



# West Virginia Coal Association

PO Box 3923, Charleston, WV 25339 ■ (304) 342-4153 ■ Fax 342-7651 ■ www.wvcoal.com

June 20, 2011

Ms. Roslyn Fontaine  
Acting Director  
Office of Standards, Regulations and Variances  
Mine Safety & Health Administration  
US Department of Labor  
1100 Wilson Boulevard, Room 2350

2011 JUN 20 P 5:39

**RE: RIN 1219-AB64; Comments on Proposed Rule for Lowering  
Miners Exposure to Respirable Coal Mine Dust, Including Continuous  
Personal Dust Monitors**

*27 pgs Total*

Dear Ms. Fontaine:

We appreciate the opportunity to provide comments to the above proposed rule.

The West Virginia Coal Association is a trade association comprised of coal producing companies who collectively account for approximately ninety-five percent (95%) of West Virginia's coal production or approximately 150 million tons annually. Our membership also includes mine maintenance and specialty contractors, mine reclamation companies, equipment manufacturers, land companies and general service companies.

The state of West Virginia is the nation's leading underground coal producing state, averaging nearly 100 million tons of underground coal production annually from approximately 200 underground mining operations and 15,000 underground miners.

The state of West Virginia and our member companies are undeniably affected more directly by this proposal than any other state.

West Virginia is also part of a group of eastern coal states i.e. states that produce coal east of the Mississippi River who account for approximately forty percent (40%) of the nation's production of coal and nearly eighty percent (80 %) of the nations coal workforce.

*AB64-COMM-80*

This region of the country has seen its share of national production fall from a high of 623 million tons recorded in 1990 to an estimated 339 million tons or a 46% drop this year (2010).

The Central Appalachian states of this region, principally comprised of WV, KY, OH, PA & VA, have clearly been under attack by the Obama Administration and the federal agencies with responsibility for mining that collectively seem destined to see production from this region severely restricted and all associated mine permitting and operating costs elevated!

As proposed, the rule before us only adds to this concern and if permitted to advance through the rule making process represents a "crisis in waiting" which will certainly force the industry and MSHA alike into an extreme untenable situation.

With that backdrop, our interest in this rule-making and today's hearing is obvious as is our desire to see coal workers pneumoconiosis (CWP) eliminated from the industry. In fact, our member companies and today's workforce currently work tirelessly together to maintain the lowest possible levels of respirable coal dust in their respective operations. This is accomplished daily by the deployment of state of the art dust control and mine ventilation technologies, combined with human resource development programs and critical oversight of an array of best management practices.

We also would observe for today's record that the improvements made in these areas are prevalent throughout the industry and are attested to daily by the ever improving conditions of underground mining and the significant decrease in the incidence of CWP over the past couple of decades. Current NIOSH data clearly shows the CWP decreasing trend continuing today. Remarkably, MSHA has misread and misrepresented the limited data it has selectively used to support this rulemaking.

For the record, we strongly object to the proposed rule in its current form and wholeheartedly embrace the written comments submitted on June 20, 2011 by the National Mining Association.

As we testified at the December 7, 2010 public hearing in Beckley WV, the proposed rule is fraught with technical and operational impracticalities; misapplies dust control technologies; fails to account for up-to-date trending data from NIOSH; relies on a convoluted and inappropriate or uneven enforcement scheme; and represents a departure from the cooperative approach deemed necessary to eradicate coal worker pneumoconiosis from the industry.

Accordingly, we respectfully request the agency to dispense with and set aside this rule making. Alternatively, we recommend that MSHA continue on the course it set out last year when it launched the "End Black Lung" initiative along with the programmatic changes presented herein:

1. Mandates for X-Ray surveillance for all current miners;
2. Acceptance of the hierarchy of controls concept, permitting the use of administrative controls to protect miners' health;
3. Recognition, acceptance and encouragement of personal engineering controls, like clean air helmets for protection and compliance;
4. Further testing, development, and improvement of the new instantaneous dust sampler, before its use in a weekly dose-based compliance scheme is mandated; and
5. Changes to existing sampling procedures to ensure that samples better represent individual miner's personal exposures.

As a concluding comment, we restate our main objective to provide a safe and healthy environment for our employees. Our mine managers, engineers and technical staff join together daily to accomplish this overriding goal. We support MSHA's "End Black Lung" initiative and pledge our support and eagerness to work with all interested parties to eradicate this disease (CWP) from our industry.

We possess and commit the expertise, technical competence and operational experience towards that end. However, for the reasons stated herein, we strongly object to the current proposed rule and respectfully request the agency to discontinue this rule making.

Attached with this comment letter is 1. NMA's June 20th Comments; 2. WVCA's Remarks at the December 7, 2010 public hearing; and, 3. "Flaws in MSHA's Support for Its proposed Rule on Repairable Dust".

The latter report in support of our commentary and conclusions was prepared by technical experts on this subject from within our membership.

Please let me know if you have any questions or need additional information.

Sincerely,



Chris Hamilton,  
Senior Vice President

**Statement of the West Virginia Coal Association to the US Department of Labor's Mine Safety and Health Administration proposed rule "Lowering Miners' Exposure to Respirable Coal Mine Dust, Including Continuous Personal Dust Monitors." Public Hearing at the National Mine Health & Safety Academy, Beaver, WV -- December 7, 2010.**

**Introduction:** We appreciate the opportunity to participate in today's hearing. The West Virginia Coal Association is a trade association comprised of coal producing companies who collectively account for approximately eighty-five percent (85%) of West Virginia's annual coal production. Our membership also includes mine maintenance and specialty contractors, mine reclamation companies, equipment manufacturers, land companies and general service companies.

The state of West Virginia is the nation's leading underground coal producing state, averaging 155 million tons of annual coal production over the past decade and nearly 200 underground mining operations and employing 16,000 underground miners. Consequently, the state of West Virginia and our member companies are arguably affected more directly by this proposal than any other state.

