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: Emergency Temporary Standard; public hearings; close of comment period.

SUMMARY: The Mine Safety and Health Administration (MSHA) is issuing an emergency temporary standard (ETS) under section 101(b) of the Federal Mine Safety and Health Act of 1977 in response to the grave danger that miners in underground bituminous coal mines face when accumulations of coal dust are not made inert. MSHA has concluded, from investigations of mine explosions and other reports, that immediate action is necessary to protect miners.

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 ETS requires mine operators to increase 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 ETS further requires that the incombustible content of such combined dust be raised 0.4 percent for each 0.1 percent of methane present. The ETS strengthens the protections for miners by reducing the potential for a coal mine explosion and reducing the severity of explosions should they occur.

DATES: Effective date: September 23, 2010.

Compliance dates: Each mine operator shall comply with the ETS by the dates listed below.

2. November 22, 2010. All other areas of the mine.

Persons and organizations are encouraged to submit comments on the ETS by October 19, 2010. The ETS must be replaced with a final rule within 9 months.


ADDRESS: Comments must be identified with “RIN: 1219–AB76” and may be sent to MSHA by any of the following methods:
- Electronic mail: zzMSHA-comments@dol.gov. Include “RIN: 1219–AB76” in the subject line of the message.
- Hand Delivery or Courier: MSHA, Office of Standards, Regulations, and Variances, 1100 Wilson Boulevard, Room 2350, Arlington, Virginia. Sign in at the receptionist’s desk on the 21st floor.

FOR FURTHER INFORMATION CONTACT: Patricia W. Silvey, Director, Office of Standards, Regulations, and Variances, MSHA, at silvey.patiricia@dol.gov (e-mail), 202–693–9440 (voice), or 202–693–9441 (facsimile).

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

I. Introduction

A. Availability of Information
B. Public Hearings
II. Basis for Emergency Temporary Standard
A. Regulatory Authority
B. Grave Danger
III. Discussion of Emergency Temporary Standard (ETS)
A. Background
B. Discussion
IV. Regulatory Economic Analysis
A. Executive Order (E.O.) 12866
B. Population at Risk
C. Benefits
D. Compliance Costs
E. Net Benefits
V. Feasibility

A. Technological Feasibility
B. Economic Feasibility
VI. Regulatory Flexibility Act (RFA) and Small Business Regulatory Enforcement Fairness Act (SBREFA)
A. Definition of a Small Mine
B. Factual Basis for Certification
VII. Paperwork Reduction Act of 1995
VIII. Other Regulatory Considerations
A. The Unfunded Mandates Reform Act of 1995
B. Executive Order 13132: Federalism
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
IX. References
X. Emergency Temporary Standard—Regulatory Text
A. Availability of Information


E-mail notification: MSHA maintains a list that enables subscribers to receive e-mail notification when the Agency publishes rulemaking documents in the Federal Register. To subscribe, go to http://www.msha.gov/subscriptions/subscribe.aspx.

The hearings will begin with an opening statement from MSHA, followed by an opportunity for members of the public to make oral presentations. You do not have to make a written request to speak; however, persons and organizations wishing to speak are encouraged to notify MSHA in advance for scheduling purposes.

Speakers and other attendees may present information to MSHA for inclusion in the rulemaking record. The hearings will be conducted in an informal manner. Formal rules of evidence or cross examination will not apply.

A verbatim transcript of the proceedings will be prepared and made a part of the rulemaking record. Copies of the transcript will be available to the public. The transcript may also be viewed on MSHA’s Web site at http://www.msha.gov/regsinfo.htm, under Statutory and Regulatory Information. MSHA will accept post-hearing written comments and other appropriate information for the record from any interested party, including those not presenting oral statements.

II. Basis for the Emergency Temporary Standard

A. Regulatory Authority

Section 101(b) of the Mine Act provides that:

1. The Secretary shall provide, without regard to the requirements of chapter 5, title 5, United States Code, for an emergency temporary mandatory health or safety standard to take immediate effect upon publication in the Federal Register if [s]he determines that miners are exposed to grave danger from exposure to substances or agents determined to be toxic or physically harmful, or to other hazards, and (B) that such emergency standard is necessary to protect miners from such danger.

