

FEDERAL MINE SAFETY AND HEALTH REVIEW COMMISSION

601 New Jersey Avenue, N.W., Suite 9500

Washington, D.C. 20001-2021

November 1, 2005

SECRETARY OF LABOR,	:	CIVIL PENALTY PROCEEDING
MINE SAFETY AND HEALTH	:	
ADMINISTRATION (MSHA),	:	Docket No. SE 2003-160
Petitioner	:	A.C. No. 01-01322-00004
v.	:	
	:	No. 5 Mine
JIM WALTER RESOURCES, INC.,	:	
Respondent	:	
	:	
UNITED MINE WORKERS	:	
OF AMERICA,	:	
Intervenor	:	

DECISION

Appearances: Edward H. Fitch IV, Esq., Mark R. Malecki, Esq., Keith E. Bell, Esq., Paul D. Knothe, Esq., James F. Bowman, U.S. Department of Labor, Arlington, Virginia, on behalf of the Petitioner; David M. Smith, Esq., Kevin W. Patton, Esq., Maynard, Cooper & Gale, P.C., Birmingham, Alabama; Timothy M. Biddle, Esq., Thomas C. Means, Esq., Crowell & Moring, L.L.P., Washington, D.C., on behalf of the Respondent; Judith E. Rivlin, Esq., United Mine Workers of America, Fairfax, Virginia; Thomas F. Wilson, United Mine Workers of America, Birmingham, Alabama, on behalf of the Intervenor

Before: Judge Barbour

This case is before me on a petition for assessment of civil penalty filed by the Secretary of Labor (“Secretary”) on behalf of her Mine Safety and Health Administration (“MSHA”) against Jim Walter Resources, Inc. (“JWR”), pursuant to sections 105 and 110 of the Federal Mine Safety and Health Act of 1977. 30 U.S.C. §§ 815, 820 (“Mine Act” or “Act”). The Secretary seeks the assessment of civil penalties for eight alleged violations of mandatory safety standards for underground coal mines. 30 C.F.R. § 75.1 *et seq.* The alleged violations are set forth in one citation issued pursuant to section 104(a) of the Act and one citation and six orders issued pursuant to section 104(d) of the Act. 30 U.S.C. §§ 814(a), 814(d). The enforcement actions arise out of the Secretary’s investigation of two explosions that occurred at JWR’s No. 5 Mine (“the mine”) on September 23, 2001. The explosions took the lives of 13 miners and injured several others. The Secretary views each of the alleged violations as directly contributing

to the cause of the explosions and/or the resulting deaths and injuries. She alleges the conditions constituting the violations were significant and substantial (“S&S”) contributions to mine safety hazards and, in seven instances, were the result of JWR’s unwarrantable failure to comply with the standards. She seeks civil penalties that total \$435,000.¹

Following the filing of the petition, JWR denied the violations and contested the Secretary’s S&S and unwarrantable assertions. In addition, the United Mine Workers of America (“UMWA”) entered the case as an intervenor.

The parties engaged in extensive pretrial discovery. As discovery neared its final stage, the company filed summary decision/judgment motions and motions in limine. The motions were denied. *Jim Walter Res., Inc.*, 26 FMSHRC 623 (July 2004) (ALJ) (order denying motion for summary decision); *Jim Walter Res., Inc.*, 26 FMSHRC 734 (Aug. 2004) (ALJ) (order denying motion for reconsideration or certification); *Jim Walter Res., Inc.*, 26 FMSHRC 754 (Sept. 2004) (Commission’s order denying petition for interlocutory review); *Jim Walter Res., Inc.*, 26 FMSHRC 830 (Oct. 2004) (ALJ) (order denying motions in limine and summary judgment). The case was tried in Birmingham, Alabama. During the course of the trial 65 witnesses testified and 396 exhibits were entered into evidence. There are 9,528 pages of transcript.²

I. FACTUAL BACKGROUND

The mine, which began operating in 1978, is an underground bituminous coal mine located in Tuscaloosa County, Alabama. During the first two quarters of 2001, it produced slightly more than 500,000 tons of coal each quarter and, at the time of the accident, it employed 318 contract miners and 70 salaried miners. Gov’t Ex. 10 at 2. Eighty percent of the coal was

¹ The Secretary proposed civil penalties of \$55,000 for all of the alleged violations except one, for which a penalty of \$50,000 was proposed.

² Originally Docket Nos. SE 2003-161 and SE 2003-174 were consolidated with Docket No. SE 2003-160. Prior to the hearing, the parties agreed that, of 18 alleged violations at issue in Docket No. SE 2003-161, 17 could be settled. They further agreed that the sole remaining alleged violation in Docket No. SE 2003-161, Citation No. 7328084, should await a final Commission decision in Docket No. SE 2003-160. Therefore, the allegations concerning Citation No. 7328084 were removed from Docket No. SE 2003-161 and placed in Docket No. SE 2003-161-A, which was stayed. The parties’ settlement of Docket No. SE 2003-161 was approved on June 1, 2005 and the case was dismissed. Docket No. SE 2003-174, contained eight alleged violations, of which the parties were able to settle seven. On July 14, 2004, I approved a partial settlement of the case and effectively stayed the remaining portion of the case, noting that, at the parties’ request, a determination on the allegations concerning the remaining citation, Citation No. 7679648, would be deferred until the decision in Docket No. SE 2003-160 issued. See E-mail dated March 15, 2005 (Docket No. SE 2003-174).

produced by longwall mining. The longwall panels were developed by continuous mining machine (“continuous miner”) sections.

In September 2001, the mine contained a longwall unit and two development units. The longwall unit was functioning on the H panel. The two development units were the No. 4 Section and the No. 6 Section. Each section had four entries. From left to right heading inby, the No. 1 Entry was a return entry, the No. 2 Entry was an intake entry as well as a track entry, the No. 3 Entry was an intake entry as well as a belt haulage entry, and the No. 4 Entry was a return entry. *Id.*; Tr. 12 at 173; *see also* Gov’t Ex. 15. Brattices separated the intake belt entries from the returns, and on the No. 4 Section there were overcasts at the section’s mouth. Tr. 12 at 172-74.

Only coal from the Blue Creek Seam was produced at the mine. The seam is extremely soft and when it was mined, it tends to liberate high quantities of methane. In general, the seam was thick enough to allow entry heights between 6 and 7 feet. The roof strata above the Blue Creek Seam consisted of the “Middleman,” a strata of silty shale that in general was 6 to 7 feet thick; above the “Middleman” was another coal seal, the Mary Lee Seam, which usually was 10 to 16 inches thick; above the Mary Lee Seam was the main roof of sandy shale and sandstone. Gov’t Ex. 10 at 25; Tr. 12 at 171-72.

Roof control was governed by the approved roof control plan. As pertinent to the events at issue, JWR was using 72-inch-long, fully grouted resin bolts as a primary means of roof support. The bolts were supplemented as needed with 10-foot-long, non-tensioned cable bolts with 4-foot grouted length. Gov’t Ex. 10 at 24. Although under the plan, the maximum width of entries and crosscuts was 24 feet, entries and crosscuts typically were mined 20 to 21 feet. *Id.*

The mine is very gassy. In the months before the accident, samples and air quality measurements indicated that the mine liberated over 17,000,000 cubic feet of methane per day (“cfmd”). In the 3 weeks leading up to the accident, the No. 4 Section, the section where the explosions originated, liberated 1,400,000 cfmd. Gov’t Ex. 10 at 32.

The mine was ventilated by an exhaust system. Air entered the mine through four intake shafts and exited through two return shafts. As previously noted, the No. 4 Section and the No. 6 Section were ventilated with dual return aircourses, and air used to ventilate the faces coursed up the No. 2 and No. 3 Entries and returned through the No. 1 and No. 4 Entries. Gov’t Ex. 10 at 30-32.

Surface to underground communication was accomplished via a mine-wide telephone system. A central telephone was located in the surface CO room. From that telephone the CO room supervisor was able to call all of the underground telephones in the mine.³ Each

³ The exact number of underground telephones is not clear. The CO room supervisor, Harry House, believed there might have been more than 20 telephones. Tr. 5 at 352.

underground telephone was equipped with an audible speaker system. If the telephone was not answered, the person on the surface could make an audible page. Tr. 5 at 352. However, the page did not guarantee miners would be contacted in that it was possible for them to be working outside hearing range of the page.

A. The Accident⁴

The explosions originated in the No. 2 Entry on the No. 4 Section, in the vicinity of Survey Station No. 13333 (“SS 13333”). At the time of the accident, SS 13333 was located three crosscuts outby the face of the No. 2 Entry. Gov’t Ex. 10 at App. L. The intersection of the crosscut and the entry where SS 13333 was located initially was supported by 72-inch, fully grouted resin bolts and metal straps. The roof support in the intersection met the requirements of the roof control plan.

Nothing unusual was noticed in the intersection for some time after the No. 2 Entry was driven. *Id.* at 4. The first sign of anything out of the ordinary was seen by Burt Duvall, the No. 4 Section coordinator, during the day shift on Friday, September 21.⁵ Duvall noticed small cracks in the roof and water dripping from the roof. Duvall believed that further roof support was required so he instructed Greg Brown, the day shift section foreman, to have cable bolts installed. As a result, approximately 16 10-foot-long cable bolts were placed in the roof. Gov’t Ex. 10 at 4.

That same day, during the afternoon shift, the belt was moved up to the second crosscut outby the face of the No. 2 Entry. In addition, the battery charging station was moved up to the third crosscut outby the face, between the No. 1 and No. 2 Entries, adjacent to the SS 13333 intersection. There were yield pillars on either side of the battery charger. The afternoon shift section foreman, Michael Buchanan, noticed water dripping from the roof at the SS 13333 intersection. Gov’t Ex. 10 at 4.

With the movement of the belt and battery charging station, coal was ready to be produced at the faces of the No. 4 Section. As a result, mining took place on the next two shifts (the midnight shift and the day shift of September 22). The roof at the SS 13333 intersection was observed by the mine foremen on the midnight and day shifts. Although water continued to drip from the roof, the foremen did not think the situation was hazardous. Gov’t Ex. 10 at 4.

The September 22 afternoon shift was devoted to maintenance work. Included in the work was the rock dusting of the section belt entry. Gov’t Ex. 10 at 4. Foreman Michael

⁴ Because of the nearly simultaneous nature of many of the events, a strictly chronological description of the accident is not possible.

⁵ There were three shifts at the mine: (1) day shift, (2) afternoon or evening shift, and (3) midnight or owl shift.

Buchanan did not detect any worsening of roof conditions at the SS 13333 intersection during the shift. *Id.*

No work was scheduled for the next shift, the midnight or owl shift, on September 23. Albert “Jack” Dye, Jr., a precision mason, was scheduled to work on the owl shift from 11:00 p.m. on September 22 to 7:00 a.m. As part of his duties, Dye conducted the preshift examination for the oncoming day shift of September 23. Dye traveled in the track entry (the No. 2 Entry) of the No. 4 Section as far as the power center. He found and reported no hazards. Tr. 3 at 393-95. To Dye, the rock dust that existed in the No. 2 Entry looked like a “light snowfall.” *Id.* at 398. It was “adequate,” but he believed that more “probably” was needed. *Id.* at 399. Dye observed water dripping around the roof bolt holes, approximately 30 to 40 feet outby the SS 13333 intersection. Gov’t Ex. 10 at 4; Tr. 3 at 400.

John Puckett was the section foreman on the September 23 day shift. Puckett also noticed a small amount of water dripping from the roof bolt holes near the SS 13333 intersection. However, Puckett saw nothing indicating the roof was moving or unstable. Tr. 4 at 153. Puckett assigned his crew to, among other things, repair the continuous mining machine and move supplies into a newly established supply hole in the crosscut between the No. 3 and No. 4 Entries, three crosscuts outby the face. *Id.* at 206-07.

Later that day, around 1:30 p.m., Puckett conducted an examination for the oncoming shift. As he traveled toward the faces of the No. 4 Section, Puckett noticed the left rib was sloughing between the battery charger and the power center. Gov’t Ex. 10 at 5; Tr. 4 at 137. Continuing his examination, Puckett entered the No. 1 Entry. Looking through a crosscut toward the No. 2 Entry, he noticed a yield pillar with sloughing ribs in the entry inby the battery charging station. He also noticed a small hole in a stopping. Tr. 4 at 138. Puckett called Duvall. Puckett told him the ribs needed additional support and that the stopping should be repaired before mining took place on the section. Gov’t Ex. 10 at 5; Tr. 4 at 139, 140.

Puckett instructed the electricians to move the continuous miner into the No. 1 Entry so the scoop could clean the sloughage in the No. 2 Entry and cribs could be built. Puckett called Dave Blevins, the afternoon shift foreman, to verify that Blevins understood that cribs would be needed. Tr. 4 at 155-56. Later in the shift, Puckett and another miner, David Terry, were in the No. 2 Entry near SS 13333 and Puckett asked Terry, who had been working in the area, about the sloughage. Terry told Puckett that it had been taking place “on and off all day.” *Id.* at 220. Puckett observed the water that was dripping in the SS 13333 intersection. The amount “hadn’t changed from the morning.” *Id.* at 221.

The foreman of the oncoming evening shift was Tony Key. Before he went underground on the afternoon of September 23, Key spoke with Duvall who told him that he had spoken with Puckett and had learned the ribs of the yield pillar were sloughing in the area of the battery charging station. Puckett also spoke with Key when Puckett called out his preshift examination. Key recorded Puckett’s report. Puckett remembered telling Key about the rib sloughage and the

fact that a stopping was damaged in the crosscut between the No. 1 and No. 2 Entries in the vicinity of SS 13333. *Id.* at 239. Although Puckett did not remember saying it, Key maintained that Puckett mentioned the roof was “working,” or words to that effect, and Key wrote “top working” in the preshift examination report. Gov’t Ex. 10 at 6; Tr. 6 at 47-48. Duvall instructed Key to build cribs at the four corners of SS 13333 and to build cribs on 5-foot centers on both sides of the No. 2 Entry from the battery charging station to the power center. *Id.*; Tr. 6 at 45.