West Virginia is also part of a group of eastern coal states i.e. states that produce coal east of the Mississippi River who account for approximately forty percent (40%) of the nations production of coal and nearly eighty percent (80 %) of the nations coal workforce. This region of the country has seen it share of national production fall from a high of 623 million tons recorded in 1990 to an estimated 339 million tons or a 46% drop this year (2010).

The Central Appalachian states of this region, principally comprised of WV, KY, & VA, have also been under attack by the Obama Administration and the federal agencies with responsibility for mining that collectively seem destined to see production from this region severely restricted and all associated mine permitting and operating costs elevated! (We would hope that this rule as proposed is not part of that strategy.)

With that backdrop, our interest in this rule-making and today's hearing is obvious as is our desire to see coal workers pneumoconiosis (CWP) eliminated from the industry. In fact, our member companies and today's workforce currently work tirelessly together to maintain the lowest possible levels of respirable coal dust in their respective operations. This is accomplished daily by the deployment of state of the art dust control and mine ventilation technologies, combined with human

resource development programs and critical oversight of an array of best management practices.

We also would observe for today's record that the improvements made in these areas are prevalent throughout the industry and are attested to daily by the ever improving conditions of underground mining and the significant decrease in the incidence of CWP over the past couple of decades. The preceding statement is not meant to suggest that problems do not exist nor does it imply that further improvement cannot be made. It is simply intended to observe all the progress that has been made and is a matter of record today.

**WVCA Position and Objection to the Rule:** Regarding MSHA's proposed rule: "Lowering Miners' Exposure to Respirable Coal Mine Dust, Including Continuous Personal Dust Monitors" and subject of today's hearing, our primary position and comment is that we strongly object to the proposal in its current form -- which is fraught with technical and operational impracticalities; misapplication of dust control technologies; relies on a convoluted and inappropriate or uneven enforcement scheme; circumvents recent Congressional activity on this subject and represents a departure from the cooperative approach deemed necessary to eradicate coal worker pneumoconiosis from the industry.

Accordingly, we respectfully request the agency to dispense with and set aside this rule making. Alternatively, we recommend that MSHA continue on the course it set out last year when it launched the "End Black Lung" initiative.

That approach, which was all encompassing, clearly envisioned all interested parties i.e. government, labor, health care and industry to work together towards our shared goal of "ending black lung". It is unfortunate that the spirit of the "End black Lung" initiative and ability for all affected parties to continue to work effectively going forward have been severely compromised as the result of this rulemaking.

We would also note for the record that the same general topic addressed by this rulemaking was also addressed in the proposed comprehensive federal mine safety legislation currently being developed by Congress. Countless hours of research, deliberations and valuable Congressional time is devoted towards this effort which includes input among all interested parties. Arguably, MSHA is circumventing Congress and is on course to unilaterally and selectively implement provisions of proposed federal legislation for its rulemaking agenda. This is a concerning trend. MSHA has recently issued new requirements for the "Pattern of Violation"

program and "Rock Dusting" in underground mines which were also part of the active agenda of Congress.

Note: So as to avoid the suggestion that we only offer criticism towards the present proposed rule, we will also forward a series of recommendations for your consideration as part of our final comments. Recommendations that would otherwise be advanced, openly discussed and evaluated had we been provided the opportunity in a different forum.

**Basis for the Rule:** We note for today's record that we believe MSHA places unparallel weight and support for the rule behind the study information presented by Dr. Michael Attfield, Chief, Division of respiratory Disease Studies, NIOSH, titled: "Black Lung".

Other than vague references in the rule preamble, the agency has not discussed the report data, its methodologies and conclusions in an open and engaging manner with all interested parties.

Although the report contains noteworthy information, we are left to question the basis for its findings and recommendations.

Quite frankly, the report has not undergone the level of scrutiny nor has it been subjected to the degree of peer review required if it is going to be relied upon to drive rulemaking and attendant requirements of this magnitude.

We do not believe the data has been substantiated for accuracy or fact nor does it necessarily support the provisions within the proposed rule. Rather, the conclusions drawn from the report appear to be predicated on the opinion of its author.

The report also largely ignores the effect and realities of mine inspector presence within the noted hotspot regions and realities of the mining industry. In other words, if so called hot spots either exist or existed within certain geographical areas, and are further, the result of substandard mine operation practices, then the underlying problems should have been long alleviated or remedied and simply do not warrant industry wide rule making.

The industry has made repeated requests for the underlying data which has been relied upon to drive the conclusions contained in the report. We make the same request today. We simply want the ability to engage our experts with the same data points to determine whether the findings and conclusions are consistent with those of the report authors or perhaps we may find that they direct further research or

provide focus in some other direction. Plainly and simply put, MSHA has not adequately supported the need or desirability of many of the provisions within the rule.

**Fiscal impact/Analysis:** We also raise the question whether MSHA has complied with its mandate to performing a sound fiscal impact statement and analysis of the proposed rule. Even a cursory review of the fiscal information which accompanies the proposed rule indicates the numbers are off the mark and woefully understated. This has been a recurring practice of the agency in recent years. Consequently, the numbers provided by MSHA make it impossible to ascertain the true costs of the proposed rule and all but obviates a cost-benefit analysis of the proposal.

MSHA has calculated the compliance costs of the proposed rule for underground coal operators to be less than \$40 million annually. This estimate drastically understates the cost of the proposed rule. The complexity of the rule and the administrative burden placed on operators is extraordinary. Operators are currently required to collect approximately 25,000 Designated Occupation (DO) samples per year. The proposed rule requires underground coal operators to collect nearly 750,000 DO and ODO samples each year. The administrative cost of the rule will exceed \$75 million per year for underground coal operators<sup>1</sup> and total compliance costs could easily exceed \$1 billion per year as operators are forced to adjust production schedules, modify mining methods and alter effective mine ventilation systems by adding additional overcasts, permanent stopping lines and additional air shafts.

