (DOL/MSHA 1981).

The No. 1 Mine, RFH Coal Company, experienced an explosion on January 20, 1982, resulting in the death of seven miners. Flames from explosives were not contained within the limits of the coal being blasted killing two miners. A coal dust explosion occurred when the flame ignited coal dust put into suspension by previous blasts. Sufficient quantities of rock dust were not applied to the mine surfaces and coal dust propagated the explosion throughout the entire mine. This coal dust explosion claimed the lives of five more miners (DOL/MSHA 1982).

The Southmountain Coal Company Mine No. 3 experienced an explosion on December 7, 1992, resulting in fatal injuries to eight miners. An explosion fueled by a limited quantity of methane created enough force to place coal dust into suspension ahead of the flame front. Ignition of the coal dust allowed immediate propagation of the explosion because sufficient quantities of incombustible rock dust were not available to inert the coal dust. The coal dust explosion propagated to the surface areas of the mine (DOL/MSHA 1993).

The No. 9 Mine, Day Branch Coal Company, experienced an explosion on May 11, 1994, resulting in fatal injuries to two miners. A limited quantity of methane was ignited, and both methane and coal dust accumulations contributed to the propagation of the initial explosion flame. As the explosion traveled through the panel the methane was consumed, however, coal dust suspended in the air propagated the explosion approximately 715 feet away from the face (DOL/MSHA 1995).

On September 23, 2001, two explosions at the Jim Walter Resources, Inc. No. 5 Mine resulted in fatal injuries to thirteen miners. The first explosion was a methane explosion caused when a roof fall occurred and damaged a large

six-ton 64-volt scoop battery that was connected to a battery charger. One miner was severely injured or killed by the first explosion. The MSHA investigation report concluded that the second explosion also started as a methane explosion and strengthened when it encountered additional methane and coal dust. The explosion, fueled primarily by coal dust, propagated outby and claimed the lives of 12 miners (DOL/MSHA 2002).

The impact of these mine explosions might have been significantly reduced had there been quantities of rock dust applied in accordance with the final rule. The rock dust would have prevented the explosions from propagating to areas where miners were working, thus saving lives.

In addition, MSHA is also aware of at least 4 explosions or ignitions occurring in underground bituminous mines from 1985 through 2008 which did not result in miner injuries or fatalities; however, MSHA investigation reports concluded that poor rock dust practices contributed to these explosions.

Several commenters on the ETS, including participants at the public hearings, stated that they agreed with MSHA's actions in issuing the ETS and the supporting documentation for increasing the incombustible content in intake entries to 80 percent in underground bituminous coal mines. These commenters stated that explosions in U.S. underground coal mines have escalated in magnitude. According to the commenters, one explosion was so powerful that it had ripped a roof strap bolted to the mine roof, while another explosion destroyed the welds on a scoop bucket. MSHA's experience indicates that many explosions in underground bituminous coal mines can be intensified by coal dust.

Where rock dust is required to be applied, the final rule requires that mine operators distribute it upon the top, floor, and sides of all underground areas of a coal mine. MSHA intends for mine operators to rock dust areas that pose the greatest risk to miners. These areas include areas near the active faces and areas that contain ignition sources, such as conveyor belt drives and conveyor belt entries because they pose the greatest potential for methane and coal dust explosions.

Some commenters expressed concerns with MSHA's enforcement of the ETS because they believe mine operators are applying less rock dust in underground bituminous mines than required under the ETS. For example, they noted a longwall tailgate where a longwall shearer had cut across a "thousand-plus

foot longwall face" and deposited considerable coal dust accumulations in the immediate tailgate entry that was not cleaned up or effectively rock dusted. They also questioned MSHA's enforcement of the rock dust maintenance standard in remote areas such as remotely-located bleeder entries. These commenters noted that in Alabama, underground coal mine bleeder entries have high levels of methane, pillars yielding raw coal ribs with fresh sloughage, coal accumulation, and no mechanism to apply rock dust.

The ETS and this final rule do not change existing 30 CFR 75.402 which addresses remote areas where there is no feasible mechanism to apply additional rock dust and states:

All underground areas of a coal mine, except those areas in which the dust is too wet or too high in incombustible content to propagate an explosion, shall be rock dusted to within 40 feet of all working faces, unless such areas are inaccessible or unsafe to enter or unless the Secretary or his authorized representative permits an exception upon his finding that such exception will not pose a hazard to the miners. All crosscuts that are less than 40 feet from a working face shall also be rock dusted.

The September 2010 PIB provided guidance to operators on existing § 75.402 and ETS § 75.403. It suggested that they use bulk dusters, trickle dusters or high-pressure rock dusting machines to blow the rock dust into inaccessible areas to maintain the 80% TIC in remote areas.

In the ETS preamble, MSHA stated that "Rock dust, when effectively applied, can prevent explosions or reduce the severity of explosions" (75 FR 57851). In response, commenters questioned what MSHA meant by the term "effectively." In the September 2010 PIB, MSHA emphasized that mine operators are responsible for applying rock dust in areas of underground bituminous coal mines to inert coal and float coal dust, loose coal, and other combustible materials to comply with the ETS. Miners are exposed to grave hazards in these underground mines. As little as 0.005 inch (the thickness of a sheet of paper) of coal and float coal dust on top of rock dusted surfaces is capable of propagating an explosion. Therefore, removal of coal dust, including float coal dust, loose coal, other combustible materials, and the application and re-application, where necessary, of rock dust are essential to effectively protect miners from the potential of a coal dust explosion; or if one occurs, to reduce its severity and prevent loss of life.

In the October 2010 PIL, MSHA issued instructions to its inspectorate to enhance enforcement of the ETS and to check mine operators' compliance with the ETS and to take appropriate action, as necessary. MSHA stated that if mine operators allow coal, float coal dust, and other combustible materials to accumulate in active workings and on equipment in the mine, or if the TIC of the combined coal dust, rock dust, and other dust in any area of the mine does not meet the quantities required by the ETS, inspectors should take appropriate enforcement action.