The afternoon shift began around 3:00 p.m. Thirty-two persons went underground, four of whom were supervisors. As usual, foreman Dave Blevins intended to begin his shift at the bottom of the service shaft in case one of the work crews needed more supplies sent to its work areas. Gov’t Ex. 10 at 7. Tony Key’s job was to supervise work on the No. 4 and No. 6 Sections. Key assigned Mike McIe, a longwall machine helper, and Gaston “Junior” Adams, a longwall machine operator, to install cribs in the No. 2 Entry near the SS 13333 intersection. Tr. 6 at 56. Dennis Mobley and Charles Nail, electricians, were assigned to do maintenance work on equipment on both sections. *Id.* at 75. Skip Palmer, a motorman, was to transport roof control supplies to the No. 4 Section. Miners Robert Tarvin, Jerry Short, and John Knox were assigned to rockdust the belt entry beginning in Sub Main B. Benny Franklin, the longwall foreman, was to supervise activities at the longwall. Charles Ogletree and Jimmy Dickerson were to do maintenance work on the longwall, and George Corbin, an electrician, was to join them later in the shift. Three other miners, Sammy Riggs, Charles Smith, and Terry Stewart were to work on stopping construction in the H panel tailgate. Gov’t Ex. 10 at 6.⁶

Before the assigned crews headed for the sections, Tony Key discussed the roof conditions in the vicinity of the SS 13333 intersection with Puckett. Gov’t Ex. 10 at 7; Tr. 6 at 113. Puckett told Key to look at the ribs and roof to see if the roof bolts were “taking any weight.” Tr. 6 at 113.

Tony Key and his crew arrived on the No. 4 Section shortly after 4:00 p.m. Key left the manbus, and he and McIe walked up the track entry toward the faces. Key heard the roof popping and cracking, and he saw trickles of coal falling off the ribs at various places. Key also saw a small slip in the roof at the SS 13333 intersection. The slip extended across the track, into the crosscut between the No. 1 and No. 2 Entries. *Id.* at 58, 117-19. Key and McIe saw water dripping from the roof. Gov’t Ex. 10 at 7; Tr. 6 at 117. To Key, the roof bolts did not appear to

⁶ Other miners who were to work during the shift were: Christopher “Chris” Key, a fireboss/pumper; Clarence “Bit” Boyd and Nelson Banks, Jr, who were assigned tasks in 2 East; Tom Connor, Alvin Bailey, and Lonnie Willingham; who were assigned to work in the F panel headgate area; belt foreman Gene Robertson, who was assigned to supervise belt work on the 1 East and 2 East belts; Joseph Sorah, Vonnie Riles, Raymond Ashworth, and Bill Hallman, who were assigned to repair a section of the 2 East belt; Stewart Sexton, Rick Rose, and Wendell Johnson, who were assigned to belt maintenance on the 1 East belt; and Randy Jarvis, who was assigned to work primarily in H panel.

be taking excessive weight. Tr. 6 at 117. However, Key felt the roof was deteriorating. He ordered cribs built in the No. 2 Entry starting about 50 feet outby the SS 13333 intersection. *Id.* at 57-58.

After giving the work order, Key traveled to the battery charging station where he saw the stopping with the hole. The scoop battery was hung from roof bolts on chains and charging cables were connected to the battery. The charging cables were not energized. At about this time, McIe began to transport crib blocks inby on the track. Tony went inby one crosscut to the power center where he observed sloughage along the left rib. Key left Adams and McIe, and Key walked to the faces of the No. 1 and No. 2 Entries to check for methane. *Id.* at 119-20. At both faces, the methane concentration was minimal. Gov't Ex. 10 at 7.

Returning from the face of the No. 1 Entry, Key met Nail and Mobley. They had traveled to the vicinity of the last open crosscut of the No. 1 Entry to move the continuous miner to the face of the entry so mining could begin on the next shift. Nail energized the miner and proceeded to the face. Meanwhile, McIe brought some crib blocks to Adams who was in the process of building the first crib. Gov't Ex. 10 at 7-8; Tr. 1 at 274-75.

Tony Key called Blevins from the telephone at the power center to tell him that materials were needed to repair the hole in the brattice. Tr. 6 at 52. Key then sent Nail and Mobley to the No. 6 Section to do needed repair work. Key checked again on the stopping adjacent to the battery charging station. The hole was bigger. Key also noticed that the slip in the roof extended into the No. 1 Entry. Gov't Ex. 10 at 8.

Tony Key re-entered the No. 2 Entry and proceeded to the location where Adams was building the crib. Key started to help Adams. McIe, who had finished bringing up the crib blocks, also started to help. Tr. 6 at 56-57. As the work continued, conditions rapidly degenerated. Water began to pour steadily from the roof and small rocks fell. Key, Adams, and McIe backed up a few steps. They heard sounds that indicated possible roof bolt breakage. At approximately 5:17 p.m., a large rock fell, then the roof in the entire intersection crashed down.

The fall obscured the battery and the charger. Key thought the equipment might be under the fallen rock. Key, Adams, and McIe walked outby the fall. *Id.* at 59. Key believed that electrical power to the section should be de-energized and the fall should be reported to MSHA. He told Adams and McIe that he was going to a telephone to call out a report, and he started outby. Gov't Ex. 10 at 8; Tr. 6 at 59-62.

1. The First Explosion

Minutes later Tony Key heard a loud detonation. He was picked up and hurled down the entry by the force of the air rushing outby. He lost his hard hat and cap lamp. His back was injured. Tr. 6 at 63-64. McIe was blown outby too. He also had his hat and lamp blown off. McIe was burned and his back and ribs were injured. Tr. 1 at 211-12. Palmer, who was at the

end of the track, was blown off his feet and down the track entry. He was without his hat and lamp. Gov't Ex. 10 at 89; Tr. 1 at 355. Adams was pinned under debris.

Following the explosion, Key, McIe, and Adams were separated. Their visibility was severely limited by dust in the atmosphere, and it was difficult for them to breath. Key could not see Adams or McIe, but he heard Adams say that he could not move. Tr. 6 at 69-70. McIe, who could see Adams, observed blood coming from Adams' mouth and ears. Tr. 1 at 212. McIe borrowed Adams' hat and lamp, but so much dust was swirling in the atmosphere it was difficult to see, even with the lamp. Key glimpsed a faint light and moved toward it. Key found McIe. *Id.* at 212-13. McIe's ribs were hurt and McIe thought he had been burned. Gov't Ex. 10 at 8. McIe told Key that Adams was partially covered by rocks from the fall. Key heard Adams moaning. He also heard the locomotive running at the end of the track outby. Key and McIe locked arms and following a cable in the track entry they walked toward the locomotive. *Id.* at 9; Tr. 1 at 213-14; Tr. 6 at 70-71. They wanted to find help for Adams.

Tarvin, Short, and Knox were in the Sub Main B area of the mine. They had been sent there to rockdust the belt. Before they could begin rockdusting, they noticed the air had reversed direction. Knox took a locomotive and traveled inby toward the No. 4 Section to investigate why the air changed. Tarvin and Short stayed where they were. Gov't Ex. 10 at 9; Tr. 1 at 427-30.

Franklin, Dickerson, Corbin, Ogletree, and other miners working in the longwall section also were aware something had happened. Each either heard a noise or felt his ears pop. Gov't Ex. 10 at 9; *see, e.g.*, Tr. 2 at 10-11. A few minutes after the explosion, the computer printout in the CO room indicated communication errors on the No. 4 Section and 4 East. Gov't Ex. 10 at 9.

On the longwall section the air became very dusty. Corbin thought a crew was rockdusting inby. As the atmospheric dust became thicker, Franklin tried to call inby and have the miners stop dusting. Franklin could not reach anyone. Franklin and his crew then took a mantrip and proceeding toward the main line track to find out what had happened. Tr. 2 at 11-12.

Meanwhile, as Tony Key and McIe made their way toward the locomotive and out of the No. 4 Section, the dust in the atmosphere had become so thick that the men could not see the locomotive's lights, which were on. When they reached the locomotive, the dust thinned somewhat. The men found Palmer who was getting to his feet. Key wanted to telephone the surface to request help for Adams and report the explosion. Key, McIe, and Palmer boarded the locomotive and headed outby. Gov't Ex. 10 at 9-10; Tr. 1 at 215-17; Tr. 6 at 71-73.

They were slowed by debris on the tracks. When Tony Key saw the lights from two cap lamps approaching, he stopped the locomotive, got off, and walked to meet the men. It was Nail and Mobley. Mobley told Key that he could not proceed much further in the locomotive because an overcast was damaged and debris was blocking the track. Key asked Nail to de-energize the high voltage electrical circuit to the No. 4 Section. Gov't Ex. 10 at 9-10; Tr. 6 at 74-77.

Near the mouth of the section, at the damaged overcast, the intake air was short circuiting into the return aircourse. Although Key could not tell which overcast was damaged, he concluded that the ventilation was seriously disrupted. Tr. 6 at 79-80.

As Nail traveled to de-energize the high voltage circuit, Key and Mobley proceeded outby on foot to find a working telephone. On their way out, they met Knox who had come to the mouth of the No. 4 Section on his locomotive. Key and Mobley told Knox what had happened. They boarded the locomotive with Knox, and the three men traveled outby to a telephone at the 3 East turn. *Id.* at 81-82. Knox told Key that he did not believe the telephone was working, but Key tried it while Knox went to another telephone in the area to call the CO room. Gov't Ex. 10 at 10; Tr. 6 at 83-85.

At about 5:45 p.m., Tony Key reached Harry House in the CO room.⁷ Key maintained that he told House about the roof fall, the explosion, and the damaged overcast and stoppings. He also told House that Adams was injured and emergency help was needed. Tr. 6 at 83-85, 149.⁸ Communication between Key and House was unclear and somewhat garbled, and Key's call ended abruptly. Tr. 5 at 398.⁹ House tried to reach Key again through a mine-wide page, but Key could not hear the page. Gov't Ex. 10 at 11.¹⁰

Knox came back and told Key that the other telephone was not working and that he and Mobley were going to the No. 4 Section to help Adams. The two miners then headed toward the No. 4 Section on a personnel carrier. Gov't Ex. 10 at 11; Tr. 6 at 86-87. Key did not tell them to evacuate the mine because he knew they were going to help Adams. Tr. 6 at 87.

Back in the CO room, House tried to page Will Tanniehill, an afternoon shift foreman (House did not know that Tanniehill was not working). After failing to reach Tanniehill, House

⁷ House had been CO room supervisor at the mine since March 2001. Prior to 2001 he served in the same capacity at other JWR mines. Tr. 5 at 337-39.

⁸ Key stated he did not recall saying anything about a fire underground. Tr. 6 at 86.

⁹ A short time later Key again called House. Key maintained that someone other than House answered. Key did not know who. Key told the person that power to the mine should be disconnected. Tr. 6 at 89 ("I told whoever I talked to, to knock the power on the mines"). However, power never was totally disconnected because, on the way out of the mine, Key noticed the block light system was working. *Id.*

¹⁰ Frankie Lee, who supervised Harry House, explained that the telephones were placed at strategic locations throughout the mine and that, by dialing a certain group of numbers, it is possible for the CO room supervisor to page all telephones. The page was heard simultaneously at all underground telephones. Such a page was referred to as a "mine-wide page." Tr. 3 at 279-80.

tried to page Gene Robertson, a belt foreman, whom House believed was working underground. At about 5:48 p.m., House called 911. The call went to the Tuscaloosa County Sheriff's Office and North Star Paramedic Services in Tuscaloosa. House stated that there was a fire, men were injured, and help was needed. Tr. 5 at 375-76. The call ended abruptly. Gov't Ex. 10 at 11.

House continued trying to reach Tanniehill through a mine-wide page. Blevins, who was still at the service shaft bottom, answered. Blevins asked House what was going on. House told Blevins that there had been an explosion and a roof fall, miners were injured, and they needed help. Tr. 5 at 359-60. House also testified that he told Blevins there had been damage to ventilation or that some brattices were destroyed. *Id.* at 360. House recalled Blevins responding "We're on our way," which House understood to mean that Blevins and other miners were going to help Adams. *Id.* at 361. Blevins then left the bottom of the service shaft in a manbus and headed for the No. 4 Section.

Stuart Sexton, who was working with Wendell Johnson and Rick Rose splicing the 1 East belt, heard House paging Robertson on a nearby telephone. Sexton told Johnson to call House. Johnson picked up the telephone and spoke with House. Tr. 2 at 109-10. Because Johnson did not identify himself, House thought that he was speaking with Robertson. House testified that he told Johnson there had been an explosion and roof fall, brattices were destroyed, and injured men needed help. Tr. 5 at 369-70. However, Johnson told Sexton and Rose that House said there was a fire or ignition on the No. 4 Section and he wanted all available miners to go to the area to help with the situation. Tr. 2 at 111, 174.¹¹ Johnson, Sexton, and Rose finished up what they were working on and traveled to the 2 East belt to get the other members of the belt crew. *Id.*

While this was happening, Knox and Mobley proceeded toward the No. 4 Section. When they reached it they left the locomotive on which they had been riding at the No. 4 Section switch, and traveled on foot inby where they encountered Palmer, McIe, and Nail. McIe told Knox that there had been a roof fall and explosion, Adams was inby, and he was hurt. Because McIe and Palmer were injured, Knox told them to leave the mine. Tr. 1 at 218-19. At about 5:55 p.m., Knox, Nail, and Mobley traveled into the No. 4 Section. Shortly before 6:00 p.m., McIe and Palmer walked outby to the locomotive at the No. 4 Section switch. Gov't Ex. 10 at 12. They boarded the locomotive, started outby, and a short time later saw Tony Key, whom they picked up. The three continued outby toward the E panel switch. Tr. 1 at 223-24.