The 'Compliance Cost' section of the proposed rule identifies three situations in underground mines in which mine operators 'could incur' additional costs. One of these situations is 'mines that have multiple MMUs on a single split of air.' This situation is directly related to the proposed plan's revision to the current 30 CFR 75.332(a)(1) standard which now requires that: 'Each working section and each area where mechanized mining equipment is being installed or removed, shall be ventilated by a separate split of intake air directed by overcasts, undercasts or other permanent ventilation controls.'

Although this section of the proposed rule identifies that there 'could be' additional costs, there is no specific discussion to outline the benefit or how much the estimated additional costs could be. In most cases, additional overcasts would have to be installed along with an additional intake stopping line to deliver the intake air to each individual MMU within the same working section. In many

cases, this would also require the installation of additional air shafts. Although this may not have been the intent of the proposed rule, the strict language of the revised 75.332(a)(1) standard dictates the addition of these permanent ventilation controls would be mandatory.

Many underground coal mines in the United States successfully operate two independent and separate MMUs within the same working section. In these cases, two separate production crews and two separate sets of mining equipment are used.

Each MMU is ventilated with a separate split of intake air. This is accomplished by using permanent ventilation controls to direct an intake air split to the working section and then splitting the intake air split near the working places in by the section loading point using approved temporary ventilation controls so that two separate and distinct splits of intake air ventilate the working faces. This method of 'fishtail' ventilation provides a separate split of intake air for each set of mining equipment associated with the individual MMU. The separate intake air split provided to each MMU has not been used to ventilate any other working section.

This method of providing 'fishtail' ventilation for two MMUs being operated on the same working section was outlined in the Federal Register dated May 15, 1992, and was intended to provide miners with a separate intake air split that was not contaminated with gases or dust from another set of mining equipment. As a result of the success of this type of ventilation scheme from a health and safety standpoint, many mining operations have designed their coal mines to operate two MMUs within the same working section.

The 75.332(a)(1) standard was again addressed in the Federal Register dated March 11, 1996, during the revision of the 1992 ventilation regulations. At that time, commenters suggested the standard be revised to permit the installation of mechanized mining equipment in either the return or intake air courses of working sections. However, the risk of introducing hazards associated with mine fires and/or explosions was identified as the reasons the final rule did not adopt the suggestion. The safety benefits of using a separate split of intake air were well established from the final rule promulgated in 1992.

The operational cost of redesigning the ventilation systems of underground mines would be excessive and unnecessary. There have not been any recent mining disasters related to 'fishtail' ventilation. The permanent ventilation controls have proven effective in delivering a separate split of intake air to the working section.

In conjunction with the permanent ventilation controls, the approved temporary ventilation controls have proven effective in splitting the air near the working places to provide each MMU with a separate and distinct split of intake air.

**Proposed Rule/Comment:** As previously stated, we intend to submit our specific objections and recommendations on a section by section basis to the proposed rule prior to the end of the written comment period. However, here are several areas of “general” concern and observations we’ll note today. These include:

1. PDM. We do not believe mandating PDMs is appropriate at the time. This position is based on factual information by testing of the unit by several companies and the deficiencies and or problems experienced during this period of evaluation. Further R&D with the unit should commence immediately and be expedited. Also, this unit weighs approximately 6 lbs. and is simply too bulky especially when it is factored along with the other items that a miner is required to carry on their possession;
2. PDM technology is most effective when used in combination with a dose concept (weekly), not single shift exposures. The weekly accumulated dose, based on the amount of mass a person is exposed to, is what is important.
3. PDM technology, with real time exposure read out, should make the dust control plans less detailed, since the person would be able to make corrections if they see exposures increasing. The proposed rule, with required plan changes for each overexposure, could make the dust plans enormous and impractical.
4. PDM technology would be most effective when used as a personal sampler, not with a designated occupation sample.
5. PDM’s are too big and heavy. The cap lights should be eliminated from the unit and the PDM should be made smaller and more ergonomic prior to implementation nationwide.
6. PDM’s need more “in mine” testing to work out durability and reliability issues discovered during more extensive use.
7. At a minimum mine operators should be permitted to use administrative controls to minimize respirable dust exposure to individual miners, particularly, when confronted with abnormal geologic abnormalities;

8. Scrubbers should be operated and properly maintained at all times for continuous miners operated in development areas with a curtain setback necessary to allow the scrubber to operate effectively;
9. Make the volume of air at the end of the line curtain compatible with the scrubber volume to increase the efficiency of the scrubbers cleaning ability;
10. Allow the operator to determine the best dust control methods for individual mines for mean entry air velocity, volume of air at end of line curtain, water spray configuration and output in gallons per minute and psi rather than MSHA imposing unrealistic numbers that do not take into consideration the differing mining conditions for different seams and mines and especially when such MSHA imposed controls increase individual miner dust exposure. Work with the industry to utilize available information from previous studies of air flow and line curtain configurations in underground mines in order to better manage respirable dust instead of imposing universal guidelines that ignore current science;
11. End the practice of imposing plan revisions based on a single respirable dust sample in contravention of applicable MSHA policy that all violations are to be based on the average of 5 valid respirable dust samples;
12. Work with the industry to investigate and verify that the current respirable dust sampling system is accurate and is not being adversely affected by the present analysis system and protocols including; the practice of sending dust cassettes by mail, by standards and practices of current dust cassette manufacturing and verification of pre and post cassette weights; laboratory protocols, measurement and reporting of dust cassette results. The MSHA Respirable Dust Sampling Procedures are flawed in many ways that do not reflect accurate measurements of the miner's exposure to respirable dust;
13. The procedures set forth in Chapter 1 for quartz evaluation are flawed and are not being followed by MSHA. In some instances, MMU's are not being evaluated on MSHA samples when the weight gain has been adequate for an evaluation. Operator samples are not being evaluated every six months when there has been adequate weight gain for evaluation;
14. Since July 1, 2010, MSHA has been voiding operator samples based on a comparison of the bimonthly samples with an MSHA collected sample in the intake air course months before the operator samples were collected. This comparison is unfair since no documentation is recorded of the activities that were

being conducted in the intake air course during the shift that the MSHA sample was collected; and,

15. Record keeping of production, shift length, etc. is too extensive. The PDM sample time is set according to shift length, and production shouldn't matter. In a personal sampling scenario using the dose concept, only the weekly accumulated dose would be of concern. Entering shift overexposures in a fireboss book as a hazardous condition by a non-certified person may be problematic.

