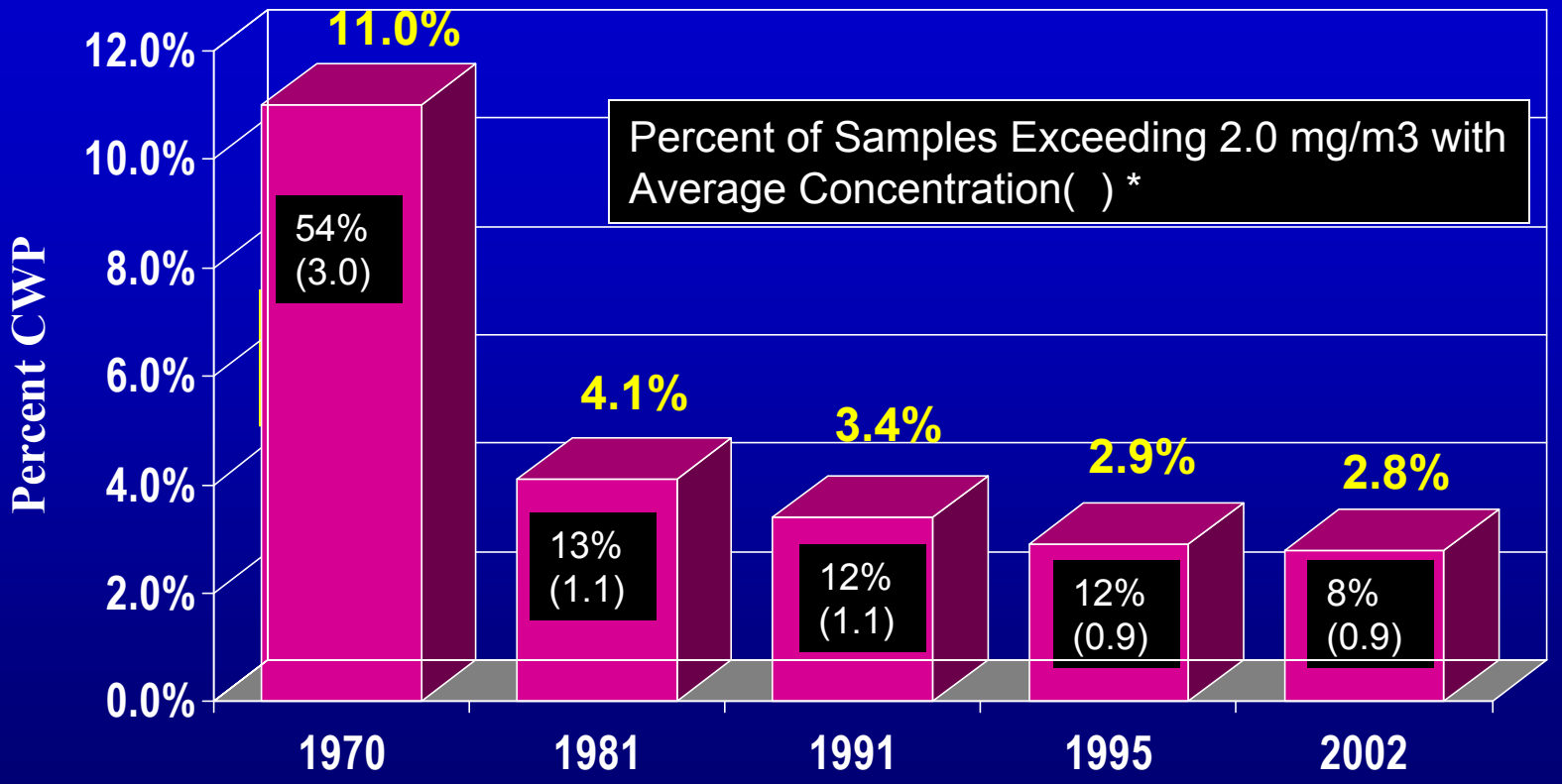
DEPARTMENT of LABOR

Mine Safety & Health Administration

Coal Mine Safety & Health

PROPOSED DUST RULES

BLACK LUNG PREVALENCE VS RESPIRABLE DUST CONCENTRATIONS



* Based on Operator DQ Samples

Package - 2 Rules

- Significance
  - Develop Effective Plans
  - Components - Control of Dust & Monitoring Effectiveness