MSHA stated in the October 2010 PIL that during regular inspections MSHA inspectors should continue to sample the incombustible content as required by MSHA's existing sampling policy and procedures for collecting rock dust samples, including sampling to within 50 feet of the tailpiece. In addition, the 2010 PIL instructed inspectors to take selective spot samples in areas that were rock dusted prior to September 23, 2010 (the date the ETS was published), to determine whether the mine operator is maintaining the 80 percent TIC requirements of the ETS. MSHA also recommended that inspectors conduct selective spot sampling in immediate return entries, especially longwall tailgate entries, and areas containing seals. MSHA instructed inspectors to begin spot sampling near the active faces and in areas that contain ignition sources, such as conveyor belt drives and conveyor belt entries because these areas pose the greatest potential for methane and coal dust explosions. Inspectors were instructed to identify the spot samples in the same manner as samples collected under the existing sampling policy and use the same mailing procedures. MSHA's existing sampling policy and procedures are under review.

When MSHA found a violation of 30 CFR 75.400, 75.402, or 75.403 under the ETS, the October 2010 PIL instructed Agency inspectors that abatement should be set at the shortest reasonable time after careful evaluation of conditions on a mine-by-mine basis, including whether the mine liberates large volumes of methane gas or has a history of methane ignitions. Inspectors were further instructed that if an operator failed to totally abate the violation within the specified time, they should consider issuance of a Section 104 (b) Order of Withdrawal.

If a mine operator has repeat violations of §§ 75.400, 75.402 or 75.403, the October 2010 PIL advised that inspection personnel should discuss the adequacy of the cleanup program with the operator and consider

requiring the use of more effective rock dusting equipment and methods for controlling and maintaining the incombustible content of the combined coal dust, rock dust, and other dust along with elevated enforcement actions. Inspection personnel should also consider changes to the cleanup program which would require the use of bulk dusters, trickle dusters or high-pressure rock dusting machines to continuously rock dust the areas downwind of belt transfers, the returns of active sections, the tailgates of longwalls and the bleeder entries.

A commenter suggested dividing existing \$ 75.400 (accumulations) into three requirements. According to the commenter, this action would separate violations for accumulations on rock dusted surfaces, on mobile equipment, and on fixed plant equipment. This comment is outside the scope of this rulemaking.

Some commenters objected to application of rock dust by hand. In their opinion, this method is inadequate to protect miners. Application of rock dust by hand is not prohibited under the final rule, as long as the 80 percent incombustible content of the combined coal dust, rock dust, and other dust is maintained. Based on MSHA experience, mine operators are capable of maintaining the requirements of the final rule through application of rock dust by hand. However, MSHA acknowledges that there are more efficient methods of rock dusting, such as:

- High pressure bulk—transfers large dust quantities in short time with limited labor required.
- Bantam—portable unit that can mount on equipment to easily dust face areas or can be used to spot dust.
- Slinger—portable duster with good perimeter coating in a single pass.
- Trickle—good for dusting return entries or belt entries, run continuously.
- Wet/Slurry—more coverage per pound of dust, good adherence to coal, can dust with miners in by and can be easily applied in high areas.
- Mine-wide automated dusting systems—System can be controlled by programmable logic controllers requiring less labor.

A commenter questioned whether it is appropriate for MSHA to rely on results of the NIOSH explosibility testing (Cashdollar *et al.*, 2010) from one coal seam and apply it to all types of coal. The commenter stated that the overall hazard to miners in other coal seams is inaccurately quantified by this study. Other commenters urged MSHA to set rock-dusting standards based on a worst-case scenario (using high volatile

coal) with no relaxation for lower volatile coal.

In its experimental studies of the effect of particle size on explosion hazard, NIOSH used coal from the Pittsburgh coal seam. The data represent the worst-case condition as stated in the ETS preamble and in the NIOSH Report of Investigations 9679 (Cashdollar *et al.*, 2010). NIOSH used this approach to limit variables that could have influenced the experiments related to particle size alone. Published studies, reported by Cashdollar 1996 and Cashdollar *et al.*, 2010, have examined the roles of seam-specific and site-specific coal qualities on explosibility. Based on this research, there are two primary coal characteristics that influence dust explosibility and vary by seam: (1) Inherent ash and moisture content and (2) the volatility of the coal. The final rule, like the ETS, considers the variability of inherent ash and moisture of coal as part of the incombustible content of a sample used to calculate the 80% requirement. The volatility of the coal is expressed as the percentage of volatile matter determined by proximate analysis. Studies published by the U.S. Bureau of Mines (USBM) found that all coals with volatility in excess of 12% are explosible. More specifically, higher volatile coals require a lower dust concentration (mass of dust per unit volume) to produce an explosion. The Pittsburgh seam coal has an average volatility of 37%. Experimental studies comparing explosion hazards of various coals have defined a relationship between the minimum rock dusting requirements to inert and the volatility of coals (Cashdollar, 1996).

Lower volatile coals (less than 30% volatile matter) require less rock dust to inert the coal dust, although it would not be a significant reduction in the amount of rock dust. The final rule is based on the worst-case conditions of coal dust (particles less than 200 mesh) for high volatile bituminous coals. Therefore, the final rule retains the ETS language and provides an extra margin of safety for coals with lower volatile content.

Commenters questioned whether additional rock dust, particularly in intake airways, increases miners' exposures to respirable coal mine dust above the allowable limit. This commenter suggested that the ETS, coupled with MSHA's proposal to reduce the respirable coal mine dust limit by half in these same air courses, created incompatible standards. This commenter believes that if MSHA is to require both standards, then MSHA must revise its position with regard to

the use of wet dusting systems for intake roadways and aircourses to reduce respirable dust exposures from rock dusting.