2. A temporary mandatory health or safety standard shall be effective until superseded by a mandatory standard promulgated in accordance with the procedures prescribed in paragraph (3) of this subsection.

3. Upon publication of such standard in the Federal Register, the Secretary shall commence a proceeding in accordance with section 101(a) [including notice and comment], and the standards as published shall also serve as a proposed rule for the proceeding. The Secretary shall promulgate a mandatory health or safety standard under this paragraph no later than nine months after publication of the emergency temporary standard as provided in paragraph (2).

An ETS is an extraordinary measure provided by the Mine Act to enable MSHA “to react quickly to grave dangers that threaten miners before those dangers manifest themselves in serious or fatal injuries or illnesses.” S. Rept. No. 95–181, 24 (1977). Additionally, the Senate Report states—

* * * once the Secretary has identified a grave danger that threatens miners the Committee expects the Secretary to issue an emergency temporary standard as quickly as possible, not necessarily waiting until [s]he can investigate how well that grave danger is being managed or controlled in particular mines. Id. at 24.

An ETS takes effect upon publication in the Federal Register, and is a fully enforceable standard.

To assure the optimum protection of miners, the ETS authority applies to all types of grave dangers without qualification. The legislative history of the Mine Act emphasizes that “to exclude any kind of grave danger would contradict the basic purpose of emergency temporary standards—protecting miners from grave dangers.” Id. The ETS authority covers dangers arising from exposure to toxic or physically harmful substances or agents to “other hazards.” It applies to dangers longstanding or novel, to dangers that “result from conditions whose harmful potential has just been discovered” or to which large numbers of miners are “newly exposed.” Id.

A record of fatalities or serious injuries is not necessary before an ETS can be issued because “[d]isasters, fatalities, and disabilities are the very thing this provision is designed to prevent.” Id. at 23. At the same time, the legislative history of the Mine Act is clear that an ETS is not limited to new dangers in the mining industry. “That a danger has gone unremedied should not be a bar to issuing an emergency standard. Indeed, if such is the case the need for prompt action is that much more pressing.” Id. at 24.

When issuing an ETS, MSHA is “not required to prove the existence of grave danger as a matter of record evidence prior to taking action.” Id. The legislative history expressly recognizes “the need to act quickly where, in the judgment of the Secretary, a grave danger to miners exists.” Id. The ETS is a critical statutory tool that MSHA can use to take immediate action to significantly reduce the potential for the loss of life in the mines.

MSHA accordingly has used an ETS to require:

• Hands-on training for miners in the use of self-contained self-rescue (SCSR) devices (52 FR 24373, June 30, 1987);
• Training and mine evacuation procedures for underground coal mines (67 FR 76658, Dec. 12, 2002);
• New accident notification timeframes, new safety equipment, and training and drills in mine emergency evacuations (71 FR 12252, Mar. 9, 2006); and
• Sealing of abandoned areas (72 FR 28797, May 22, 2007).

B. Grave Danger and the Need for an Emergency Temporary Standard

MSHA has determined that a revised standard for “Maintenance of incombustible content of rock dust” (30
CFR § 75.403 is necessary to immediately protect miners from hazards of coal dust explosions. This determination is based on: MSHA’s 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”; and MSHA’s experience and data.

Rock dust is a pulverized stone used to cover coal dust and render accumulations of it inert. In order to prevent an explosion from propagating, rock dust must be effectively applied wherever coal dust accumulates. The mine operator’s procedures for applying rock dust must be designed to assure that rock dust effectively inerts coal dust accumulations. Rock dust, when effectively applied, can prevent explosions or reduce the severity of explosions.

Under the existing standard, mine operators are required to apply rock dust in bituminous coal mines to reduce the explosion potential of the coal dust and other dust generated during mining operations. Effective rock dust application is essential to protect miners from the potential of a coal dust explosion; or if one occurs, to reduce its severity. Based on the Federal Coal Mine Health and Safety Act of 1969 (Coal Act), Public Law 91–173, MSHA established a standard that requires mine operators to maintain at least 80 percent incombustible content of the combined coal dust, rock dust, and other dust in return airways. In all other areas of the mine, the combined dust must contain at least 65 percent incombustible content. 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 return air courses contributed to the severity of the explosions (Dubaniewicz 2009). MSHA’s experience indicates that many large explosions in underground bituminous coal mines are propagated by coal dust.