- SINGLE-SAMPLE
  - New Finding - Average Concentration Accurately Measured Over Single Shift
  - Rescinds 1972 Finding on the Accuracy of Single-Shift Sample
  - Added New Standard - Secretary may use Single Full-Shift Measurement to Determine Average Concentration Over that Shift

- PLAN VERIFICATION
  - Each Underground Coal Mine Operator Must have a Verified Ventilation Plan (Dust controls)
  - Plan will be Verified Under Actual Mining Conditions by Operator Samples
  - MSHA Assumes Responsibility for Compliance and Abatement Sampling in Underground Coal Mines
  - MSHA Samples used to set Reduced Standards due to Quartz

VERIFICATION OF PLAN

Current Rule

- MSHA Sampling to Approve Plan
  - Plan Approved Based on the Average of Multiple Samples
  - Full-Shift, 8-hours or less, Portal-to-Portal Samples
  - 60% of Average Production

2003 Proposed Rule

- Operator Samples to Verify Effectiveness of Plan at Underground Mines
  - Full-Shift (Production Time) Samples
  - Higher than Average Production
  - Separate Quartz and Coal Mine Dust Verification Limits
- Use of PAPRs or Administrative Controls on any Mining Unit only as a Supplemental Measure after Exhausting Feasible Engineering Controls