MSHA standards do not require that rock dust contain any respirable fraction. MSHA's existing definition for rock dust establishes specifications for rock dust. Operators must assure that rock dust applied meets this definition.

With regard to the utility of wet dusting methods to control rock dust in underground coal mines, MSHA believes that for this approach to be effective, the wet products must be applied often enough to prevent an accumulation of float coal dust atop coated surfaces. The use of wet dusting technology has some limitations in an underground coal mine. The use of wet or foam-type application of rock dust and the use of other inerting agents have been explored for decades. These wet products work by binding or coating coal dusts and preventing them from being entrained in an explosion front rather than mixing with and inerting the coal dust. This creates a coating on surfaces, on top of which new coal dust can accumulate. This coating will not provide as effective inerting capability in the event of an explosion as dry rock dust.

Finally, some commenters expressed concern that MSHA is precluding some mine operators from using scrubbers in underground mines. These commenters suggested that MSHA should allow the immediate use of scrubbers on mining machinery where coal dust is being generated at the face, stating that scrubbers remove 92 percent of respirable dust out of the air, which would help operators achieve the rock dusting requirements. Commenters did not provide supporting data. Although MSHA does not prohibit the use of scrubbers in appropriate cases, this issue is outside the scope of this rulemaking.

Commenters objected to the protracted time that it takes MSHA to obtain results of rock dust samples. These commenters also inquired as to the availability of a method to immediately assess compliance through real-time monitoring instead of waiting weeks for compliance results. The Coal Dust Explosibility Meter (CDEM) is new technology that uses optical reflectance to measure the relative concentration ratio of coal dust (black) to rock dust (white/grey) in a rock dust sample collected in an underground coal mine. The CDEM is intended to be used by mine operators and MSHA as a screening tool inside the mine to assess the explosion hazard potential in real time and take prudent actions to

mitigate the hazard. The CDEM is not intended to replace the current MSHA laboratory analysis of coal mine dust samples for incombustible content, but to serve as a supplemental device for enhancing mine safety through improved rock dusting practices. MSHA is improving its laboratory analysis function to reduce analysis time.

### III. Regulatory Economic Analysis

#### A. Executive Order 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review

Under Executive Order (E.O.) 12866, the Agency must determine whether a regulatory action is “significant” and subject to review by the Office of Management and Budget (OMB). Section 3(f) of E.O. 12866 defines a “significant regulatory action” as an action that is likely to result in a rule: (1) Having an annual effect on the economy of \$100 million or more, or adversely and materially affecting a

sector of the economy, productivity, competition, jobs, the environment, public health or safety or state local or tribal governments or communities (also referred to as “economically significant”); (2) creating serious inconsistency or otherwise interfering with an action taken or planned by another agency; (3) materially altering the budgetary impacts of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or (4) raising novel legal or policy issues arising out of legal mandates, the President’s priorities, or the principles set forth in this Executive Order.

Under E.O.s 13563 and 12866, the Agency must assess all costs and benefits of available regulatory alternatives and, if regulation is necessary, to select regulatory approaches that maximize net benefits (including potential economic, environmental, public health and safety effects, distributive impacts, and equity). E.O. 13563 emphasizes the

importance of quantifying both costs and benefits, of reducing costs, of harmonizing rules, and of promoting flexibility.

MSHA has determined that this final rule does not have an annual effect of \$100 million or more on the economy, and is not an economically “significant regulatory action” pursuant to § 3(f) of E.O. 12866. However, the final rule, like the ETS, raises novel, legal or policy issues and is therefore subject to OMB review.

MSHA has not prepared a separate regulatory economic analysis for this rulemaking. Rather, the analysis is presented below.

#### B. Population at Risk

The final rule applies to all underground bituminous coal mines in the United States. There are approximately 415 active underground bituminous coal mines employing 47,119 miners. Table 1 presents the 415 underground bituminous coal mines by employment size.

TABLE 1—UNDERGROUND BITUMINOUS COAL MINES AND MINERS, 12 MONTH AVERAGE AS OF JANUARY 2010, BY EMPLOYMENT SIZE \*

Mine size	Number of underground bituminous coal mines	Total employment at underground coal mines
1–19 Employees .....	73	1,136
20–500 Employees .....	330	29,390
501+ Employees .....	12	9,708
Contractors .....	.....	6,885
Total .....	415	47,119

\* Source: MSHA MSIS Data (March 2010).

The 415 underground coal mines produced an estimated 331.7 million short tons of coal in 2009. The average price of coal in underground mines in

2009 was \$55.77 per short ton and was obtained from the U.S. Department of Energy (DOE), Energy Information Administration (EIA), *Annual Coal*

*Report 2009*, October 2010, Table 28. Table 2 presents the coal production and revenues for 2009.

TABLE 2—COAL PRODUCTION IN SHORT TONS AND COAL REVENUES IN 2009 FOR MINES AFFECTED BY THE FINAL RULE

Mine size	Coal production	Coal revenue
1–19 Employees .....	4,972,836	\$277,335,064
20–500 Employees .....	236,453,706	13,187,023,184
500+ Employees .....	90,256,010	5,033,577,678
Total .....	331,682,552	18,497,935,926

#### C. Benefits

Since MSHA did not receive any comments on the benefits analysis presented in the preamble of the ETS, the Agency has retained that analysis for the final rule. For the convenience of the reader, the entire benefits analysis is presented below.

Accumulations of coal dust can propagate and contribute to the severity of mine explosions. During the period 1976 to 2001 (26 years) there were 26 fatal methane and/or coal dust explosions in underground coal mines that resulted in 139 fatalities (Dubaniewicz, 2009). In 6 of those 26

explosions, the rock dusting conditions and practices in intake air courses were identified as either the cause or a contributing factor in the explosions. In addition to reviewing the Dubaniewicz report, MSHA also reviewed the Agency’s own fatal investigation reports for these explosions. Based upon this

review, MSHA determined that the requirements in this final rule would have either prevented or reduced the severity of these explosions. These explosions resulted in 46 deaths, approximately 2 deaths per year (46 deaths/26 years). The requirements in this final rule probably would not have prevented all of the deaths from the 6 explosions. MSHA estimates that the final rule will prevent approximately 1 to 1.5 deaths per year.