In the CO room, House called deputy mine manager Trent Thrasher at home. House told Thrasher that there had been an explosion, miners were injured, one injured man was left on the section, and help was needed to evacuate and get the injured man out. Tr. 12 at 223-24. Thrasher asked if all the miners were on their way out of the mine, and House said he was getting the miners out. *Id.* at 224. Thrasher immediately left for the mine. He called House from the

¹¹ "Ignitions" were referred to frequently during the course of the hearing. Although the word was never specifically defined, it was clear the witnesses were referring to methane that had ignited and had continued to burn or had caught something else on fire.

road and asked specifically about the longwall crew. House replied that they were “on their way out.” *Id.* at 225.

House also called mine superintendent Jesse Cooley and told him that there had been an explosion, a roof fall, brattices were destroyed, and miners were injured. Cooley asked if everyone was out of the mine, and House replied that he was in the process of getting people out. Tr. 5 at 382-83. Shortly after his conversation with Cooley, House was called by Tarvin who told House about the large amount of dust in the atmosphere. Tarvin asked if a stopping had failed. According to Tarvin, House told him “yes,” miners had been hurt, and the track should be kept clear because the injured miners were on their way out of the mine. *Id.* at 433-34.

Dale Byram, JWR’s manager of safety and training, who was not at the mine, called House. House told Byram that there was an explosion or ignition, ventilation controls were damaged, and miners were injured. Byram alerted the company’s rescue team. Gov’t Ex. 10 at 13; Tr. 12 at 381-82.

Meanwhile, Chris Key, Boyd, and Banks finished their work at the 2 East sump. Banks left the other two and traveled inby on his manbus to find out whether electrical power was reset on all the belt drives. Chris Key and Boyd walked toward the longwall area of 2 East to get a water pump. They saw Riggs, Stewart, and Smith. Riggs told Chris Key that there had been an ignition and that he was going to help. Tr. 2 at 288. Boyd went with Riggs. Chris Key followed Riggs on the track. *Id.* at 288, 306-08; Gov’t Ex. 10 at 13. They were going to the No. 4 Section to find out what had happened. Tr. 2 at 308-09.

Gene Robertson’s crew (Ashworth, Sorah, Riles, and Hallman) was working on a damaged belt near the 2 East belt header. Sexton traveled to where they were working and told Robertson that there was a page for him and that Johnson had picked up the phone and had been told there was a fire on the No. 4 Section and miners were needed to help. *Id.* at 113. Robertson told everyone to get on the manbus, and the crew traveled toward the No. 4 Section. *Id.* at 115.

Tarvin and Short, who also had boarded a locomotive, were taking rock dust to a storage area when they met Blevins coming from another direction on a manbus. Tarvin stated that Blevins told him the mine was on fire and he and Short had to help fight it. Blevins ordered Tarvin and Short to get two fire extinguishers from the locomotive and to board the manbus. Tr. 1 at 437-38. As Blevins, Tarvin, and Short started inby on the manbus, the belt crew arrived and their manbus followed Blevins toward the No. 4 Section. Gov’t Ex. 10 at 13.

Once Banks arrived at the E panel, he continued inby toward the No. 4 Section. Riggs, Smith, and Stewart arrived after Banks. Chris Key and Boyd arrived next. The miners saw Tony Key lying against a rib. Palmer was sitting on the locomotive and McIe was standing beside it. Gov’t Ex. 10 at 13. Boyd got off Chris Key’s manbus and spoke to McIe, who told Boyd that Adams was hurt and where Adams was located on the No. 4 Section. Riggs said that he was going inby to the No. 4 Section to help Adams. Boyd told Chris Key and McIe that he too was

going to help. Tr. 2 at 313. Chris Key responded that he would take Palmer, McIe, and Tony Key out of the mine. *Id.*

Boyd got on Riggs' manbus and he proceeded inby with Riggs, Smith, and Stewart. Chris Key helped the three injured miners onto his manbus and, around 6:05 p.m., he headed out of the mine. Gov't Ex. 10 at 14. McIe was certain that before Tony Key left the area with McIe and Palmer, neither Tony Key nor anyone else told any of the miners to evacuate the mine. Tr. 1 at 224. McIe was not surprised by Tony Key's failure to order an evacuation. Key was "in too much of a shock" to say much of anything. *Id.* at 229.

In Sub Main B, Blevins saw Chris Key's manbus approach and Blevins stopped and walked to the manbus to speak with Tony Key. Tony Key told Blevins that Adams was hurt, there had been a roof fall and an explosion, ventilation was damaged, and there was the possibility of another explosion. Tr. 6 at 91, 161-62. Sexton and the belt crew members arrived and Sexton got off the belt crew manbus to speak with Tony Key. Robertson got off his manbus and came to where Tony Key and Blevins were. Sexton believed Key told Robertson that there had been an explosion. Tr. 2 at 118. Chris Key told Blevins that he was taking the injured miners out of the mine. *Id.* at 293. Blevins instructed the miners who had stopped to move their manbuses to a spur in the track so the injured miners could continue out of the mine. *Id.* at 121-22.

According to Tarvin, who spoke with Blevins at the 459 switch, Blevins knew that Adams was injured and he thought there was a fire on the No. 4 Section. Tr. 1 at 436-37. Blevins told the miners at the switch that they needed to go fight the fire and that they should put on their self-rescuers so they could travel to the section. *Id.* at 443-44.¹² Blevins asked for three volunteers to go with him to the No. 4 Section. Ashworth, Sorah, and Johnson got on Blevins' manbus. *Id.* at 443-44, 446-49; Tr. 2 at 120-21. However, both Tarvin and Sexton testified they declined. Neither wanted to go inby to fight a fire. Tr. 1 at 445; Tr. 2 at 120-21.

Blevins asked Robertson to go to the nearest telephone to call House and make sure that he knew the injured miners were on their way out of the mine and they required medical assistance. According to Sexton, Blevins added, "When you get though doing that, come back." Tr. 2 at 121. Blevins then set off for the No. 4 Section. Tarvin, Short, and Hallman waited at the D panel switch for Robertson to return. Gov't Ex. 10 at 5.

At about the same time, House received a telephone call from Tarvin advising him that Tony Key had reported an overcast was out on the 4 Section track. House told Tarvin to stop Blevins and tell Blevins to call the CO room. Tarvin said that Blevins already had gone toward the No. 4 Section. Tr. 5 at 379-80.

¹² A little before this, as Blevins and Riles stood at the 495 switch, Blevins asked Riles if he smelled smoke. Riles replied that he did and asked Blevins where it was coming from. Blevins said that he was going to find out. Tr. 5 at 143-44, 181-82.

Benny Franklin and the rest of the longwall crew stopped at the H panel tailgate switch and Franklin called House from the telephone located there to ask about the dust the crew had encountered on the longwall. House said there was a problem and told Franklin to exit the mine with his crew and anyone else he saw. Tr. 3 at 41-42. Franklin maintained that he told the crew they were going to leave the mine. However, one miner stated that there was still power on at the power center, so Franklin told the electrician to “back up, and we’ll turn the vacuum breaker off, which terminates our power to our power center.” *Id.* at 43; *see also* Tr. 2 at 70; Tr. 3 at 55-56.¹³

After knocking the power, Franklin and his crew traveled toward the bottom. When they reached the 459 switch they stopped to let a manbus pass. Franklin could not see who was on the bus but he was told it was an injured miner. Tr. 3 at 60-61. Franklin and his crew then waited for another bus to pass. It was Robertson and his crew. Franklin recalled Robertson saying to him that there was a fire on the No. 4 Section. *Id.* at 61. Robertson said that he was going to call House and get further instructions. Franklin saw Robertson go to a nearby telephone, but he did not know if Robertson was able to reach House. *Id.* at 61-62.

About 6:10 p.m., Banks, Riggs, Smith, Boyd, and Stewart arrived at the No. 4 Section switch. The miners started walking the track entry into the section. To do so, they had to pass through the debris from the damaged ventilation controls. Gov’t Ex. 10 at 15. In addition to Adams, other miners on the No. 4 Section by this time or a few minutes later were Knox, Mobley, Nail, Johnson, Sorah, Ashworth, and Blevins.

2. The Second Explosion

At approximately 6:15 p.m., a second explosion, much larger than the first, occurred on the No. 4 Section.¹⁴ The explosion, which started in the No. 2 Entry, within seconds propagated into all four entries, into the No. 6 Section, the 5-9 Shaft area, and 3 East. Adams and the 12 miners who had gone into or toward the No. 4 Section to assist him or to fight a fire were killed. Only Ashworth survived the immediate effects of the explosion, and he died the next day.

Almost all of the miners who were underground felt the effects of the second explosion. At the D panel switch, Tarvin, Short, and Hallman were knocked into a nearby crosscut by the

¹³ However, according to Ogletree, Franklin told Corbin and Dickerson that there was an explosion on the No. 4 Section and miners were injured. Tr. 2 at 349. Further, Ogletree maintained that, at the 459 switch, Franklin said to his crew “Let’s go on [to the No. 4 Section] and get those [injured] guys” and Ogletree told Franklin he would not go. *Id.* at 350 (“I told him I wanted to invoke my individual safety rights”). Ogletree understood that men who went inby would use their self-rescue devices. If he used his self-rescue device to go into No. 4 Section, Ogletree wondered what he would use to come out. *Id.*

¹⁴ Approximately 55 minutes elapsed between the first and second explosions.

surge of air. The atmosphere was so dusty they could hardly see. They held onto one another's belts and followed the track to the 459 switch. Tr. 1 at 449-50.

Miners from the longwall crew and the belt crew who were at the 459 switch also were knocked off their feet by the force of air. The atmosphere in the switch area was dust-filled, and all of the miners except Corbin began to travel outby to get out of the mine. Corbin joined Franklin and Robertson at the F panel headgate switch telephone. The three men decided to leave the mine and get the mine rescue team. Gov't Ex. 10 at 6; Tr. 2 at 21-22. Chris Key and those with him felt their ears pop and they continued toward the bottom to get out. Tr. 2 at 319.

Randy Jarvis, who was in the H panel tailgate, heard a rumble. The air reversed direction for a short time. Jarvis thought an overcast had failed. The air around him was thick with dust. Jarvis called the CO room and asked House what happened. House told Jarvis to leave the mine. Tr. 3 at 182-83.

Connor, Bailey, and Willingham were sitting in a supply car near the end of the track in the F panel headgate. They heard a loud noise, the air reversed direction, returned to normal, and the atmosphere filled with dust. The miners heard House paging Blevins. Connor called the CO room and House said that he did not have time to explain what had happened but that Connor and the others should immediately exit the mine, which they did. Gov't Ex. 10 at 16-17; Tr. 2 at 374-77.

Chris Key brought Tony Key, McIe, and Palmer to the surface around 6:25 p.m. The injured miners were taken by ambulance to a hospital. Tarvin, Short, and Hallman now had reached the F panel headgate switch, where Tarvin called House from a telephone. Tarvin told House that there had been an explosion. Tr. 1 at 451. Tarvin, Short, and Hallman began walking outby to leave the mine. They met Jarvis and they told him to come with them, that there had been an explosion. The four men reached the surface around 7:00 p.m. Gov't Ex. 10 at 17; Tr. 1 at 452-54.

3. Rescue and Recovery Efforts

Nineteen miners exited the mine. Thirteen were missing. MSHA and UMWA officials were notified. A rescue effort began almost immediately. Senior management officials arrived and took charge of the rescue attempt. MSHA, UMWA, and state officials also arrived. MSHA promptly issued a 103(k) order, giving the agency control over the rescue and recovery operation.¹⁵

¹⁵ Section 103(k) provides that in the event of an accident an MSHA official may "issue such orders as he deems appropriate to insure the safety of any person in the . . . mine, and the operator . . . shall obtain the approval of [MSHA] . . . of any plan to recover any person in . . . [the] mine . . . or return affected areas of . . . [the] mine to normal." 30 U.S.C. § 813(k).

At approximately 8:05 p.m., a rescue team entered the mine. In addition, an escape capsule was lowered down a shaft in the event that any miners had reached the shaft bottom and were waiting there to get out. As the rescue team proceeded inby on a manbus, members of the team smelled smoke and stopped frequently to take gas tests of the atmosphere. The CO level was high. The team also encountered debris and damaged stoppings.

As the team moved into 4 East, debris on the track prohibited the manbus from proceeding further. The team members continued on foot, and they found Ashworth sitting against a rib. Two of the team members took Ashworth out of the mine. *See* Gov't Ex. 10 at 18-19.

One crosscut inby, members of the team found Sorah and Johnson. The men were located on a manbus. Both were dead. A short time later, team members found Blevins under the same manbus. He too had died in the accident. Shortly after midnight, the team moved into the No. 6 Section hoping to find surviving miners. The team encountered smoke and donned breathing apparatuses. The team tested for gas and found a high level of CO. As the team continued to move inby, it encountered burning crib blocks, which the team tried unsuccessfully to extinguish. Gov't Ex. 10 at 19.

Meanwhile, a second rescue team entered the mine and headed toward 3 East. The two teams met and worked together to try to extinguish the fire while a third rescue team was sent in to relieve the first team. Around 6:00 a.m. on September 24, the first team left the mine. Gov't Ex. 10 at 20. While the first team was moving out of the mine, the second team discovered that the ventilation controls in the No. 1 and No. 2 Entries at the mouth of the No. 4 Section were destroyed. The team also observed smoke issuing from the No. 1 Entry of the No. 4 Section. Gas tests revealed a very high CO content, as well as 3.1% methane. They believed there was a fire on the No. 4 Section. When they reported their findings to the surface command center, those in charge of the rescue effort concluded no one remaining underground could have survived and the rescue effort became a recovery effort. Gov't Ex. 10 at 20.