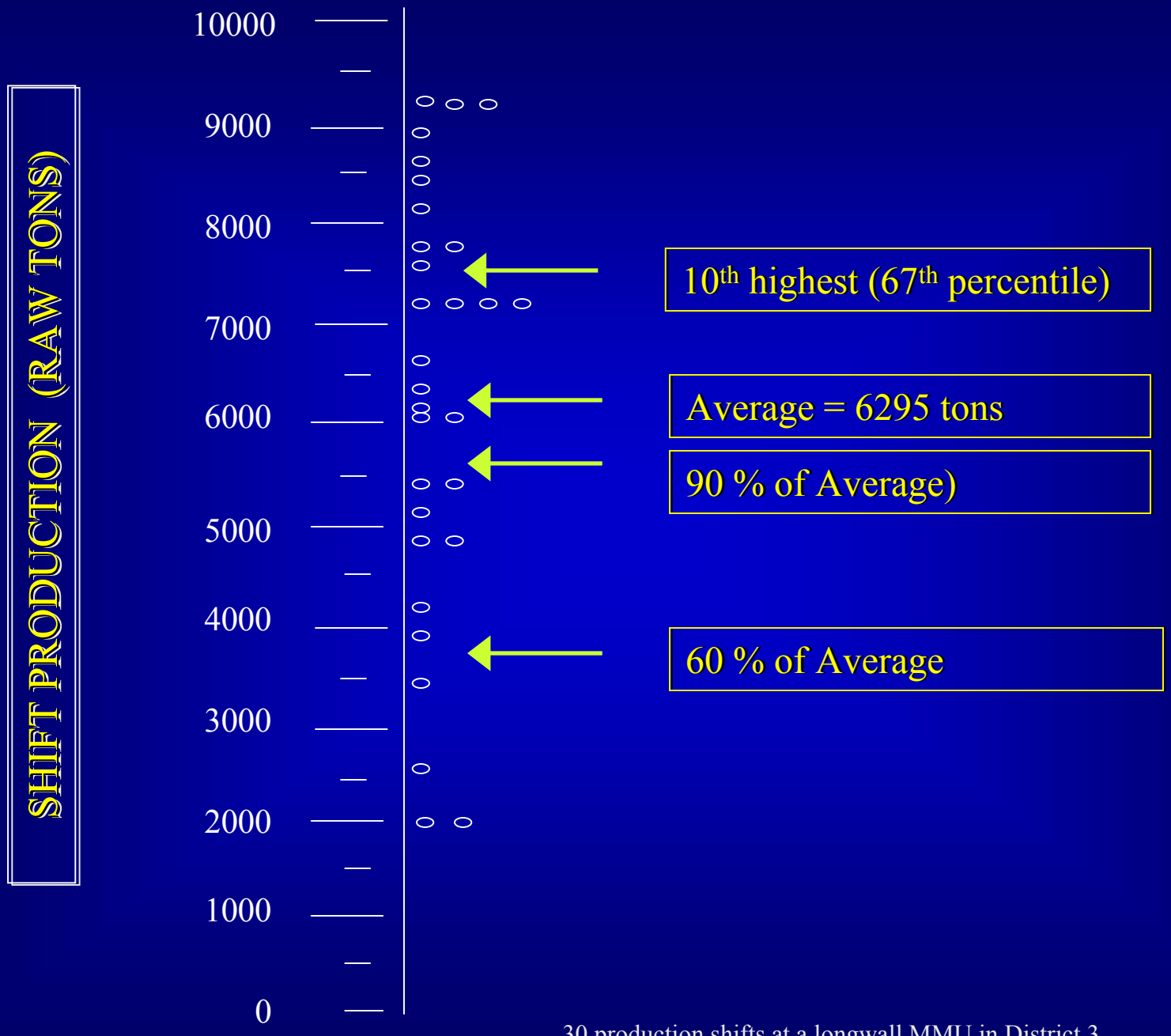
PLAN INFORMATION

Current Rule

- MSHA Sampling Conducted at 60 % of the Average Production
- No Records of Production Required

2003 Proposed Rule

- Requires the 10th Highest Production Level to Verify Plan Effectiveness
- Requires the Recording of Production and Maintaining such Records for 6 Months



30 production shifts at a longwall MMU in District 3.

Each “o” represents production on one shift.

USE of PAPRs
(Powered Air-Purifying Respirators)

Current Rule

- When used in Conformance with a Respiratory Protection Program under 72.700, may result in a Non-S&S Designation on Overexposure Citations

2003 Proposed Rule

- Permits use when all Feasible Engineering Controls have been Exhausted
- Only Loose-Fitting Powered Respirators with MSHA and NIOSH Approval may be used
- Must provide a Respiratory Protection Program as part of the Approved Ventilation Plan
- Must Maintain Dust Levels as low as possible with Feasible Engineering Controls
- Protection Factor of 2 to 4 (Depending on the Ventilating Air Velocity) Assigned to Mining Section (MMU).
- A Protection Factor of 4 indicates the air being breathed by the miner is 1/4 the concentration of the air outside the PAPR

SAMPLING REQUIREMENTS

Current Requirements

- Operator Bimonthly Compliance Sampling at Underground Mines
  - Citations Issued for Failure to Submit Required Samples
  - Citations Issued for Exceeding Applicable Standard
- Operators Collect Abatement Samples to Determine Compliance after Issuance of Citation
- MSHA Quarterly Sampling on MMUs, Section DAs and Part 90 Miners
  - Citations Issued for Exceeding Applicable Standard

2003 Proposed Rule

- Operator Collects Plan Verification Samples for Initial Approval. Designated MMUs Collect One Sample each Quarter for Confirmation of Controls Continued Effectiveness
  - No Citations Issued for Exceeding Applicable Standard
  - Must take Action to Reduce Concentrations when Sample Exceeds Standard
- MSHA Collects all Samples to Determine Compliance and Abatement of Citations
  - All MSHA Determinations made on a Single Full-Shift Measurement
  - Citations Issued for Exceeding Applicable Standard

DETERMINATIONS

Current Rule

- Average of Multiple Samples to Make Compliance/Noncompliance Determinations at All Coal Mines
- Average of 5 Samples on 5 Different Shifts. Average Concentration Exceeds the Applicable Standard by 0.1 mg/m^3 or more - Noncompliance is Indicated

2003 Proposed Rule

- Single-Sample Determinations at All Coal Mines (Underground & Surface)
- Non-Compliance Level 2.33 mg/m^3 on 2.0 mg/m^3 Standard
- Citation Levels are Specified in the Plan Verification Rule

ON-SHIFT EXAMINATION of CONTROLS

Current Rule

- Examination of Controls at the Beginning of Each Shift per Current Requirement of 30 CFR Part 75