**Conclusion:** As a concluding comment we restate our main objective to provide a safe and healthy environment for our employees. Our mine managers, engineers and technical staff join with them daily to accomplish this overriding goal. We support MSHA's "End Black Lung" initiative and pledge our support and eagerness to work with all interested parties to eradicate this disease from our industry. We possess and commit the expertise, technical competence and operational experience towards that end. However, for the reasons stated herein, we strongly object to the current proposed rule and respectfully request the agency to discontinue this rule making.

# Flaws in MSHA's Support for Its Proposed Rule on Respirable Dust

April 18, 2011



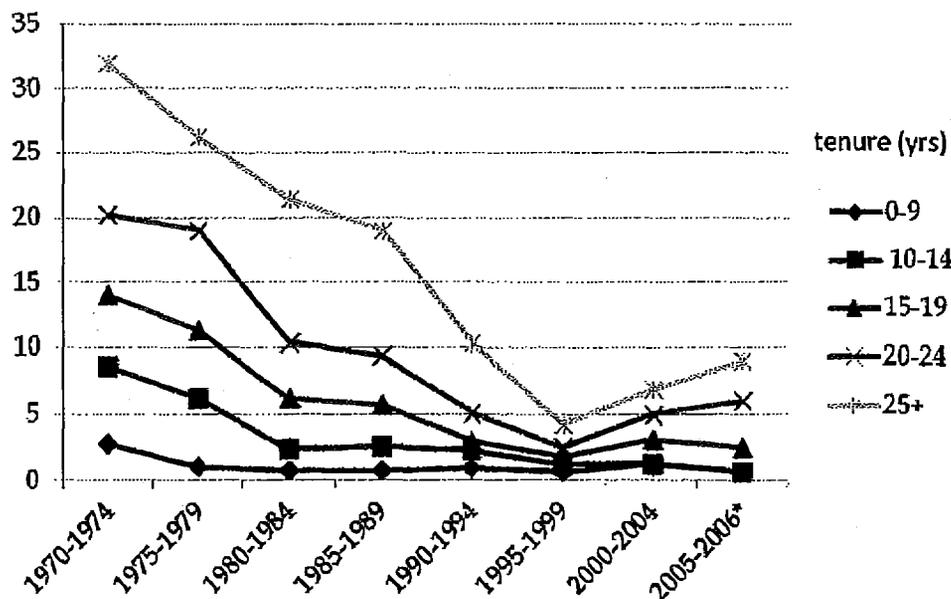
## The Rule is Being Driven By a False Claim

“Based on recent data from the National Institute for Occupational Safety and Health (NIOSH), the prevalence rate of black lung is increasing.”

- Preamble explanation accompanying the Proposed Rule

# MSHA's Alleged Support for Its Claim

## Percentage of Examined Miners with CWP (category 1/0+) by Tenure in Mining, (1970-2006)



- Chart presented in NIOSH Work-Related Lung Disease (WoRLD) Surveillance Report, 2007.
- Presents increasing trend in CWP prevalence since 1995.
- Presents the Data in 5 year periods. MSHA and NIOSH failed to provide detailed annual data.
- 2005-2006 reported as a partial period.



# The First Problem: A "Hot Spot" Focus in 2006

## Enhanced Coal Workers' Health Surveillance Program (ECWHSP)

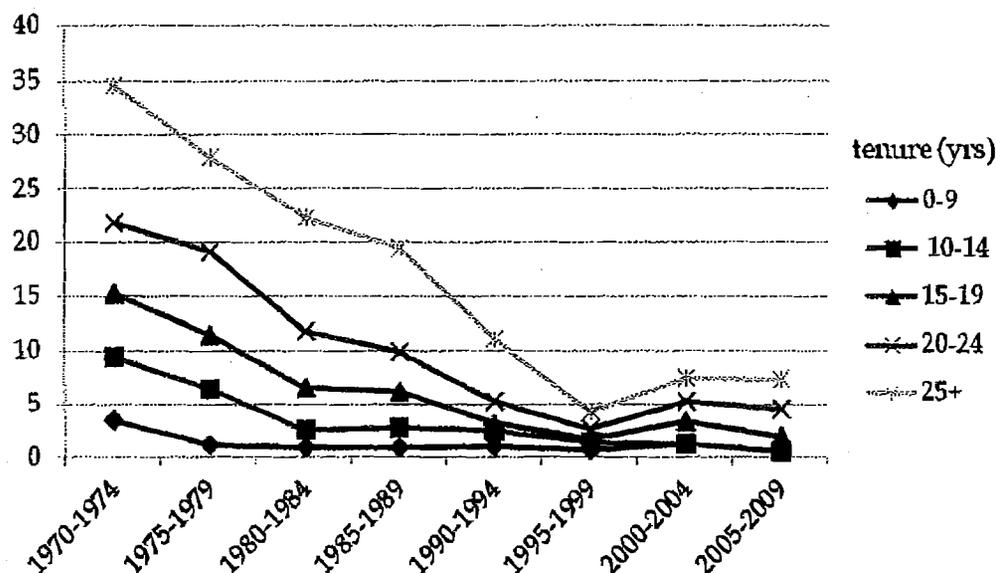
MSHA district	year	# of x-rays	# of miners employed	disease prevalence (%)
D1	2008	58	92	10
D2	2009	687	4150	2
D3	2008	1055	4122	2
D4	2007	1077	7072	7
D5	2006	649	2456	8
D6	2006	379	3740	11
D7	2006	448	2592	8
D8	2007	707	1928	1
D9	2007	898	3833	1
D10	2009	142	1770	2
D11	2007	617	2598	2

- Early phases of program targeted Central Appalachian "hot-spot" areas where regional clusters of rapidly progressive cases of disease have been observed.
- District 5 (Southwest VA), District 6 (Eastern KY) and District 7 (Southeast KY) surveyed in 2006.
- 2005-2006 period influenced by ECWHSP focus on Central Appalachian region in 2006 and is not representative of the entire mining industry.



