Nos. 14-11942-EE & 14-12163-EE (Consolidated)

IN THE UNITED STATES COURT OF APPEALS
FOR THE ELEVENTH CIRCUIT

NATIONAL MINING ASSOCIATION, ALABAMA COAL ASSOCIATION, WALTER ENERGY, INC., and WARRIOR INVESTMENT CO., INC.,
Petitioners, No. 14-11942-EE,

and

MURRAY ENERGY CORP., AMERICAN ENERGY CORP.,THE OHIO VALLEY COAL CO., THE AMERICAN COAL CO., OHIO AMERICAN ENERGY, INC., UTAH AMERICAN ENERGY, INC., WEST RIDGE RESOURCES, INC., KENAMERICAN RESOURCES, INC., MURRAY AMERICAN ENERGY, INC., THE HARRISON COUNTY COAL CO., THE MARION COUNTY COAL CO., THE MARSHALL COUNTY COAL CO., THE MONONGALIA COUNTY COAL CO., and THE OHIO COUNTY COAL CO.,
Petitioners, No.14-12163-EE,

v.

SECRETARY OF LABOR, MINE SAFETY
AND HEALTH ADMINISTRATION ("MSHA"),

Respondent.

ON PETITIONS FOR REVIEW OF A FINAL RULE OF
THE MINE SAFETY AND HEALTH ADMINISTRATION

CONSOLIDATED RESPONSE BRIEF FOR THE SECRETARY OF LABOR, MSHA

M. PATRICIA SMITH
Solicitor of Labor

HEIDI W. STRASSLER
Associate Solicitor

W. CHRISTIAN SCHUMANN
Counsel, Appellate Litigation

EDWARD WALDMAN
SAMUEL CHARLES LORD
Attorneys
U.S. Department of Labor
Office of the Solicitor
1100 Wilson Blvd., Suite 2200
Arlington, VA 22209-2296
Telephone: (202) 693-9333
Fax: (202) 693-9361
waldman.edward@dol.gov
lord.charlie@dol.gov

CERTIFICATE OF INTERESTED PERSONS

Pursuant to Eleventh Circuit Rules 26.1-1 and 26.1-2, the undersigned counsel certifies that, in addition to those persons and entities identified in the Petitioners' Certificates of Interested Persons, the following persons and entities have an interest in the outcome of this case:

Appalachian Citizens' Law Center, Inc.

Crowell & Moring LLP

National Black Lung Association

National Coalition of Black Lung and Respiratory Disease Clinics, Inc.

Stephen A. Sanders, Esq.

/s/Edward Waldman
EDWARD WALDMAN
Attorney

STATEMENT REGARDING ORAL ARGUMENT

Because the Dust Rule of which the petitioners seek review is exceptionally important, and some of the issues involved are highly technical, the Secretary believes that oral argument would aid the Court's decisional process.

TABLE OF CONTENTS

Page

TABLE OF CITATIONS

CASES Page

---

*Authorities upon which we chiefly rely are marked with asterisks.

STATUTES AND CODES

REGULATIONS

INTRODUCTION

This case arises under the Federal Mine Safety and Health Act of 1977 ("the Mine Act" or "the Act"), 30 U.S.C. §§ 801 *et seq.* On May 1, 2014, the Secretary -- acting through his agency, the Mine Safety and Health Administration ("MSHA"), *see* 29 U.S.C. § 557a -- promulgated a mandatory health standard of which the petitioners seek review, "Lowering Miners' Exposure to Respirable Coal Mine Dust, Including Continuous Personal Dust Monitors" ("the Dust Rule"). 79 Fed. Reg. 24,814.

STATEMENT OF ISSUES

1. Is the Dust Rule a valid exercise of the Secretary of Labor's authority under Sections 101, 201, and 202 of the Mine Act (30 U.S.C. §§ 811, 841, 842) to promulgate mandatory health standards for coal mines?

2. Does the Dust Rule comply with the requirements of Section 101 in that the Rule is rational, technologically and economically feasible, and based on consideration of the best available evidence, the latest scientific data, and experience under the Mine Act and other health and safety laws?

STATEMENT OF THE CASE

A. Nature of the Case

The petitioners seek pre-enforcement review of the Dust Rule -- a landmark rule intended to reduce coal miners' exposure to respirable coal mine dust, which causes debilitating and frequently fatal respiratory diseases commonly and collectively referred to as "black lung disease." The petitioners in Case No. 14-11942-EE are the National Mining Association and several Alabama-based coal mine operators, collectively referred to hereafter as "NMA"; the petitioners in Case No. 14-12163 are several mostly mid-western coal mine operators, collectively referred to hereafter as "Murray."

B. Statement of the Facts

1. Black lung disease

Chronic exposure to respirable coal mine dust causes serious lung diseases collectively known as black lung disease, including coal workers' pneumoconiosis ("CWP") (both simple and complicated), silicosis, chronic obstructive pulmonary disease, emphysema, and chronic bronchitis. 79 Fed. Reg. at 24,814; *accord NMA v. Sec'y of Labor*, 153 F.3d 1264, 1266 (11th Cir. 1998) ("[C]oal dust inhaled by

coal miners" is "known to cause Black Lung Disease."). "Silicosis" and "mixed-dust pneumoconiosis" are related types of fibrotic lung disease caused by exposure to silica dust or a mix of silica and coal dust. I-QRA-23 at 38-40. In coal mining, particularly surface coal mining, the typical worker is exposed to a mixture of coal and rock dust over a working lifetime. *Id.* at 39. Although high silica content in coal mine dust may accelerate the progression of simple CWP to complicated CWP (also known as "progressive massive fibrosis"), the medical evidence shows that coal dust has a fibrogenic effect on the development of CWP in coal miners independent of silica exposure. *Id.* at 50; 79 Fed. Reg. at 24,829-30.

Black lung disease is a potentially disabling and fatal, "dreadful and insidious" disease, which is "latent and progressive," may cause a miner's condition to deteriorate even after leaving the mines, and is irreversible and incurable, *Curse v. Director, OWCP*, 843 F.2d 456, 457 (11th Cir. 1988); *U.S. Steel Mining Co. v. Director, OWCP*, 386 F.3d 977, 979-80 (11th Cir. 2004) -- but which is preventable by minimizing exposure.

Premature mortality due to black lung is reflected in death certificates. I-2BKG-128. From 2002 to 2006, an average of 300 miners per year died with a listed cause of death of CWP. *Id.* at 1413. On average, those decedents lost 7.8 years of potential life before reaching age 65. *Id.* In 2006, the average number of years of potential life lost before age 65 for CWP decedents was 9.4. *Id.* at 1415. Before causing death, black lung disease causes years of physical, economic, and emotional hardship. *Curse*, 843 F.2d at 457 ("Black lung disease … interferes with the respiratory functions of its victims, and slowly and progressively makes the very act of breathing more and more difficult.") (citation omitted).

2. Dust control methods

Respirable coal mine dust is controlled -- and black lung disease can be prevented -- by such basic mining engineering practices as properly maintaining drill cutting bits to reduce dust generation, adequately wetting the coal to prevent it from becoming airborne, using water sprays to knock dust out of the air, and properly ventilating working areas to sweep dust-laden air away from miners and out of the working section. I-BKG-85; 79 Fed. Reg. at 24,872-74. The best single source for

explaining the many methods and tools available to mine operators for reducing and controlling dust is the National Institute for Occupational Safety and Health ("NIOSH") circular "Best Practices for Dust Control in Coal Mining." *Id.*[1]

3. The statutory background

The Federal Coal Mine Health and Safety Act of 1969 ("the Coal Act") established interim dust and dust-related standards, which were subsequently re-enacted in the Mine Act. 30 U.S.C. §§ 842, 845; *NMA*, 153 F.3d at 1266. Section 202(b)(2) limited the average concentration of respirable coal mine dust in the mine atmosphere during each shift to which each miner in the active workings of the mine was exposed to 2.0 milligrams per cubic meter of air (mg/m^3). 30 U.S.C. § 842(b)(2).[2] Section 205 required the 2.0 mg/m^3 standard to be reduced when the

[1] NIOSH is an agency created by the Occupational Safety and Health Act within the Department of Health and Human Services, 29 U.S.C. § 671, and charged by the Mine Act with carrying out the Secretary of Health and Human Services' research duties thereunder. 30 U.S.C. § 951(b).

[2] Section 203 of the Act, however, entitled miners who had evidence of pneumoconiosis to transfer to an area of the mine where the average concentration of respirable dust did not exceed 1.0 mg/m^3 (or, if that standard was not attainable, the lowest attainable standard below 2.0 mg/m^3). 30 U.S.C. § 843(b)(2).

mine atmosphere contained more than 5% quartz (also known as silica). 30 U.S.C. § 845. The Act directed the Secretary of Health, Education, and Welfare ("HEW") (the predecessor to the Secretary of Health and Human Services ("HHS")) to prescribe the formula for such reduction. *Id.*

Section 201(a) of the Mine Act authorized the Secretary of the Interior under the Coal Act, and authorizes the Secretary of Labor under the Mine Act, to supersede such statutory "interim mandatory health and safety standards" with "improved mandatory health and safety standards." 30 U.S.C. § 841(a). Any such improved standards, however, had to be promulgated according to the procedures and requirements of Section 101, which was also re-enacted in the Mine Act. *See* 30 U.S.C. § 811.

Section 101 of the Mine Act (discussed in Argument I(A), below) generally requires the Secretary to preside over notice-and-comment rulemaking, conduct public hearings if requested, subpoena witnesses and documents to such hearings, enforce such subpoenas in federal district courts, and, ultimately, to promulgate -- or explain his decision not to promulgate -- mandatory health or safety standards. 30 U.S.C. §§

811(a)(1)-(4). In the case of rulemaking pertaining to toxic materials or harmful physical agents, the Secretary must consider "the attainment of the highest degree of health and safety protection for the miner," as well as the best available evidence, the latest available scientific data, the feasibility of the standards, and experience gained under the Mine Act and other health and safety laws. 30 U.S.C. § 811(a)(6)(A). The Secretary must also consider statutorily prescribed input -- *e.g.*, "criteria" regarding toxic materials or harmful physical agents -- from the Secretary of HHS. *Id.* at § 811(a)(6)(B).

4. The regulatory background

The Secretary's 1980 dust standards, which were in effect until the promulgation of the Dust Rule, retained the statutory 2.0 mg/m^3 standard, except with respect to intake airways, where the standard was set at 1.0 mg/m^3. 30 C.F.R. § 70.100.[3] The 1980 standards also retained the formula prescribed by the Secretary of HEW for reducing the dust standard when the mine atmosphere

[3] Additionally, the 1980 standards retained the 1.0 mg/m^3 standard for miners entitled to transfer because they had evidence of pneumoconiosis, and eliminated the statutory interim standard's exception allowing a higher standard where 1.0 mg/m^3 was not "attainable." 30 C.F.R. § 90.100. Because this standard was codified in Part 90 of 30 C.F.R., such miners became known as "Part 90 miners."

contained more than 5% quartz: divide the percent of quartz into ten. 30 C.F.R. § 70.101 (2013).[4]

The 1980 standards also required five operator-collected dust samples bi-monthly from a "designated occupation." 30 C.F.R. § 70.207(a) (2013).[5] The "designated occupation" was the job with the highest dust exposures on a working section, typically the continuous mining machine operator on a continuous mining section[6] and the tailgate-side shearer operator on a longwall mining section.[7] *Id.* at §§ 70.2(f); 70.207(e). The "designated

---

[4] For example, when the atmosphere of the unit or area being tested contained 20% quartz, the dust standard was reduced to 0.5 mg/m^3 (*i.e.*, 10/20=0.5). 30 C.F.R. § 70.101 (example).

[5] The 1980 health standards included provisions in 30 C.F.R. Parts 70 (for underground coal mines), Part 71 (for surface areas of underground coal mines and surface coal mines), and Part 90 (for miners who have evidence of CWP). For the sake of convenience, this brief generally cites to Part 70 standards, and omits citations to the parallel standards in Parts 71 and 90 unless they have independent significance.

[6] A continuous mining machine is a mobile cutting machine that removes coal from a coal face by taking straight-forward cuts ranging from ten to 40 feet at a time, thereby creating networks of tunnels in the coal seam called "entries." I-BKG-85 at 41-62; I-QRA-23, 21.

[7] To set up a longwall section, a continuous mining machine drives a series of entries on four sides of a large, rectangular block of unmined coal called the "longwall panel." On average, a longwall panel is about

occupation" sampling strategy was based on the proposition that if miners in high-risk occupations were not overexposed to respirable dust, other miners in less risky occupations would not be either. *Am. Mining Cong. v. Marshall*, 671 F.2d 1251, 1253-54 (10th Cir. 1982).[8]

To be valid, the five operator samples had to be taken during consecutive "normal production shifts" (or "normal production shifts" on consecutive days), which were defined as shifts that produced "at least 50 percent of the average production reported for the last set of five valid samples." 30 C.F.R. §§ 70.2; 70.207(a) (2013). Operator dust sampling was required for the shorter of the length of a shift or eight hours, even if the shift was longer than eight hours. *Id.* at § 70.201(b). The five valid samples were then

---

1,000 feet wide and 10,000 feet long. I-2BKG-133. The shearer -- the cutting device used on longwall mining sections -- travels along the width of the longwall face, shaving off layer after layer of coal as it goes, until it has mined the entire panel.

[8] The 1980 standards also required mine operators to take one sample bimonthly from a "designated area," *i.e.*, an area outside of a working section where dust was generated, such as conveyor belt transfer points. 30 C.F.R. §§ 70.2(e); 70.208(a) (2013). The Dust Rule retains the "designated area" concept, and effective February 1, 2016, increases sampling for such areas to five times per quarter. 30 C.F.R. § 70.209.

averaged to determine whether the operator was in compliance with the applicable dust standard.

Although the vast majority of dust samples taken under the 1980 standards were collected by mine operators and mailed to an MSHA laboratory for analysis, less frequently MSHA inspectors personally observed operator sampling and collected samples directly from the operators on site. III-BKG-31 (Coal Mine Inspection Procedures Handbook); 79 Fed. Reg. at 24,868 n.56. During such inspections, MSHA inspectors monitored whether miners were correctly wearing and handling the sampling devices and whether valid conditions for conducting a sample were being maintained. III-BKG-31; 79 Fed. Reg. at 24,936-37.

In 1995, NIOSH published "Criteria for a Recommended Standard" that recommended MSHA extensively revise the 1980 standards. I-QRA-23; *see* 30 U.S.C. § 811(a)(6)(B) (requiring NIOSH to submit pertinent "criteria" regarding toxic materials and harmful physical agents to the Secretary of Labor). The NIOSH Criteria Document was based on a comprehensive review

of epidemiologic studies since the 1969 Coal Act. *Id.* at 147-218. NIOSH recommended revising the 1980 dust standard to:

(1) reduce the average concentration limit for respirable dust from 2.0 mg/m^3 to 1.0 mg/m^3;

(2) replace the average of an operator's five bimonthly samples with a single, full-shift measurement; and,

(3) make sampling more representative of typical mining conditions by: (a) requiring that samples be taken during a full shift, even if the shift exceeded eight hours; and (b) changing the definition of "normal production shift" to prevent sampling during shifts with uncharacteristically low production levels and therefore atypically low levels of dust generation. I-QRA-23.