2003 Proposed Rule

- Maintains Current Requirement

MINER PARTICIPATION

Current Rule

- Miners have Right to Accompany (with pay) MSHA Personnel During MSHA Sampling
- Operator Notifies Miners Representative of Plan Submission/Revision & Post on Bulletin Board. Miners Representative may Submit Comments during MSHA Review

2003 Proposed Rule

- Miner Participation during Operator Sampling
  - Operator Notify Miners of Date and Time Prior to Verification/Quarterly Sampling
  - Miners must be Provided Opportunity to Observe - (no Entitlement to Pay)
- Miner Participation during MSHA Sampling
  - Miners have Right to Accompany (with pay) MSHA Personnel During Compliance and Abatement Sampling
- Operator Notifies Miners Representative of Plan Submission/Revision & Post on Bulletin Board. Miners Representative may Submit Comments during MSHA Review

DUST MONITORS

Current Rule

- Not Considered

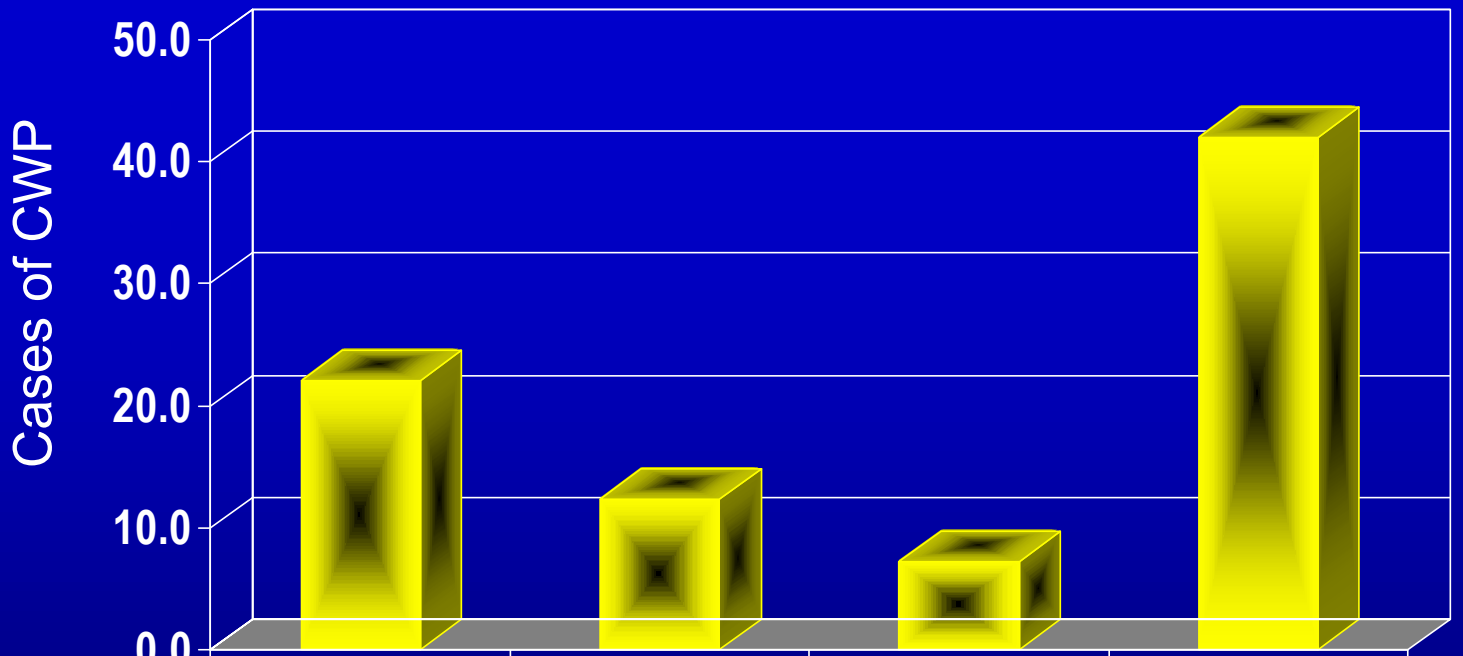
2003 Proposed Rule

- Any Unit that Secretary of Labor Approves with a Conversion Factor is Acceptable
- Designated Miners must Wear for the Full Shift (portal-to-portal)
- Permits Operator to use Administrative Controls without First Exhausting Engineering Controls
- No Citations for Overexposure. May be Cited for Failure to take Action to Reduce Overexposures