MSHA also studied explosions and ignitions resulting in non-fatal injuries that occurred during the period from 1986 through 2001 (16 years). During that time, there were 3 explosions that resulted in at least 4 non-fatal injuries in which rock dusting conditions and practices contributed to the explosions. Based on the data, MSHA determined that the requirements in the final rule will prevent 1 additional injury about every 4 years (4 injuries/16 years).

However, these estimates are not precise and the final rule could prevent additional injuries. MSHA is also aware of at least 4 explosions or ignitions occurring from 1985 through 2008 which did not result in any injuries or fatalities; however, the investigation report concluded that poor rock dust practices contributed to these explosions. MSHA projects that the final rule will improve rock dust practices in underground bituminous coal mines and the safety and health of miners.

The final rule will decrease explosibility of the coal dust deposited in underground bituminous coal mines, which will decrease both the probability that an explosion will occur and, if an explosion does occur, the severity of the explosion. MSHA projects a significant reduction in fatalities and injuries with the implementation of the final rule.

MSHA calculates benefits in terms of an annual average. However, the final rule is targeted at mine explosions, which are catastrophic events that may not occur on a regular basis. They can unfortunately occur multiple times in a single year, but may not occur again for a number of years. Thus, MSHA's average estimate of 1 to 1.5 deaths prevented a year cannot fully reflect the impact of preventing a given explosion or series of explosions, since each would be unique in terms of its impacts. MSHA has estimated the benefits of the final rule within this context. The number of fatalities and injuries that may be prevented by this final rule may be understated.

#### *D. Compliance Costs*

MSHA did not receive any comments that directly addressed the cost estimates presented in the preamble of the ETS. For this reason, MSHA has retained that analysis for the final rule, with one change as is noted below to address rock dusting in hard-to-reach areas, such as remote bleeder entries.

MSHA estimates that the final rule will result in total yearly costs for operators of underground bituminous coal mines of approximately \$26.3 million: \$0.3 million for mines with 1–19 employees; \$18.9 million for mines with 20–500 employees; and \$7.2 million for mines with 501 or more employees. The totals above do not sum due to rounding.

As is noted below, MSHA's cost estimates are based upon 2009 data. On April 14, 2010, West Virginia (WV) issued an Executive Order requiring that dust samples meet the NIOSH recommendation of 80% total incombustible content. MSHA did not consider the WV requirement in its analysis; thus the cost estimates attributable to the final rule may be overstated.

#### *Derivation of Compliance Costs*

Results from 26,576 intake rock dust samples collected by MSHA in 2009 show that over 75% of the samples had a total incombustible content (TIC) equal to or greater than 80%. While it is not possible to precisely determine the additional amount of rock dust needed based upon these samples, MSHA developed cost estimates using the following:

- MSHA assumed that the costs related to the 25% of samples that were below 80% TIC were the costs of going from 65% required under the existing standard to 80% TIC.
- Some samples that were below 80% TIC were below 65% TIC and others were above 65% TIC. To calculate costs, MSHA assumed that 25% of the mines in each size category would have to increase the TIC in the intakes from 65% to 80%, and developed costs accordingly.

MSHA estimates that approximately 18 mines with fewer than 20 employees (73 mines  $\times$  25%); 83 mines with 20–500 employees (330 mines  $\times$  25%); and 3 mines with more than 500 employees (12 mines  $\times$  25%) will incur costs to comply with the final rule.

MSHA also estimates that these mines will require 115% more rock dust to comply with the final rule. The 115% increase in the amount of rock dust needed was calculated by solving the following set of equations:

- The initial amount of rock dust ( $RD_0$ ) equals 65% of the initial amount of total dust ( $TD_0$ ), as is specified in equation 1.

$$\text{Equation 1: } RD_0 = 0.65 \times TD_0$$

- The initial amount of rock dust ( $RD_0$ ) plus the added rock dust ( $RD_{AD}$ ) equals 80% of the initial amount of total dust ( $TD_0$ ) plus the added rock dust ( $RD_{AD}$ ) as is specified in equation 2.

$$\text{Equation 2: } RD_0 + RD_{AD} = 0.8 \times (TD_0 + RD_{AD})$$

Based upon the experience of MSHA's field staff, MSHA estimates the total costs associated with purchasing and applying rock dust to comply with the previous rock dust requirements were \$0.20 per ton of coal produced for mine operators with fewer than 20 employees and \$0.23 per ton of coal produced for mine operators with 20 or more employees. Therefore, the regulatory economic analysis for the ETS estimated additional compliance cost for the affected mines would be \$0.23 ( $\$0.20 \times 115\%$ ) per ton of coal produced for mines with fewer than 20 employees and \$0.27 ( $\$0.23 \times 115\%$ ) per ton of coal produced for mines with 20 or more employees.

In response to commenters' concerns, MSHA has increased the estimated cost to purchase and apply rock dust by 20 percent in this analysis to account for the additional cost related to applying rock dust in hard-to-reach areas. Thus the compliance cost for the affected mines will be \$0.28 ( $\$0.23 \times 120\%$ ) per ton of coal produced for mines with fewer than 20 employees and \$0.32 ( $\$0.27 \times 120\%$ ) per ton of coal produced for mines with 20 or more employees.

From these estimates, MSHA projects that the costs for purchasing and applying rock dust would increase by \$26.3 million per year due to the final rule. Table 3 shows that, disaggregated by mine size, yearly costs will be approximately: \$0.3 million for mine operators with fewer than 20 employees; \$18.9 million for mine operators with 20–500 employees; and \$7.2 million for mine operators with more than 500 employees. The totals above do not sum due to rounding.