Later that day, it was determined that before the bodies of the victims could be recovered, the fires had to be extinguished by sealing and flooding the mine. On the morning of September 25, water was pumped into the mine through the 5-9 Shaft. All told, 30 million gallons were put into the mine. Put another way, 10,000 gallons of water per minute fell into the mine from the surface, ½ mile above the shaft bottom. *See* Tr. 7 at 293-94. The force of the water scoured the entries at the bottom of the shaft making them wider than before the explosions and some of the coal from the ribs was drawn further into the mine as the water rushed to fill the mine's sections. *Id.* at 290-92. The water flooded 3 East, the No. 6 Section and all but a small inby and uphill portion of the No. 4 Section.

By September 29, the flooding operation was completed. On October 20, pumping operations began to remove the water. As the water was pumped out, temporary seals were built and repairs were made outby. The seals were progressively moved inby and ventilation was re-established. Gov't Ex. 10 at 21.

By November 3, the recovery effort had advanced to just inby the mouth of the No. 4 Section. The area of the No. 4 Section switch, where the bodies of Sorah, Johnson, and Blevins were located, was ventilated. The bodies were brought to the surface on the early afternoon of November 3. On November 7, the recovery team moved into the No. 4 Section. The bodies of the nine remaining victims (Adams, Nail, Mobley, Knox, Banks, Riggs, Stewart, Smith, and Boyd) were found that afternoon near SS 13333. They too were brought to the surface. Gov't Ex. 10 at 21.

Ventilation on the No. 4 Section was entirely re-established by November 17, and on November 21, final pumping operations commenced.

B. The Investigation

_____ Prior to the recovery of the bodies and the re-establishment of ventilation on the No. 4 Section, MSHA began investigating the cause or causes of the explosions. Ray McKinney, MSHA District 5 Manager at the time of the accident, headed the MSHA investigation team. Members of the investigation team included personnel from MSHA Districts 2, 5, and 6, personnel from the Health Technology Center, and personnel from the Secretary's Office of the Solicitor. On October 1, investigation team members began collecting records and other information from the MSHA District 11 Office and from JWR. In addition, people with relevant information about the accident were identified and interviews, both non-confidential and confidential, were conducted.

A thorough examination and inspection of the mine was undertaken by accident investigation teams. MSHA's witnesses who were part of the investigation team almost without exception testified that JWR was "very cooperative . . . honest and diligent" with regard to the investigation. *See, e.g.*, Tr. 8 at 46. The teams included representatives of MSHA, JWR, the UMWA, and the State of Alabama. The affected areas of the mine were mapped thoroughly. In addition, physical evidence was gathered and in some instances tested by MSHA.

Among the physical evidence was mine dust, which was collected by seven sampling and mapping teams. The teams were composed of MSHA inspectors, company personnel, and UMWA members. The samples were collected by MSHA inspectors, the samples' locations were mapped, and the samples were transported to Mt. Hope, West Virginia where they were analyzed and tested by MSHA. Approximately 648 samples were gathered, of which 310 were collected in areas most immediately affected by the explosions.

On December 11, 2002, following completion of the investigation, MSHA issued a report (Gov't Ex. 10) detailing its findings regarding the causes of the explosions. In addition to the

report, the Secretary cited JWR for the eight violations that are at issue and that she alleges contributed to the accident.¹⁶

II. THE ISSUES AND BURDEN OF PROOF

Despite the voluminous record, the fundamental issues are simple. Each of the citations and orders allege that JWR violated a mandatory safety standard. It is the Secretary's burden to prove the alleged violations by a preponderance of the evidence. If she does, the Commission, or in the first instance, the judge, must assess a civil penalty. 30 U.S.C. § 820(a). In assessing a penalty the Commission must consider the statutory civil penalty criteria: JWR's history of previous violations; the appropriateness of the penalty to the size of JWR's business; JWR's negligence, if any; the effect of the penalty on JWR's ability to continue in business; the gravity of the violation; and the good faith of JWR in attempting to achieve rapid compliance after notification of the violation. 30 U.S.C. § 820(I). It is also the Secretary's burden to prove each of these criteria by a preponderance of the evidence, except for the criterion related to JWR's ability to continue in business. On that issue, JWR bears the burden. *In re: Contests of Respirable Dust Sample Alteration Citations*, 17 FMSHRC 1819, 1838 (Nov. 1995), *aff'd, Sec'y of Labor v. Keystone Coal Mining Corp.*, 151 F.3d 1096 (D.C. Cir. 1998); *ASARCO Mining Co.*, 15 FMSHRC 1303, 1307 (July 1993); *Garden Creek Pocahontas Co.*, 11 FMSHRC 2148, 2152 (Nov. 1989); *Jim Walter Res., Inc.*, 9 FMSHRC 903, 907 (May 1987); *Broken Hill Mining Co.*, 19 FMSHRC 673, 677 (Apr. 1997). Because there may be instances where it is difficult, even impossible, to obtain the direct evidence necessary to prove facts at issue, the Secretary may meet her burden by inferences. *Mid-Continent Res., Inc.*, 6 FMSHRC 1132, 1138 (May 1984). However, the inferences must be "inherently reasonable and there . . . [must be] a logical and rational connection between the evidentiary facts and the ultimate fact[s] inferred." *Id.*; *accord Garden Creek*, 11 FMSHRC at 2153.

III. THE ALLEGED VIOLATIONS

There are four categories of violations. The first category relates to the control of the roof. The second category relates to the incombustible content of mine dust. The third and fourth categories relate to the miners' evacuation of the mine and their participation in fire drills. I will analyze the evidence and resolve the issues by category.

¹⁶ According to William Crocco, who at the time of the explosions was MSHA's Accident Investigation Program Manager and who drafted much of MSHA's investigation report, the report and the alleged violations represent the consensus of MSHA's investigation team. Tr. 7 at 486, 494-95.

A. The Citation Relating to Roof Control

Citation No. 7328083 charges a violation of 30 C.F.R. § 75.202(a) in that the roof at SS 13333 in the No. 2 Entry of the No. 4 Section was not adequately supported.¹⁷ Section 75.202(a) requires in part that “[t]he roof . . . of areas where persons work or travel shall be supported or otherwise controlled to protect persons from hazards related to falls of the roof” 30 C.F.R. § 75.202(a). The citation also asserts that the 13 miners were fatally injured as a result of the violation and that the violation was S&S and due to JWR’s moderate negligence. Gov’t Ex. 3. The alleged violation elicited a considerable amount of testimony, pertinent portions of which are set forth below.

1. The Testimony

_____At the No. 5 Mine, the primary means of roof control for a developing section was the use of 6-foot fully grouted resin bolts installed on 5-foot centers. The 6-foot bolts were supplemented

¹⁷ The citation, which was issued pursuant to section 104(a) of the Mine Act, 30 U.S.C. § 814, states:

On September 23, 2001, two separate explosions occurred in 4 Section resulting in fatal injuries to thirteen miners. The accident investigation revealed the roof in the No. 2 entry of 4 Section at the intersection of Survey Station 13333 was not supported or otherwise controlled to protect persons from hazards related to a fall of roof in that area. On Friday, September 21, a crack in the roof was observed, a noise was heard and water was observed dripping from some roof bolt holes at this location. The section coordinator directed the section foreman to have supplemental roof support (cable bolts) installed through the intersection. About sixteen, 10-foot long cable bolts were installed during [the] day shift on Friday. Methane, water, broken coal and broken shale were encountered above the anchorage zone of the primary roof supports (72-inch fully grouted resin bolts). Competent roof was not encountered in the anchorage zone of many of the cable bolt holes, rendering the cable bolts ineffective. An unintentional roof fall occurred in that area on September 23. As the mine roof fell, methane was liberated from the strata into the mine entries. Arcing of a scoop battery that was damaged by the roof fall ignited the methane. The explosion damaged critical ventilation controls, disrupted the airflow and injured four miners. A second explosion resulted in fatal injuries to miners.

Gov’t Ex. 3.

on an “as needed” basis with cable bolts and various other means of supplemental support, including straps and cribs. *See* JWR Ex. 185 at 2, 4-9; Tr. 4 at 80-81; Tr. 8 at 435-36; Tr. 11 at 264-65. Although prior to the accident, 8-foot, 10-foot, and 12-foot cable bolts were occasionally used at the mine, the predominant and usual methods of supplemental support was the use of 10-foot bolts. Tr. 12 at 212-13; *see, e.g.*, Tr. 13 at 168 (testimony of roof bolter William Prisock that it was the only length with which he worked). These roof control practices were largely successful in holding the roof in place and, prior to September 23, few roof falls occurred at the mine.

Regarding general conditions, roof bolter Terry Eulenstein testified that the roof usually was stable, but that water and methane were encountered at times. Tr. 11 at 267. Michael Goggins, a general inside laborer, added that water was not considered a hazard, but “you need[ed] to keep an eye on it.” Tr. 5 at 315. In addition to water, the roof occasionally exhibited faults, joints, and fractures, but these were not “day-to-day” occurrences. Tr. 12 at 287.

Robert Howell, a company engineer with a PhD in engineering, testified that in the mid to late summer of 2001, continuous miner operators on the right side of the No. 4 Section had to limit cuts because of roof problems in unbolted areas of the faces. As a result, about a month prior to the explosions, Howell called the JenMar Company and asked if there were roof support products that could be used to allow longer cuts. Tr. 13 at 183-84.¹⁸ JenMar representatives came to the mine and examined the section’s roof. Using a stratoscope they looked for cracks or fractures. They found none. *Id.* at 185-86. Nor did they find indications of lateral separation in the roof. As a result, the representatives did not recommend any changes in the company’s roof control equipment or procedures. Tr. 12 at 219.

Prisock, who worked on the No. 4 Section, testified that several weeks prior to the accident, he installed roof bolts in the intersection of a crosscut and the No. 2 Entry at SS 13333. Prisock put in two rows of 6-foot resin grouted bolts on 4-foot centers and then went back and installed two 10-foot cable bolts at 6-foot intervals between the rows. Tr. 13 at 120. Prisock installed a total of six 10-foot bolts. Tr. 6 at 418; Tr. 13 at 120-21, 123.¹⁹ The cable bolts were used to give added strength to the roof because the No. 2 Entry eventually would be used as a bleeder entry, and the roof had to stand a long time. Tr. 13 at 215.

On September 20, Ricky Parker, the chairman of the mine’s UMWA safety committee, passed through the No. 2 Entry at SS 13333. Parker, who was accompanying MSHA Inspector Jarvis Westery, detected no problems with the roof. Tr. 6 at 327. Indeed, practically all of the

¹⁸ JenMar, one of the largest roof bolt manufacturers in the United States, provided technical support to mine operators upon request. Tr. 13 at 248.

¹⁹ Installing the resin grouted bolts on 4-foot centers exceeded the requirements of the roof control plan, which provided for the installation of the 6-foot bolts on 5-foot centers. JWR Ex. 185 at 6; *see* Tr. 4 at 79.

witnesses agreed that prior to September 21, the condition of the roof in the No. 2 Entry of the No. 4 Section at the intersection of SS 13333 was unremarkable. *See, e.g.*, Tr. 6 at 425.

As mining advanced, it was decided to move the battery charging station to a short crosscut between the No. 1 and No. 2 Entries at the intersection. On the morning of September 21, Prisock returned to the area to install extra 6-foot bolts. The bolts were to be used as battery hangers. Tr. 13 at 124. While there, Prisock noticed some loose rock peeling from the roof, and he decided to add some more 6-foot bolts and two 10-foot bolts to make sure the rock stayed put. *Id.* at 125-27; JWR Ex. 224. Addition of the bolts to the area was part of Prisock's ordinary duties as a roof bolter, and after he finished Prisock thought the roof in the intersection looked normal. Tr. 13 at 128. Prisock told his foreman, Bruce Mabe, that he had added the extra bolts. *Id.* at 128-29. Although Prisock described the main roof above the Mary Lee Seam as not "that hard" (*id.* at 129), he felt that it was "more solid" (*id.* at 130) than the immediate roof and that the 10-foot cable bolts had adequately anchored into the main roof. *Id.* at 131. In fact, Prisock believed that each of the 10-foot bolts had anchored almost 4 feet into the main top. *Id.* at 132.

Later that day, Greg Brown, the day shift section foreman, checked the roof in the area at the start of the shift. Brown noticed some roof water. It was something he had seen before. Tr. 6 at 432-34. Prisock too had seen roof water on other sections. He did not find it unusual. Tr. 13 at 144. Also on September 21, Hershell Robbins, a miner on the evening shift, noticed the water. Like Brown and Prisock, Robbins did not regard it as anything about which to be concerned. Tr. 6 at 31. Roof bolter Wayne Bonner agreed. Tr. 4 at 108.

During the day shift, Brown met with Burt Duvall, the day shift section coordinator, at the SS 13333 intersection. Before the meeting, Duvall too noticed roof water, or as he put it, "a little bit of dampness." Tr. 5 at 194. He heard a thump and saw a "slight hairline crack." The crack was "no bigger than what . . . could [be] draw[n] with a pen." *Id.* at 193; Tr. 6 at 384. Duvall asked Brown to have additional cable bolts placed in the intersection "as a precaution" (Tr. 6 at 384) because the power was going to be moved up later that day and because of the length of time the roof had to remain intact. Tr. 5 at 194. Brown assigned roof bolters David Terry and Wayne Bonner to install more 10-foot cable bolts in the area. Tr. 4 at 47-48, 52.