BENEFITS

- Plan Parameters that Reflect Actual Mining Conditions that have been Verified at High Production Levels
- No Operator Collected Samples used to Determine Compliance
- Protection for Miners when Feasible Engineering Controls have been Exhausted
- Provisions for use of Personal Continuous Dust Monitors

Reduction in CWP due to Single-Shift/Plan Verification Rules



	DO	NDO	RB	Total
2003 Proposal	22.0	12.4	7.2	42

DO Designated Occupation
NDO Non-Designated Occupation
RB Roofbolter Occupation

CWP Coal Workers Pneumoconiosis

	Miner oper.	Roof Bolter.
Operator collects 1st verification sample	1.60 mg/m³	1.70 mg/m³
	72 µg/m³	92 µg/m³
2nd verification sample	1.63 mg/m³	1.69 mg/m³
	71 µg/m³	91 µg/m³

- Plan verified on 2 samples [illegible] 3)
- MSHA samples during bimonthly [illegible]

	Dust	Quartz
Miner oper.	1.62 mg/m³	78 µg/m³
Miner helper	1.71	
Shuttle car Oper	1.41	
Roof Bolter Oper 1	2.38	138
Roof Bolter Oper 2	2.42	141 = 5.8%

- One citation for RB occ[illegible] TV of 2.33.
- Operator must ta[illegible] hin 24 hours.
- MSHA will collect abatement samples.
- MSH[illegible]
  to establish the quartz level and set the appropriate standard.
- Operator must sample the MMU quarterly to establish the continued effectiveness of the dust controls in the approved ventilation plan.

	Miner oper.	Roof Bolter.
❑ Operator collects 1st verification sample	1.60 mg/m³	1.70 mg/m³
	72 µg/m³	92 µg/m³
2nd verification sample	1.63 mg/m³	1.69 mg/m³
	71 µg/m³	91 µg/m³

- ❑ Plan verified on 2 samples [illegible]3)
- ❑ MSHA samples during bimonthly [illegible]

	Dust	Quartz
Miner oper.	1.62 mg/m³	78 µg/m³
Miner helper	1.61	
Shuttle car Oper	1.21	
Roof Bolter Oper 1	1.41	55
Roof Bolter Oper 2	1.48	47 < 5.0%

- ❑ Compliance based on si[illegible]n.
- ❑ Production durin[illegible] 800 tons.
- ❑ Ventilation [illegible] 800 cfm.
- ❑ MSHA evaluation for bimonthly sampling:

1.62 x (800/750) x (10,000/9,800) = 1.62 mg/m³ x 1.06 x 1.02 = 1.75 mg/m³

78 µg/m³ x 1.06 x 1.02 = 84 µg/m³

PAPR USE SCENARIO

- **Mine A :** **Has installed "shearer clearer"**
  shield sprays
  pan sprays
  maximum air velocity of 500ft/min
  VPL = 16,000
- **Verification sample results:**

shearer oper.	**1.9 mg/m³**	**130 µg/m³**
060 occupation	**2.0 mg/m³**	**145 µg/m³**

- **MSHA determines that all feasible engineering controls are in use.**
- **Operator submits to use a PAPR program:**
  - **full program including dust sampling plan.**
  - **All miners working in area wear PAPR in accordance with the approved plan.**
  - **Average [illegible]**
  - **[illegible] 90)]**

Plan must maintain all engineering controls that were determined to be feasible by MSHA.

- **Equivalent conc. Of 2.0 mg/m³ sample would be 0.62 mg/m³ (2.0/3.2)**

EFFECTS OF AVERAGING

Operator Sampling

OCCUPATION Cont. Miner Oper.	CONCENTRATION
Sample #1	3.20
Sample #2	1.6
Sample #3	1.5
Sample #4	0.8
Sample #5	3.1
AVERAGE	2.0

Sample Date 04/99 Mine ID 1800724