TABLE 3—PROJECTED COMPLIANCE COSTS BASED ON MINE SIZE AND ADDITIONAL ROCK DUST PER SHORT TON OF COAL PRODUCED

Mine size	Mine count	Average preliminary 2009 coal production (short tons) per mine	Additional rock dust costs per short ton of coal produced	Increase in yearly costs to apply rock dust to comply with final rule
1–19 Employees .....	18	68,121	\$0.276	\$338,000
20–500 Employees .....	83	716,526	0.317	18,853,000
501+ Employees .....	3	7,521,334	0.317	7,153,000
Total .....	104	.....	.....	26,344,000

### E. Net Benefits

Since MSHA did not receive any comments in the net benefits analysis in the preamble of the ETS, the Agency has retained that analysis for the final rule. The only changes are due to the changes in the estimated costs discussed in the previous section.

This section presents a summary of the estimated net benefits of the final rule for informational purposes only. Under the Mine Act, MSHA is not required to use estimated net benefits as the basis for its decision.

MSHA based its estimates of the monetary values for the benefits associated with the final rule on relevant literature. To estimate the monetary values of these reductions in cases, MSHA performed an analysis of the imputed value of fatalities prevented based on a willingness-to-pay approach. This approach relies on the theory of compensating wage differentials (*i.e.*, the wage premium paid to workers to accept the risk associated with various jobs) in the labor market. A number of studies have shown a correlation between higher job risk and higher wages, suggesting that employees demand monetary compensation in return for incurring a greater risk of injury or fatality.

Viscusi and Aldy (2003) conducted an analysis of studies that use a willingness-to-pay methodology to estimate the imputed value of life-saving programs (*i.e.*, meta-analysis) and found that each fatality prevented was valued at approximately \$7 million and each lost work-day injury was approximately \$50,000 in 2000 dollars. Using the GDP Deflator (U.S. Bureau of Economic Analysis, 2010), this yields an estimate of \$8.7 million for each fatality prevented and \$62,000 for each injury prevented in 2009 dollars. This value of a statistical life (VSL) estimate is within the range of the substantial majority of such estimates in the literature (\$1 million to \$10 million per statistical

life), as discussed in OMB Circular A–4 (OMB, 2003).

Although MSHA is using the Viscusi and Aldy (2003) study as the basis for monetizing the expected benefits of the final rule, the Agency does so with several reservations, given the methodological difficulties involved in estimating the compensating wage differentials (see Hintermann *et al.*, 2008). Furthermore, these estimates pooled across different industries may not capture the unique circumstances faced by coal miners. For example, some have suggested that VSL models be disaggregated to account for different levels of risk, as might occur in coal mining (Sunstein, 2004). In addition, coal miners may have few options of alternative employers and in some cases only one employer (near-monopsony or monopsony) that may depress wages below those in a more competitive labor market.

MSHA recognizes that monetizing the value of a statistical life is difficult and involves uncertainty and imprecision. In the future, MSHA plans to work with other agencies to refine the approach taken in this final rule.

Based upon the estimated prevention of 1 to 1.5 deaths per year and 1 injury every 4 years, the final rule will result in monetized benefits of approximately \$8.7 to 13.1 million per year. As noted above, MSHA believes that the final rule may prevent additional injuries; however, due to data limitations, quantification is not possible and they have not been included in the monetized benefits.

In addition to the injuries and fatalities prevented, MSHA anticipates that savings to operators will result from the final rule preventing or reducing the severity of explosions. As noted above, 6 explosions (about 0.23 per year) involving fatalities occurred in the 26 year period 1976 to 2001 and 4 explosions (about 0.17 per year) that did not involve any fatalities or injuries occurred in the 24 year period 1985 through 2008. MSHA estimates that the

final rule will prevent or reduce the severity of about one explosion every two and a half years.

Explosions can result in tremendous costs to a mine operator. MSHA estimates that the time to recover a mine after an explosion is a minimum of 8 weeks. Factors such as lost wages, lost production, rehabilitation, payment for the mine rescue teams and other staff, and miscellaneous expenses could result in costs that range between \$2 and \$7 million, depending on the extent of the explosion and the size of the mine.

Additional costs include lost equipment, which could run into the millions of dollars. For example, the cost of a set of advancing type mining equipment (continuous mining machine, roof bolting machine, shuttle car, scoop and power center) would be approximately \$8 million while the cost of a longwall unit would be approximately \$200 million. Replacing the electric and waterlines, rails, roof supports, pumps, and power centers could add a couple of million dollars more to costs.

If a mine operator is unable to reopen the mine after an explosion like some of the mines examined by MSHA, costs will vary depending on the amount of recoverable reserves. The anticipated cost of lost reserves could range from a few million dollars for a small mine to in excess of hundreds of millions of dollars for a large mine.

Based upon these values, MSHA estimates that preventing or reducing the severity of a typical explosion in an underground coal mine will save the operator approximately \$15 to \$40 million in direct costs (*e.g.*, mine rescue, wages and equipment). Based on one explosion every two and a half years, MSHA estimates that the final rule will result in annual savings to operators of between \$6 million (\$15 million per explosion  $\times$  0.4 explosions per year) and \$16 million (\$40 million per explosion  $\times$  0.4 explosions per year) depending upon the size of the mine and severity



of the explosion. In addition, MSHA believes that the final rule will prevent operator losses resulting from the inability to recover coal reserves,

although MSHA has not quantified these savings due to the imprecision of the data. Furthermore, MSHA's average estimate of 1 to 1.5 deaths prevented a

year cannot fully reflect the impact of preventing a given explosion or series of explosions, since each would be unique in terms of its impacts.

TABLE 4—MONETIZED NET BENEFITS  
[Millions of 2009 dollars]

Yearly fatalities and injuries avoided	Yearly cost to apply additional rock dust	Yearly savings from reducing explosions	Annual net benefits
\$8.7 to \$13.1 .....	\$26.3	\$6 to \$16 .....	– 11.6 to 2.8.