## The Second Problem: Data from 2007-2009 was Excluded

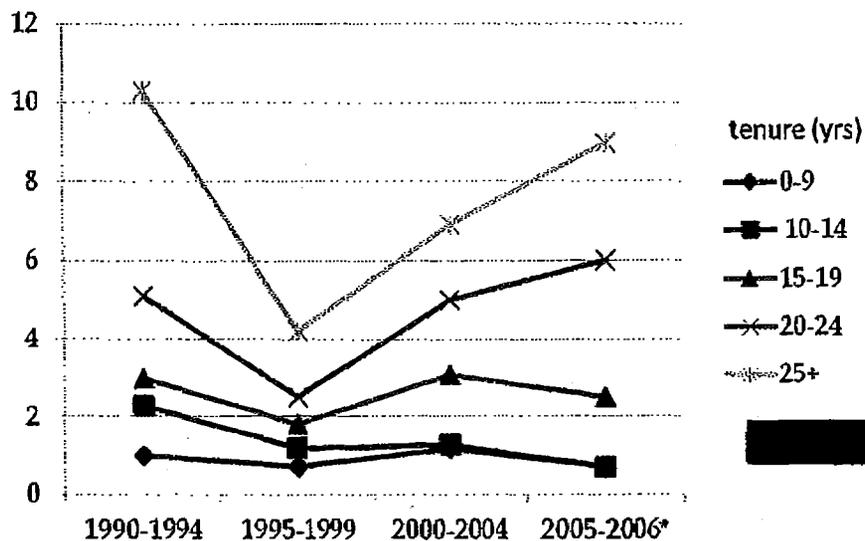
Percentage of Examined Miners with CWP (category 1/0+) by Tenure in Mining, (1970-2009)



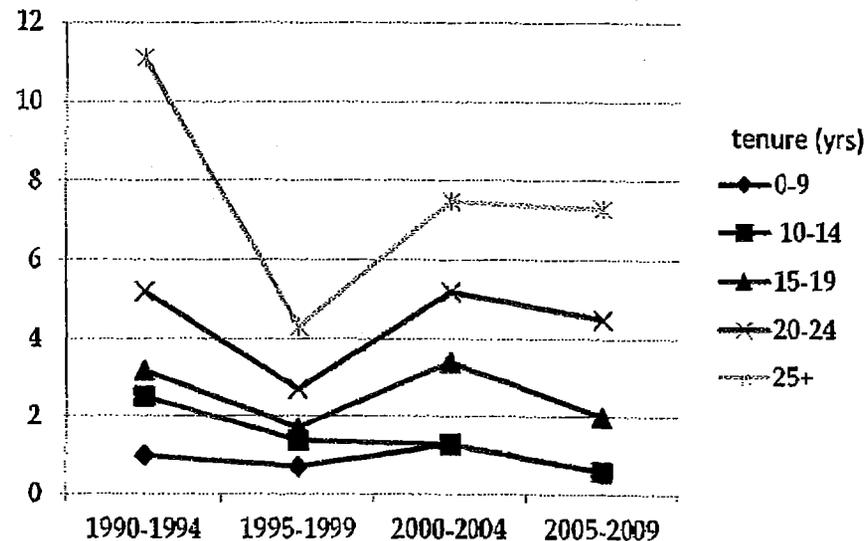
- Chart created using NIOSH Coal Workers' Health Surveillance Program (CWHSP) Data Query System. NIOSH released summary data on February 22, 2011, but continues to refuse to release the complete data-set despite FOIA requests.
- 2005-2009 reported as a full period; reduces influence of Central Appalachian region from 2006 ECWHSP.
- Presents decreasing trend in CWP prevalence since 2000.