Based on NIOSH’s data and recommendations, and MSHA data and experience, the Secretary has determined that miners are exposed to grave danger in areas of underground bituminous coal mines that are not properly and sufficiently rock dusted in accordance with the requirements in this ETS and that this ETS is necessary to protect miners from such danger.

A. Background

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 Coal Act of 1910, 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 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 not be less than 65 percent, but the incombustible content in the return aircourses shall be no less than 80 percent. Where methane is present in any ventilating current, the percent of incombustible content of such combined dust shall be increased 1.0 and 0.4 percent for each 0.1 percent of methane where 65 and 80 percent, respectively, of incombustibles are required. [Conference Report No. 91–761, Section 304(d)].

The Congress retained this Coal Act provision in the Mine Act. This provision is MSHA’s existing standard for rock dusting.

B. Discussion

This ETS revises existing 30 CFR 75.403 to require mine operators to increase the incombustible content of the combined coal dust, rock dust, and other dust in all accessible areas of underground bituminous coal mines to at least 80 percent. Rock dust must be distributed upon the top, floor, and sides 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. Existing MSHA standards require the incombustible content in the return air courses to be at least 80 percent and in all other areas to be at least 65 percent. This ETS increases the incombustible content in all areas, other than return air courses, from 65 percent to 80 percent. In addition, the ETS amends the standard 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. This is a conforming change to the existing requirement. MSHA solicits comments regarding the increase in incombustible content of dust in air courses where methane is present. Please include rationale and supporting documentation for any suggested alternative compliance methods.

It is the responsibility of mine operators to comply with the ETS immediately. MSHA recognizes, however, that operators may need additional time for compliance for both newly mined areas and other areas of the mine. For newly mined areas, the ETS includes a short delayed compliance date to allow operators to purchase additional rock dust, related materials, and equipment. For other areas of the mine, which may be extensive in some cases, the ETS provides operators with additional time to apply rock dust. By October 7, 2010, mine operators must rock dust all newly mined areas in accordance with the ETS. By November 22, 2010, all other areas of the mine must be rock dusted in accordance with the ETS. MSHA encourages operators to begin rock dusting all other areas, starting with areas that pose the greatest risk to miners. Those 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.

Dust samples collected and analyzed by MSHA in each of the Agency’s districts that cover bituminous coal mines were used by NIOSH to determine the incombustible content necessary to minimize explosion propagation. The samples were collected in intake and return airways, and the results indicate that particle sizes of the dust in underground areas are significantly finer than those measured in the 1920s, which were the basis for the existing standard as noted above. According to the NIOSH report, the finer dust particle size results from changes in underground coal mining technology since the 1920s. This decrease in particle size occurred as new mining technologies were adopted by the industry (e.g., mining methods involving increased mechanization) (Cashdollar et al. 2010).

MSHA’s existing rock dust standard which requires a 65 percent TIC dust mixture does not adequately protect miners. LLEM tests have shown that a 68 percent TIC dust mixture with coarse coal dust from the Pittsburgh seam (20 percent < 200 mesh) will propagate dust explosions. LLEM inerting experiments also demonstrated that at least 76.4 percent TIC suspended in the air in a laboratory test environment is required to prevent explosion propagation for medium-size coal dust (38 percent < 200 mesh). LLEM experiments have also shown 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). Consistent with NIOSH findings, the ETS requires 80 percent TIC for all areas that require rock dusting. The ETS is consistent with the requirement in the West Virginia Executive Order issued on April 14, 2010, relating to total incombustible content of dust.

IV. Regulatory Economic Analysis

A. Executive Order 12866: Regulatory Planning and 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.

MSHA has determined that this ETS 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. MSHA requests comments on all the estimates of costs and benefits presented in this ETS.

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

B. Population at Risk

The ETS 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>
<thead>
<tr>
<th>Mine size</th>
<th>Number of underground bituminous coal mines</th>
<th>Total employment at underground coal mines</th>
</tr>
</thead>
<tbody>
<tr>
<td>1–19 Employees</td>
<td>73</td>
<td>1,136</td>
</tr>
<tr>
<td>20–500 Employees</td>
<td>330</td>
<td>29,390</td>
</tr>
<tr>
<td>501+ Employees</td>
<td>12</td>
<td>9,708</td>
</tr>
<tr>
<td>Contractors</td>
<td></td>
<td>6,885</td>
</tr>
<tr>
<td>Total</td>
<td>415</td>
<td>47,119</td>
</tr>
</tbody>
</table>

*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 2008 was $51.35 per short ton and was obtained from the Department of Energy (DOE), Energy Information Administration (EIA), Annual Coal Report 2008, October 2009, Table 28.
Table 2 presents the coal production and revenues for 2009.