Terry installed eight additional 10-foot bolts and Bonner installed eight. Both men felt the bolts were well anchored in the main roof. Tr. 4 at 108, 112; Tr. 5 at 59-60; JWR Ex. 121. According to Brown, who conducted on-site supervision of the roof bolting, the 10-foot cable bolts anchored in 2 to 3 feet of solid top, that is, 2 to 3 feet above the Mary Lee Seam. Tr. 6 at 386.²⁰ As the holes for the bolts were drilled, water came out of the holes like a mist. Brown

²⁰ Bonner's testimony was somewhat different in this regard. He stated that the bolts anchored 1 to 2 feet above the Mary Lee Seam (Tr. 4 at 52-53) and that the top, although "solid," was "not as solid as you would normally desire." Tr. 4 at 52. On a scale of 1 to 10, Bonner rated the hardness of the top as "4." *Id.* at 55, 89. Nonetheless, Bonner testified that all of the cable bolts that he installed on September 21 were well and solidly anchored. *Id.* at 108, 112. They

testified this was something not normally seen, but it was not unprecedented. *Id.* at 432 (“[W]e had [it] on other areas of the section.”). The water “quit after a while.” *Id.* Neither Terry nor Bonner said anything to Brown about the bolts and neither reported the bolts were not anchoring in solid top. Tr. 4 at 103; Tr. 6 at 387, 429-30. Eric Barnes, a member of the UMWA safety committee, for a time also observed the bolts being installed. Barnes did not complain about the number of bolts installed or that they anchored insufficiently. Tr. 6 at 430. After the bolting was concluded, Brown did not think that cribs needed to be installed, nor did anyone suggest their installation. Tr. 6 at 434.

During the evening shift on September 21, other cracks in the roof of the entry were noticed by Darrell Lynn, a ram car operator on the shift. The cracks extended across the entry. In addition, water resumed coming from the roof. Tr. 3 at 291-93, 298. According to Mike Buchanan, the evening shift section foreman, the cracks continued to be small and hairline, and the water dripped, not flowed, from the roof. The roof itself was solid and unbroken. Tr. 13 at 22. Buchanan saw no signs of excessive sloughing or other evidence that the ribs were taking weight. *Id.* at 32, 34-35. Buchanan had been told by the shift coordinator that supplemental roof support had been installed on the previous shift, and he did not feel there was any need for additional roof support. In Buchanan’s opinion, with the addition of the supplemental support, the roof was in essentially the same condition it had been on September 20. Certainly, cribs were not needed. *Id.* at 34. Buchanan therefore directed that the scoop charger and battery be moved up to the short crosscut adjacent to the SS 13333 intersection. *Id.* at 20-21.

On September 22, Bruce Mabe, who conducted the preshift examination for the oncoming day shift, described the roof conditions on the No. 4 Section as “nothing out of the ordinary.” Tr. 12 at 517. The roof bolt plates were not bending and the adjacent pillars were not sloughing excessively. *Id.* at 518.²¹ Water was coming from the roof, but Mabe did not believe the water posed a hazard and he did not mention it on his preshift report. *Id.* at 534-35.

Day shift foreman Brown recalled no change in the roof condition from the previous day. Tr. 6 at 436. During the shift no additional roof bolts or other supplemental roof support were

also were, in his opinion, “safely installed,” and he believed that, once he was finished bolting, he left no hazards for his coworkers. *Id.* at 109, 112.

²¹ On the other hand, Ronnie Hyche, a mason who also worked as a roof bolter and who worked on the September 22 day shift, stated that in the last long crosscut between the power center and the face he heard noises indicating the roof was “working” and “setting down.” Tr. 6 at 189. Hyche also maintained water was “pouring” from the roof. *Id.* Hyche’s heightened descriptions were at odds with almost every other witness who saw the roof on the section that day. Moreover, he agreed that his testimony was about an area approximately 100 feet in by the cited area and that he had no idea what was or was not happening at SS 13333. *Id.* at 192-93. The area about which Hyche testified was not commented on by other witnesses.

installed nor were any needed. *Id.* at 437. Like almost everyone else, Brown mentioned the roof water at SS 13333. *Id.* at 385.

Buchanan did the preshift examination for the evening shift on September 22. The ribs showed no evidence they were taking weight. Buchanan continued to believe that the roof did not present a hazard and there was no need for additional roof support. Tr. 13 at 31-34.

Joseph Cybulski, an MSHA supervisory mining engineer who participated in MSHA's accident investigation and who appeared as an expert witness for the Secretary, confirmed the consensus view of the on-site observers as to the roof's basically unchanged condition between September 21 and September 23. He testified that MSHA concluded the roof conditions did not deteriorate significantly between September 21 and the September 23 day shift. Tr. 11 at 402.

However, on the afternoon of September 23, things changed dramatically and for the worse. All of the witnesses spoke of rapidly deteriorating conditions. Tony Key, who worked on the evening shift on September 23, arrived at the mine around 2:00 p.m. Key went to the mine office and spoke with Duvall about work for the evening. Tr. 6 at 44-45. John Puckett had completed the preshift examination for Key's oncoming shift. Puckett told Key to look at the ribs, the roof bolt plates, and the roof bolts to see if the ribs, plates, and bolts were taking weight. *Id.* at 113. Key, who recorded Puckett's preshift report conditions, wrote "top working" in the hazardous conditions section of the report. *Id.* at 46-48.²² Duvall told Key the ribs were sloughing in the No. 2 Entry. Duvall wanted to build cribs down the entry and around the intersection adjacent to SS 13333. Key understood that Duvall had sent for additional cribbing material. *Id.* at 111. Therefore, when Key started work on September 23, his priority was to further support the roof and ribs in the No. 2 Entry. Key felt he had an appropriate number of men and supplies to deal with the situation. *Id.* at 111, 114.

Key traveled into the mine with his crew, Nail, Mobley, McIe, and Adams. They went to the No. 4 Section where Key heard sporadic noises coming from the roof and ribs. Tr. 6 at 49-50. Key proceeded to the battery charging station. *Id.* at 51. He noticed a crack in the brattice in the short crosscut. The crack ran from the upper right corner of the brattice to the lower left corner. In addition, a hole had developed in the brattice. Key believed that either the floor was heaving or the roof was setting down or both things were happening. Key knew the brattice would need to be repaired and he ordered materials for the repair. *Id.*

Key then traveled to the power center at SS 13348. The roof looked good there, and he heard no noises coming from it. He took a methane reading which showed minimum methane. Key next traveled to the supply hole and a few minutes later went to the faces of the No. 1 and

²² Key maintained that he used those words because Puckett mentioned ribs rolling and Key associated ribs rolling with deteriorating top since the two normally happened together. *See* Tr. 6 at 48.

No. 2 Entries. At each of these places his methane detector registered minimal amounts of the gas. Tr. 6 at 54-55.

At SS 13333 Key looked at the roof. Although it did not appear that the roof bolts were taking weight, more water was coming from the roof, small diagonal cracks had appeared, and the ribs were sloughing. Because of these conditions and the situation with the brattice, Key, who agreed with Duvall that cribs should be built in the intersection, assigned Adams and McIe to build them in conformance with a map that Duvall had drawn. Tr. 6 at 56-58. As Key recalled, the map indicated that at least 10 cribs were needed. *Id.* at 56. Cribbing material had been brought into the section and was on a flat car at the end of the track. There was not enough material to build all of the cribs indicated on Duvall's map, but there was enough to build some and the crew started building outby the charging station in the No. 2 Entry, near the intersection of SS 13333. Key felt this was the safest place to start, and he intended to have the crew continue constructing cribs by working inby. *Id.* at 58.

Key thought the cribs would adequately address the situation. There was no sign that a roof fall was imminent. However, at approximately 5:15 p.m., after the third crib was constructed, the roof inby started "aggressively working." Tr. 6 at 58-59. Roof bolts popped, ribs rolled, rocks fell, and water poured. *Id.* at 59. McIe and Adams stepped out of the intersection and got behind some equipment. Suddenly, the roof came down "like the World Trade Center." *Id.* at 61.²³

After the fall and the explosions, the SS 13333 intersection was not observed again until the accident investigation. MSHA supervisory mining engineer Cybulski went to the No. 4 Section on November 19, 2001. During the course of the investigation, Cybulski made seven trips underground, most of them to the No. 4 Section. Tr. 11 at 299-300. Cybulski, who helped map the roof of the section, observed joints running northwest to southeast across No. 4 Section. *See* Gov't Ex. 24A (App. U).²⁴ Jointing was sparse at the mouth of the section but increased as one moved inby toward the accident site. Tr. 11 at 301. In the vast majority of the areas where he saw jointing, the roof had stayed up. *Id.* at 363. For example, he saw a 2-inch-wide joint inby the fall, but the roof in the area was stable. *Id.* at 365-66.

²³ Prior falls involving roofs supported with 10-foot cable bolts were almost unheard of. Roof bolter William Prisock testified that in his experience 10-foot cable bolts always had been effective in holding the roof. Tr. 13 at 113-14. Cybulski confirmed that he was aware of only one other fall in the No. 4 Section involving a bolted area, and it occurred after the explosions. Tr. 11 at 389-90.

²⁴ Cybulski described joints as natural fractures in the roof rock. Tr. 11 at 302. In Cybulski's opinion, joints might or might not warrant additional roof support. However, the situation needed to be evaluated because "the more rock is fractured, the less stable it is." *Id.* at 304.

When Cybulski reached the area of the fall, he helped measure the height of the fall with a laser range finder. The fall cavity extended 25 feet above the roof line. Tr. 11 at 367. Based on Cybulski's experience in mining he believed that the fall initially extended somewhat less than 25 feet into the roof but that, following the fall, the roof continued to deteriorate deepening the cavity.²⁵ According to Cybulski, debris from the fall consisted of slabs of rock that ranged between 3 feet and 1 foot in size. Cybulski confirmed that he believed there was a failure of the main roof higher than the intersection of the main roof and the Mary Lee Seam. *Id.* at 367-68. In addition, Cybulski saw one or two cable bolts that were still hanging and partially exposed near the edges of the fall. *Id.* at 372. The other bolts were buried in the debris. *See id.* at 372-73.²⁶

Cybulski testified the purpose of the cable bolts was to suspend the intermediate roof, which was held together by the 6-foot bolts, from the main roof. Tr. 11 at 313-14. For this to happen, the cable bolts had to be securely anchored in the main roof. *Id.* at 315.²⁷ Cybulski did not dispute the accuracy of the measurements contained in the notes of Paul Tyrna, the MSHA

geologist who accompanied Cybulski on his December 11 visit to the No. 4 Section. In the notes, Tyrna indicated that he found the Middleman Seam at the "edge of the roof fall" area (*id.* at 370) to be approximately 5-feet thick and the Mary Lee Seam to be approximately 12 to 15-inches thick (*id.* at 370-76). At this location 10-foot cable bolts would reach almost 4 feet above the Mary Lee Seam. *Id.* at 376. Cybulski also agreed that he and the agency had no idea of how many cable bolts, if any, were insufficiently anchored in competent roof. *Id.* at 378. Cybulski maintained, however, that on September 21, the bolts used in the fall area at best anchored into only 1 to 2 feet of competent top, and that this was inadequate to hold the roof.²⁸

In Cybulski's opinion, additional roof control measures had been required. *Id.* at 317-18, 325, 333-34. The cracks visible in the roof and the water coming from the roof should have

²⁵ Robin Dzurino, a JWR engineer at the time of the explosions, accompanied Cybulski and MSHA geologist, Paul Tyrna. Dzurino helped measure the fall area. Tr. 12 at 817. He thought that the fall was 50-feet wide from west to east and 92-feet long from north to south. As he recalled, the cavity extended approximately 23 feet above the roof line, a distance that was 13 feet above the longest roof bolt. *Id.* at 819-20.

²⁶ Because of the height of the cavity and the debris that covered and damaged almost all of the affected roof bolts, none of the witnesses could state that the bolts had failed to hold the roof. *See, e.g.*, Tr. 4 at 112-14.

²⁷ Cybulski explained that once a cable bolt was anchored "the [M]iddleman [Seam] and Mary Lee [Seam] start[ed] to sag a little and [came] in contact with the bearing plate that is on the head of the cable bolt providing the support." Tr. 11 at 315-16.

²⁸ Cybulski relied in part on a NIOSH Information Circular which he testified stated that, at a minimum, cable bolts should anchor 4 feet into competent top. Tr. 11 at 312, 320-21.

indicated this to JWR personnel. Test holes should have been drilled. They would have shown how much competent roof could be reached with 10-foot bolts. As a result, longer cable bolts could have been used, or if the longer bolts were not available, cribs could have been constructed. *Id.* The cribs might have changed the size and extent of the fall, or even have prevented it. *Id.* at 336. In addition, by taking the load from the roof, the cribs might have provided a visual warning that the roof was taking weight. *Id.* at 340-41. Cybulski agreed, however, that test holes and longer cable bolts were not required under the roof control plan. Nor did the plan require at least 4 feet of anchorage in the main roof if cable bolts were used. *Id.* at 320, 400.

The company's expert witness in roof control, Syd Peng, chairman and professor of the Department of Mining Engineering at West Virginia University, made three post-accident visits to the site of the fall. Tr. 13 at 265. He also reviewed the results of JenMar's August 2001 visit to the No. 4 Section, the roof control plan, and the transcripts of the testimony of witnesses to the roof conditions on the No. 4 Section, including the testimony of the section's roof bolters. Peng found no evidence that the roof bolts failed to hold the roof. Tr. 13 at 266-67. Peng concluded that the fall was due to the existence of concentrated joint swarms (several cracks concentrated in a localized area) that were unknown to JWR because they are high in the roof and became visible only after the accident. *Id.* at 273-74; JWR Ex. 226 at 2. In Peng's opinion, the fall occurred when large blocks of the roof fell along vertical joints. Tr. 13 at 286. In Peng's view the 6-foot fully grouted resin bolts had formed a "beam" in the roof, which was anchored into the main roof by the 10-foot cable bolts. *Id.* at 278-79.²⁹ Peng believed that the initial fall originated at least 2 feet above the 10-foot cable bolts and that the larger cavity was created by additional falls that occurred after the explosions. *Id.* at 285-86. In Peng's opinion even 12-foot bolts would not have held the roof in place because the fall originated at a level either concurrent with the end of the 12-foot bolts or higher, which was above the anchorage zone of the bolts. *Id.* at 294-95; *see also id.* at 319-20.