# Current CWP Trends - Updated with Latest Data



Source: NIOSH WoRLD Report, 2007

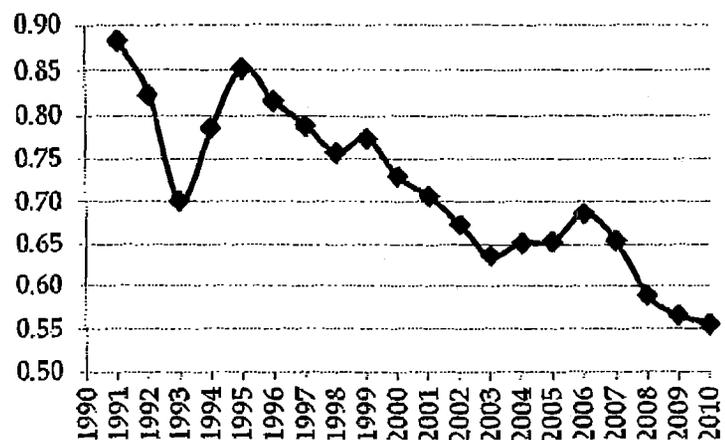


Source: NIOSH CWHSR Data Query System, 2011

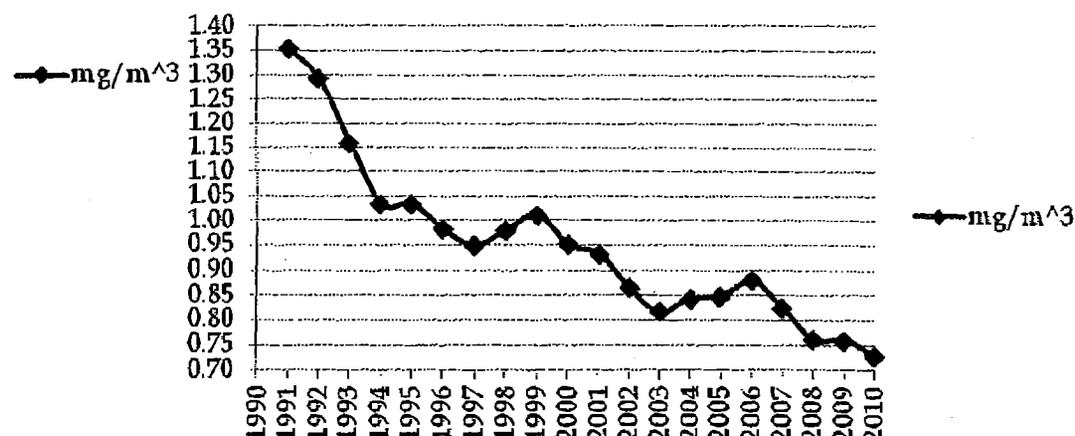
- Based on more recent data, trends in CWP prevalence reverse; all tenure groups now trending downward.
- In 2006, 1476 miners were examined in Central Appalachia under the ECWHSP. 131, or 8.9%, of those miners were found to have signs of CWP (category 1/0+). In the same year, 2669 miners were examined outside of the ECWHSP. 62, or 2.3%, of those miners were found to have signs of CWP (category 1/0+).

# No Correlation Between Dust Exposure and Lung Disease Prevalence

Avg Dust Concentrations; All  
Occupation Codes



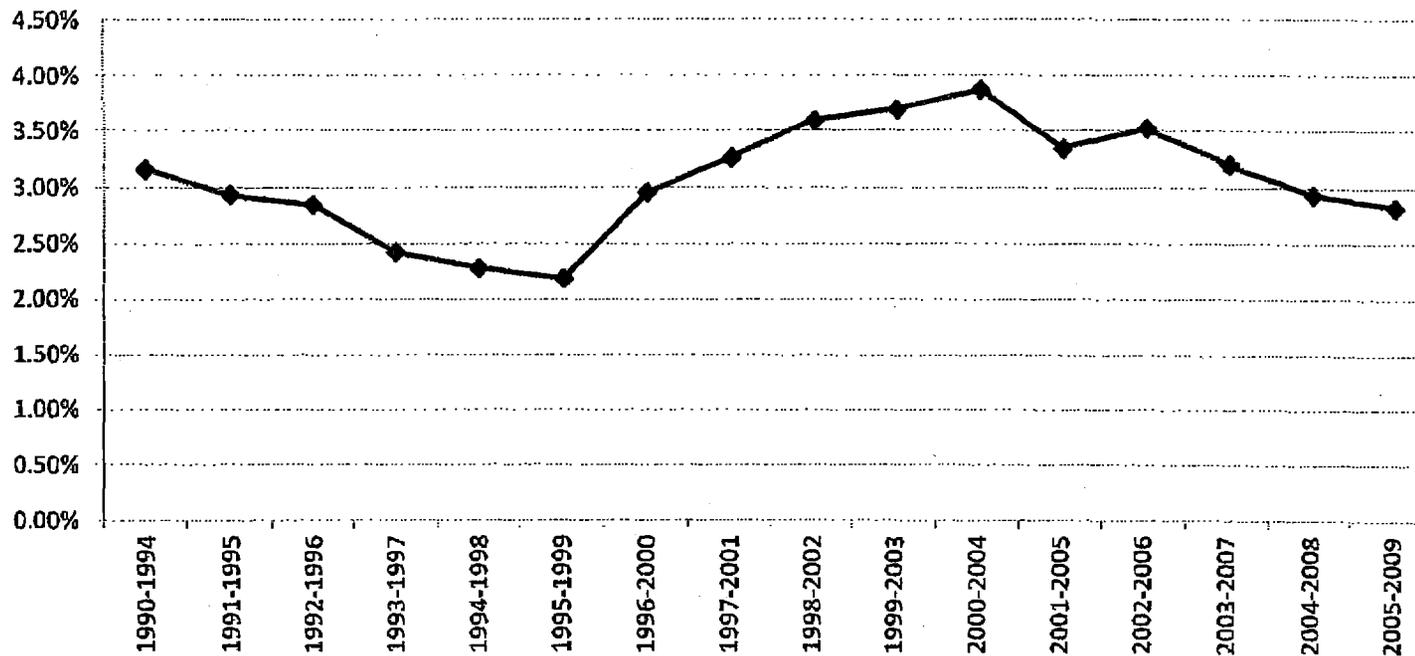
Avg Dust Concentrations; Occupation  
Code 36 - CM Operator



- Concentrations of respirable coal mine dust, as measured by MSHA and operators, have steadily declined since 1995.