5. Single-shift sampling

Section 202(f) of the Coal Act required that, after an initial eighteen-month period during which the average concentration of respirable dust was measured over multiple shifts, the average concentration of respirable dust was to be measured "over a single shift only" -- unless the Secretaries of the Interior and of HEW found that such single-shift measurements would not "accurately represent" atmospheric conditions

in coal mines. 30 U.S.C. § 842(f). In 1972, the two Secretaries jointly found that single-shift sampling would not accurately represent the average concentration of respirable coal mine dust to which miners were "continuously exposed." 37 Fed. Reg. 3,833 (Feb. 23, 1972). The Secretaries also stated their intent to periodically review that finding "as new technology develop[ed] and as new dust sampling data bec[a]me[] available." *Id.*

In 1994, MSHA and NIOSH jointly proposed to rescind the 1972 finding. 59 Fed. Reg. 8,358 (Feb. 18, 1994). In 1995, NIOSH issued its Criteria Document (discussed above) recommending (*inter alia*) that the Secretary adopt single-shift sampling. I-QRA-23. In 1996, an advisory committee, to which the Secretary had referred the NIOSH Criteria Document in accordance with Section 101 of the Mine Act, also recommended the adoption of single-shift sampling. I-QRA-22. After providing a period for public comment and holding public hearings, MSHA and NIOSH jointly rescinded the 1972 finding. 63 Fed. Reg. 5,664 (Feb. 3, 1998). In so doing, the Secretaries first stated that the 1972 finding was based on an incorrect interpretation of Section 202(f), namely, that section 202(f) "requires a determination of accuracy with

respect to 'atmospheric conditions during such shift,' not 'atmospheric conditions to which the miner is continuously exposed' (37 Fed. Reg. 3,833)." 63 Fed. Reg. at 5,666. Additionally, the Secretaries found that there had been improvements in dust sampling technology and methodology since the 1972 finding, including new standards for maintaining and calibrating samplers; a fully-automated, robotic sample weighing system with electronic microbalances; constant-airflow sampling pump technology; and more tamper-resistant filter cassettes. *Id.*

NMA challenged the 1998 Joint Finding in this Court. The Court declined to address the merits of single-shift sampling, but invalidated the 1998 Joint Finding on the purely procedural ground that MSHA had not done the economic feasibility analysis required by Section 101(a)(6) (30 U.S.C. § 811(a)(6)). *NMA*, 153 F.3d at 1268-69.

In 2000, MSHA and NIOSH jointly proposed to rescind the 1972 finding, and to find that a single, full-shift measurement of the "average concentration" of respirable coal mine dust "accurately represented" the atmospheric conditions in coal mines during each shift. 65 Fed. Reg. 42,068 (July 7, 2000). After having closed the

record, MSHA and NIOSH reopened it in 2003 to allow further comment on the proposal, and held public hearings. 68 Fed. Reg. 10,940 (Mar. 6, 2003). The agencies extended the comment period indefinitely in order to obtain information on a promising new dust-sampling technology being tested by NIOSH, the continuous personal dust monitor ("CPDM"). 68 Fed. Reg. 47,886 (Aug. 12, 2003).

6. The CPDM

The sampling technology in use since enactment of the Coal Act, the Coal Mine Dust Personal Sampler Unit ("CMDPSU"), requires that dust-laden filters be mailed to an MSHA laboratory for weighing and analysis, and sample results are not available for a week or more after a sample is taken. 79 Fed. Reg. at 24,859-60. In contrast, the CPDM continuously monitors respirable dust concentrations in real-time during a shift and displays them on a monitor, which alerts a mine operator to potential overexposures and to the need to adjust or add dust control measures. *Id.* at 24,860.

Technology giving real-time feedback on respirable dust concentrations in the mine environment has been an MSHA and

NIOSH goal for over three decades. *Id.* In 2003, an aggressive research and development program resulted in a prototype CPDM. *Id.* Through an informal partnership with industry, labor, and MSHA, NIOSH conducted a study of the prototype CPDM's performance in actual mining conditions at 14 underground mines, and compared its accuracy with that of the existing CMDPSU. *Id.* at 24,861. NIOSH published a report in September 2006 finding that the prototype CPDM was accurate and precise in measuring dust concentrations, was as durable as the existing CMDPSUs, and was more convenient to wear because it was integrated into a miner's cap lamp. *Id.*; II-BKG-8, at 1.

In 2010, after notice-and-comment rulemaking, MSHA and NIOSH jointly promulgated 30 C.F.R. Part 74, which established comprehensive design, accuracy, reliability, and quality control requirements for approving CPDMs for use in coal mines. 75 Fed.Reg. 17512 (Apr. 6, 2010). Pursuant to Part 74, NIOSH approved a CPDM manufactured by Thermo Fisher Scientific, Inc., on September 6, 2011. 79 Fed. Reg. at 24,818. The approved CPDM met the weight limitations specified by 30 C.F.R. § 74.7(c), *id.* at 24866, and gave miners and mine operators the capability of tracking dust concentration in real time.

C. Proceedings Below

In 2010, MSHA published the proposed Dust Rule. 75 Fed. Reg. 64,412 (Oct. 19, 2010). MSHA also issued for public review and comment its Preliminary Regulatory Economic Analysis, including its preliminary determination that the proposed rule was technologically and economically feasible, I-PREA-10, at 26-40, and its Quantitative Risk Assessment in support of the proposed rule estimating the health effects of the previous rule and the health benefits that would result from promulgation of the proposed rule. I-QRA-25.

MSHA received numerous comments regarding the proposed rule and conducted seven public hearings in different locations between December 2010 and February 2011. 79 Fed. Reg. at 24,819. Thereafter, MSHA published a request for additional comments on all aspects of the proposed rule. 76 Fed. Reg. 12,648 (Mar. 8, 2011). After extending the public comment period three times, MSHA closed the comment period on June 20, 2011. 79 Fed. Reg. 24,819.

D. Disposition Below

On May 1, 2014, MSHA published the final Dust Rule, the provisions of which have since been codified in 30 C.F.R. Parts 70, 71, 72, 75, and

90, including a preamble, 79 Fed. Reg. at 24,814-972, and separately issued a Quantitative Risk Assessment, I-2-QRA-26, and a Regulatory Economic Analysis, I-REA-16. The Dust Rule takes effect in three phases:

1. Phase one

As of August 1, 2014:

(1) A "normal production shift" is a shift during which the amount of material produced by a mechanized mining unit is "at least equal to 80 percent of the average production recorded by the operator for the most recent 30 production shifts." 30 C.F.R. § 70.2.[9] This new definition ensures that samples will be taken only during shifts with representative amounts of production, whereas the prior rule's definition permitted sampling during shifts when production was just 50 percent of the average production achieved during the prior five bimonthly samples.

(2) Mine operators must sample over a full shift, even if the shift exceeds eight hours. 30 C.F.R. § 70.201(c). Because coal miners work

[9] To enable calculation of the average production for the most recent 30 production shifts, an operator must report to MSHA the run-of-mine material produced during its production shifts. 30 C.F.R. § 70.201(g).

shifts that average longer than eight hours, requiring full-shift sampling provides more accurate assessments of the respirable dust concentrations to which miners are exposed. 79 Fed. Reg. at 24,885.

(3) "Excessive Concentration Values" (ECVs) are used. 30 C.F.R. § 70.206(e), (f). ECVs reflect upward adjustments in applicable concentration limits to account for measurement uncertainty and, if met or exceeded, provide 95 percent confidence that the true concentration of dust exceeded the applicable limit. 79 Fed. Reg. at 24,907, 24,969. The Dust Rule provides ECV tables that show the corresponding ECV for different sampling devices, *id.* at Tables 70-1; 70-2.[10]

(4) When a single, full-shift sample collected by an MSHA inspector from an operator during an on-site sampling inspection exceeds the applicable ECV, the inspector will issue a citation. 30 C.F.R. § 72.800.

(5) When a single, full-shift sample taken by an operator (and not collected on-site by an MSHA inspector) meets or exceeds the applicable ECV, no citation will be issued, but the operator must: (a) make

---

[10] For example, for a single-shift sample taken with a CMDPSU when the applicable standard is 2.0 mg/m^3, the ECV is 2.33 mg/m^3. 30 C.F.R. Table 70-1. MSHA, therefore, would not issue a citation, and an operator would not have to take corrective action, unless a single-shift sample met or exceeded 2.33 mg/m^3. *Id.* at § 70.206(f).

respiratory equipment available to affected miners, and (b) immediately take corrective action to reduce the concentration of respirable dust to (or below) the applicable standard. 30 C.F.R. § 70.206(e).

(6) When two or more of an operator's five bimonthly samples meet or exceed the applicable ECV, or the average of those five samples meets or exceeds the ECV, MSHA will issue a citation. *Id.* at § 70.206(f).

2. Phase two

As of February 1, 2016:

(1) Mine operators must use a CPDM to take "designated occupation" and "other designated occupation" samples. *Id.* at § 70.201.[11]

(2) Operators must take 15 designated occupation samples on consecutive normal production shifts quarterly, *id.* at 70.208(a), followed by 15 quarterly samples for each of the "other designated occupations" on the section. *Id.* This provision increases sampling frequency above the previous standard, which required only five

[11] As under the 1980 standard, the "designated occupation" on a section is the job with the highest dust exposure -- the continuous mining machine operator on a continuous mining section and the shearer operator on the longwall mining section. 30 C.F.R. § 70.2. "Other designated occupations" are the jobs (from one to four jobs, depending on how the section operates) that have the next highest dust exposures on the section, after the designated occupation. *Id.* at § 70.208(b).

designated occupation samples bimonthly, but significantly reduces the sampling frequency that would have been required under the proposed rule. *See* 75 Fed. Reg. at 64,489 (proposing designated occupation sampling "during each production shift, seven days per week (Sunday through Saturday), 52 weeks per year").

(3) When three or more valid representative samples from a set of 15 samples meet or exceed the applicable ECV, or when the average for all 15 samples meets or exceeds the ECV, MSHA will issue a citation. 30 C.F.R. § 70.208(f).

3. Phase three

Beginning August 1, 2016, the Dust Rule will require reduction of the concentration limit from 2.0 mg/m^3 to 1.5 mg/m^3, 30 C.F.R. § 70.100 -- half the reduction recommended by the 1995 NIOSH Criteria Document and contained in the proposed rule (1.0 mg/m^3). Additionally, the Dust Rule delays implementation of the 1.5 mg/m^3 standard 12 months longer than in the proposed rule, thus giving operators time to install necessary dust control measures. 79 Fed. Reg. at 24,880.[12]

[12] Also effective August 1, 2016, the Dust Rule reduces the concentration limits for intake air entries and for Part 90 miners from 1.0 mg/m^3 to 0.5 mg/m^3. 30 C.F.R. §§ 70.100(b); 90.100.

Where the total respirable coal mine dust contains more than 100 micrograms per cubic meter of air (μg/m^3) of respirable quartz, the respirable coal mine dust standard is computed by dividing the percentage of quartz into the number ten. 30 C.F.R. § 70.101.[13] Although worded differently than the previous rule, the Dust Rule does not change the limit on average concentration of respirable dust when respirable quartz is present.[14]

E. Standard of Review

The Court reviews matters of law *de novo*. *E.g., Lasche v. George W. Lasche Basic Profit Sharing Plan*, 111 F.3d 863, 865 (11th Cir. 1997). On questions of statutory interpretation, the Court must give effect to the unambiguously expressed intent of Congress. *Chevron U.S.A. v. Natural Resources Def. Council, Inc.*, 467 U.S. 837, 842-43, 104 S. Ct.

---

[13] For example, where the respirable coal mine dust in the mine atmosphere contains 20% quartz, the respirable coal mine dust standard is lowered to .5 mg/m^3 (10/20=.5).

[14] Under the previous rule, the trigger for reducing the limit on average concentration of respirable dust was not 100 μg/m^3 of respirable quartz, but rather 5% of respirable quartz. 30 C.F.R. § 70.101(b) (2013). As a practical matter, however, there is no difference because under both the Dust Rule and the previous rule, where the mine atmosphere is 100% quartz, the limit for average concentration of respirable dust is .1 mg/m^3 (10/100=.1) -- which is the equivalent of 100 μg/m^3.

2778, 2781-82 (1984); *Williams v. Sec'y, U.S. Dep't of Homeland Security*, 741 F.3d 1228, 1231-32 (11th Cir. 2014). The Court uses the traditional tools of statutory construction, including the text of the statute, its stated purpose, and its legislative history, in determining whether the meaning of a statutory provision is unambiguous. *Miami-Dade Cnty. v. EPA*, 529 F.3d 1049, 1063 (11th Cir. 2008) (text and purpose); *Miccosukee Tribe of Indians of Fla. v. United States*, 566 F.3d 1257, 1273-74 (11th Cir. 2009) (legislative history).

If the statute is silent or ambiguous on an issue, the Secretary's interpretation, where manifested in a regulation promulgated pursuant to delegated rulemaking authority after notice and comment, is owed deference and is entitled to affirmance as long as it is reasonable and not manifestly contrary to Congressional intent. *Polkey v. Transtecs Corp.*, 404 F.3d 1264, 1269 n.6 (11th Cir. 2005) (deferring to the Secretary of Labor's regulation interpreting the Employee Polygraph Protection Act). Such deference is owed even to an agency's interpretation of a statutory ambiguity that concerns the scope of the agency's statutory authority. *City of Arlington, Tex. v. FCC*, ___ U.S. ___, 133 S. Ct. 1863, 1871-72 (2013).

An agency rule, or a rescission or revocation of a rule, challenged as "arbitrary and capricious" must be affirmed as long as the agency "examine[d] the relevant data and articulate[d] a satisfactory explanation for its action including a rational connection between the facts found and the choice made." *Motor Vehicle Mfrs. Ass'n v. State Farm Auto. Ins. Co.*, 463 U.S. 29, 43 (1983); *accord Miami-Dade Cnty.*, 529 F.3d at 1064; *NMA v. Sec'y of Labor*, 512 F.3d 696, 700-01 (D.C. Cir. 2008) ("arbitrary and capricious" review applied to safety standard promulgated under Mine Act). Agency action is arbitrary and capricious only if the agency "has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise." *Miami-Dade Cnty.*, 529 F.3d at 1064 (quoting *State Farm*, 463 U.S. at 43). Such review is "exceedingly deferential" and limited to the question of whether the agency's conclusions are "rational." *Defenders of Wildlife v. U.S. Dep't of Navy*, 733 F.3d 1106, 1114-15 (11th Cir. 2013).

Because feasibility determinations involve "complex judgments about science and technology," the standard of review is deferential: the agency need only give "plausible reasons" to believe that the industry will be able to "solve those problems in the time remaining." *Kennecott Greens Creek Mining Co. v. MSHA*, 476 F.3d 946, 957 (D.C. Cir. 2007); *see American Iron & Steel Institute v. OSHA*, 939 F.2d 975, 980 (11th Cir. 1991) (the Court must defer to OSHA's feasibility determinations if OSHA makes reasonable predictions based on "credible sources of information," such as data from existing plants and expert testimony).[15]

The Court's review is limited to the rulemaking record before the agency. *Ala.-Tombigbee Rivers Coal. v. Kempthorne*, 477 F.3d 1250, 1262 (11th Cir. 2007); *Al Najjar v. Ashcroft*, 257 F.3d 1262, 1278 (11th Cir. 2001) ("[T]he general rule, applicable across the board to judicial review of administrative action …, is that the court may not go outside the administrative record.") (citation omitted). The Court may not

[15] Case law under the Occupational Safety and Health Act regarding the standard of review for feasibility determinations is not directly applicable under the Mine Act because the former contains a "substantial evidence" standard of review, 29 U.S.C. § 655(f), and the latter does not, 30 U.S.C. § 811(a)(6).

reweigh the evidence that was before the agency. *Dyer v. Barnhart*, 395 F.3d 1206, 1210 (11th Cir. 2005).

SUMMARY OF THE ARGUMENT

The Mine Act authorizes the Secretary of Labor to develop, promulgate, and revise improved mandatory health standards through notice-and-comment rulemaking, which the Secretary did in promulgating the Dust Rule. 30 U.S.C. § 811(a). The Act authorizes HHS or NIOSH to recommend, not conduct, rulemaking by submitting "criteria" regarding harmful physical agents to the Secretary. *Id.* at § 811(a)(6)(B). In 1995, NIOSH issued such a Criteria Document, recommending extensive revisions to the then-existing dust standards, several of which the Secretary adopted in the Dust Rule.

The Secretary reasonably determined, with input from NIOSH, that single-shift dust sampling "accurately represents" the average concentration of respirable dust in the mine atmosphere during each shift. 30 U.S.C. § 202(f). Subsequent to the contrary 1972 Joint Finding, sampling methods and technology have continuously advanced, and studies show that single-shift sampling meets the NIOSH Accuracy Criterion, which has been used since 1977 by OSHA, MSHA, and other

occupational-health professionals to develop health standards pertaining to airborne contaminants. Similarly, the Secretary reasonably determined that CPDMs are accurate and reliable based on criteria established by MSHA and NIOSH in 30 C.F.R. Part 74 -- which is not part of the Dust Rule and is, therefore, not subject to review by the Court in this case -- and under which NIOSH approved a commercially manufactured CPDM for use in coal mines. Further, based on experience and consultation with the manufacturer, the Secretary reasonably determined that sufficient CPDMs will be available when their use for sampling becomes mandatory on February 1, 2016.