Peng concluded that the roof had quickly deteriorated on September 23, and he doubted that anything could have prevented the fall. Even if cribs had been used at the SS 13333 intersection, the roof would probably have fallen between the cribs. Tr. 13 at 306-07. Peng also noted that, prior to the fall, two similar fault areas were mined through successfully, that in securing the areas JWR used procedures like those used at SS 13333, and that there were no roof control problems in either of the areas. Tr. 13 at 290-91.

2. The Violation

The Commission has held that section 75.202(a) is a broadly worded standard and, therefore, "the adequacy of particular roof support or other control must be measured against the test of whether the support or control is what a reasonably prudent person, familiar with the

²⁹ Peng noted that under the roof control plan roof bolts were required to be anchored into the main roof above the Mary Lee Seam only in the No. 4 Entry, which was a longwall gate entry. Tr. 13 at 281; JWR Ex. 185 at 9.

mining industry and the protective purposes of the standard, would have provided in order to meet the protection intended by the standard.” *Canon Coal Co.*, 9 FMSHRC 667, 668 (Apr. 1987) (cited in *Harlan Cumberland Coal Co.*, 20 FMSHRC 1275, 1277 (Dec. 1998)). The Commission has emphasized that, in the context of a particular alleged violation, “the reasonably prudent person test contemplates an objective – not subjective – analysis of all the surrounding circumstances, factors and considerations bearing on the inquiry in issue.” 9 FMSHRC at 668.

Because the essential nature of a mine’s roof – its strata and its propensity to maintain stability – in most instances is relatively constant, the actions of a reasonably prudent operator always are informed by the operator’s past experience with the roof. In this way the mine’s roof control history plays prologue to the operator’s present control efforts, and the reasonableness of the operator’s actions or lack thereof is gauged in part against the operator’s and the industry’s past experience given the particular conditions the operator knew or should have known existed.

By citing the company for a violation of section 75.202(a), the Secretary is asserting that given all of the information the company knew or should have known prior to the fall, the company did not act as a reasonably prudent operator in attempting to support the roof. As one of the Secretary’s counsels stated, “[I]n essence, it’s the Government’s position that all that could have been done was not done at a time that was appropriate.” Tr. 4 at 120.

The Secretary argues that the company knew, beginning on September 21, that roof conditions were deteriorating. The Secretary acknowledges the company tried to meet the conditions by adding cable bolts, but she asserts the measures the company took were not “reasonably sufficient.” S. Br. at 11. The cable bolts only anchored in 1 to 2 feet of solid top. In the Secretary’s view they should have anchored into at least 4 feet of top.³⁰ In the Secretary’s view, “The fact that . . . nothing else was done to support the intersection until it was too late to do so, establishes the violation of section 75.202(a).” S. Br. 11-12.

After listening to and reviewing the testimony and the exhibits and after considering all of the parties’ arguments, I reject the Secretary’s arguments and conclude that JWR personnel acted reasonably in attempting to control the roof in the cited area. The picture that emerges from the record was not of a company unmindful or neglectful of conditions that cried out for the installation of cribbing, longer cable bolts, a combination of both, or other procedures on September 21, 22, or 23. Rather, it is of a company that, relying on past experience and the evidence before it, responded reasonably to conditions as they developed until, on September 23, its efforts were overwhelmed by a precipitous and massive roof failure.

³⁰ The Secretary points to plant engineer Robert Howell’s testimony that manufacturers of cable bolts state that, to achieve full strength in holding the roof, cable bolts need to be anchored in solid top for up to 1/3 to 1/2 their length. Tr. 13 at 212; S. Br. at 11-12. However, I note Howell also stated without contradiction that he conducted tests that achieved full strength when a little less than 1/5 of a 12-foot bolt anchored in solid top. Tr. 13 at 212.

In concluding that JWR personnel acted reasonably, I reject the Secretary's view that, "[g]iven the cited roof conditions and the lack of anchorage of [the] cable bolts into solid top according to the manufacturer's specifications and industry practice, it should have occurred to . . . [Burt] Duvall and . . . [Greg] Brown that [the] bolts were not going to be effective in supporting the roof" and that "given their collective experience in mining . . . [they] should have take[n] additional steps to support the roof in . . . [the SS 13333 intersection] with standing support." S. Br. at 13. The problem with the Secretary's contention is that a preponderance of the evidence does not support it. Unable to point to a specific violation of the roof control plan and unable to point to any course of action that with certainty would have prevented the fall, the Secretary has chosen to cast a wider net and cite the company under the broader and more amorphous requirements of section 75.202(a). However, and as the Commission has noted, even though the standard for compliance with that regulation essentially is one of reasonableness, it is the objective nature of all the surrounding circumstances and considerations that determines the outcome. *Canon*, 9 FMSHRC at 668. In my view these circumstances and considerations fully support the company's reasonableness.

To understand JWR's response to the roof conditions at the SS 13333 intersection, it is important to note that prior to September 21, there were no significant observable problems with the roof in the cited area and no indication that roof control measures other than those which took place during development were necessary. In this regard, I fully credit miner Ricky Parker's testimony that when he and Inspector Westery traveled under the roof in the cited area on September 20, he observed no problems with the roof. Tr. 6 at 327-28.³¹ Thus, it is not surprising that Parker described the condition of the roof as it then existed as "good." *Id.* at 330. In this regard, I also note Cybulski's observation during his deposition that he found no indication of a need for supplemental roof support prior to September 21. Tr. 11 at 408-09.

Because the reasonableness of the company's response to the subsequent changes in the roof's condition must be evaluated, in part, in terms of the company's knowledge of the roof in the cited area, it is also important to review what the record reveals about the state of the company's knowledge as the first shift entered the mine on September 21. First, JWR personnel knew that during development, because the entry would eventually be used as a bleeder, the roof had been strengthened by installing 10-foot cable bolts and straps in the subject area. Second, JWR personnel knew that for the same reasons the 6-foot fully grouted resin bolts that constituted the usual developmental support were installed on 4 rather than 5-foot centers. Tr. 13 at 109, 120-23, 215. Third, management was aware that the roof had remained virtually unchanged for several weeks after it was developed. Fourth, mine personnel knew that several weeks before the roof fall JenMar representatives had come to the mine to study the roof in the No. 4 Section, that on-site analysis revealed no cracks or separations, and that no change in roof support procedures

³¹ I note as well that Westery issued no citations for violations connected with the roof, which he was obliged to do had he detected any. Tr. 6 at 329-30.

or materials was recommended. Fifth, JWR was aware the use of 10-foot cable bolts had been successfully used to hold the mine's roof in the past.³² Tr. 12 at 214-15, 219; Tr. 13 at 185-86.

On September 21, when Duvall saw a small crack and dampness on the roof and heard a bump or thump (Tr. 5 at 193-94), he decided in an exercise of caution, to add additional 10-foot cable bolts to the roof to better control it. The water, crack, and noise signaled to Duvall that the roof might come to be less stable if supplemental support was not provided. *See id.* at 58, 124. Using 10-foot cable bolts as supplemental support was a logical choice given their favorable record. In addition, Prisock's testimony established, and mine management knew, that prior to September 21, 10-foot cable bolts already had solidly anchored in the main roof of the affected area. Tr. 13 at 131. These cable bolts anchored above the Middleman Seam and, as Chuck Stewart, then the general manager of purchasing at the mine, observed, typically control of the Middleman Seam meant control of the roof. Tr. 15 at 1018-19.³³ These facts indicate that use of the 10-foot bolts on September 21 was a reasonable choice.

The question then is whether as of September 21, it was unreasonable for the company to fail to do more (i.e., install cribs) or to do something else (i.e., use 12-foot or 14-foot cable bolts) or to do a combination of other things (i.e., use cribs, longer bolts, and more substantial straps) to support the roof, and I conclude it was not. Certainly, the presence of water dripping from the roof did not put the company on notice that it needed to do more than install additional 10-foot cable bolts. As was stated over and over by numerous witnesses, water was not uncommon at the mine. *See, e.g.*, Tr. 6 at 432-33; Tr. 12 at 517-18, 605. Miners and mine management reasonably did not consider its presence to signify a necessarily hazardous roof. *See, e.g.*, Tr. 12 at 534-35.³⁴

³² There had been faulty roof areas previously in other areas of the mine, and JWR always had mined through them successfully by using 6-foot fully grouted resin bolts supplemented by 10-foot cable bolts. Tr. 12 at 214-15; Tr. 13 at 181-82, 290-91; *see also* JWR Br. at I-3. In fact, then assistant mine manager Trent Thrasher knew of no roof falls prior to the accident in areas supported with 10-foot cable bolts. Tr. 12 at 214.

³³ I recognize that there was some equivocal testimony about whether 10-foot cable bolts had sufficiently anchored in the roof prior to September 21. For example, roof bolter Terry Eulenstein, a UMWA witness, exhibited ambiguity when asked. At the hearing he testified that he had experienced difficulty getting 10-foot cable bolts to anchor properly in the main roof, but when he was deposed, he stated that he had not. *See* Tr. 11 at 269-70. On the other hand, Ronnie Hyche testified that in his experience "[10-foot cable] bolts always anchored good in the main top." Tr. 6 at 201. Despite such conflicts, the testimony predominantly supports the conclusion that the 10-foot cable bolts had been successfully anchored prior to September 21 and that they had held the roof when they were used.

³⁴ Terry, Bonner, Brown, and Hyche all testified that roof water had been encountered before and that the measures JWR took were adequate to control the roof where it occurred. Tr. 4 at 85-86, 107-10; Tr. 5 at 43-46, 57; Tr. 6 at 193-94, 431-33.

Rather, as Goggins stated, it was something “you need[ed] to keep an eye on” (Tr. 5 at 315), which is exactly what the company was doing when it ordered installation of the additional 10-foot cable bolts.

Further, although the noise heard by Duvall and the small crack he saw might (or might not) have signaled that the roof was becoming less stable, given JWR’s successful past history of using 10-foot cable bolts and given the additional roof support that already had been installed in the area (the 4-foot center bolting pattern and the supplemental cable bolts), it was not unreasonable for Duvall to fail to order more than the installation of additional 10-foot cable bolts. In short, there was no indication that anything more was needed.

I further conclude that, on September 21, once the decision to install the additional supports was made and once the cable bolts were installed, it was reasonable for JWR to do nothing further regarding supplemental support. In response to Duvall’s decision to add more cable bolts, roof bolters Bonner and Terry, under the direct supervision of section foreman Greg Brown, installed the additional 10-foot bolts. Bonner and Terry believed the bolts were well anchored and that the area was safe. Tr. 4 at 108-09; Tr. 5 at 57, 60; *see also* Tr. 5 at 79-80; Tr. 6 at 386.³⁵ Brown, who was standing with Bonner and Terry when the bolts were installed and who was watching and assisting with the drilling also believed the bolts had anchored into 2 to 3 feet of solid roof. Tr. 6 at 386, 428-29. Neither Bonner nor Terry, the two miners with the most intimate knowledge of the roof, stated to Brown that the roof strata was “soft.” *Id.* at 387. Nor did either express concerns about the anchorage of the bolts. The same is true of Eric Barnes, the UMWA safety committeeman, who observed the bolting process for part of the time it was underway. *See id.* at 387, 429.

Given the fact that JenMar had scoped the roof on the section and found no slips or faults, that the company had a history of successfully relying on cable bolts to hold the roof in similar situations,³⁶ that there were no visible or audible sounds signifying the need for support different from that being used, and that the roof bolters most immediately involved with the situation did not indicate the need for other support, I conclude that it was not unreasonable for the company to act as it did on September 21 and to rely solely on the 10-foot cable bolts.

³⁵ As previously noted, Bonner testified the top “wasn’t as hard as it should have been,” and that the top was “questionable” (Tr. 4 at 108, 109), but he also testified that the bolts were satisfactorily anchored into the top, and at his deposition, which was closer to the events at issue, he stated he felt that he had placed the bolts in “competent roof.” *Id.* at 110.

³⁶ MSHA Inspector Donald Greer testified that 6-foot resin bolts and 10-foot cable bolts when used in combination had been routinely effective in supporting the roof. Tr. 12 at 605-06. Moreover, Duvall testified that to his knowledge there never had been a prior roof fall at the mine when 10-foot cable bolts, or even 8-foot cable bolts, had been used. Tr. 5 at 240-41; *see also* Tr. 4 at 248; Tr. 5 at 40-41; Tr. 13 at 310.

In reaching this conclusion, I have found the testimony of the roof bolters to be especially compelling. William Prisock testified that the bolts he placed prior to September 21 anchored “close to four feet” into the main roof. Tr. 13 at 132. His testimony was not refuted. Although Bonner testified the top into which the bolts anchored was sometimes softer than he would have liked (Tr. 4 at 52-54), both he and Terry described the bolts as “well anchored” in “competent top” and both believed the intersection was safe and not a hazard. Tr. 4 at 51-52, 108-10; Tr. 5 at 47, 60. For this reason, I conclude that Bonner’s later observation as to the consistency of the roof (Tr. 4 at 108, 109) is not a critical factor making use of the 10-foot bolts unreasonable at the time. I also find the fact that at the time neither Bonner nor Terry spoke to their supervisor or to their fellow miners about any safety concerns for the roof or about a need for different and other roof control measures to further support the roof buttresses the reasonableness of JWR’s reliance on the 10-foot cable bolts. Tr. 6 at 430-31.³⁷

Moreover, it is reasonable to assume that if miners believed the roof support methods they were using in the cited area were inadequate, they would have reported it to Brown, yet there is no testimony, aside from Linn’s uncorroborated assertion, that any of them communicated with Brown about the control methods they were using. See Tr. 5 at 125-26; Tr. 6 at 430. The miners’ silence on the topic is especially telling in the case of Bonner and Terry, roof bolters who were not only engaged in work that was vital to the safety of others, but was equally vital to their own well being. Cybulski was of the opinion that a reasonable roof bolter would have stated to his or her supervisor that he or she was not getting enough anchorage when using the 10-foot bolts. Tr. 11 at 403-04. If so, a logical corollary is that the lack of such a statement indicates the opposite.