# The Third Problem: Methodology Change Starting in 2000

## Percentage of Examined Miners with CWP (category 1/0+) by Five Year Period (1990-2009)

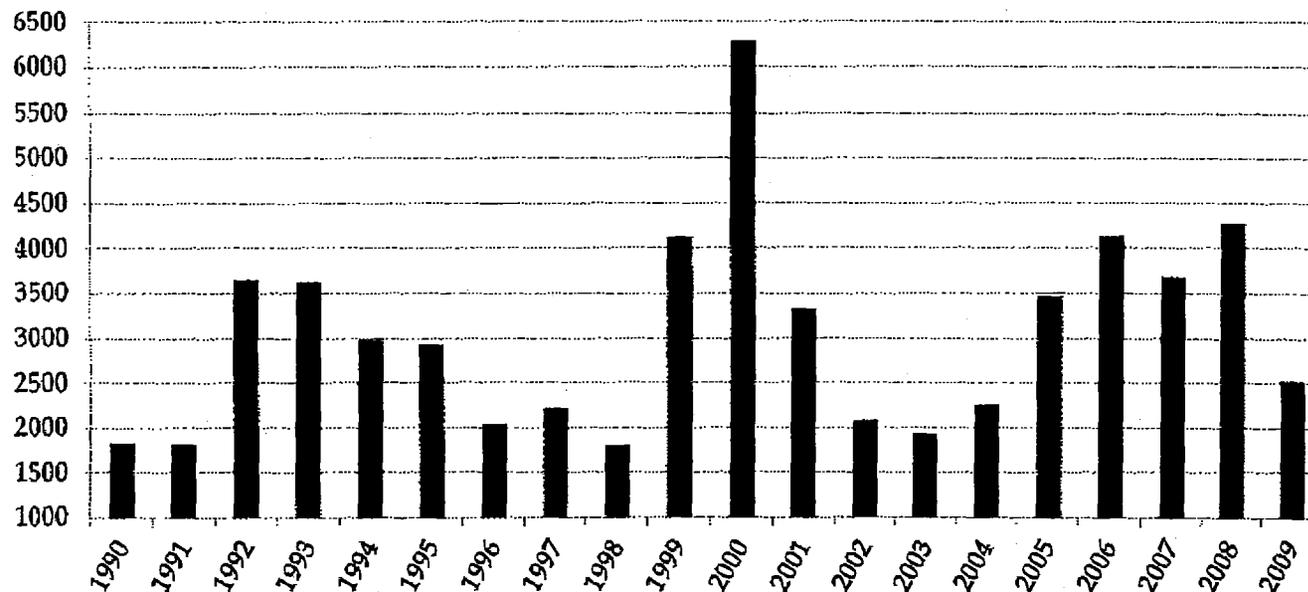


- Miners across the country are generally offered x-rays in five year cycles.
- Examination of 5 year periods reveals a significant year over year increase in 2000. The change in 2000 affects results over a 5 year period.



# Methodology Change: Increased Screenings and Bias

Number of Miners Examined Annually (1990-2009)



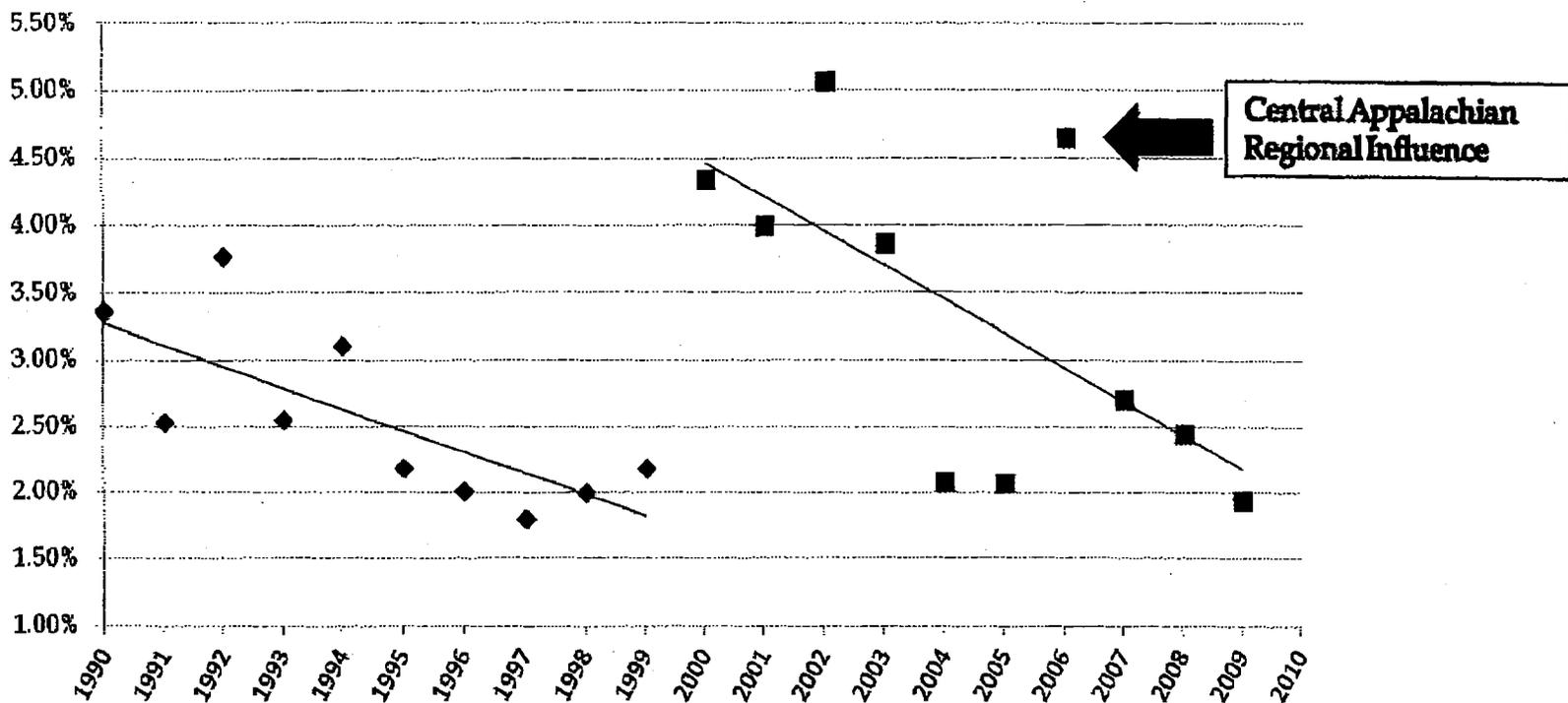
- 6291 miners examined in 2000.
- 47% more miners examined in 2000 than any other year since 1990.
- More miners examined in 2000 than in 1996, 1997 and 1998 combined.