The Secretary reasonably concluded that the Dust Rule is both technologically and economically feasible. Based on recent single-shift sample data collected by MSHA inspectors, adjusted for the changes effectuated by the Dust Rule, the Secretary found that most mine operators either already comply with the 1.5 mg/m^3 exposure limit most of the time, or can comply by adopting traditional engineering controls or work practices. Because the estimated costs of compliance with the Dust Rule to the mining industry total less than one percent of annual

revenues, the Secretary reasonably concluded that the Rule is economically feasible.

The Secretary reasonably rejected petitioners' suggestion to promulgate a regional silica rule instead of a nationwide dust rule because recent epidemiological studies show that miners in every coal mining region of the country continue to develop black lung disease. The Secretary was required by Section 202(h) of the Mine Act (30 U.S.C. § 842(h)) to reject petitioners' suggestion that operators be permitted to achieve compliance with the 1.5 mg/m^3 standard by providing miners with respirators, which provide unreliable protection, and which are unnecessary when mine operators employ proper engineering controls and work practices.

ARGUMENT

I.

SECTION 202 OF THE MINE ACT AUTHORIZED THE SECRETARY OF LABOR TO PROMULGATE THE DUST RULE

A. Nothing in Section 202 Authorized the Secretary of HHS to Promulgate Dust Standards or Required the Secretary of Labor to Promulgate Dust or Dust-Related Standards Jointly With NIOSH

The Secretary promulgated the Dust Rule in accordance with Section 101 of the Mine Act. 30 U.S.C. § 811. Murray asserts that Section 202

required the Secretary to act jointly with NIOSH, Murray Br. at 24-29; NMA goes even further, asserting that Section 202(d) authorized only the Secretary of HHS to promulgate reduced dust standards. NMA Br. at 21-24. Both petitioners, however, overlook Section 202's cross-references to Section 101, and the fact that the Secretary here followed this Court's holding in *NMA* that "[t]o use single-shift measurements . . . MSHA must follow all the provisions of" Section 101. *NMA*, 153 F.3d at 1268. Section 101, in turn, contains no provision authorizing the Secretary of HHS or NIOSH to promulgate mandatory health standards, but rather specifies certain HHS or NIOSH input that the Secretary of Labor must consider in promulgating mandatory standards. 30 U.S.C. § 811(a).

1. Dust-related standards

Section 202(a) requires each operator of a coal mine to take "accurate samples" of the amount of respirable dust in the mine atmosphere with a device approved by the Secretary of Labor and the Secretary of HHS, and with such methods, at such locations, at such intervals, and in such manner "as the Secretaries shall prescribe in the Federal Register." 30

U.S.C. § 842(a). Section 202(a) does not use the term "joint," and therefore does not require "joint rulemaking."

2. Dust standards

Section 202(b)(2) established 2.0 mg/m^3 as the interim mandatory standard for the maximum permissible average concentration of respirable dust. 30 U.S.C. § 842(b)(2). Section 202(d) requires the Secretary of HHS, "from time to time" and "in accordance with the provisions of section 101 of this Act," to establish "a schedule reducing" the respirable dust standard "below the levels established in this section." 30 U.S.C. § 842(d). Under Section 101(a)(1), the Secretary of HHS may, and under Section 101(a)(6) (which applies to toxic materials and harmful physical agents) must, submit certain information to the Secretary of Labor recommending the promulgation of mandatory health or safety standards. 30 U.S.C. § 811(a)(1), (6). As discussed below, however, only the Secretary of Labor may ultimately promulgate such standards. 30 U.S.C. § 811(a)(4).

Section 101 delineates the respective roles of the Secretary of Labor, the Secretary of HHS, and NIOSH. Section 101(a) states that "[t]he Secretary" -- defined in Section 3(a) (30 U.S.C. § 802(a)) as "the

Secretary of Labor or his delegate" (*i.e.*, MSHA, *see* 29 U.S.C. § 557a) -- shall "develop, promulgate, and revise" mandatory safety and health standards "in accordance with procedures set forth in this section" and the Administrative Procedure Act's informal rulemaking provision (5 U.S.C. § 553). Sections 101(a)(1) and (6) specify the subsidiary role of the Secretary of HHS and NIOSH in the development of mine safety and health standards. 30 U.S.C. § 811(a)(1), (6).

Section 101(a)(1) recognizes that the Secretary of HHS or NIOSH, among others, may submit written information or proposals to the Secretary of Labor concerning "a rule [that] should be promulgated in order to serve the objectives of this Act." 30 U.S.C. § 811(a)(1); *see NMA v. MSHA*, 599 F.3d 662, 671-72 (D.C. Cir. 2010) ("[t]he Mine Act references NIOSH and HHS as providers of information to MSHA"). If the Secretary of Labor chooses to request the recommendation of an advisory committee regarding the proposed rule, he must provide the committee with any proposals of, as well as "all pertinent factual information developed" by, the Secretary of HHS. *Id.* When NIOSH submits "a recommendation, accompanied by appropriate criteria" to the Secretary of Labor, the Secretary has sixty days to refer NIOSH's

recommendation to an advisory committee, publish NIOSH's recommendation as a proposed rule, or publish his determination not to do so and his reasons therefor. *Id.*

Section 101(a) authorizes the Secretary of Labor to preside over all aspects of rulemaking. 30 U.S.C. § 811(a). Specifically, Section 101(a) authorizes the Secretary to publish proposed standards; solicit public comment; and conduct public hearings. 30 U.S.C. § 811(a)(2), (3). After the conclusion of such proceedings, the Secretary must promulgate, modify, or revoke the standard and publish his reasons therefor. 30 U.S.C. § 811(a)(4).

Section 101(a)(6) imposes additional requirements and procedures for standards dealing with "toxic materials or harmful physical agents." 30 U.S.C. § 811(a)(6). Subparagraph (A) authorizes the Secretary of Labor to "promulgate" such standards, and states that, "[w]henever practicable," such standards "shall be expressed in terms of objective criteria and of the performance desired." 30 U.S.C. § 811(a)(6)(A). Subparagraph (B) requires the Secretary of HHS to submit such "criteria" to the Secretary of Labor. 30 U.S.C. § 811(a)(6)(B). Within 60 days after receiving any such criteria, the Secretary of Labor must

either appoint an advisory committee to make recommendations with respect to an improved standard, publish a proposed standard, or publish his determination not to do so. *Id.*

Section 202(d)'s requirement that the Secretary of HHS establish a schedule for reducing Section 202(b)'s interim dust standard dovetails with Sections 101(a)(1) and (6) of the Act: the Secretary of HHS must provide the Secretary of Labor with recommendations and criteria for reducing the interim 2.0 mg/m^3 standard established by the Act. *See, e.g., Borgner v. Brooks*, 284 F.3d 1204, 1208 (11th Cir. 2002) ("[A]ll parts of a statute must be read *together* in order to achieve a consistent whole," and "[w]here possible, courts must give effect to *all* statutory provisions and construe related statutory provisions in harmony with one another") (citations omitted) (emphasis in original). Consistent with Section 202(d), the Secretary of HHS' recommendations must include a schedule for lowering the dust standard. Consistent with Section 101(a)(6), upon receiving such recommendations, the Secretary of Labor must follow the procedures discussed above, the culmination of which may be -- as it was in this case -- the promulgation of a reduced dust standard. Contrary to petitioners' contentions, nothing in Section 202(d)

authorizes the Secretary of HHS to promulgate dust standards, or requires the Secretary of Labor to promulgate dust standards jointly with HHS or NIOSH.[16]

3. Single-shift sampling

Section 202(f) defines the term "average concentration" as "a determination which accurately represents the atmospheric conditions with regard to respirable dust to which each miner in the active workings of a mine is exposed," and mandates that "average concentration" be measured "over a single shift only, unless the

[16] NMA claims that the recent introduction of bills in Congress "to transfer [the authority to establish a schedule for reducing the dust standard] from HHS to MSHA" proves that Congress understands current law to authorize only the Secretary of HHS to promulgate reduced dust standards. NMA Br. at 23-24. On the contrary, an amendment may be intended "to clarify existing law, to correct a misinterpretation, or to overrule wrongly decided cases," and therefore "does not necessarily indicate that the unamended statute meant the opposite of the language contained in the amendment." *Piamba Cortes v. Am. Airlines, Inc.*, 177 F.3d 1272, 1283 (11th Cir. 1999) (internal quotation marks omitted). Because the bills cited by NMA were not even reported out of committee, they do not support NMA's reading of current law, *a fortiori*. *E.g., Cent. Bank of Denver v. First Interstate Bank of Denver*, 511 U.S. 164, 187 (1994) ("Congressional inaction lacks persuasive significance because several equally tenable inferences may be drawn from such inaction"). Moreover, "post-enactment legislative history" is "a contradiction in terms" and is "not a legitimate tool of statutory interpretation." *U.S. Steel Mining Co. v. Director, OWCP*, 719 F.3d 1275, 1283 n.9 (11th Cir. 2013).

Secretary [of Labor] and the Secretary of [HHS] find, in accordance with the provisions of section 101 of this Act, that such single shift measurement will not, after applying valid statistical techniques to such measurement, accurately represent such atmospheric conditions during such shift." 30 U.S.C. § 842(f).

Section 202(f) -- like Section 202(d) -- dovetails with Sections 101(a)(1) and (a)(6) of the Act in that the Secretary of HHS or NIOSH must provide the Secretary of Labor with information and recommendations regarding single-shift sampling, and the Secretary of Labor must either refer those recommendations to an advisory committee, propose to promulgate the recommendation as a standard, or publish his reasons for not doing so. *See* 30 U.S.C. § 811(a)(1), (6). Indeed, this Court has unequivocally held that the 1972 Joint Finding made pursuant to Section 202(f) was an "interim standard," and that a contrary Section 202(f) finding would be an "improved standard" that must be promulgated in accordance with the requirements of Section 101(a)(6). *NMA*, 153 F.3d at 1267-68.[17] As discussed above, although Section 101

[17] Petitioners mistakenly attribute this reasoning to MSHA, citing 79 Fed. Reg. at 24,933, and characterize it as a "tortured interpretation," NMA Br. 26, and "bootstrapping." Murray Br. 25. MSHA, however, was

requires the Secretary of Labor, when promulgating a standard, to consider certain information provided by the Secretary of HHS or NIOSH, Section 101 authorizes only the Secretary of Labor to promulgate such a standard. *See* 30 U.S.C. § 811(a), (a)(4).[18]

---

simply recognizing and complying with this Court's holding in *NMA*, 153 F.3d at 1267-68 -- a holding that NMA itself sought. 79 Fed. Reg. at 24,933. In essence, petitioners ask this Court to invalidate MSHA's Dust Rule because MSHA proceeded in the manner in which this Court held MSHA was required to proceed.

Petitioners also mistakenly assert that MSHA's position was that it may disregard Section 202's delineation of the respective roles of the Secretary of Labor and the Secretary of HHS because Section 202 was itself an interim standard. *See* NMA Br. 25; Murray Br. 26. MSHA did not base its position on the contention that Section 202 was an interim standard. Rather, MSHA explained that it could promulgate an improved standard superseding the 1972 Joint Finding because this Court held that the 1972 Joint Finding was an interim standard that could be superseded only by an improved standard promulgated in accordance with Section 101. 79 Fed. Reg. at 24,933.

[18] Aside from the fact that NIOSH agrees with the Secretary of Labor that single-shift sampling is accurate (as evidenced by NIOSH's 1995 Criteria Document, its 1998 joint rescission with MSHA of the 1972 Joint Finding, and its 2000 proposed joint rescission thereof), Section 202(f) does not contain the term "joint" and, therefore, does not require a "joint" finding. The fact that the agencies may have chosen, for administrative convenience, to jointly issue their previous rescission and proposed rescission of the 1972 finding, does not mean that a joint finding is statutorily required. Rather, Section 202(f)'s use of the conjunctive "and" supports the opposite conclusion: regardless of NIOSH's agreement, the Secretary of Labor's finding that single-shift sampling is accurate means that it is no longer true that both "the

Finally, the Mine Act states that "standards and regulations under the [Coal Act] which [were] in effect" on the date of enactment "shall remain in effect . . . until such time as the Secretary of Labor shall issue new or revised mandatory health or safety standards . . . ." 30 U.S.C. § 961(b)(1). The 1972 Joint Finding, which this Court held was an interim mandatory standard in *NMA*, was in effect on the date of enactment of the Mine Act. *See Sec'y of Labor v. Excel Mining, LLC*, 334 F.3d 1, 4, 7 (D.C. Cir. 2003) (the 1972 Joint Finding remained in effect pursuant to 30 U.S.C. § 961). As this Court held, a finding under Section 202(f) that single-shift sampling is accurate would be an improved mandatory health standard superseding the 1972 Joint Finding. *NMA*, 153 F.3d at 1268. Consequently, Section 961(b)(1) compels the conclusion that the Secretary was authorized to rescind the 1972 Joint Finding in accordance with Section 101.

Secretary [of Labor] *and* the Secretary of [HHS]" have found that single-shift measurements do not accurately represent average dust concentrations on such shift; consequently, Section 202(f) mandates that measurements of dust concentrations must be taken "over a single shift only." *See Am. Bankers Ins. Grp. v. U.S.*, 408 F.3d 1328, 1332 (11th Cir. 2005) (conditions in a statute separated by the word "and" must both exist to establish coverage).

In sum, the text and structure of the Mine Act, as well as this Court's 1998 *NMA* decision, compel the conclusion that the Secretary was authorized to do what he did -- proceed under Section 101.

4. Section 202(f) *requires* single-shift sampling *unless* the Secretaries find that such sampling would not be accurate

The plain language of Section 202(f), which mandates single-shift sampling unless the Secretaries find it to be inaccurate, could not more clearly foreclose petitioners' contentions that single-shift sampling is inconsistent with the Mine Act. *See* Murray Br. at 31; NMA Br. at 36-37; *see also Excel Mining,* 334 F.3d at 11 (the Secretary reasonably inferred that Congress did not intend to limit him to using multiple-shift sampling that is incompatible with the Act's purpose of ensuring that the average concentration of respirable dust "during each shift" remains below the designated threshold).[19] Petitioners fail to acknowledge the import of the statutory phrase "during each shift,"

[19] Murray's statement -- that under the previous rule MSHA chose to average multiple samples collected even by its own inspectors, Murray Br. at 13 -- misleads. Under the previous rule, MSHA could average multiple samples collected by its own inspectors *during a single shift*. *Excel*, 334 F.3d at 11-12 ("taking multiple samples over both single and multiple shifts is a reasonable and effective means of effectuating the purpose of the Mine Act").

which appears in Section 202 six times (including once as "during such shift" in Section 202(f)), let alone to explain how single-shift sampling could be inconsistent with Section 202's use of that phrase.[20]

Murray incorrectly contends that single-shift sampling is merely "enforcement for enforcement's sake." *See* Murray Br. at 32. The only occasion when a single-shift sample will result in a citation is when it is collected from an operator by an on-site MSHA inspector. 30 C.F.R. § 72.800. In contrast, the vast majority of dust samples are collected by mine operators when an MSHA inspector is not on-site, in which case the Dust Rule does not allow for the issuance of a citation based on a single-shift sample. *See id.* at 70.206(f) (prior to February 1, 2016, permitting noncompliance determinations in such cases only when two or more bimonthly samples meet or exceed the applicable ECV, or when the average of all samples collected meets or exceeds the ECV); *id.* at 70.208(f) (on and after February 1, 2016, permitting noncompliance

[20] Petitioners also fail to recognize that the Secretary found that the 1972 Joint Finding was premised on an interpretation of Section 202(f) that was itself incorrect. *See* 79 Fed. Reg. at 24,933; 63 Fed. Reg. at 5,666 ("The Secretaries have determined that section 202(f) requires a determination of accuracy with respect to 'atmospheric conditions during such shift,' not 'atmospheric conditions to which the miner is continuously exposed,'" which was the basis for the 1972 finding, *see* 37 Fed. Reg. 3,833 (1972)).

determinations only when three or more of 15 quarterly samples meet or exceed the applicable ECV, or when the average of all quarterly samples meets or exceeds the ECV). Thus, the Dust Rule's "immediate corrective action" provision obligates operators to protect miner health even in the absence of any MSHA enforcement action. 30 C.F.R. § 70.208(e).