**Note:** The final rule is targeted at the prevention of explosions, which are rare but catastrophic events. The net benefits, which must be estimated on an annual basis, do not necessarily reflect the impact of preventing a given explosion or series of explosions, since each would be unique in terms of its impacts.

#### IV. Feasibility

MSHA did not receive any comments on the feasibility analysis presented in the preamble of the ETS. The Agency concludes that the requirements of the final rule are technologically and economically feasible.

##### A. Technological Feasibility

MSHA concludes that this final rule is technologically feasible. The final rule is not technology-forcing. The benefits of rock dusting have been known for at least a century. Mine operators have been required to comply with the Coal Act, Mine Act, and ETS rock dusting requirements in 30 CFR 75.403, collectively for more than 40 years. The final rule adopts the ETS requirement for total incombustible content of dust in the mine. The final rule does not require operators to make any innovations in existing equipment or techniques used to rock dust.

##### B. Economic Feasibility

MSHA also concludes that this final rule is economically feasible. The U.S. underground bituminous sector produced an estimated 331,682,552 short tons of coal in 2009. Using the 2009 price of underground coal of \$55.77 per short ton, and estimated 2009 coal production in tons, underground coal revenues are estimated to be approximately \$18.5 billion. MSHA estimated the yearly compliance costs of the final rule to be \$26.3 million, which is 0.14 percent of revenues (\$26.3 million/\$18.5 billion) for underground bituminous coal mines. MSHA has traditionally used a revenue screening test—whether the yearly compliance costs of a regulation are less than 1 percent of revenues—to establish presumptively that compliance with the regulation is economically feasible for the mining community.

#### V. Regulatory Flexibility Act and Small Business Regulatory Enforcement Fairness Act (SBREFA)

Pursuant to the Regulatory Flexibility Act (RFA) of 1980, as amended by SBREFA, MSHA has analyzed the impact of the final rule on small businesses. Based on that analysis, MSHA has notified the Chief Counsel for Advocacy, Small Business Administration, and made the certification under the Regulatory Flexibility Act at 5 U.S.C. 605(b) that the final rule will not have a significant economic impact on a substantial number of small entities. The factual basis for this certification is presented below.

##### A. Definition of a Small Mine

Under the RFA, in analyzing the impact of the final rule on small entities, MSHA must use the Small Business Administration (SBA) definition for a small entity or, after consultation with the SBA Office of Advocacy, establish an alternative definition for the mining industry by publishing that definition in the **Federal Register** for notice and comment. MSHA has not taken such an action and is required to use the SBA definition. The SBA defines a small entity in the mining industry as an establishment with 500 or fewer employees.

In addition to examining small entities as defined by SBA, MSHA has also looked at the impact of this final rule on underground bituminous coal mines with fewer than 20 employees, which MSHA and the mining community have traditionally referred to as “small mines.” These small mines differ from larger mines not only in the number of employees, but also in economies of scale in material produced, in the type and amount of production equipment, and in supply inventory. The costs of complying with the final rule and the impact of the final

rule on small mines will also be different. It is for this reason that small mines are of special concern to MSHA.

MSHA concludes that it can certify that the final rule will not have a significant economic impact on a substantial number of small entities that are covered by this final rule. The Agency has determined that this is the case both for mines with fewer than 20 employees and for mines with 500 or fewer employees.

##### B. Factual Basis for Certification

MSHA initially evaluates the impacts on “small entities” by comparing the estimated compliance costs of a rule for small entities in the sector affected by the rule to the estimated revenues for the affected sector. When estimated compliance costs are less than one percent of the estimated revenues, the Agency believes it is generally appropriate to conclude that there is no significant economic impact on a substantial number of small entities. When estimated compliance costs exceed one percent of revenues, MSHA investigates whether a further analysis is required.

For underground bituminous coal mines, the estimated preliminary 2009 production was 4,972,836 short tons for mines that had fewer than 20 employees and 241,426,542 short tons for mines that had 500 or fewer employees. Using the 2009 price of underground coal of \$55.77 per short ton and total 2009 coal production in short tons, underground coal revenues are estimated to be approximately \$277.3 million for mines employing fewer than 20 employees and \$13.4 billion for mines employing 500 or fewer employees. The yearly costs of the final rule for mines that have fewer than 20 employees is 0.12 percent (\$338,000/\$277.3 million) of annual revenues, and the yearly costs of the final rule for mines that have 500 or fewer employees is 0.14 percent (\$19.2 million/\$13.5 billion) of annual

revenues. Using either MSHA's traditional definition of a small mine (one having fewer than 20 employees) or SBA's definition of a small mine (one having 500 or fewer employees), the yearly costs for underground bituminous coal mines to comply with the final rule will be less than 1 percent of estimated revenues. Accordingly, MSHA has certified that the final rule will not have a significant impact on a substantial number of small entities that are covered by the final rule.

#### VI. Paperwork Reduction Act of 1995

The final rule contains no additional information collections under the Paperwork Reduction Act.

#### VII. Other Regulatory Considerations

##### A. The Unfunded Mandates Reform Act of 1995

MSHA has reviewed the final rule under the Unfunded Mandates Reform Act of 1995 (2 U.S.C. 1501 *et seq.*). MSHA has determined that the final rule does not include any federal mandate that may result in increased expenditures by State, local, or tribal governments; nor will it increase private sector expenditures by more than \$100 million in any one year or significantly or uniquely affect small governments. Accordingly, the Unfunded Mandates Reform Act of 1995 requires no further Agency action or analysis.

##### B. Executive Order 13132: Federalism

The final rule does not have "federalism implications" because it will not "have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government." Accordingly, under E.O. 13132, no further Agency action or analysis is required.