The Secretary argues that in fact the cable bolts were not anchored “sufficiently in competent top.” S. Br. at 11. She notes the testimony of Cybulski that 4 feet of anchorage is necessary to obtain maximum strength from the bolt and the testimony of Howell that manufacturers’ specifications require 1/3 to 1/2-length of the bolt to anchor into solid top to

³⁷ Continuous miner helper Nobel Linn, who worked on the September 21 day shift, testified that he, Terry, Bonner, and Brown discussed the roof in the No. 2 Entry during the course of the shift that day, that Brown suggested the use of longer cable bolts but that the consensus view was to use steel rails supported with cribs, and that Brown stated sufficient material was not available and would have to be ordered. Tr. 5 at 100-01. I do not find Linn’s story credible. There is no confirming testimony from Terry or Bonner, and Brown stated he did not recall a conversation with Linn and that, in any event, cribbing material was stored in the supply hole, although he was not certain how much was available. Tr. 6 at 385-87. Also, as JWR points out, Linn did not mention a concern about the adequacy of the roof support to his UMW safety committee representative whom he saw that day on the section. JWR Br. at I-24 (citing Tr. 5 at 110). Nonetheless, even were I to credit Linn’s version of the conversation, it would not mean that what was done to support the roof was *per se* unreasonable. Roof support that is “best” or “better” is not necessarily roof support that is exclusively reasonable, and the question before me is the reasonableness of JWR’s action under all of the circumstances.

develop full strength. *Id.* at 12; Tr. 13 at 212. Of course, as previously noted, Howell also testified, in seeming contradiction to manufacturers' specifications, that he had achieved full bolt strength with a little less than 1/5 of a cable bolt anchored in solid top. Tr. 13 at 212. However, even if the cable bolts used in the SS 13333 intersection did not obtain maximum strength, the failure to use longer cable bolts did not necessarily make the use of 10-foot bolts unreasonable. Adequate support depends upon the circumstances. Given what the record reveals about the prior history of roof support at the mine, the signs of roof deterioration available to JWR on September 21, the roof bolters' belief that they had sufficiently anchored the bolts, and the lack of any complaints or concerns from them regarding the way the bolts anchored, I conclude there was no reason to suspect that the 10-foot bolts were not providing adequate support. It bears repeating that my inquiry is directed not at whether the most effective roof support was used by JWR, but whether, under all of the circumstances, the support which was used was reasonable.

Having concluded that JWR acted reasonably through the installation of the supplemental supports on September 21, I now must consider the company's actions between September 21 and the September 23 roof fall. After the supplemental cable bolts were installed, the condition of the roof remained essentially unchanged during the next shift on September 21 (the evening shift). Mike Buchanan, the supervisor on the shift, observed small "hairline" cracks and water coming from the roof at SS 13333, but he saw no signs that the ribs were taking weight. Tr. 13 at 21, 25, 56-57. It was Buchanan's conclusion that cribs were not needed. Buchanan's decision to have the battery charger and battery moved into the intersection of SS 13333 lends weight to the reasonableness of his belief. *Id.* at 21-22. Only a recklessly negligent person would have purposefully moved equipment under roof he believed was insufficiently supported, and there is no indication that Buchanan was such a person.

The record also supports the conclusion that September 22 came and went without any meaningful change in the roof's condition. Bruce Mabe, who made the preshift examination for the day shift, described the roof on the No. 4 Section as "nothing out of the ordinary." Tr. 12 at 517. Mabe saw no evidence that the roof bolts were "loading up" and taking weight. *Id.* at 518. The roof bolt plates were not bent. The adjacent ribs were not sloughing excessively. *Id.* Brown, who worked the day shift, recalled no change in the roof's condition (Tr. 6 at 436-37), a statement whose credibility is buttressed by the fact that Brown did not direct further roof bolts to be installed. *Id.* Buchanan, who did the preshift examination for the evening shift, continued to believe the roof did not present a hazard and that there was no need for additional roof support. Tr. 13 at 34. Even the Secretary's witness, Cybulski, stated that his investigation of the accident led him to conclude that the roof had not deteriorated between September 21 and the first shifts on September 23. Tr. 11 at 402.

However, and as previously noted, on the afternoon of September 23, conditions began to change fast. On the day shift, signs of deterioration were observed in the SS 13333 intersection. While conducting the preshift examination for the oncoming shift, Puckett saw ribs sloughing in the short crosscut adjacent to SS 13333 and a crack and a small hole in a nearby brattice. Tr. 4 at 227-28. It was evident to Duvall that more was needed to control the situation, and he advised

Tony Key that cribs, the next logical step in JWR's arsenal of roof and rib control measures, should be built. Tr. 6 at 45-47. Puckett's preshift report confirmed this need.³⁸ The testimony of Duvall and Key establishes that JWR was aware there was a problem requiring additional and different support and that the company, through Duvall, responded to the problem by ordering the installation of that support.

Key's testimony that his first priority when he started the evening shift on September 23 was the installation of cribs in the No. 2 Entry of the No. 4 Section is entirely credible. Key had his work orders and the orders conformed to what Duvall believed was needed. Tr. 6 at 45. Key and his crew (Nail, McIe, Mobley, and Adams) traveled underground. When they arrived on the section, Key noticed the damage to the brattice. After visiting the power center and taking methane readings there and at the faces, Key instructed McIe and Adams to start building cribs by beginning outby and moving progressively inby. *Id.* at 56-58. Key acted safely and reasonably by having the men begin work only after he had checked the section for methane and to start their work at what he believed was the safest place. *Id.* at 58.

There is no indication that Key dawdled in taking reasonable remedial steps to address the deteriorating situation. Rather, once he was on the section, he moved in a logical and timely fashion to make sure installation of the cribs proceeded safely. Unfortunately, the roof conditions degraded so rapidly there was insufficient time to build the cribs, and it is impossible to know whether the prior installation of longer cable bolts, more cribs, or other measures would have

³⁸ When Puckett orally called out the report, it was recorded in writing by Tony Key who was scheduled to work on the evening shift. Among the things Key wrote in the report were the words "top working" in the "hazardous conditions" section. Tr. 6 at 47-48. There is a dispute whether Puckett actually told Key the roof was "working" or whether Puckett was talking about the adjacent rib (the yield pillar), and Key interpreted what Puckett said as relating to the roof because excessive rib sloughage and unstable roof conditions frequently occur together. *Id.* at 46-48; Tr. 5 at 203-07; *see* JWR Br. at I-18. However, resolving the dispute is not important when deciding whether or not JWR personnel acted reasonably because whatever Puckett meant, Duvall, Key's supervisor, clearly understood that the situation was fast changing and that it called for additional and different support, i.e., cribs. Tr. 5 at 204, 209-10.

resulted in a different outcome.³⁹ I therefore conclude that JWR's actions on September 23 also were reasonable.

Because JWR personnel acted reasonably in the face of the circumstances they knew or should have known existed on the No. 4 Section, the company did not violate section 75.202(a).

B. The Citation and Orders Relating to the Incombustible Content of Mine Dust

Citation No. 7328081 charges a violation of 30 C.F.R. § 75.403 in that, of 123 dust samples collected during the accident investigation throughout 3 East, 4 East, the No. 4 Section, the No. 6 Section, and the connecting entries of Shaft 5-9, 121 of the samples did not meet the regulatory requirements for incombustible content of the combined coal dust, rock dust, and other dust. The citation also specifically notes that none of 31 band samples taken in an area of the No. 4 Section inby the previously flooded area ("inby the toe of the water") met the requirements of the regulation.⁴⁰ The citation contains an S&S finding. It also asserts that the 13 miners were fatally

³⁹ In this regard, it should be emphasized that there is no way to accurately determine the height at which the fall originated, except that it originated above the anchorage zone of the 10-foot cable bolts and, as Peng persuasively testified, almost certainly above the anchorage zone of 12-foot bolts. Tr. 13 at 285-86, 295, 319-20. It also may well have originated above the anchorage zone of 14-foot cable bolts. In any event, such issues are beside the point in that the fundamental question is not what JWR could or should have done but whether what it did was reasonable. As Stewart observed, "if you look at the accident in hindsight . . . something different might have helped" but, as he also recognized, the proper perspective regarding the alleged violation is to view events as of the time they occurred and from the vantage point of those involved. Tr. 15 at 1166. When this is done, I agree with Stewart that, based on what miners and management officials "saw and knew," their actions were "prudent," that is to say, reasonable. *Id.*

⁴⁰ Citation No. 7328081 states in part:

On September 23, 2001, two separate explosions occurred in 4 Section, resulting in fatal injuries to thirteen miners. During the investigation, a total of 123 mine dust samples were collected throughout 3 East, 4 East, 4 Section, 6 Section and the connecting entries for Shafts 5-9. These band samples were subjected to a laboratory incombustible analysis. The results revealed that 121 (98.4%) of the sample results did not meet the regulatory requirements for incombustible content of the combined coal dust, rock dust and other dust of at least 65% in the intake air courses and at least 80% in the return air courses. None of the 31 band samples taken in the inby area of 4 Section met the regulatory requirements. This area of 4 Section was not flooded during

injured as a result of the violation, that the violation was due to JWR's unwarrantable failure to comply with section 75.403, and that the company's negligence was high. Gov't Ex. 1.

Section 75.403 states in part:

Where rock dust is required to be applied, it shall be distributed upon the top, floor and sides of all underground areas of the coal mine and maintained in such quantities that the incombustible content of the combined coal dust, rock dust, and other dust shall be not less than 65 per centum, but the incombustible content in the return aircourses shall be no less than 80 per centum.

30 C.F.R. § 75.403.

Order No. 7328088 charges a violation of 30 C.F.R. § 75.360(b)(3) in that an adequate preshift examination was not conducted in the No. 4 Section for the afternoon shift of September 22, because inadequate rock dust was not identified by the examiner.⁴¹ The order contains an S&S

recovery operations and was the location where both explosions originated. This was also the area where coal dust became the primary fuel for the second explosion. The condition contributed to the severity and extent of the second explosion that resulted in fatal injuries.

Gov't Ex. 1.

⁴¹ Order No. 7328088 states:

On September 23, 2001, two separate explosions occurred in 4 Section, resulting in fatal injuries to thirteen miners. The accident investigation revealed that an adequate preshift examination was not conducted in 4 Section where persons were scheduled to perform maintenance work during the oncoming afternoon shift on September 22, 2001. A hazardous condition consisting of inadequate rock dust existed, but was not identified by the examiner. The condition was obvious, widespread, and in the areas traveled by the examiner. During the investigation, mine dust samples were collected throughout 4 Section. These band samples were subjected to a laboratory incombustible analysis. The results revealed that approximately 97% of the sample results did not meet the regulatory requirements for incombustible content of the combined coal dust, rock dust and other dust. None of the 31 band samples taken in the inby area of 4 Section met the

finding. It also asserts that the 13 miners were fatally injured as a result of the violation, that the violation was due to JWR's unwarrantable failure to comply with section 75.403, and that the company's negligence was high. Gov't Ex. 5.

Section 75.360(b)(3) in part requires preshift examinations in:

Working sections and areas where mechanized mining equipment is being installed or removed, if anyone is scheduled to work on the section or in the area during the oncoming shift. The scope of the examination shall include the working places.

30 C.F.R. § 75.360(b)(3).

Order No. 7328104 charges a violation of 30 C.F.R. § 75.362(a)(1) in that an adequate on-shift examination was not conducted for the afternoon shift of September 22, because inadequate rock dust was not identified by the examiner on the No. 4 Section where two mechanics were assigned to work.⁴² The order contains an S&S finding. It also asserts that the 13 miners were

regulatory requirements. The average incombustible content was less than 40%, indicating a condition significantly below the regulatory requirements that should have been recognized by a prudent mine examiner. This area of 4 Section was not flooded during recovery operations and was the location where both explosions originated. This was also the area where coal dust became the primary fuel for the second explosion. The condition contributed to the severity and extent of the second explosion that resulted in fatal injuries. The Order will not be terminated until hazard recognition training is provided for certified mine examiners at the No. 5 Mine.

Gov't Ex. 5.

⁴² Order No. 7328104 states:

On September 23, 2001, two separate explosions occurred in 4 Section, resulting in fatal injuries to thirteen miners. The accident investigation revealed that an adequate on-shift examination was not conducted in 4 Section where two mechanics were assigned to work during the afternoon shift on September 22, 2001. A hazardous condition consisting of inadequate rock dust existed, but was not identified by the examiner. The condition was obvious, widespread and in the areas traveled by the examiner. During the investigation, mine dust samples were collected

fatally injured as a result of the violation, that the violation was due to JWR's unwarrantable failure to comply with section 75.403, and that the company's negligence was high. Gov't Ex. 6.

Section 75.362(a)(1) states in part:

At least once during each shift or more often if necessary for safety, a certified person designated by the operator shall conduct an on-shift examination of each section where anyone is assigned to work during the shift and any area where mechanized mining equipment is being installed or removed during the shift. The certified person shall check for hazardous conditions.