<table>
<thead>
<tr>
<th>Mine size</th>
<th>Coal production</th>
<th>Coal revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>1–19 Employees</td>
<td>4,972,836</td>
<td>$255,355,129</td>
</tr>
<tr>
<td>20–500 Employees</td>
<td>236,453,706</td>
<td>12,141,897,803</td>
</tr>
<tr>
<td>500+ Employees</td>
<td>90,256,010</td>
<td>4,634,646,114</td>
</tr>
<tr>
<td>Total</td>
<td>331,682,552</td>
<td>17,031,889,045</td>
</tr>
</tbody>
</table>

C. Benefits

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 ETS 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). MSHA acknowledges that the requirements in this ETS probably would not have prevented all of the deaths from the 6 explosions, and estimates that the ETS would have prevented 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 ETS would have prevented 1 additional injury about every 4 years (4 injuries/16 years).

However, these estimates are not precise and the ETS could result in additional injuries prevented. 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 ETS would improve rock dust practices in underground bituminous coal mines and the safety and health of miners.

The provisions of the ETS 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 ETS.

MSHA calculates benefits in terms of an annual average. However, the ETS 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 ETS within this context. The number of fatalities and injuries that may be prevented by this ETS may be understated. MSHA requests comments on the Agency’s benefit estimates, as well as supporting data.

D. Compliance Costs

MSHA estimates that the ETS will result in total yearly costs for operators of underground bituminous coal mines of approximately $22.0 million: $0.3 million for mines with 1–19 employees; $15.8 million for mines with 20–500 employees; and $6.0 million for mines with 501 or more employees.

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 (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 × 25%); 83 mines with 20–500 employees (330 mines × 25%); and 3 mines with more than 500 employees (12 mines × 25%) would incur costs to comply with the ETS.

MSHA also estimates that these mines will require 115% more rock dust to comply with the ETS. 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 (RD₀) equals 65% of the initial amount of total dust (TD₀), as is specified in equation 1.

  Equation 1: \( RD₀ = 0.65 \times TD₀ \)

- The initial amount of rock dust (RD₀) plus the added rock dust (RDₐ₀) equals 80% of the initial amount of total dust (TD₀) plus the added rock dust (RDₐ₀) as is specified in equation 2.

  Equation 2: \( RD₀ + RDₐ₀ = 0.8 \times (TD₀ + RDₐ₀) \)

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 existing rock dust requirements are $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 estimated additional compliance cost for the affected mines will be $0.23 ($0.20 \times 115\%) per ton of coal produced for mine operators with fewer than 20 employees and $0.27 ($0.23 \times 115\%) per ton of coal produced for mine operators with 20 or more employees.

From these estimates, MSHA projects that the costs for purchasing and applying rock dust would increase by $22.0 million per year due to the ETS. Table 3 shows that, disaggregated by mine size, yearly costs will be approximately: $0.3 million for mine operators with fewer than 20 employees; $15.8 million for mine operators with 20–500 employees; and $6.0 million for mine operators with more than 500 employees.

### Table 3—Projected Compliance Costs Based on Mine Size and Additional Rock Dust per Short Ton of Coal Produced

<table>
<thead>
<tr>
<th>Mine size</th>
<th>Mine count</th>
<th>Average pre-ETS coal production (short tons) per mine</th>
<th>Additional rock dust costs per short ton of coal produced</th>
<th>Increase in yearly costs to apply rock dust to comply with ETS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1–19 Employees</td>
<td>18</td>
<td>68,121</td>
<td>$0.230</td>
<td>$282,000</td>
</tr>
<tr>
<td>20–500 Employees</td>
<td>83</td>
<td>716,526</td>
<td>0.265</td>
<td>15,760,000</td>
</tr>
<tr>
<td>501+ Employees</td>
<td>3</td>
<td>7,521,334</td>
<td>0.265</td>
<td>5,979,000</td>
</tr>
<tr>
<td>Total</td>
<td>104</td>
<td>22,021,000</td>
<td></td>
<td>22,021,000</td>
</tr>
</tbody>
</table>