B. The Secretary of Labor's Interpretation of the Term "Accurately" in Section 202(f) is Not Properly Before the Court and, In Any Event, is Reasonable and Consistent With Section 202(f)

NMA asserts that the Secretary of Labor found single-shift sampling to be accurate based on a definition of "accurate" that violates the Mine Act. NMA Br. at 28-31. That assertion is not properly before the Court and, in any event, lacks merit.

1. NMA's interpretation of the statutory term "accurate" is not properly before the Court

MSHA found single-shift sampling to be accurate based on the NIOSH Accuracy Criterion. 79 Fed. Reg. at 24,934. NMA mistakenly asserts that MSHA based its finding on the definition of "accurate" contained in 30 C.F.R. § 74.8. NMA Br. 28-31. Section 74.8 is not part of the Dust Rule; rather, MSHA (jointly with NIOSH) previously promulgated Section 74.8. *See* 75 Fed. Reg. 17,512, 17,527 (April 6, 2010).

Section 101(d) of the Mine Act vests courts of appeals with jurisdiction to review a mandatory standard promulgated under Section 101 when a petition for review is filed within 60 days of promulgation. 30 U.S.C. § 811(d). Neither NMA nor any other party petitioned for review of 30 C.F.R. § 74.8 before the sixtieth day after its promulgation. Even if they had, 30 C.F.R. § 74.8 is not a mandatory standard subject to Section 101(d) review. *See* 30 U.S.C. § 802(l) ("'mandatory health or safety standard' means the interim mandatory health or safety standards established by titles II and III of this Act, and the standards promulgated pursuant to title I of this Act"); *NMA v. Sec'y of Labor*, 589 F.3d 1368, 1373 (11th Cir. 2009) (dismissing petition for review of MSHA policy statement); *see also NMA v. Sec'y of Labor*, 763 F.3d 627, 633-34 (6th Cir. 2014) (dismissing petition for review of a MSHA regulation that was not a mandatory standard), *pet'n for reh'g & reh'g en banc pending*.[21] Nor does Section 74.8 have anything to do with

[21] Section 74.8, which establishes accuracy and reliability criteria that a CPDM must meet to gain approval for use in coal mines, is not a mandatory standard because it does not impose obligations on mine operators with respect to how they operate their mines, *see NMA*, 763 F.3d at 733, and was not promulgated pursuant to Section 101 of the Mine Act, *id.*, but rather pursuant to the Secretary's general authority to "issue such regulations as [he] deems appropriate to carry out any

single-shift sampling; rather, Section 74.8 establishes criteria for determining the accuracy and reliability of CPDMs. 30 C.F.R. § 74.8.

2. In any event, the Secretary's interpretation of the term "accurately" in Section 202(f) is reasonable and entitled to deference

NMA's contention that MSHA misinterpreted Section 202's term "accurate" overlooks the distinction between Section 202(a)'s requirement -- which is not in question -- that operators take "accurate samples," and Section 202(f)'s requirement that dust measurements be taken over a single shift only unless the Secretary of Labor and the Secretary of HHS find that such single-shift measurement will not "accurately represent" atmospheric conditions during such shift. *Compare* 30 U.S.C. § 842(a) *with* id. § 842(f).

The adverb "accurately," which precedes the verb "represent" in Section 202(f), suggests a different meaning than the adjective "accurate" preceding the word "samples" and not followed by the word "represent." The issue is not simply whether "accurate" has a plain meaning in "common usage," but "whether the language at issue [*i.e.*, 'accurately represent'] has a plain and unambiguous meaning *with*

---

provision of this chapter." 30 U.S.C. § 957; *see* 75 Fed. Reg. 17,523 (April 6, 2010) (citing 30 U.S.C. § 957 as authority for promulgation of Part 74).

regard to the particular dispute in the case." *Robinson v. Shell Oil Co.*, 519 U.S. 337, 340, 117 S. Ct. 843, 846 (1997) (emphasis added); *Friends of Everglades v. S. Fla. Water Mgmt. Dist.*, 570 F.3d 1210, 1223 (11th Cir. 2009) (same).

Because "measurement error is inherent in all sampling, the very fact that Congress authorized a sampling program indicates that it intended some error to be tolerated in enforcement of the dust standard." *Am. Mining Cong.*, 671 F.2d at 1256; *accord Consolidation Coal Co. v. Fed. Mine Safety & Health Rev. Comm'n*, 824 F.2d 1071, 1086 (D.C. Cir. 1987). All sampling devices are "less than perfect and . . . [are] designed to provide only estimates of actual exposure." *Consolidation Coal*, 824 F.2d at 1087. Section 202(f) vests the Secretary with broad discretion to interpret the term "accurately represents." *Am. Mining Cong.*, 671 F.2d at 1256 ("Since there is no perfect sampling method, the Secretary has discretion to adopt any sampling method that approximates exposure with reasonably accuracy"). As the Tenth Circuit stated, "[the court's] task is not to determine which method [of dust sampling] is better." *Id.* The Secretary's reasonable interpretation of the phrase "accurately represents" is entitled to deference. *Chevron*, 467 U.S. at 843, 104 S. Ct.

at 2782; *Sumpter v. Sec'y of Labor*, 763 F.3d 1292, 1296 (11th Cir. 2014)[22]; *see also City of Los Angeles v. U.S. Dep't of Commerce*, 307 F.3d 859, 870-72 (9th Cir. 2002) (Census Act's failure to specify degree of accuracy required by sampling provision effectively vested the Secretary of Commerce with "broad discretion" to both set the standard for accuracy and decide whether that standard had been met).[23]

The Secretary's use of the NIOSH Accuracy Criterion was reasonable. NIOSH devised the Criterion specifically for the development and acceptance of sampling and analytical methods capable of generating reliable exposure data for contaminants under the Occupational Safety and Health ("OSH") Act. 79 Fed. Reg. at 24934. Since the Criterion's publication in 1977, NIOSH, MSHA, the Occupational Safety and Health Administration ("OSHA"), and others in occupational health professions have used the Criterion to validate sampling and analytical

---

[22] Because the Secretary announced his interpretation in the preamble to both the proposed and the final Dust Rule, and his interpretation was therefore subject to notice and comment, *Chevron* deference is appropriate. *See Sumpter*, 763 F.3d at 1299.

[23] NMA relies on the Webster's Dictionary definition of "accurate" as "free from error" and "in exact conformity to truth or to some standard." *See* NMA Br. at 29. In the context of Section 202(f)'s use of the phrase "accurately represents," that definition is manifestly contrary to the statute.

methods. *Id.* The Criterion is widely recognized and accepted in occupational health professions as providing acceptable limits for industrial hygiene measurements. *Id.* MSHA used the NIOSH Accuracy Criterion in promulgating its Diesel Particulate Matter Final Rule. 66 Fed. Reg. 5,719-22 (Jan. 19, 2001). In *Kennecott Greens*, 476 F.3d at 955, the D.C. Circuit held that MSHA's use of the Criterion was "reasonable" and based on a "reliable method" for sampling airborne contaminants.

OSHA has frequently used the Criterion, or a similar version allowing a slightly larger margin of error, when issuing exposure standards for benzene (29 C.F.R. § 1910.1028); vinyl chloride (29 C.F.R. § 1910.1017) (95% confidence of ±35%); arsenic (29 C.F.R. § 1910.1018); lead (29 C.F.R. § 1910.1025); 1, 2-dibromo-3-chloropropane (29 C.F.R. § 1910.1044); acrylonitrile (29 C.F.R. § 1910.1045) (95% confidence of ±35%); ethylene oxide (29 C.F.R. § 1910.1047); and formaldehyde (29 C.F.R. § 1910.1048). 79 Fed. Reg. at 24934.

MSHA's interpretation of the phrase "accurately represents" was therefore reasonable. For the reasons provided in the following section,

so was MSHA's determination that a single-shift measurement accurately represents dust concentrations on such shift.

II.

THE DUST RULE IS THE PRODUCT OF REASONED DECISION-MAKING

A. The Secretary Rationally Determined That Single-Shift Sampling "Accurately Represents" Atmospheric Conditions in Coal Mines

NMA's assertion that single-shift sampling is technologically infeasible rests on the premise that such sampling is inaccurate. *See* NMA Br. 34-49. The Secretary thoroughly explained his reasons for finding single-shift sampling to be accurate. 79 Fed. Reg. at 24,932-44. Applying the NIOSH Accuracy Criterion, as discussed in Argument I(B)(2), above, the Secretary relied largely on the dramatic improvements in sampling technology, procedures, and analysis since 1972.

Since 1972, the Secretary and NIOSH have identified, and minimized, the sources of uncertainty in coal dust sampling. Among other advances are: (1) promulgation of 30 C.F.R. Part 74, which sets stringent technical and performance requirements that sampler units must satisfy to be approved for use; (2) NIOSH performance audits of sampler units purchased on the commercial market; (3) tamper-resistant filter

cassettes for CMDPSUs; (4) more reliable stainless steel wheels in CMDPSU cassettes; and (5) constant-flow pumps that ensure the prescribed air flow rate is maintained. 79 Fed. Reg. at 24,936-38.

Collection procedures also have improved because of new standards that prescribe the manner in which mine operators must take samples. For example, the Dust Rule requires mine operators to: (1) use a control filter for CMPDSU sampling, 30 C.F.R. § 70.201(d); (2) train all miners how to properly wear and operate a CPDM, *id.* at 70.201(h); (3) require that dust sampling be carried out by a "certified person," *id.* at § 70.202(a)[24]; (4) perform detailed maintenance and calibration of sampling units before each sampling shift, *id.* at § 70.204; and (5) check for proper air flowrate twice each sampling shift, *id.* at § 70.205. For MSHA-collected dust samples, MSHA inspectors must follow similar procedures before, during, and after sampling inspections, and inspectors must remain on the working section throughout the inspection to communicate with miners wearing sampling devices and

[24] A "certified person" is an individual who has taken an MSHA-provided course in dust-sampling procedures and has been certified by the Secretary to take respirable dust samples and to perform the maintenance and calibration of dust-sampling equipment. 30 C.F.R. §§ 70.2; 70.202; 70.203.

to verify correct sampling practices and conditions. 79 Fed.Reg at 24,936-37; *see* III-BKG-31 (Coal Mine Health Inspection Procedures Handbook).

Finally, dust sample processing has improved. The MSHA laboratory that analyzes CMDPSU samples now uses robotic sample handling systems, precise electronic balances that weigh to the nearest microgram, environmental controls, and control filters. 79 Fed. Reg. at 24,937. For samples taken with the new CPDM device, procedures for controlling sources of uncertainty related to laboratory analysis are unnecessary because the CPDM has a built-in weighing system (allowing it to provide real-time results without laboratory analysis). 79 Fed. Reg. at 24,938.

NIOSH studies that take into account the post-1972 changes in sampling methodology demonstrate that single-shift samples taken with either the CMPDSU or the CPDM satisfy the NIOSH Accuracy Criterion. *Id.* at 24,934; *see* V-BKG-55 (NIOSH study showing CMDPSU samples meet Accuracy Criterion); II-BKG-8 (same for CPDM).

In addition to relying on the post-1972 improvements, MSHA relied on NIOSH's 1995 Criteria Document (79 Fed. Reg. at 24,933 (citing I-QRA-23)) and the advisory committee's 1996 Report (*id.* at 24,933 (citing I-QRA-22)). MSHA and NIOSH previously found that single-shift sampling reveals excursions above the standard that multiple shift averages can conceal. *Id.* at 24,935 (citing 30 U.S.C. § 842(b)) (requiring mine operators to maintain "during each shift" the average concentration of respirable dust below the concentration limit). The agencies explained that: (1) the results of the first single, full-shift samples taken by MSHA inspectors were likely to reflect higher dust concentrations than inspector samples taken on subsequent shifts or days during the same inspection; (2) the average concentration of such first-shift samples was almost double the average concentration of second-shift samples; and (3) mine operators anticipated the continuation of inspector sampling and made adjustments in dust control parameters or production rates to lower dust levels during subsequent sampling. 63 Fed. Reg. at 5,668. Thus, operators can and do lower dust concentrations below the applicable limit when they know MSHA is watching.

NMA's attacks on the accuracy of single-shift sampling lack merit. *See* NMA Br. at 34-39. NMA's argument about "spatial variability" in dust concentrations measured at different locations in a working section, or even different shoulders of the same miner, NMA Br. at 34-35, underscores the importance of a point discussed in Argument I(B)(2), above: no "perfect" dust sampling method exists -- contaminants are heterogeneously distributed in workplace air and there can never be one "true" concentration of dust on a working section. 79 Fed. Reg. at 24,970.[25] It would defeat Congress's intent to require MSHA to prove the impossible: that a single-shift sample is "in exact conformity to truth," *see* NMA Br. at 39, when there is no single "true" concentration of dust in a working area. *See U.S. v. Ballinger*, 395 F.3d 1218, 1238 (11th Cir. 2005) ("[T]his Court need not and should not countenance an interpretation of statutory language that leads to absurd or futile results plainly at variance with the policy of the legislation as a whole.") (internal punctuation and citations omitted). Given the reality that dust

[25] The overall amount of respirable dust in a mine atmosphere is determined by factors within an operator's control: the use and maintenance of effective engineering controls, the level of coal production causing dust generation, and work practices that do not needlessly expose miners to high concentrations downwind of cutting machines. 79 Fed. Reg. at 24,938-39.

concentrations may vary from location to location in a working section, MSHA's approach of sampling the dustiest occupations on a working section is reasonable. *See Am. Mining Cong.*, 671 F.2d at 1254 (finding MSHA's designated occupation sampling program is reasonable considering that no perfect sampling method exists).

Second, in claiming that MSHA "admitted" the inaccuracy of single shift sampling by applying a ±25% margin of error, NMA repeats its misplaced reliance on 30 C.F.R. § 74.8, which is neither part of the Dust Rule nor applicable to single-shift sampling. *See* NMA Br. at 38. NMA fails to recognize that that margin of error is part of the NIOSH Accuracy Criterion, and fails to recognize, let alone challenge, MSHA's rationale for using the Criterion. *See* NMA Br. at 35, 38; *see also* Argument I(B)(1), above.

NMA's claim that MSHA conceded the inaccuracy of single-shift sampling by adopting ECVs -- which give operators the benefit of the doubt[26] -- also lacks merit. *See* NMA Br. 38-39.[27] MSHA adopted ECVs

[26] As examples, a single-shift MSHA-collected sample that exceeds the 1.5 mg/m^3 standard will not result in a citation unless the sample meets or exceeds 1.79 mg/m^3 (measured with a CMDPSU) or 1.70 mg/m^3 (measured with a CPDM); five operator-collected samples whose average exceeds 1.5 mg/m^3 will not result in a citation unless the

to account for inaccuracies inherent in any measurement -- regardless of the method (single- or multiple-shift sampling) or device (CMDPSU or CPDM) used. *See* 79 Fed. Reg. at 24,969. Indeed, the ECVs apply even to dust concentrations derived from averaging multiple shift samples. 30 C.F.R. Table 70-2 (ECVs Based on Average of 5 or 15 Full-Shift CMDPSU or CPDM Concentration Measurements).

Finally, NMA's contention that the Mine Act reflects concern only for long-term overexposure misses the purpose of single-shift sampling. *See* NMA Br. at 36-37. Single-shift sampling protects coal miners who may be overexposed to respirable coal mine dust at any time and in any

---

average meets or exceeds 1.63 mg/m^3 (measured with a CMDPSU) or 1.59 mg/m^3 (measured with a CPDM); 15 operator samples whose average exceeds 1.5 mg/m^3 will not result in a citation unless the average meets or exceeds 1.58 mg/m^3 (measured with a CMDPSU) or 1.56 mg/m^3 (measured with a CPDM). 30 C.F.R. Tables 70-1 & 70-2.