## Miners' Choice Program

- From October 1999 through September 2002, MSHA operated a special x-ray examination program called the Miners' Choice Program (MCP).
- This program was an adjunct to the routine CWHSP and involved enhanced publicity, incentives, and other activities focused on motivating miners to obtain a chest x-ray. Additionally, unlike the CWHSP, examinations under the MCP were paid for by MSHA.
- As a result of the MCP, an additional 10,400 x-rays were submitted to the CWHSP.
- The MCP created a self-selection bias in the CWHSP data set that affected the CWP prevalence results.
- Trends before and after the introduction of the MCP must be examined independently.

# Results Taking Into Account the Altered Methodology Starting in 2000

## Percentage of Examined Miners with CWP (category 1/0+) Annually (1990-2009)

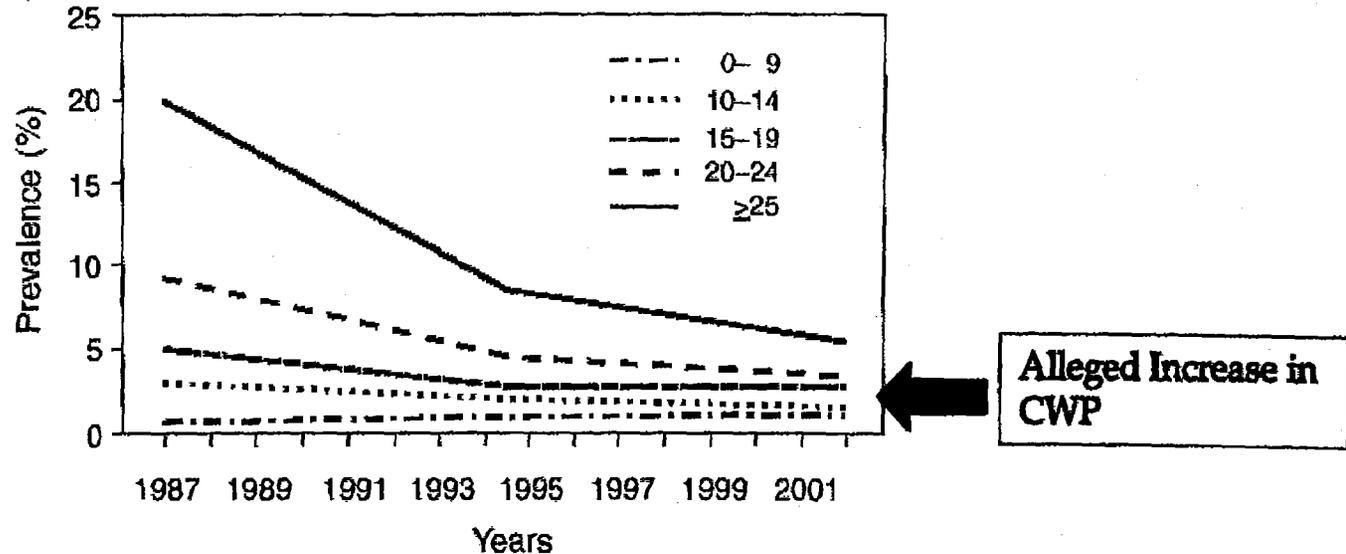


- Variability between years due to regional concentration of examinations.
- The MCP resulted in a bias of the prevalence data starting in October of 1999.
- Trend analysis must consider the impact of regional influences and procedural changes in data collection.



# Use of Data Grouped in Multiple Years is Misleading

FIGURE 2. Trends in coal workers' pneumoconiosis prevalence by tenure among examinees employed at underground coal mines — U.S. National Coal Workers' X-Ray Surveillance Program, 1987–2002



- Reference: <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5215a3.htm>
- Appears to represent annual results of CWHSP over a 15 year period, actually shows trend before and after midpoint of data set. Selective trending hides the influence of procedural changes in 2000 leading many to falsely conclude that CWP prevalence has been increasing over the last decade.
- MSHA should not be allowed to rely on selective presentation of data to support its proposed rule.

# Participation in the CWHSP Should Be Mandatory

- MSHA District 8, which covers the southern Indiana and Illinois coal producing region, has seen the highest participation in the CWHSP in the country.
- “For the period of 2006 through 2010, there was an estimated employment of 2,073. Of those 2,073 employed, there were 2,720 examined for a participation rate of 131%. The number of miners examined exceeds the estimated number of miners employed. This may be due to the incomplete mine rosters or fluctuation in employment.”

Reference:

<http://www.cdc.gov/niosh/topics/surveillance/ORDS/rep/UnD00008.HTML>

- MSHA District 8 has the lowest observed prevalence of CWP in the nation. 0.7% of the miners examined in the ECWSP in District 8 were diagnosed with CWP (category 1/0+).
- Mandatory screenings can improve the quality of the CWHSP data set and provide researchers the information required to implement appropriate corrective actions in the correct locations in a timely manner.

# Where Do We Stand?

## Miners

- According to 2009 CWHSP data, the prevalence of lung disease in miners was below 2.0%.

## General Population

- According to a study of various studies on "background prevalence," the prevalence of opacities in general populations ranged from 0.21 to 11.7%.
- The overall pooled prevalence was 5.3%
- When European and North American studies were analyzed separately, the pooled prevalence for three European populations was 11.3%. The pooled prevalence for six North American populations was 1.6%.
- A comparison between smoking and nonsmoking workers exposed to acrylamide dust, as well as in those unexposed, parenchymal abnormalities were present in 20% of smokers compared with 2.2% of nonsmokers, suggesting that smoking plays a role in their development.

## The Path Forward

- Require NIOSH to present the entire CWHSP data set, including annual results with participant work history by region.
- Require MSHA and NIOSH to consider changes in CWHSP procedures or methodology when analyzing results.
- Prohibit MSHA and NIOSH from selective presentation of data through purported trends without release of detailed annual data.
- Institute mandatory participation in the CWHSP screenings for all miners.
- When screening workers and analyzing data, require NIOSH to take into account confounding factors, such as smoking.
- Require NIOSH to compare data to prevalence of lung disease in the general population.