MSHA solicits comments on the above estimates as well as information that would enable a more specific analysis of costs, which could include the costs of: Additional rock dust; increased labor needed to apply the rock dust; and any additional equipment that would be necessary, such as, pod dusters, trickey dusters, finger dusters, and scoop batteries. For equipment, please include the type, number of pieces, costs, and expected service life. Please explain whether mining methods would affect the costs (e.g., longwall compared to non-longwall mines).

**E. Net Benefits**

This section presents a summary of the estimated net benefits of the ETS 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 ETS on relevant literature. To estimate the monetary values of these reductions in injuries, MSHA performed an analysis of the imputed value of fatalities avoided 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 injured and higher wages, suggesting that employees demand monetary compensation in return for incurring a greater risk of injury or fatality.

Viscusi & 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 avoided 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 avoided and $62,000 for each injury avoided 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 & Aldy (2003) study as the basis for monetizing the expected benefits of the ETS, the Agency does so with several reservations, given the methodological difficulties involved in estimating the compensating wage differentials (see Hintermann, Alberini and Markandya, 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 (see 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 ETS.

Based upon the estimated prevention of 1 to 1.5 deaths per year and 1 injury every 4 years, the ETS would result in monetized benefits of approximately $8.7 to 13.1 million per year. As noted above, MSHA believes that the ETS 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 would result from the ETS reducing or preventing 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 ETS would 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 $6 million while the cost of a longwall unit is approximately $200 million. Replacing the electric and waterlines, rails, roof
V. Feasibility

MSHA has concluded that the requirements of the ETS are technologically and economically feasible.

A. Technological Feasibility

MSHA concludes that this ETS is technologically feasible. The ETS 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 existing rock dusting requirements in 30 CFR 75.403 for more than 30 years. While the ETS will increase the total incombustible content of dust in the mine, the ETS will not require operators to make any innovations in existing equipment or techniques used to rock dust. However, MSHA recognizes that operators may need additional time to purchase additional rock dust, related materials, and equipment for newly mined areas, and to apply the rock dust in other areas of the mine.

B. Economic Feasibility

MSHA also concludes that this ETS is economically feasible. The U.S. underground bituminous sector produced an estimated 331,682,552 short tons of coal in 2009. Using the 2008 price of underground coal of $51.35 per short ton, and estimated 2009 coal production in tons, underground coal revenues are estimated to be approximately $17 billion. MSHA estimated the yearly compliance costs of the ETS to be $22.0 million, which is 0.13 percent of revenues ($22.0 million/$17 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.

VI. 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 ETS 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 ETS 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 ETS 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 ETS 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 ETS and the impact of the ETS 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 ETS will not have a significant economic impact on a substantial number of small entities that are covered by this ETS. 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.

### TABLE 4—MONETIZED NET BENEFITS MILLIONS OF 2009 DOLLARS

<table>
<thead>
<tr>
<th>Yearly fatalities and injuries avoided</th>
<th>Yearly cost to apply additional rock dust</th>
<th>Yearly savings from reducing explosions</th>
<th>Annual net benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>$8.7 to $13.1</td>
<td>$22.0</td>
<td>$6 to $16</td>
<td>−7.3 to 7.1</td>
</tr>
</tbody>
</table>

Note: The ETS 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. MSHA solicits comments on the net benefit estimates.
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 2008 price of underground coal of $51.35 per short ton and total 2009 coal production in short tons, underground coal revenues are estimated to be approximately $225.4 million for mines employing fewer than 20 employees and $12.4 billion for mines employing 500 or fewer employees. The yearly costs of the ETS for mines that have fewer than 20 employees is 0.11 percent ($282,000/$255.4 million) of annual revenues, and the yearly costs of the ETS for mines that have 500 or fewer employees is 0.13 percent ($16.0 million/$12.4 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 ETS will be less than 1 percent of estimated revenues. Accordingly, MSHA has certified that the ETS will not have a significant impact on a substantial number of small entities that are covered by the ETS.