[27] In support of this claim, NMA cites a 2013 "Respirable Dust Study for Kentucky Coal Mines," which NMA characterizes as "record evidence." NMA Br. at 39 n.7. NMA, however, previously requested that the Court take judicial notice of the 2013 study. (The Secretary opposed the request and filed a motion to strike the reference in NMA's brief to the study and any argument based on it. Those motions remain pending.) Regardless, the 2013 study proposes higher ECVs that will account not only for sources of measurement uncertainty, but also for variability in dust concentrations -- variability that MSHA found irrelevant to the accuracy of single-shift sampling, as discussed above. 79 Fed. Reg. at 24,939.

place in the mine. The Dust Rule is intended to protect coal miners from long-term overexposure, *see* 30 U.S.C. § 841(b), but, as mandated by Section 202(a), (b), (d), and (f), it does so by detecting overexposures "during each shift." *See Consolidation Coal*, 824 F.2d at 1086 (Congress did not require that dust concentrations be maintained below 2.0 mg/m^3 over the long term; it required mine operators to "continuously" maintain the concentration of respirable dust at or below that level "during each shift").

B. The Secretary Rationally Determined That CPDMs Are Accurate, Reliable, Ergonomically Safe, and Will Be Available When Their Use Becomes Mandatory

NMA's assertion that the CPDM is technologically infeasible rests on the premise that the CPDM is inaccurate and will not be sufficiently available when its use becomes mandatory. *See* NMA Br. 40-46. NMA, however, merely summarizes the evidence submitted to MSHA during rulemaking and, in effect, invites the Court to reweigh the evidence. That is an invitation the Court should decline. *Dyer*, 395 F.3d at 1210. Regardless, MSHA rationally found that the NIOSH-approved CPDM is accurate, reliable, ergonomically safe, and will be readily available commercially before its use becomes mandatory.

1. Accuracy

NIOSH conducted the necessary scientific studies with approved methods, and the results were published in a peer-reviewed document. II-BKG-8. Through years of work, NIOSH has demonstrated that the CPDM is an accurate instrument that meets the NIOSH Accuracy Criterion in laboratory testing. *Id.*

Additionally, recognizing that field testing is also useful, MSHA collected and NIOSH analyzed samples that were statistically representative of the bituminous coal mining industry nationwide -- samples taken from approximately 20% of active mechanized mining units, including over 100 mines located in ten of MSHA's then-eleven coal mining districts. I-COMM-77 at 2-3; 79 Fed. Reg. at 24,863.[28] The samples were collected and analyzed using methodology reviewed and approved by various members of the mining community, including NMA itself. I-COMM-77 at 3. NIOSH compared the CPDM to the CMDPSU

[28] The one district not included was one where anthracite coal is mined, 79 Fed. Reg. at 24,830, where the Dust Rule does not require the use of CPDMs. 30 C.F.R. § 70.201(j).

under well-controlled conditions[29] and concluded that the CPDM was at least as accurate as the CMDPSU. *Id.* at 4.[30] On September 6, 2011, pursuant to the procedures and criteria established by 30 C.F.R. Part 74, NIOSH approved the CPDM manufactured by Thermo Fisher for use in coal mines. 79 Fed. Reg. at 24,818.[31]

Based on all of the foregoing, MSHA found that using the CPDM for compliance purposes was technologically feasible. 79 Fed. Reg. at 24,859-67. NMA's contentions to the contrary turn on mine operators'

---

[29] Unlike the field study relied upon by petitioners, the NIOSH field study controlled for spatial variability in dust concentrations by enclosing all of the sampling devices being tested in a single canister with a single dust inlet, thereby ensuring that the devices were exposed to the identical mine atmosphere. II-BKG-6.

[30] NMA's contention that the comparison between the CPDM and CMDPSU was based on averages that mask single-shift variations, *see* NMA Br. 41-42, misses the mark. MSHA and NIOSH acknowledged that "a simple arithmetic average cannot be calculated from these data," and explained the more sophisticated mathematical analysis that was used. 79 Fed. Reg. at 24,863; I-COMM-77, at 3. NMA fails to acknowledge, let alone challenge, that analysis.

[31] NMA argues that the manufacturer with "the MSHA-granted monopoly" has little incentive to correct problems or provide competitive pricing. NMA Br. 46. There is no "MSHA-granted monopoly." Any manufacturer may apply for approval of a CPDM for use in coal mines under Part 74.

field tests (*see* NMA Br. 41-45) -- tests that MSHA and NIOSH rejected because the mine operators:

- inappropriately used the NIOSH Accuracy Criterion to evaluate field tests -- which the Criterion was not designed to evaluate;
- used a flawed experimental design insofar as they failed to control for environmental variables; and,
- failed to define the term "accuracy" for purposes of their field tests and, in particular, failed to account for the two separate components of accuracy: precision and bias.[32]

79 Fed. Reg. at 24,862-63 (citing I-COMM-77) (NIOSH comment).

2. Reliability

Again, NMA relies on mine operators' field tests that MSHA and NIOSH discredited for the following reasons:

- Regarding repair rates, the mine operators failed to control critical variables, such as the level of user training, sampling methodology, and

[32] In contrast to NMA's claim that the CPDM has a 42 percent error rate, a claim that is based on a field test conducted by a single operator reporting 955 samples, NIOSH's data was collected from over 100 mines. NIOSH's data are therefore far more representative of the underground mining environment and are more appropriate for evaluating the accuracy and precision of the CPDM and its use as a compliance instrument. 79 Fed. Reg. at 24,863.

sample size and distribution across mines, I-COMM-77, at 4; 79 Fed. Reg. at 24,863;

● The differences resulting from temperature and humidity testing reported by mine operators were inaccurate because: (1) the differences were below the minimum detection limit of the CPDM of 0.2 mg/m^3, and (2) the mine operators failed to specify the user-selected temperature operating range and failed to indicate whether the range was modified for different temperature ranges, *id.* at 24,864;[33]

● The NIOSH-approved CPDM met the electromagnetic interference requirements of the Part 74 criteria, *i.e.*, 30 C.F.R. § 74.7(f), and MSHA and NIOSH "intend to modify [Part 74] to incorporate approval requirements on electro-static discharge and radiated radio frequency susceptibility." 79 Fed. Reg. at 24,865. The manufacturer has redesigned and incorporated changes to the commercial CPDM to

[33] In response to comments that pre-programming of temperature ranges is difficult in areas that have "unseasonable weather," such as Alabama, MSHA stated that certified persons pre-program CPDMs for environmental conditions that the units are expected to be exposed to during the sampled shift; that temperature and humidity in underground coal mines are "fairly uniform and stable and there is little variability experienced on a daily basis"; and that mine operators know the temperature and humidity ranges that apply in their mines when seasons change. 79 Fed. Reg. at 24,864. NMA does not acknowledge, let alone challenge, MSHA's findings.

ensure that it passes the electro-static discharge and radiated radio frequency tests before the CPDM's use becomes mandatory. *Id.*

● There is no need for laboratory analysis of CPDM samples because the CPDM is designed to: (i) automatically set and monitor its filter; (ii) recognize when contamination enters the system (which triggers a "status" code); and (iii) "captur[e] . . . dust particle sizes" "almost identical" to those captured by the CMDPSU. *Id.* In MSHA's experience, only a relatively small number of samples are voided for oversize particles (0.11% of 2009 CMDPSU samples) or contamination (0.50% of 2009 CMDPSU samples). *Id.*[34]

● The mine operators misunderstood the CPDM's "error" codes to indicate a failure of the CPDM. *Id.* at 24,863-64. Such codes merely indicate that the sampling conditions changed from the CPDM's set parameters. *Id.* at 24,915. Such codes do not necessarily indicate a void

[34] NMA criticizes MSHA's reliance on the 0.11% figure on the ground that MSHA did not analyze CMDPSU samples for contamination unless there was more than a 6 mg weight gain. Br. 44 n.8. On the contrary, any sample with more than a 1.4 mg weight gain is visually inspected for oversize particles, and a sample with more than a 6 mg weight gain is subjected to further examination. 79 Fed. Reg. at 24,896. Moreover, in its CPDM study, NIOSH found through microscopic examination no oversize particle contamination resulting from use or cleaning after 200 hours of operation. *Id.* at 24,938. NMA does not acknowledge, let alone challenge, that finding.

sample. *Id.* Because of the mine operators' misunderstanding, the manufacturer, in consultation with NIOSH, has changed the term "error" codes in its product literature to "status" codes. *Id.* The status codes provide the user with valuable, real-time feedback concerning sample validity -- feedback that is not available until laboratory analysis of samples taken with a CMDPSU -- and MSHA will also use them to determine sample validity. *Id.* at 24,864.[35] Moreover, the "failure" rates asserted by the mine operators were based on limited data sets, and were therefore invalid. *Id.*

3. Ergonomics

MSHA addressed each of the ergonomic criticisms of the CPDM advanced in petitioners' briefs (*see* NMA Br. at 45 n.10; Murray Br. at 71). 79 Fed. Reg. at 24,866. Among other flaws in NMA's position, NMA relies in part on a NIOSH study that was based on a pre-commercial model of the CPDM. The manufacturer has since improved the unit's

[35] Contrary to NMA's assertion that MSHA "fails to clarify when an error message should invalidate a sample," NMA Br. at 42, NIOSH identified parameters currently being used based on the existing list of sample validation criteria for CMDPSUs. 79 Fed. Reg. at 24864; I-COMM-77, at 5; QRA, Appx. A at 115-16. MSHA is evaluating the CPDM to determine what additional conditions should invalidate a sample, and will announce those conditions before use of the CPDM becomes mandatory.

design, and NIOSH has since evaluated the commercial CPDM model and determined that it met 30 C.F.R. § 74.7's requirements that miners be able to wear and operate the CPDM without impeding their ability to perform their work safely and effectively, and that the CPDM adds no more than eight ounces to the total weight carried by the miner. 79 Fed. Reg. at 24,866. Additionally, the CPDM manufacturer has reported plans to improve the ergonomic design of the unit, including possible reduction in weight. *Id.* Finally, under the final Dust Rule, miners will wear the CPDM less frequently than under the proposed rule because the frequency of required sampling is significantly reduced from the proposed rule. *Id.*

4. Availability by February 1, 2016

Because the Dust Rule greatly reduces the number of required operator-collected samples, the total number of CPDMs needed under the Dust Rule is less than half what industry commenters believed would have been required under the proposed rule. I-REA-16, at 124-27. After discussing with the manufacturer the amount of time needed to produce the quantity of CPDMs necessary, and considering the amount of time MSHA and operators would need to train personnel in the use

and care of CPDMs, MSHA concluded that an 18-month phase-in period (six months longer than the proposed rule would have allowed) after the effective date of the Dust Rule "should be a sufficient amount of time." 79 Fed. Reg. at 24,884. NMA's contention that MSHA failed to show sufficient availability of CPDMs is simply a request that the Court substitute its judgment for MSHA's. The Court should decline to do so. *Dyer*, 395 F.3d at 1210.

NMA's request is especially inappropriate because MSHA stated that, in the event of any logistical or feasibility issues involving the availability of the CPDM, MSHA will publish a notice in the Federal Register permitting continued use of an approved CMDPSU to conduct sampling. 79 Fed. Reg. at 24,884. If CPDMs are not available in sufficient quantities, MSHA will accept, as good faith evidence of compliance with the final rule, a valid, *bona fide*, written purchase order with a firm delivery date for the CPDMs. *Id.* MSHA has previously accepted purchase orders as good faith evidence of compliance. *E.g.,* 73 Fed. Reg. 80,656, 80,657 (2008) (Refuge Alternatives for Underground Coal Mines); 71 Fed. Reg. 12,251, 12,258 (March 9, 2006) ("MSHA will accept as good faith evidence of

compliance, purchase orders or contracts to buy lifelines or SCSRs" [self-contained self-rescuers]).

C. The Secretary Rationally Determined that the Dust Rule is Feasible

The Supreme Court has defined "feasibility" as "'capable of being done, executed, or effected,' both technologically and economically." *AFL-CIO v. OSHA*, 965 F.2d 962, 980 (11th Cir. 1992) (quoting *Am. Textile Mfrs. Inst. v. Donovan*, 452 U.S. 490, 508-09, 101 S. Ct. 2478, 2490-91 (1981)). To show that a standard is technologically feasible, MSHA must demonstrate "that modern technology has at least conceived some industrial strategies and devices which are likely to be capable of meeting the [standard] and which the industr[y] [is] generally capable of adopting." *Color Pigments Mfrs. Ass'n v. OSHA*, 16 F.3d 1157, 1161 (11th Cir. 1994) (citing *AFL-CIO*, 965 F.2d at 980; *United Steelworkers of Am. v. Marshall*, 647 F.2d 1189, 1266, 1301 (D.C. Cir. 1980)).

1. Technological feasibility

Petitioners incorrectly claim that MSHA failed to consider the combined effects of various provisions of the Dust Rule on technological feasibility. *See* NMA Br. at 48-49; Murray Br. at 35-41. Murray's

analogy to a surgeon jeopardizing a patient's life by simultaneously conducting multiple surgeries is particularly inapt. Br. 37. The Dust Rule is like a new set of instruments and techniques enabling a surgeon to better perform a single operation, and thereby affording a better chance of survival to the patient -- who is not the coal mining industry, but rather, in the words of the first sentence of the Mine Act itself, the industry's "most precious resource -- the miner." 30 U.S.C. § 801(a).

MSHA considered the effect of single-shift sampling on technological feasibility by analyzing -- for each of six different categories of coal mining -- not merely average (mean) dust sample concentrations, but also median concentrations, average deviations from the final Dust Rule standard (or a quartz-reduced standard), and the percentage of samples above the final Dust Rule standard (or quartz-reduced standard). 79 Fed. Reg. at 24,868-75. MSHA used the percentage of samples above the final Dust Rule standard (or quartz-reduced standard) to determine the probability that an inspector would find a full, single-shift sample exceeding that standard. *Id.*[36] Based on sample data collected by MSHA

[36] For this analysis, MSHA used the standard rather than the higher ECV level necessary for the issuance of a citation. Evaluation of the

inspectors in 2008 and 2009, adjusted for the Dust Rule's new definition of a normal production shift,[37] MSHA considered how many mine operators were already in compliance with the 1.5 mg/m^3 exposure limit. *Id.* at 24,868. Even though the sampling occurred when the 2.0 mg/m^3 standard was in effect, MSHA found that over 90% of continuous mining section samples met the 1.5 mg/m^3 standard, *id.* at 24871, including 83% of the samples for the dustiest occupation on a continuous mining section, the mining machine operator. *Id.* at 24,872. Similarly, MSHA found that 79% of the samples on longwall mining sections met the 1.5 mg/m^3 standard, including 65% of the samples for the dustiest longwall occupation, the tailgate-side shearer operator. *Id.* at 24,874.

In order to determine whether additional dust control measures could have reduced those concentrations to 1.5 mg/m^3 or lower, MSHA

---

samples according to ECVs would have resulted in an even higher percentage of compliant samples. 79 Fed. Reg. at 24,869 n.57.

[37] MSHA accounted for the new definition of a normal production shift by applying an adjustment factor, the derivation of which was explained in detail. 79 Fed. Reg. at 24,868-69. Applying the adjustment factor, MSHA multiplied each "designated occupation" sample concentration by 1.16, and each longwall MMU sample concentration by 1.09, to account for the new definition of a normal production shift. *Id.* at 24,868.

examined 20% of the continuous mining section samples, and all of the longwall mining section samples, that exceeded 1.5 mg/m^3. *Id.* at 24,869. In each instance, MSHA concluded that the mine operator had failed to use available dust control measures. *Id.* Regarding the continuous mining sections, MSHA found damaged or missing ventilation stoppings in air courses, causing ventilation air to short circuit before it reached the working section; inadequate or missing ventilation curtains on the working section, resulting in less ventilating air at the coal face; water sprays that did not work because of insufficient water pressure, incorrect nozzle size, or clogged nozzle openings; air scrubbers with dust-clogged filters; and poorly positioned miners who were needlessly exposed to dust-laden air downwind of the mining machine. *Id.* at 24,872-73. MSHA therefore concluded that mine operators have not optimized all existing dust controls on continuous mining sections, and that compliance with the Dust Rule, by using existing engineering controls along with proper work practices on each shift, would be technologically feasible. *Id.* at 24,873.