##### C. The Treasury and General Government Appropriations Act of 1999: Assessment of Federal Regulations and Policies on Families

Section 654 of the Treasury and General Government Appropriations Act of 1999 (5 U.S.C. 601 note) requires agencies to assess the impact of Agency action on family well-being. MSHA has determined that the final rule will have no effect on family stability or safety, marital commitment, parental rights and authority, or income or poverty of families and children. The final rule impacts only the underground bituminous coal mine industry. Accordingly, MSHA certifies that the final rule will not impact family well-being.

##### D. Executive Order 12630: Government Actions and Interference With Constitutionally Protected Property Rights

The final rule does not implement a policy with takings implications. Accordingly, under E.O. 12630, no further Agency action or analysis is required.

##### E. Executive Order 12988: Civil Justice Reform

The final rule was written to provide a clear legal standard for affected conduct and was carefully reviewed to eliminate drafting errors and ambiguities, so as to minimize litigation and undue burden on the Federal court system. Accordingly, the final rule will meet the applicable standards provided in section 3 of E.O. 12988, Civil Justice Reform.

##### F. Executive Order 13045: Protection of Children From Environmental Health Risks and Safety Risks

The final rule will have no adverse impact on children. Accordingly, under E.O. 13045, no further Agency action or analysis is required.

##### G. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

The final rule does not have "tribal implications" because it will not "have substantial direct effects on one or more Indian tribes, on the relationship between the Federal government and Indian tribes, or on the distribution of power and responsibilities between the Federal government and Indian tribes." Accordingly, under E.O. 13175, no further Agency action or analysis is required.

##### H. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use

Executive Order 13211 requires agencies to publish a statement of energy effects when a rule has a significant energy action (*i.e.*, it adversely affects energy supply, distribution or use). MSHA has reviewed this final rule for its energy effects because the final rule applies to the underground coal mining sector. Because the final rule will result in yearly costs of approximately \$26.3 million to the underground coal mining industry, relative to annual revenues of \$18.5 billion in 2009, MSHA has concluded that it is not a significant energy action because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy. Accordingly, under this analysis, no

further Agency action or analysis is required.

#### VIII. References

- Cashdollar K. 1996. Coal dust explosibility. *J Loss Prev Process Ind* 9(1):65–76.
- Cashdollar K, Hertzberg M. 1989. Laboratory study of rock dust inerting requirements: effects of coal volatility, particle size, and methane addition. In: *Proceedings of the 23rd International Conference of Safety in Mines Research Institutes* (Washington, DC, September 11–15, 1989). Pittsburgh, PA: U.S. Department of the Interior, Bureau of Mines, pp. 965–977.
- Cashdollar K, Sapko M, Weiss E, Harris M, Man C, Harteis S, Green G. 2010. Recommendations for a New Rock Dusting Standard to Prevent Coal Dust Explosions in Intake Airways. Report of Investigations 9679. National Institute for Occupational Safety and Health, Pittsburgh Research Laboratory, Pittsburgh, PA, May. 59 Pages.
- Department of Labor, Mine Safety and Health Administration (DOL/MSHA). 1982. Report of Investigation. Underground Coal Mine Dust Explosion. No. 11 Mine (ID No. 15–02290). Adkins Coal Company. Kite, Knott County, Kentucky. December 7, 1981. U.S. Department of Labor. 60 Pages. [Missing Appendices I through L]
- Department of Labor, Mine Safety and Health Administration (DOL/MSHA). 1982. Report of Investigation. Underground Coal Mine Dust Explosion. No. 1 Mine (ID No. 15–12624). RFH Coal Company. Craynor, Floyd County, Kentucky. January 20, 1982. U.S. Department of Labor. 53 Pages. [Missing Appendices J through M]
- Department of Labor, Mine Safety and Health Administration (DOL/MSHA). 1993. Report of Investigation. Underground Coal Mine Explosions. Scotia Mine I.D. No. 15–02055. Scotia Coal Company. Ovenfork, Letcher County, Kentucky. March 9 and 11, 1976. U.S. Department of Labor. August 11, 1993. 229 Pages.
- Department of Labor, Mine Safety and Health Administration (DOL/MSHA). 1993. Report of Investigation. December 7, 1992. Underground Coal Mine Explosion. #3 Mine ID. No. 44–06594. Southmountain Coal Co., Inc. Norton, Wise County, Virginia. U.S. Department of Labor. May 6, 1993. 67 Pages.
- Department of Labor, Mine Safety and Health Administration (DOL/MSHA). 1995. Report of Investigation. May 11, 1994. Underground Coal Mine Explosion. No. 9 Mine I.D. No. 15–16418. Day Branch Coal Company, Inc. Pathfork, Harlan County, Kentucky. U.S. Department of Labor, May 26, 1995. 49 Pages. [Missing Appendix H].
- Department of Labor, Mine Safety and Health Administration (DOL/MSHA). 2002. Report of Investigation. Fatal Underground Coal Mine Explosions. September 23, 2001. No. 5 Mine Jim Walter Resources, Inc. Brookwood, Tuscaloosa County, Alabama. ID No. 01–01322. U.S. Department of Labor, CAI–