VII. Paperwork Reduction Act of 1995

This ETS contains no additional information collections subject to review by OMB under the Paperwork Reduction Act.

VIII. Other Regulatory Considerations

A. The Unfunded Mandates Reform Act of 1995

MSHA has reviewed the ETS under the Unfunded Mandates Reform Act of 1995 (2 U.S.C. 1501 et seq). MSHA has determined that this ETS 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

This ETS does not have “federalism 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 among the various levels of government.” Accordingly, under E.O. 13132, no further Agency action or analysis is required.


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 this ETS will have no effect on family stability or safety, marital commitment, parental rights and authority, or income or poverty of families and children. This ETS impacts only the underground bituminous coal mine industry. Accordingly, MSHA certifies that this ETS would not impact family well-being.

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

This ETS 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

This ETS 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, this ETS 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

This ETS 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

This ETS 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 ETS for its energy effects because the ETS applies to the underground coal mining sector. Because this ETS will result in yearly costs of approximately $22.0 million to the underground coal mining industry, relative to annual revenues of $17 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.

IX. References


2. Revise § 75.403 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 not be 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.

BILLCODE 4510–43–P

DEPARTMENT OF HOMELAND SECURITY
Coast Guard
33 CFR Part 165
[Docket No. USCG–2010–0705]
RIN 1625–AA00
Safety Zone; Blue Angels at Kaneohe Bay Air Show, Oahu, HI

AGENCY: Coast Guard, DHS.

ACTION: Temporary final rule.

SUMMARY: The Coast Guard is establishing two temporary safety zones while the U.S. Navy Blue Angels Squadron conducts aerobatic performances over Kaneohe Bay, Oahu, Hawaii. These safety zones are necessary to protect watercraft and the general public from hazards associated with the U.S. Navy Blue Angels aircraft flying, high powered jet aerobatics over open waters.

DATES: This rule is effective from 9 a.m. on September 24, 2010, through 7 p.m. on September 26, 2010.

ADDRESSES: Comments and material received from the public, as well as documents mentioned in this preamble as being available in the docket, are part of docket USCG–2010–0705 are available online by going to http://www.regulations.gov, entering USCG–2010–0705 in the “Keyword” box, and then clicking “Search.” This material is 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 temporary rule, call or e-mail Lieutenant Commander Marcella Granquist, Waterways Management Division, U.S. Coast Guard Sector Honolulu, telephone 808–842–2600, e-mail Marcella.A.Granquist@uscg.mil. If you have questions on viewing the docket, call Renee V. Wright, Program Manager, Docket Operations, telephone 202–366–9826.

SUPPLEMENTARY INFORMATION:

Regulatory Information

On August 18, 2010, we published a notice of proposed rulemaking (NPRM) entitled: Safety Zone; Blue Angels at Kaneohe Bay Air Show, Oahu, HI in the Federal Register (75 FR 159). We received no comments on the proposed rule. No public meeting was requested, and none was held.

Under 5 U.S.C. 553(d)(3), the Coast Guard finds that good cause exists for making this rule effective less than 30 days after publication in the Federal Register because the duration to complete meetings with local stakeholders, required before a safety zone could be designated, did not afford the time needed before the rulemaking process could could be protected to protect watercraft and the general public from hazards associated with the U.S. Navy Blue Angels aerial aerobatics.

Basis and Purpose

On July 20, 2010, Kaneohe Bay Air Show 2010 coordinators informed the U.S. Coast Guard of a State of Hawaii approved Air Show plan that include an aerial performance “show box” extending beyond the Kaneohe Bay Naval Defensive Sea Area (NDSA) as established by Executive Order No. 8681 of February 14, 1941. Within this “show box”, the U.S. Navy Blue Angels Squadron will conduct aerobatic performances, exhibiting their aircraft’s maximum performance capabilities, over Kaneohe Bay, Oahu, Hawaii during a 3-day period. Taking into account the hazards associated with this “show box”, the U.S. Navy Blue Angels Squadron will conduct aerobatic performances, and that Kaneohe Bay normally experiences heavy waterway traffic during weekends, two safety zones for the portions of the “show box” that extend beyond the Kaneohe Bay NDSA was determined to be appropriate by the Captain of the Port so as to ensure the safety of all watercraft and the general public during the performances.