Similarly, regarding longwall mining sections, MSHA found inadequate curtains or stoppings causing ventilating air to be lost

before it reached the coal face, improper positioning of miners downwind of the shearer, and inadequate maintenance of equipment. *Id.* at 24,874. These finding were further supported by observations made by NIOSH during its surveys of the nation's longwall mines, I-BKG-85, at 24, 30 (citing I-2BKG-133). NIOSH found air escaping into the gob (mined-out) area behind the longwall face because critical ventilation curtains -- those located at the point where ventilating air makes a 90 degree turn onto the longwall face -- were not properly maintained. 79 Fed. Reg. at 24,874; I-BKG-85, at 23. Proper maintenance of such "gob curtains," NIOSH found, would have provided 35 percent more ventilating air velocity to the face. *Id.* NIOSH also observed other avoidable dust control exposures on longwall sections. 79 Fed. Reg. at 24,874 (citing I-BKG-85, at 24 (poor positioning downwind of the shearer causes shearer operators to be exposed to respirable dust in the range of 20 to 30 mg/m^3 when the shearer completes a pass and cuts out into the headgate entry, causing ventilating air to become heavily dust-laden when it passes over and around an exposed cutting drum); I-BKG-85, at 30 (failure to properly position the adjustable

splitter arm on the shearer, allowing dust to cross into the walkway where the shearer operator and the jacksetter work)).

Murray's claim that MSHA failed to identify any new technology "on the horizon" to meet the new standard, Murray Br. at 40, overlooks the CPDM. The real-time feedback provided by CPDMs will enable mine operators to adjust engineering controls or work practices in real-time, and to avoid overexposing miners and violating the 1.5 mg/m^3 standard.[38] No new technology is necessary, however, for operators to comply with the Dust Rule. As discussed above, existing engineering controls and work practices will enable compliance. MSHA stated that one or more of those dust controls was an option for reducing the concentration of respirable dust at every mine exceeding 1.5 mg/m^3 that MSHA reviewed. 79 Fed. Reg. at 24,869. For the same reason, Murray's contention that the engineering controls identified by MSHA will not help in such "high-dust areas" as the tailgate side of longwall sections, Br. 40, lacks merit. 79 Fed. Reg. at 24,874 (specifying the engineering

[38] Although the CPDM does not become mandatory for dust sampling until February 1, 2016, operators may use it now for engineering purposes. *See* 79 Fed. Reg. at 24,861. The CPDM's real-time results will also allow operators to fine tune engineering controls because operators will be able to determine dust levels correlated to specific activities during the shift. I-REA-16 at 246.

controls and work practices necessary to bring longwall mining sections into compliance).

Murray's reliance on comments and testimony that operators have already optimized existing engineering controls, Br. 37, 39-40, amounts to nothing more than an invitation to the Court to reweigh the evidence that was before the Secretary. MSHA discounted those comments and testimony because the commenters and witnesses "did not provide any definitive data to support their statements." 79 Fed. Reg. at 24,867.

MSHA lessened the impact of full-shift sampling on operators by not including in the final rule the proposal to convert the samples taken for shifts longer than eight hours to an eight-hour equivalent. 79 Fed. Reg. at 24,877. Although Murray quibbles that full-shift sampling still increases "the odds of noncompliance" on shifts longer than eight hours, Murray Br. at 38, Murray does not -- and cannot -- dispute that shifts longer than eight hours increase the incidence and severity of black lung disease.[39]

[39] MSHA found that the average shift on a continuous mining section is 9 hours, and on a long-wall section is 10 hours, and that such longer shifts lead to the inhalation of more respirable dust and increased severity and incidence of black lung disease. 79 Fed. Reg. at 24,885.

MSHA lessened the impact of increased sampling frequency on operators by drastically reducing the overall sampling frequency contained in the proposed Rule. The proposed Rule would have required operators to take dust samples for "designated occupations" on *every* production shift, and 14 quarterly samples from each "other designated occupation" on a working section. 75 Fed. Reg. at 64,489. The final Rule requires that operators to take only 15 samples quarterly for the "designated occupation," followed by 15 samples for each "other designated occupation" on a working section. 30 C.F.R. § 70.208(a).[40]

Murray incorrectly claims that, in order to avoid random excursions above the 1.5 mg/m^3 standard, operators would have to reduce average concentration far below that standard. Br. at 41-55. Murray bases that

[40] Although Murray also asserts that MSHA failed to consider the effect of the immediate corrective action requirement and the five-sample abatement provision on technological feasibility, it fails to argue or explain that assertion. *See* Murray Br. at 38. A petitioner's statement that an issue exists, without supporting argument or discussion, constitutes abandonment of that issue. *See Singh v. U.S. Attorney Gen.*, 561 F.3d 1275, 1278 (11th Cir. 2009). Regardless, the purpose of taking five abatement samples is not to ensure an accurate measurement of dust concentration, but rather to ensure that the operator has corrected the underlying cause of the overexposure and not merely made a short-term fix. *See* 63 Fed. Reg. at 5,668 (concentration on first full-shift sample during MSHA inspection almost twice that as on subsequent shifts).

claim on certain assumptions MSHA made in its discussion of single-shift sampling in its Quantitative Risk Assessment in support of the proposed rule -- assumptions that have no relevance to technological feasibility. The purpose of the Analysis was to answer three questions: (1) whether potential health effects associated with current exposure conditions constitute material impairments to a miner's health or functional capacity; (2) whether current exposure conditions place miners at a significant risk of incurring any of those material impairments; and (3) whether the final Dust Rule will substantially reduce those risks. 79 Fed. Reg. at 24,835. The Analysis did not address, or even mention, technological feasibility.

In discussing the third of those three questions, MSHA made an "artificial and extremely conservative assumption," *i.e.*, that exposures representing single-shifts with respirable dust concentrations exceeding the standard "would be brought down no further than necessary to achieve compliance with the [standard] on each and every shift." I-2-QRA-26 at 85. That assumption was "deliberately designed to avoid overestimating the effect of applying a single-sample exposure limit to every individual shift." *Id.* That is, MSHA made the assumption in

order to ensure that it would not overstate the health benefits of single-shift sampling. The assumption had nothing to do with the technological feasibility of single-shift sampling. Indeed, MSHA's response to the comments of Murray's experts on this point is contained in the section of the preamble to the final Rule discussing the QRA, not in the section discussing technological feasibility. 79 Fed. Reg. at 24,851-54.

Moreover, Murray's contention that it must "overengineer" its mines in order to comply with the 1.5 mg/m^3 standard is itself based on an incorrect assumption: that the probability of a single-shift sample being found out of compliance would increase "dramatically" because the *proposed* Rule would have required much more sampling than previously required. Murray Br. at 44. Murray's experts (Reiss and Bogen) premised their analysis on the provision of the *proposed* Rule that would have required operator dust sampling of the designated occupation on *every* production shift. I-COMM-76-2 (Reiss/Bogen) at 11. The final Rule, however, requires operator sampling of designated

occupations far less frequently, as discussed above. 30 C.F.R. § 70.208(a); *see* 79 Fed. Reg. at 24,942.[41]

Murray's allegation of technological infeasibility is further flawed by the assumption that variability in dust concentration is random. Murray Br. at 43 ("inevitable random variability"); *see* I-COMM-76-2 (Reiss/Bogen) at 11 (comparing the probability of a noncompliant dust sample with the probability of finding a four-leaf clover). On the contrary, as discussed above, overall dust concentrations in a mine depend on factors within the operator's control, such as increasing air quantity, air velocity, the number of water sprays, and the water pressure; balancing the quantity of air delivered to the face with the scrubber air quantity; and/or changing from blowing face ventilation to exhausting face ventilation. 79 Fed. Reg. at 24,869, 24,938-39. Indeed, the Act's requirement that operators maintain the average concentration of respirable dust (however measured) at or below a

[41] In the Reiss litigation affidavit filed simultaneously with Murray's opening brief -- an affidavit that is not properly before the Court for the reasons discussed in the Secretary's opposition to Murray's pending motion to consider extra-record evidence and the Secretary's pending motion to strike -- Reiss failed to acknowledge this major difference between the proposed Rule and the final Rule, let alone explain how that reduction affected his analysis.

certain standard -- subject to a penalty for violations -- would make no sense otherwise.

NMA incorrectly claims that MSHA failed to consider the effect of the "new silica PEL [permissible exposure limit]" on technological feasibility. NMA Br. at 46-48. Initially, the Dust Rule does not establish a "new silica PEL." 79 Fed. Reg. at 24,866 ("the final rule does not change the existing respirable dust standard when quartz is present"), 24882 (same). Regardless, MSHA identified numerous engineering controls that operators may use to comply with a dust standard reduced because of the presence of silica. *Id.* at 24,874-75. NMA fails to acknowledge, let alone challenge, MSHA's discussion on this point.[42]

[42] NMA also incorrectly asserts that MSHA failed to analyze the feasibility of limits that are reduced lower than 1.5 mg/m^3 based on the presence of silica, or the accuracy of samplers to measure at those levels. *See* Br. 49. MSHA analyzed the technological feasibility of achieving the lower average concentrations for respirable dust required by the Final Rule based on "1.5 mg/m^3 or a reduced standard below 1.5 mg/m^3," as noted on Tables IV-1 (surface coal mines and facilities, 79 Fed. Reg. at 24870), IV-4 (non-longwall underground coal mines, *id.* at 24,872), and IV-5 (longwall underground coal mines, *id.* at 24874). MSHA discussed the accuracy of samplers to measure at those levels, and concluded that a single, full-shift CPDM concentration measurement at or above 0.2 mg/m^3 is accurate, and that a single, full-shift CMDPSU concentration measurement at or above 0.36 mg/m^3 is accurate. *Id.* at 24,940-41.

Finally, NMA incorrectly asserts that MSHA failed to demonstrate the feasibility of the Dust Rule in combination with MSHA's rock dust standard. *See* NMA Br. at 49. Rock dust, which is applied to various areas of underground coal mines to render mine dust incombustible, must be applied in such quantities that the incombustible content of all mine dust is at least 80 percent. 30 C.F.R. §§ 75.2, 75.402-404.[43] In response to comments that applying rock dust introduces silica into the atmosphere, MSHA explained that, as defined in 30 C.F.R. § 75.2, rock dust may not contain a large portion of respirable dust or silica. 79 Fed. Reg. at 24,883; 30 C.F.R. § 75.2 (defining "rock dust" as pulverized rock containing no more than four to five percent free and combined silica). Consequently, operators can work with their suppliers to ensure that the rock dust purchased contains a low percentage of respirable dust and very little, if any, free silica. *Id.* NMA fails to explain why working with suppliers to reduce the content of respirable dust and free silica in rock dust is technologically infeasible. Nor does NMA explain how the combination of two standards unchanged by the Dust Rule, *i.e.*, the

[43] In June 2011, MSHA promulgated a standard increasing the required percentage of incombustible material from 65 percent (which was the statutory interim standard, 30 U.S.C. § 864(d)), to 80 percent. 76 Fed. Reg. 35,978 (June 21, 2011).

existing silica standard and the existing rock dust standard, renders the Dust Rule technologically infeasible.

2. Economic feasibility

An agency establishes that a rule is economically feasible by providing a "reasonable assessment of the likely range of costs of its standard, and the likely effects of those costs on the industry, so as to demonstrate a reasonable likelihood that these costs will not threaten the existence or competitive structure of an industry." *Color Pigments*, 16 F.3d at 1163; *AFL-CIO*, 965 F.2d at 982; *see also NMA*, 153 F.3d at 1268 (Mine Act rulemaking requires an economic feasibility analysis analogous to that required in OSHA rulemakings).[44] A rule is feasible as long as it does not threaten the existence or competitiveness of an industry, even if it

[44] The Mine Act does not require a cost-benefit analysis, *i.e.*, a conclusion that the benefits of a rule outweigh the costs. *Am. Textile Mfrs.*, 452 U.S. at 509, 101 S. Ct. at 2490 (holding, based language identical to Mine Act Section 101(a)(6)(a), that "cost-benefit analysis by OSHA is not required by the [OSH Act] because feasibility analysis is"); *accord AFL-CIO*, 965 F.2d at 982 n.26 ("[T]he requirement of economic feasibility does not mean that OSHA must perform a cost-benefit analysis, because Congress has placed the 'benefit' of workers health above all other considerations save those making attainment of this 'benefit' achievable.") (internal punctuation and citation omitted). Regardless, MSHA estimates that the Dust Rule will provide a net benefit because of the $3.4 billion in benefits resulting from fewer cases of black lung. I-REA-16 at 187.

"portend[s] disaster for some marginal firms." *Color Pigments*, 16 F.3d at 1163.

Again relying on a comment that does not account for the differences between the proposed and the final Dust Rule, petitioners incorrectly claim that the Dust Rule is not economically feasible. *See* Murray Br. at 55-59; NMA Br. at 50-51. In its final Regulatory Economic Analysis, I-REA-16, based on the provisions of the final rule, MSHA reasonably relied on the cost estimates of its own specialists rather than the incorrect estimate of "lost" revenue provided by the industry consultant based on the proposed rule. *See Fla. Manufactured Hous. Ass'n v. Cisneros*, 53 F.3d 1565, 1580 (11th Cir. 1995) ("HUD is entitled to rely on the cost estimates calculated by its own engineering staff rather than the figures submitted by the industry's trade association, because our review of the record does not indicate that the agency's projections are either flawed or unreasonable.").

Murray's claim that MSHA's economic feasibility analysis consisted of a mere four paragraphs, Murray Br. at 55 (citing 79 Fed. Reg. 24,875), ignores the Regulatory Economic Analysis in support of the final rule, which contains a detailed explanation of MSHA's economic feasibility

finding, including 150 pages devoted to calculating cost estimates for mine operators in order to comply with the final Rule. I-REA-16 at 23-171.

The Regulatory Economic Analysis demonstrates that the Dust Rule does not pose an existential or competitive threat to the nation's coal mining industry -- an industry that has $38.1 *billion* in annual revenues. *Id.* at 170-171.[45] The Analysis considered the costs to operators of installing and maintaining engineering controls needed to comply with the rule, *id.* at 29-45; the cost of acquiring CPDM devices, *id.* at 121-132; the expected costs of revising mine ventilation plans and abating dust overexposure citations, *id.* at 46-72; and the costs of implementing corrective actions when a valid representative operator samples exceeds the applicable ECV, *id.* at 84-88. Based on those calculations, MSHA estimated the total annualized costs of the Dust Rule to be $26.2 million for underground coal mine operators and $4 million for surface coal mine operators. *Id.* at 23-25. Given that the estimated compliance costs and penalty payments amount to only 0.13

[45] Recent Census Bureau data shows that the mining industry in general has operating profits of 17% and after-tax profits of 10 percent. 79 Fed. Reg. at 24875.

percent of the $20.2 billion total annual revenues of underground coal mine operators, and only 0.02 percent of the $17.9 billion revenues of surface coal mine operators, MSHA reasonably concluded that the Dust Rule is economically feasible. *Id.* at 171.

Petitioners insist that MSHA's cost estimates do not fully account for the revenue "losses" that will result when dust levels exceed the concentration limit, which will require operators to delay production as they take "immediate corrective actions" to reduce dust concentrations. Murray Br. at 55-59; NMA at Br. 50-51. In support of that argument, petitioners rely on a critique of MSHA's *preliminary* Regulatory Economic Analysis prepared by industry consultant Robin Cantor. Murray Br. at 55-57; NMA Br. at 51. Citing Cantor, NMA claims that the Dust Rule will result in "extensive revenue losses from delayed production" of "at least $1.6 billion per year for underground coal mines." NMA Br. at 51.

The Cantor study does not account for critical changes to the proposed Rule made by the final Rule. Cantor based her estimate of the percentage of samples that would exceed the proposed 1.0 mg/m^3 exposure limit on 2010 dust sampling data, I-COMM-76-1, at 15, 16

Table 8, and then extrapolating from that percentage the number of excessive dust samples that would occur if mine operators were required to take designated occupation samples on every production shift, as would have been required by the proposed rule. *Id.* at 13 Table 5 (assuming designated occupation sampling occurs every production day). The final Rule, however, requires only that 15 "designated occupation" and "other designated occupation" samples be taken quarterly. 30 CFR 70.208(a). Therefore, Cantor's projection, I-COMM-76-1, at 13, vastly overstates the number of required samples, and therefore overstates the number of times that a mine operator might be caused to delay production because a sample indicates excessive dust concentrations.