- 2001–20 through 32, December 11, 2002. 125 Pages.
- Department of Labor, Mine Safety and Health Administration (DOL/MSHA). 2010. Emergency Temporary Standard—Maintenance of Incombustible Content of Rock Dust in Underground Coal Mines (75 FR 57849), September 23, 2010.
- Department of Labor, Mine Safety and Health Administration (DOL/MSHA). 2010. Program Information Bulletin No. P10–18, Accumulation of Combustible Materials and Rock Dust. September 21, 2010. 3 Pages.
- Department of Labor, Mine Safety and Health Administration (DOL/MSHA). 2010. Procedure Instruction Letter No. 10–V–16, Accumulation of Combustible Materials and Rock Dust. October 14, 2010. 3 Pages.
- Dubaniewicz T. 2009. From Scotia to Brookwood, fatal US underground coal mine explosions ignited in intake air courses. *J Loss Prev Process Ind* 22(1):52–58.
- Hintermann B, Alberini A, Markandya A. 2010. Estimating the Value of Safety with Labor Market Data: Are the Results Trustworthy? *Applied Economics* 42(9):1085–1100.
- National Institute for Occupational Safety and Health (NIOSH). 2006. Float Coal Dust Explosion Hazards. NIOSH Technology News No. 515, April. DHHS (NIOSH) Publication No. 2006–125. 2 Pages.
- Office of Management and Budget (OMB). 1992. Circular No. A–94, “Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs,” October 29, 1992. 22 Pages.
- Sunstein C. 2004. Valuing Life: A Plea for Disaggregation. *Duke Law Journal*, 54 (November 2004): 385–445.
- U.S. Bureau of Economic Analysis. 2010. National Income and Product Accounts Table: Table 1.1.9. Implicit Price Deflators for Gross Domestic Product [Index numbers, 2005 = 100]. Revised May 27, 2010. 3 Pages. <http://www.bea.gov/national/nipaweb/TableView.asp?SelectedTable=13&Freq=Qtr&FirstYear=2006&LastYear=2008>
- U.S. Department of Energy (DOE). 2010. Energy Information Administration (EIA, 2010). Annual Coal Report 2009, Table 28. Revised October 1, 2010. 1 Page.
- Viscusi W, Aldy J. 2003. The Value of a Statistical Life: A Critical Review of Market Estimates Throughout the World. *Journal of Risk and Uncertainty* 27:5–76.

## IX. Final Rule—Regulatory Text

### List of Subjects in 30 CFR Part 75

Mine safety and health, Underground coal mines, Combustible Materials and Rock Dusting.

Dated: June 15, 2011.

Joseph A. Main,

Assistant Secretary of Labor for Mine Safety and Health.

Chapter I of Title 30, part 75 of the Code of Federal Regulations is amended as follows:

## PART 75—SAFETY STANDARDS FOR UNDERGROUND COAL MINES

■ 1. The authority citation for part 75 is revised to read as follows:

Authority: 30 U.S.C. 811.

■ 2. Section 75.403 is republished to read as follows:

### § 75.403 Maintenance of incombustible content of rock dust.

Where rock dust is required to be applied, it shall be distributed upon the top, floor, and sides of all underground areas of a coal mine and maintained in such quantities that the incombustible content of the combined coal dust, rock dust, and other dust shall be not less than 80 percent. Where methane is present in any ventilating current, the percent of incombustible content of such combined dust shall be increased 0.4 percent for each 0.1 percent of methane.

[FR Doc. 2011–15247 Filed 6–20–11; 8:45 am]

BILLING CODE 4510–43–P

## DEPARTMENT OF HOMELAND SECURITY

### Coast Guard

#### 33 CFR Part 117

[Docket No. USCG–2011–0492]

### Drawbridge Operation Regulations; Connecticut River, Old Lyme, CT

AGENCY: Coast Guard, DHS.

ACTION: Notice of temporary deviation from regulations.

**SUMMARY:** The Commander, First Coast Guard District, has issued a temporary deviation from the regulation governing the operation of the Amtrak Railroad Bridge at mile 3.4, across the Connecticut River at Old Lyme, Connecticut. The deviation is necessary to facilitate scheduled maintenance at the bridge. This deviation allows the bridge to remain in the closed position during the deviation period.

**DATES:** This deviation is effective from 12:01 a.m. through 6 a.m. on June 23, 2011.

**ADDRESSES:** Documents mentioned in this preamble as being available in the docket are part of docket USCG–2011–0492 and are available online at <http://www.regulations.gov>, inserting USCG–2011–0492 in the “Keyword” and then clicking “Search”. They are also available for inspection or copying at the Docket Management Facility (M–30), U.S. Department of Transportation,

West Building Ground Floor, Room W12–140, 1200 New Jersey Avenue, SE., Washington, DC 20590, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

**FOR FURTHER INFORMATION CONTACT:** If you have questions on this rule, call or e-mail Mr. Judy Leung-Yee, Project Officer, First Coast Guard District, [judy.k.leung-yee@uscg.mil](mailto:judy.k.leung-yee@uscg.mil), or telephone (212) 668–7165. If you have questions on viewing the docket, call Renee V. Wright, Program Manager, Docket Operations, telephone 202–366–9826.

**SUPPLEMENTARY INFORMATION:** The Amtrak Railroad Bridge, across the Connecticut River at mile 3.4, at Old Lyme, Connecticut, has a vertical clearance in the closed position of 19 feet at mean high water and 22 feet at mean low water. The drawbridge operation regulations are listed at 33 CFR 117.205(b).

The waterway users are commercial and recreational vessels.

The owner of the bridge, National Railroad Passenger Company (Amtrak), requested a temporary deviation from the regulations to facilitate repair of the main gear box and secondary reducer at the bridge.

Under this temporary deviation the Amtrak Railroad Bridge may remain in the closed position between 12:01 a.m. and 6 a.m. on June 23, 2011. Vessels that can pass under the bridge in the closed position may do so at any time.

The local marinas and commercial users were notified. No objections were received.

In accordance with 33 CFR 117.35(e), the bridge must return to its regular operating schedule immediately at the end of the designated time period. This deviation from the operating regulations is authorized under 33 CFR 117.35.

Dated: June 8, 2011.

Gary Kassof,

Bridge Program Manager, First Coast Guard District.

[FR Doc. 2011–15351 Filed 6–20–11; 8:45 am]

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## DEPARTMENT OF HOMELAND SECURITY

### Coast Guard

#### 33 CFR Part 117

[Docket No. USCG–2011–0481]

### Drawbridge Operation Regulations; Long Island, New York Inland Waterway From East Rockaway Inlet to Shinnecock Canal, Nassau, NY

AGENCY: Coast Guard, DHS.