Similarly, Cantor's estimate of delayed production "losses"[46] is based on the proposed 1.0 mg/m^3 exposure limit, and does not account for ECVs. *Id.*, at 15; 16. The final Rule, however, sets the exposure limit at

[46] As explained in the Regulatory Economic Analysis, it is inaccurate to characterize production delays due to excessive dust as revenue "losses" because the coal will be mined once the dust controls are updated. I-REA-16 at 35. MSHA's economic analysis reasonably accounts for the actual losses occasioned by production delays by considering lost present value of money and lost variable costs such as labor, rental equipment, and energy costs. *Id.*

1.5 mg/m^3, and requires samples to meet or exceed a slightly higher ECV (1.79 mg/m^3 if using a CMDPSU, and 1.70 mg/m^3 if using a CPDM) before MSHA will issue a citation and before operators must take immediate corrective actions. 30 CFR § 70.208, Table 70-1. Murray itself concedes that Dr. Cantor's estimate "may be . . . overstated" because it is based on the proposed 1.0 mg/m^3 exposure limit. Murray Br. at 56-57.

MSHA reasonably discredited Cantor's analysis, *Fla. Manufactured Housing*, 53 F.3d at 1580, and determined that the Dust Rule is economically feasible.

D. MSHA Rationally Promulgated a Nationwide Dust Rule

Petitioners contend that the Dust Rule is arbitrary and capricious because the real problem is a regional increase in complicated CWP among central Appalachian miners caused by exposure to silica -- not coal -- dust. NMA Br. at 53-55; Murray Br. at 59-65. That argument ignores the fact that miners continue to develop both simple and complicated CWP in all coal mining regions of the country. 79 Fed. Reg. at 24,830. MSHA rationally promulgated a nationwide rule to reduce the average concentration of respirable coal mine dust, which has long

been known to cause, and which continues to cause, disease throughout the country.

The continued prevalence of CWP nationwide is demonstrated by recent epidemiological data. For the most recent five-year period available to MSHA, 2005-2009, medical surveillance examinations conducted as part of the national NIOSH x-ray surveillance program showed evidence of CWP in 492 miners. 79 Fed. Reg. at 24,831.[47] The data indicate that CWP persists not only in central Appalachia (138 cases of CWP detected in MSHA Coal District Four, southern West Virginia), 70 cases in District Five (southwestern Virginia), 60 cases in District Six (eastern Kentucky), but also in all other coal mining regions of the country (six cases of CWP detected in District One, eastern Pennsylvania), 32 cases in District Two (western Pennsylvania), 38 cases in District Three (northern West Virginia, Maryland, and Ohio), 50 cases in District Seven (central Kentucky), 19 cases in District Eight

[47] This number undercounts the true prevalence of black lung because only 42 percent of the nation's active miners were screened by the NIOSH x-ray program during 2005-2009, 79 Fed. Reg. at 24,823, and the program does not screen miners who have stopped working in the mining industry, even though CWP may later develop. *Id.* at 24,823-24. Furthermore, x-rays alone cannot detect all forms of black lung disease because they cannot measure airflow obstruction, which may indicate chronic obstructive pulmonary disease or emphysema. *Id.* at 24,822-23.

(the Midwest); 36 cases in District Nine (the West); 26 cases in District Ten (western Kentucky); and 17 cases in District Eleven (Alabama). 79 Fed. Reg. at 24,825.

MSHA recognized that the CWP hot spots of central Appalachia disproportionately account for the increased prevalence of complicated CWP, 79 Fed. Reg. at 24,828-29, but MSHA also made clear that "evidence of high risks in identified hot spots does not imply that risks in other areas are insignificant." *Id.* at 24,830. On the contrary, the persistence of CWP 45 years after the passage of the Coal Act contravenes Congress's stated goal "to permit *each* miner the opportunity to work underground during the period of his entire adult working life without incurring *any* disability or pneumoconiosis," 30 U.S.C. § 842(b) (emphases added) -- and is far from the "remarkable occupational-health success story" that Murray trumpets. Murray Br. at 20.

Petitioners incorrectly claim that MSHA failed to account for the role of silica dust in causing CWP. *See* NMA Br. at 54; Murray Br. at 60. MSHA specifically addressed the 2009 Laney study and the 2011 Suarthana study relied on by petitioners and explained that those

studies do not change the conclusion that, "based on all of the available evidence, respirable coal mine dust has a fibrogenic effect on the development of CWP in coal miners independent of the quartz or silica content of the coal." 79 Fed. Reg. at 24,829. MSHA further noted that the Suarthana study stated that "the main predictor of CWP is cumulative exposure to respirable coal mine dust," not silica dust. *Id.* at 24,823. Therefore, while MSHA recognized that "high silica content may accelerate the progression of CWP to progressive massive fibrosis, the most severe form of CWP," MSHA found "no evidence to suggest the presence of silica is a necessary condition for CWP" or its related lung diseases. *Id.* at 24,829-30.

Congress recognized that coal mine dust causes black lung disease with passage of the Coal Act in 1969, and the adverse health effects of exposure to coal mine dust are amply documented in over 150 peer-reviewed papers reviewed by MSHA during this rulemaking -- papers that all support the conclusion that exposure to respirable coal mine dust is a significant causal factor in the development of respiratory diseases in coal miners. *Id.* at 24,821-22. Based on that evidence, MSHA

rationally promulgated a rule that regulates coal mine dust in general, and not only silica dust.

To the extent that petitioners suggest that the Dust Rule fails to provide any added protection to miners who are exposed to high levels of silica dust, they are wrong. As discussed above, the Dust Rule requires that mine operators maintain dust levels below a *reduced* concentration limit when quartz dust (the predominant form of silica dust in coal mines) in the mine environment is greater than 100 micrograms per cubic meter. 30 C.F.R. § 70.101(b).[48] This provision provides extra protection to miners who work in environments with elevated silica levels caused by rock content in coal seams or the cutting and drilling of rock strata.

Petitioners imply that MSHA acted arbitrarily in not making silica exposure the specific focus of the rulemaking. NMA Br. at 55; Murray Br. at 65 n.17. MSHA can consider silica-specific regulation in future rulemakings, however, and has expressed its intent to do so. 79 Fed. Reg. at 24,882. This Court has recognized an agency's discretion to reasonably prioritize its regulatory agenda, and it has rejected the

[48] *See* at 20-21, above.

argument that an agency must issue a rule that addresses "all possible substances in one rulemaking." *AFL-CIO*, 965 F.2d at 984-85. This Court has further recognized that, as a practical matter, regulatory agencies must have the ability to limit the scope of their rulemakings to discrete aspects of large problems, or else they could not carry out their administrative functions. *Am. Iron & Steel Inst. v. OSHA*, 182 F.3d 1261, 1268 (11th Cir. 1999) ("Logic dictates that an agency must have some discretion in setting an agenda for rulemaking and excluding some matters categorically. Otherwise rulemaking would be very difficult because an agency would be unable to concentrate its scarce resources on a particular problem").

In sum, Congress passed the Mine Act to, *inter alia*, protect the health of miners "in *the Nation's* coal . . . mines." 30 U.S.C. §§ 802(c), 802(d) (emphasis added). *See also* 30 U.S.C. § 802(g). That is what the Dust Rule does.

E. Operators Can and Must Comply with the Dust Rule Without Using Respirators

Petitioners assert that the Dust Rule arbitrarily and capriciously prohibits mine operators from relying on respirators worn by miners to achieve compliance with the dust standards. Murray Br. at 67; NMA

Br. at 56-58. For the reasons discussed in Argument II(C)(1), above, MSHA rationally found that mine operators can comply with the Dust Rule through the use of engineering controls. 79 Fed. Reg. at 24,931. Consistent with Section 202(h), MSHA rationally concluded that noncompliant mine operators should not be excused simply because they provide respirators -- which experience teaches are unreliable -- to miners. *See* 30 U.S.C. § 842(h) ("Use of respirators shall not be substituted for environmental control measures in the active workings.").

Nothing in the Dust Rule prohibits operators from providing respirators to their miners. In fact, the rule *requires* operators to make such respirators available to miners when an operator-collected dust sample exceeds the ECV. 30 C.F.R. §§ 70.208(e)(1); 72.700. The Rule, however, does not allow mine operators to "comply" with the dust standards by providing respirators to miners when the operator has failed to bring atmospheric average concentrations of respirable dust within the limit.

The Secretary's approach is required by Section 202(h) of the Mine Act, which prohibits the use of respirators as substitutes for

environmental controls, 30 U.S.C. § 842(h), and is supported by the longstanding recognition that respirators provide inferior protection to workers against airborne contaminants.[49] Respirators are comparatively unreliable, as this Court has recognized. *Am. Iron*, 182 F.3d at 1269 ("the major rationale for engineering controls is that they make respiratory protection automatic, while respirators are dependent on use and constant attention and are subject to human error").

Indeed, the factors that make worker adherence to proper respirator procedures difficult in general industry are magnified in underground coal mines. 79 Fed. Reg. at 24,930 (discussing comments about "the difficulty of wearing respirators in hot and sweaty jobs, and dusty, dirty conditions, including low coal"); *id.* at 24,931 ("miners are likely to remove their respirators when the miners are performing arduous tasks, chewing tobacco, sick, hot or sweaty, or when the respirator is uncomfortable"). In contrast, engineering controls "provide consistent and reliable protection to all workers because the controls are, relative

[49] Murray incorrectly portrays the Secretary's position that he may not supersede Section 202(h) with an improved standard as "duplicitous" in light of the Secretary's position that he may so supersede Section 202(f). Murray Br. at 69. On the contrary, as explained in fn.15, above, the Secretary did not state that he could supersede Section 202(f).

to administrative controls and respirators, less dependent upon individual human performance, supervision, or intervention to function as intended." 79 Fed. Reg. at 24,931.

F. Other Coal Dust Standards

Finally, NMA asks the Court to vacate the Dust Rule because MSHA did not specifically respond to the comment that certain domestic and international respirable dust standards set higher limits. NMA Br. at 58-60 (citing I-COMM-57, at 17). This argument lacks merit.

In considering whether to reduce the limit from 2.0 mg/m^3 to 1.5 mg/m^3, MSHA relied in part on the 1995 NIOSH Criteria Document -- the same document the commenter cited to show that other nations have higher respirable coal dust limits, I-COMM-57, at 17 (citing V-BKG-78, at 12-13), and the same document that recommended a *greater* reduction in the respirable dust limit than the 1.5 mg/m^3 limit ultimately adopted in the Dust Rule. NMA cites no authority for the notion that a federal agency acts inappropriately by establishing a health standard for American workers that is more stringent than those of other nations, and the observation of the commenter was not significant enough to merit a more specific response from MSHA. *See*

Yankee Nuclear Power Corp. v. Natural Res. Def. Counsel, 435 U.S. 519, 553, 98 S. Ct. 1197, 1216 (1978) ("Comments must be significant enough to step over a threshold requirement of materiality before any lack of agency response or consideration becomes of concern") (internal quotation marks omitted); *accord Miami-Dade Cnty.*, 529 F.3d at 1070.

CONCLUSION

For the reasons discussed above, the Secretary urges the Court to affirm the Dust Rule in its entirety.

Respectfully submitted,

M. PATRICIA SMITH
Solicitor of Labor

HEIDI W. STRASSLER
Associate Solicitor

W. CHRISTIAN SCHUMANN
Counsel, Appellate Litigation

s/Edward Waldman
EDWARD WALDMAN
SAMUEL CHARLES LORD
Attorneys

U.S. Department of Labor
Office of the Solicitor
1100 Wilson Blvd., 22nd Fl.
Arlington, VA 22209-2296
(202) 693-9333
(202) 693-9361 (fax)
waldman.edward@dol.gov
lord.charlie@dol.gov

CERTIFICATE OF COMPLIANCE

Pursuant to Fed. R. App. P. 32(a)(7), and the Court's order dated October 1, 2014, permitting the Secretary to file a response brief containing 19,000 words, I hereby certify that the Secretary's Consolidated Response Brief contains 18,107 words as determined by the word count of the word processing system used to prepare the brief.

/s/ Edward Waldman
EDWARD WALDMAN

CERTIFICATE OF SERVICE

This will certify that I electronically filed the foregoing brief with the Court' Clerk on October 14, 2014, by using the Court's CM/ECF electronic filing system, which will send notice to the following:

Henry Chajet
Avidan Meyerstein
Collin Udell
Jackson Lewis P.C.
10701 Parkridge Blvd., Suite 300
Reston, Virginia 20191

Thomas C. Means
Edward M. Green
Daniel W. Wolff
Crowell & Moring LLP
1001 Pennsylvania Ave., N.W.
Washington, D.C. 20004

This will further certify that on October 14, 2014, I served copies of the foregoing brief on the following via electronic mail:

Michael O. McKown
Gary M. Broadbent
Murray Energy Corp.
46226 National Road
Saint Clairsville, OH 43950
mmckown@coalsource.com
gbroadbent@coalsource.com

Katie Sweeney
National Mining Association
101 Constitution Av NW,
Suite 500 East
Washington, D.C. 20001
KSweeney@nma.org

Genea O. Bell
Ross J. Watzman
Jackson Lewis P.C.
10701 Parkridge Blvd., Suite 300
Reston, VA 20191
Genea.Bell@jacksonlewis.com
Ross.Watzman@jacksonlewis.com

/s/ Edward Waldman
EDWARD WALDMAN

ADDENDUM

ADDENDUM TABLE OF CONTENTS

Mine Act Section 101
30 U.S.C. § 811 - Mandatory safety and health standards

(a) Development, promulgation, and revision

The Secretary shall by rule in accordance with procedures set forth in this section and in accordance with section 553 of Title 5 (without regard to any reference in such section to sections 556 and 557 of such title), develop, promulgate, and revise as may be appropriate, improved mandatory health or safety standards for the protection of life and prevention of injuries in coal or other mines.

(1) Whenever the Secretary, upon the basis of information submitted to him in writing by an interested person, a representative of any organization of employers or employees, a nationally recognized standards-producing organization, the Secretary of Health and Human Services, the National Institute for Occupational Safety and Health, or a State or political subdivision, or on the basis of information developed by the Secretary or otherwise available to him, determines that a rule should be promulgated in order to serve the objectives of this chapter, the Secretary may request the recommendation of an advisory committee appointed under section 812(c) of this title. The Secretary shall provide such an advisory committee with any proposals of his own or of the Secretary of Health and Human Services, together with all pertinent factual information developed by the Secretary or the Secretary of Health and Human Services, or otherwise available, including the results of research, demonstrations, and experiments. An advisory committee shall submit to the Secretary its recommendations regarding the rule to be promulgated within 60 days from the date of its appointment or within such longer or shorter period as may be prescribed by the Secretary, but in no event for a period which is longer than 180 days. When the Secretary receives a recommendation, accompanied by appropriate criteria, from the National Institute for Occupational Safety and Health that a rule be promulgated, modified, or revoked, the Secretary must, within 60 days after receipt thereof, refer such recommendation to an advisory committee pursuant to this paragraph, or publish such as a proposed rule pursuant to paragraph

(2), or publish in the Federal Register his determination not to do so, and his reasons therefor. The Secretary shall be required to request the recommendations of an advisory committee appointed under section 812(c) of this title if the rule to be promulgated is, in the discretion of the Secretary which shall be final, new in effect or application and has significant economic impact.

(2) The Secretary shall publish a proposed rule promulgating, modifying, or revoking a mandatory health or safety standard in the Federal Register. If the Secretary determines that a rule should be proposed and in connection therewith has appointed an advisory committee as provided by paragraph (1), the Secretary shall publish a proposed rule, or the reasons for his determination not to publish such rule, within 60 days following the submission of the advisory committee's recommendation or the expiration of the period of time prescribed by the Secretary in such submission. In either event, the Secretary shall afford interested persons a period of 30 days after any such publication to submit written data or comments on the proposed rule. Such comment period may be extended by the Secretary upon a finding of good cause, which the Secretary shall publish in the Federal Register. Publication shall include the text of such rules proposed in their entirety, a comparative text of the proposed changes in existing rules, and shall include a comprehensive index to the rules, cross-referenced by subject matter.

(3) On or before the last day of the period provided for the submission of written data or comments under paragraph (2), any interested person may file with the Secretary written objections to the proposed mandatory health or safety standard, stating the grounds therefor and requesting a public hearing on such objections. Within 60 days after the last day for filing such objections, the Secretary shall publish in the Federal Register a notice specifying the mandatory health or safety standard to which objections have been filed and a hearing requested, and specifying a time and place for such hearing. Any hearing under this subsection for the purpose of hearing relevant information shall commence within 60 days after the date of publication of the notice of hearing. Hearings required by this subsection shall be conducted by the Secretary, who may prescribe rules and make rulings concerning

procedures in such hearings to avoid unnecessary cost or delay. Subject to the need to avoid undue delay, the Secretary shall provide for procedures that will afford interested parties the right to participate in the hearing, including the right to present oral statements and to offer written comments and data. The Secretary may require by subpoena the attendance of witnesses and the production of evidence in connection with any proceeding initiated under this section. If a person refuses to obey a subpoena under this subsection, a United States district court within the jurisdiction of which a proceeding under this subsection is conducted may, upon petition by the Secretary, issue an order requiring compliance with such subpoena. A transcript shall be taken of any such hearing and shall be available to the public.

(4)(A) Within 90 days after certification of the record of the hearing held pursuant to paragraph (3), the Secretary shall by rule promulgate, modify, or revoke such mandatory health or safety standards, and publish his reasons therefor.

(B) In the case of a proposed mandatory health or safety standard to which objections requesting a public hearing have not been filed, the Secretary, within 90 days after the period for filing such objections has expired, shall by rule promulgate, modify, or revoke such mandatory standards, and publish his reasons therefor.

(C) In the event the Secretary determines that a proposed mandatory health or safety standard should not be promulgated he shall, within the times specified in subparagraphs (A) and (B) publish his reasons for his determination.

(5) Any mandatory health or safety standard promulgated as a final rule under this section shall be effective upon publication in the Federal Register unless the Secretary specifies a later date.

(6)(A) The Secretary, in promulgating mandatory standards dealing with toxic materials or harmful physical agents under this subsection, shall set standards which most adequately assure on the basis of the best available evidence that no miner will suffer material impairment of health or functional capacity even if such miner has regular exposure to

the hazards dealt with by such standard for the period of his working life. Development of mandatory standards under this subsection shall be based upon research, demonstrations, experiments, and such other information as may be appropriate. In addition to the attainment of the highest degree of health and safety protection for the miner, other considerations shall be the latest available scientific data in the field, the feasibility of the standards, and experience gained under this and other health and safety laws. Whenever practicable, the mandatory health or safety standard promulgated shall be expressed in terms of objective criteria and of the performance desired.

(B) The Secretary of Health and Human Services, as soon as possible after November 9, 1977, but in no event later than 18 months after such date and on a continuing basis thereafter, shall, for each toxic material or harmful physical agent which is used or found in a mine, determine whether such material or agent is potentially toxic at the concentrations in which it is used or found in a mine. The Secretary of Health and Human Services shall submit such determinations with respect to such toxic substances or harmful physical agents to the Secretary. Thereafter, the Secretary of Health and Human Services shall submit to the Secretary all pertinent criteria regarding any such substances determined to be toxic or any such harmful agents as such criteria are developed. Within 60 days after receiving any criteria in accordance with the preceding sentence relating to a toxic material or harmful physical agent which is not adequately covered by a mandatory health or safety standard promulgated under this section, the Secretary shall either appoint an advisory committee to make recommendations with respect to a mandatory health or safety standard covering such material or agent in accordance with paragraph (1), or publish a proposed rule promulgating such a mandatory health or safety standard in accordance with paragraph (2), or shall publish his determination not to do so.

(7) Any mandatory health or safety standard promulgated under this subsection shall prescribe the use of labels or other appropriate forms of warning as are necessary to insure that miners are apprised of all hazards to which they are exposed, relevant symptoms and appropriate emergency treatment, and proper conditions and precautions of safe use

or exposure. Where appropriate, such mandatory standard shall also prescribe suitable protective equipment and control or technological procedures to be used in connection with such hazards and shall provide for monitoring or measuring miner exposure at such locations and intervals, and in such manner so as to assure the maximum protection of miners. In addition, where appropriate, any such mandatory standard shall prescribe the type and frequency of medical examinations or other tests which shall be made available, by the operator at his cost, to miners exposed to such hazards in order to most effectively determine whether the health of such miners is adversely affected by such exposure. Where appropriate, the mandatory standard shall provide that where a determination is made that a miner may suffer material impairment of health or functional capacity by reason of exposure to the hazard covered by such mandatory standard, that miner shall be removed from such exposure and reassigned. Any miner transferred as a result of such exposure shall continue to receive compensation for such work at no less than the regular rate of pay for miners in the classification such miner held immediately prior to his transfer. In the event of the transfer of a miner pursuant to the preceding sentence, increases in wages of the transferred miner shall be based upon the new work classification. In the event such medical examinations are in the nature of research, as determined by the Secretary of Health and Human Services, such examinations may be furnished at the expense of the Secretary of Health and Human Services. The results of examinations or tests made pursuant to the preceding sentence shall be furnished only to the Secretary or the Secretary of Health and Human Services, and, at the request of the miner, to his designated physician.

(8) The Secretary shall, to the extent practicable, promulgate separate mandatory health or safety standards applicable to mine construction activity on the surface.

(9) No mandatory health or safety standard promulgated under this subchapter shall reduce the protection afforded miners by an existing mandatory health or safety standard.

(b) Emergency temporary mandatory standards

(1) The Secretary shall provide, without regard to the requirements of chapter 5 of Title 5 for an emergency temporary mandatory health or safety standard to take immediate effect upon publication in the Federal Register if he determines (A) 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 subsection (a) of this section, 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).

(c) Modification of standards

Upon petition by the operator or the representative of miners, the Secretary may modify the application of any mandatory safety standard to a coal or other mine if the Secretary determines that an alternative method of achieving the result of such standard exists which will at all times guarantee no less than the same measure of protection afforded the miners of such mine by such standard, or that the application of such standard to such mine will result in a diminution of safety to the miners in such mine. Upon receipt of such petition the Secretary shall publish notice thereof and give notice to the operator or the representative of miners in the affected mine, as appropriate, and shall cause such investigation to be made as he deems appropriate. Such investigation shall provide an opportunity for a public hearing at the request of such operator or representative or other interested party, to enable the operator or the representative of miners in such mine or other interested party to present information relating to the

modification of such standard. Before granting any exception to a mandatory safety standard, the findings of the Secretary or his authorized representative shall be made public and shall be available to the representative of the miners at the affected mine. The Secretary shall issue a decision incorporating his findings of fact therein, and send a copy thereof to the operator or the representative of the miners, as appropriate. Any such hearing shall be of record and shall be subject to section 554 of Title 5.

(d) Judicial review

Any person who may be adversely affected by a mandatory health or safety standard promulgated under this section may, at any time prior to the sixtieth day after such standard is promulgated, file a petition challenging the validity of such mandatory standard with the United States Court of Appeals for the District of Columbia Circuit or the circuit wherein such person resides or has his principal place of business, for a judicial review of such standard. A copy of the petition shall be forthwith transmitted by the clerk of the court to the Secretary. The filing of such petition shall not, unless otherwise ordered by the court, operate as a stay of the standard. No objection that has not been urged before the Secretary shall be considered by the court, unless the failure or neglect to urge such objection shall be excused for good cause shown. The validity of any mandatory health or safety standard shall not be subject to challenge on the grounds that any of the time limitations in this section have been exceeded. The procedures of this subsection shall be the exclusive means of challenging the validity of a mandatory health or safety standard.

(e) Distribution of copies of proposed standards or regulations

The Secretary shall send a copy of every proposed mandatory health or safety standard or regulation at the time of publication in the Federal Register to the operator of each coal or other mine and the representative of the miners at such mine and such copy shall be immediately posted on the bulletin board of the mine by the operator or his agent, but failure to receive such notice shall not relieve anyone of the obligation to comply with such standard or regulation.

Mine Act Section 201
30 U.S.C. § 841. Mandatory health standards for underground mines; enforcement; review; purpose

(a) The provisions of sections 842 through 846 of this title and the applicable provisions of section 878 of this title shall be interim mandatory health standards applicable to all underground coal mines until superseded in whole or in part by improved mandatory health standards promulgated by the Secretary under the provisions of section 811 of this title, and shall be enforced in the same manner and to the same extent as any mandatory health standard promulgated under the provisions of section 811 of this title. Any orders issued in the enforcement of the interim standards set forth in this subchapter shall be subject to review as provided in subchapter I of this chapter.

(b) Among other things, it is the purpose of this subchapter to provide, to the greatest extent possible, that the working conditions in each underground coal mine are sufficiently free of respirable dust concentrations in the mine atmosphere to permit each miner the opportunity to work underground during the period of his entire adult working life without incurring any disability from pneumoconiosis or any other occupation-related disease during or at the end of such period.

Mine Act Section 202
30 U.S.C. § 842 - Mandatory safety and health standards

(a) Samples; procedures; transmittal; notice of excess concentration; periodic reports to Secretary; contents

Each operator of a coal mine shall take accurate samples of the amount of respirable dust in the mine atmosphere to which each miner in the active workings of such mine is exposed. Such samples shall be taken by any device approved by the Secretary and the Secretary of Health and Human Services and in accordance with such methods, at such locations, at such intervals, and in such manner as the Secretaries shall prescribe in the Federal Register within sixty days from December 30, 1969 and from time to time thereafter. Such samples shall be transmitted to the Secretary in a manner established by him, and analyzed and recorded by him in a manner that will assure application of the provisions of section 814(i) of this title when the applicable limit on the concentration of respirable dust required to be maintained under this section is exceeded. The results of such samples shall also be made available to the operator. Each operator shall report and certify to the Secretary at such intervals as the Secretary may require as to the conditions in the active workings of the coal mine, including, but not limited to, the average number of working hours worked during each shift, the quantity and velocity of air regularly reaching the working faces, the method of mining, the amount and pressure of the water, if any, reaching the working faces, and the number, location, and type of sprays, if any, used.

(b) Standards; noncompliance permit; renewal; procedures; limitations; extension period

Except as otherwise provided in this subsection--

(1) Effective on the operative date of this subchapter, each operator shall continuously maintain the average concentration of respirable dust in the mine atmosphere during each shift to which each miner in the active workings of such mine is exposed at or below 3.0 milligrams of respirable dust per cubic meter of air.

(2) Effective three years after December 30, 1969, each operator shall continuously maintain the average concentration of respirable dust in the mine atmosphere during each shift to which each miner in the active workings of such mine is exposed at or below 2.0 milligrams of respirable dust per cubic meter of air.

(3) Any operator who determines that he will be unable, using available technology, to comply with the provisions of paragraph (1) of this subsection, or the provisions of paragraph (2) of this subsection, as appropriate, may file with the Panel, no later than sixty days prior to the effective date of the applicable respirable dust standard established by such paragraphs, an application for a permit for noncompliance. If, in the case of an application for a permit for noncompliance with the 3.0 milligram standard established by paragraph (1) of this subsection, the application satisfies the requirements of subsection (c) of this section, the Panel shall issue a permit for noncompliance to the operator. If, in the case of an application for a permit for noncompliance with the 2.0 milligram standard established by paragraph (2) of this subsection, the application satisfies the requirements of subsection (c) of this section and the Panel determines that the applicant will be unable to comply with such standard, the Panel shall issue to the operator a permit for noncompliance.

(4) In any case in which an operator, who has been issued a permit (including a renewal permit) for noncompliance under this section, determines, not more than ninety days prior to the expiration date of such permit, that he still is unable to comply with the standard established by paragraph (1) of this subsection or the standard established by paragraph (2) of this subsection, as appropriate, he may file with the Panel an application for renewal of the permit. Upon receipt of such application, the Panel, if it determines, after all interested persons have been notified and given an opportunity for a public hearing under section 804 of this title, that the application is in compliance with the provisions of subsection (c) of this section, and that the applicant will be unable to comply with such standard, may renew the permit.

(5) Any such permit or renewal thereof so issued shall be in effect for a period not to exceed one year and shall entitle the permittee during such period to maintain continuously the average concentration of respirable dust in the mine atmosphere during each shift in the working places of such mine to which the permit applies at a level specified by the Panel, which shall be at the lowest level which the application shows the conditions, technology applicable to such mine, and other available and effective control techniques and methods will permit, but in no event shall such level exceed 4.5 milligrams of dust per cubic meter of air during the period when the 3.0 milligram standard is in effect, or 3.0 milligrams of dust per cubic meter of air during the period when the 2.0 milligram standard is in effect.

(6) No permit or renewal thereof for noncompliance shall entitle any operator to an extension of time beyond eighteen months from December 30, 1969 to comply with the 3.0 milligram standard established by paragraph (1) of this subsection, or beyond seventy-two months from December 30, 1969 to comply with the 2.0 milligram standard established by paragraph (2) of this subsection.

(c) Applications for noncompliance; contents

Any application for an initial or renewal permit made pursuant to this section shall contain--

(1) a representation by the applicant and the engineer conducting the survey referred to in paragraph (2) of this subsection that the applicant is unable to comply with the standard applicable under subsection (b)(1) or (b)(2) of this section at specified working places because the technology for reducing the concentration of respirable dust at such places is not available, or because of the lack of other effective control techniques or methods, or because of any combination of such reasons;

(2) an identification of the working places in such mine for which the permit is requested; the results of an engineering survey by a certified engineer of the respirable dust conditions of each working place of the mine with respect to which such application is filed and the ability to reduce such dust to the level required to be maintained in such place

under this section; a description of the ventilation system of the mine and its capacity; the quantity and velocity of air regularly reaching the working faces; the method of mining; the amount and pressure of the water, if any, reaching the working faces; the number, location, and type of sprays, if any; action taken to reduce such dust; and such other information as the Panel may require; and

(3) statements by the applicant and the engineer conducting such survey, of the means and methods to be employed to achieve compliance with the applicable standard, the progress made toward achieving compliance, and an estimate of when compliance can be achieved.

(d) Promulgation of new standards; procedures

Beginning six months after the operative date of this subchapter and from time to time thereafter, the Secretary of Health and Human Services shall establish, in accordance with the provisions of section 811 of this title, a schedule reducing the average concentration of respirable dust in the mine atmosphere during each shift to which each miner in the active workings is exposed below the levels established in this section to a level of personal exposure which will prevent new incidences of respiratory disease and the further development of such disease in any person. Such schedule shall specify the minimum time necessary to achieve such levels taking into consideration present and future advancements in technology to reach these levels.

(e) Concentration of respirable dust

References to concentrations of respirable dust in this subchapter mean the average concentration of respirable dust measured with a device approved by the Secretary and the Secretary of Health and Human Services.

(f) Average concentration

For the purpose of this subchapter, the term "average concentration" means a determination which accurately represents the atmospheric conditions with regard to respirable dust to which each miner in the

active workings of a mine is exposed (1) as measured, during the 18 month period following December 30, 1969, over a number of continuous production shifts to be determined by the Secretary and the Secretary of Health and Human Services, and (2) as measured thereafter, over a single shift only, unless the Secretary and the Secretary of Health and Human Services find, in accordance with the provisions of section 811 of this title, that such single shift measurement will not, after applying valid statistical techniques to such measurement, accurately represent such atmospheric conditions during such shift.

(g) Compliance inspections

The Secretary shall cause to be made such frequent spot inspections as he deems appropriate of the active workings of coal mines for the purpose of obtaining compliance with the provisions of this subchapter.

(h) Maintenance of respiratory equipment; substitutes for environmental controls

Respiratory equipment approved by the Secretary and the Secretary of Health and Human Services shall be made available to all persons whenever exposed to concentrations of respirable dust in excess of the levels required to be maintained under this chapter. Use of respirators shall not be substituted for environmental control measures in the active workings. Each operator shall maintain a supply of respiratory equipment adequate to deal with occurrences of concentrations of respirable dust in the mine atmosphere in excess of the levels required to be maintained under this chapter.

Mine Act Section 205
30 U.S.C. § 845. Dust standards in presence of quartz

In coal mining operations where the concentration of respirable dust in the mine atmosphere of any working place contains more than 5 per centum quartz, the Secretary of Health and Human Services shall prescribe an appropriate formula for determining the applicable respirable dust standard under this subchapter for such working place and the Secretary shall apply such formula in carrying out his duties under this subchapter.