30 C.F.R. § 75.362(a)(1).

Order No. 7328105 charges of violation of section 75.360(b)(3) in that an adequate preshift examination was not conducted for the day shift on September 23, because: (1) the examiner did not inspect the areas where miners were scheduled to perform maintenance and to roof bolt on the No. 4 Section but rather limited the examination to electrical installations; and, (2) the examiner did not identify obvious and widespread inadequate rock dust.⁴³ The order contains an S&S

throughout 4 Section. These band samples were subjected to a laboratory incombustible analysis. The results revealed that approximately 97% of the sample results did not meet the regulatory requirements for incombustible content of the combined coal dust, rock dust and other dust. None of the 31 band samples taken in the inby area of 4 Section met the regulatory requirements. The average incombustible content was less than 40%, indicating a condition significantly below the regulatory requirements that should have been recognized by a prudent mine examiner. This area of 4 Section was not flooded during the recovery operations and was the location where both explosions originated. This was also the area where coal dust became the primary fuel for the second explosion. The condition contributed to the severity and extent of the second explosion that resulted in fatal injuries. The Order will not be terminated until hazard recognition training is provided for certified mine examiners at the No. 5 Mine.

Gov't Ex. 6.

⁴³ Order No. 7328105 states in part:

On September 23, 2001, two separate explosions occurred in 4 Section, resulting in fatal injuries to thirteen miners. The

finding. It also asserts that the 13 miners were fatally injured as a result of the violation, that the violation was due to JWR's unwarrantable failure to comply with section 75.360(b)(3), and that the company's negligence was high. Gov't Ex. 7.

Order No. 7328106 charges a violation of section 75.360(b)(3) in that an adequate preshift examination was not conducted for the afternoon shift of September 23, because the examiner did

accident investigation revealed that an adequate preshift examination was not conducted in 4 Section where persons were scheduled to perform maintenance work and install roof bolts during the oncoming day shift on September 23, 2001. The examination was incomplete in that an examination of the working places was not conducted where miners were scheduled to roof bolt the unsupported face areas. The main mine fan had been off during the previous shift, creating the potential for methane accumulations in the long crosscuts between No. 2 and No. 3 Entries as well as in the face areas. The examiner was not made aware of these circumstances and was instructed by mine management to limit the examination to the electrical installations only. In addition, a hazardous condition consisting of inadequate rock dust existed, but was not identified by the examiner. The condition was obvious, widespread and in the areas traveled by the examiner. During the investigation, mine dust samples were collected throughout 4 Section. These band samples were subjected to an incombustible analysis. The results revealed that approximately 97% of the sample results did not meet the regulatory requirements for incombustible content of the combined coal dust, rock dust and other dust. None of the 31 band samples taken in the inby area of 4 Section met the regulatory requirements. The average incombustible content was less than 40%, indicating a condition significantly below the regulatory requirements that should have been recognized by a prudent mine examiner. This area of 4 Section was not flooded during recovery operations and was the location where both explosions originated. This was also the area where coal dust became the primary fuel for the second explosion. The condition contributed to the severity and extent of the second explosion that resulted in fatal injuries. The Order will not be terminated until hazard recognition training is provided for certified mine examiners at the No. 5 Mine.

Gov't Ex. 7.

not identify obvious and widespread inadequate rock dust.⁴⁴ The order contains an S&S finding. It also asserts that the 13 miners were fatally injured as a result of the violation, that the violation was due to JWR's unwarrantable failure to comply with section 75.360(b)(3), and that the company's negligence was high. Gov't Ex. 8.

1. Citation No. 7328081

Section 75.403 requires rock dust to be distributed on the top, floor, and sides of all underground areas of a coal mine and maintained in such quantities that the incombustible content of the combined coal dust, rock dust, and other dust is not less than 65%, and the incombustible content in the return aircourses is not less than 80%. The regulation, which restates section 305(d)(2) of the Mine Act (30 U.S.C. § 865(d)(2)), first was set forth as section 304(d)(2) of the Federal Coal Mine Health and Safety Act of 1969 (the "Coal Act"). 30 U.S.C. § 864(d)(2) (1976).

⁴⁴ Order No. 7328106 states:

On September 23, 2001, two separate explosions occurred in 4 Section, resulting in fatal injuries to thirteen miners. The accident investigation revealed that an adequate preshift examination was not conducted in 4 Section where persons were scheduled to install cribs during the oncoming afternoon shift on September 23, 2001. A hazardous condition consisting of inadequate rock dust existed, but was not identified by the examiner. The condition was obvious, widespread and in the areas traveled by the examiner. During the investigation, mine dust samples were collected throughout 4 Section. These band samples were subjected to a laboratory incombustibility analysis. The results revealed that approximately 97% of the sample results did not meet the regulatory requirements for incombustible content of the combined coal dust, rock dust and other dust. None of the 31 band samples taken in the inby area of 4 Section met the regulatory requirements. The average incombustible content was less than 40% indicating a condition significantly below the regulatory requirements that should have been recognized by a prudent mine examiner. This area of 4 Section was not flooded during recovery operations and was the location where both explosions originated. This was also the area where coal dust became the primary fuel for the second explosion. The condition contributed to the severity and extent of the second explosion that resulted in fatal injuries. The Order will not be terminated until hazard recognition training is provided for certified mine examiners at the No. 5 Mine.

Gov't Ex. 8.

Because the Coal Act established numerical minimal levels for the incombustible content of the combined dust, it was an axiom of coal mine safety law that a violation of section 304(d)(2) and/or its implementing regulation could be established only by numerical results from valid dust samples – results that proved the required minimum level of incombustible content had not been reached. In one of its earliest decisions, the Commission’s predecessor, the Interior Board of Mine Operations Appeals, found that:

Since Congress specifically delineated percentages . . . [a violation of section 304(d)(2)] must be supported by more than the mere visual observation of an inspector. Unless samples support an alleged violation . . . it cannot be sustained.

Hall Coal Co., Inc., 1 IBMA 175, 178 (Aug. 22, 1972); *see also Newsome Brothers, Inc.*, 1 IBMA 190, 192-93 (Sept. 29, 1972) (invalidating alleged violation based “solely upon the visual observation of the inspector”).

The Commission’s judges long have followed the same principle in Mine Act cases. *See, e.g., Consolidation Coal Co.*, 22 FMSHRC 455, 466 (Mar. 2000) (ALJ), *rev’d on other grounds*, 23 FMSHRC 588 (June 2001). The Secretary also has recognized the principle. Reiterating that observation alone is insufficient to support a violation, she has instructed her inspectors to “[c]ollect samples to substantiate the violation when citing inadequate rock dust.” *Coal General Inspection Procedures Handbook*, 4-12 (Apr. 1, 1969).⁴⁵

In most instances when the agency collects and analyzes dust samples, its purpose is to determine the incombustible content of the dust as of the moment the samples are collected. After analysis of the samples, if a sufficient percentage of the samples indicates the dust content does not meet required minimum levels, a citation charging a violation of section 75.403 is issued. The alleged violation relates back to the time of sampling.

The citation at issue presents a very different scenario. The agency is not alleging the sample results indicate a violation as of the time the samples were collected. Rather, it is alleging the results indicate a violation that existed almost 2 months before the samples were taken, that is to say, immediately before the roof fell on September 23.⁴⁶ In other words, the Secretary is

⁴⁵ Kevin Stricklin, an MSHA district manager who participated in the collection of samples following the accident, referred to the agency’s implementation of the principle when he agreed that MSHA’s decision to charge JWR with a violation of section 75.403 “[came] from the samples.” Tr. 7 at 280.

⁴⁶ Collection of the samples began far outby in unaffected areas of the mine on October 13, 2001 and progressed inby as affected areas were recovered. Sampling ended on December 13, 2001. Samples for the No. 4 Section and the outby affected areas were not taken until almost 2 months after the first explosion. *See* Tr. 7 at 307-10.

asserting that the sample results represent pre-existing conditions. There is nothing wrong with such an assertion, provided the Secretary can prove that conditions relating to the mine dust did not change between the time of the alleged violation and the samples' collection; or, alternatively, provided the Secretary can prove that although conditions changed, the sample results nonetheless are sufficiently representative of results that would have been obtained had the samples been collected at the time of the alleged violation.

In the context of this case, for the sample results to be sufficiently representative, the samples must reflect the particular characteristics they would have had if they had been taken immediately prior to the roof fall. They need not consist of identical amounts of combined moisture, coal dust, rock dust, and other dust that then existed. If that were required, the changing conditions to which all miners are subject would ensure that post-event samples rarely – perhaps never – could establish a violation. But to carry her burden of proof, the Secretary must be able to show by a preponderance of the evidence that no intervening events fundamentally changed the samples' contents and, thus, that the samples are sufficiently like those that would have been collected at the time the violation allegedly occurred.

The Secretary argues that she has established the reliability of the dust samples and that JWR has failed to show how “changed conditions in the mine would have altered the percentage of incombustible content in the relevant areas overall.” S. Br. at 79. She asserts that, “In the absence of evidence demonstrating . . . changes in the mine site would render the dust samples meaningfully dissimilar to the conditions before the explosion, the samples establish a violation” of the cited standard. *Id.* at 80.

Not surprisingly, JWR counters that the Secretary has failed to furnish the proof necessary to show that the company did not maintain the mine in compliance with section 75.403. JWR Br. II-1. JWR maintains the Secretary has failed to meet her burden because the post-explosion samples have no probative value. Rather than reflect conditions existing immediately prior to the roof fall, they are “samples of a mine environment so radically and materially different from pre-explosion conditions that are legally at issue ... [they] lack any legal relevance.” *Id.* at II-14. The company also sets forth a systematic and concerted evaluation of what it claims are manifold inadequacies in the testimony of the Secretary's expert witness on the dust issue, Clete Stephan. *Id.* at II-38-54.

a. Changed Conditions

The testimony is replete with descriptions of the rock dusting and coal dust reduction program that was in effect at the No. 5 Mine and of its use on the No. 4 and No. 6 Sections. *See* Tr. 4 at 322-23; Tr. 5 at 210-13, 234-35, 312-13; Tr. 6 at 399; Tr. 12 at 188-92; Tr. 13 at 15, 60; Tr. 15 at 982. While the adequacy of the rock dust applications is at issue, there is really no dispute that most parts of the areas were in fact rock dusted.

In addition to this testimony, the general visual appearance of the areas indicated the presence of varying amounts of rock dust. The descriptions of the areas ranged from “white” (Tr. 3

at 495, 512 – miner Joe Phillips describing the roof and ribs of the No. 6 Section on September 21 and 23; Tr. 13 at 27-30 – foreman Mike Buchanan describing entries in the No. 4 Section on September 22) to “dark grey” and “black” (Tr. 3 at 339-40 – miner Eddie Maxwell describing areas on the No. 4 Section on September 21).

However, following the explosions a visually dramatic change in these conditions was noted by every witness who saw the sampled areas. Whatever had been their look and condition prior to the explosions, everything in the affected areas – the ribs, the floor, the roof, and the equipment – was covered with a coating of soot and/or coal dust. Fresh coal littered the floors and was exposed on many ribs. No rock dust was visible. The result was that the affected areas, and especially the No. 4 Section, were blacker than night, and without digging into the floor or taking away surface dust from the roof and ribs, rock dust could not be seen.

The testimony describing this change was compelling. Dale Byram, JWR’s manager for safety and training who went underground approximately 3 hours after the second explosion, stated that, as the rescue team he was leading proceeded inby, he began to see light grey dust on the track. The closer the team came to the No. 4 Section, the darker in color the mine surfaces became and debris from the explosion became noticeable. Tr. 12 at 395, 397. For example, at the 3 East turnout he saw a significant amount of debris, including a large pod duster that had been blown from one side of the track to the other. *Id.* at 398-99. As the crew arrived at what would have been the entrance to the No. 6 Section, the debris on the track forced the crew to abandon the manbus and proceed on foot. *Id.* at 399. Everything from 3 East inby was “solid black.” *Id.*

Approximately 42 days later, after the mine had been flooded and the water had been removed, Byram was able to view all of the No. 4 Section. The changed conditions were even more dramatic than they had been immediately following the explosions. In addition to the “consistent blackness everywhere” and “total destruction” (Tr. 12 at 422), Byram could see that coal had been scoured from the pillars and that metal doors were wrapped around steel pipes “much like you see in a tornado.” *Id.* at 423. A ram car was mangled. Stoppings were blown out. Everything was covered with a sooty layer of black. The only evidence of rock dust was seen when the black layer was broken through and scraped away. *Id.* at 424.

Terry Eulenstein, a company roof bolter, who participated in the collection of dust samples, also described the No. 4 Section as “black” and a place of “total destruction.” Tr. 11 at 277. Eulenstein’s testimony was echoed and supplemented by union safety committeeman Ricky Parker, who took part in the post-accident investigation. Parker noted that the roof, ribs, and floor were so black that light from his and others’ cap lamps was simply swallowed up and absorbed by the darkness. Fresh coal was everywhere in the area, including coal from sloughed ribs. Tr. 6 at

334-35, 351.⁴⁷ Parker thought that conditions before and after the explosions were as different as night and day. *Id.* at 349.

Another union safety committeeman, Eric Barnes, who had been on the No. 4 Section on September 21 and who revisited it on November 1, also thought the section was “totally different.” Tr. 2 at 520. Like many others, Barnes noted that equipment was destroyed, ribs were blown away, and particles of coal of all sizes littered the section. *Id.* at 520-22. Roof bolter David Terry, who was on the No. 4 Section and in the affected areas before and after the explosions, agreed as to the totality of the change, and he stated that hardly “a grain” of rockdust was visible anywhere. Tr. 5 at 78. In fact, conditions on the No. 4 Section were so different, John Puckett, the day shift foreman who was last on the section on September 23, stated if the mine had looked on September 23 as it did following the explosions and flooding, his crew “would have probably called . . . [MSHA] and the [union] safety committee before we got to the section, if I had even tried to make them go.” Tr. 4 at 252.

Trent Thrasher, who was the deputy mine manager at the time of the explosions, and who went underground during the course of the investigation, saw that the ribs had sloughed and rolled out into the entries and that coal was scattered everywhere from the intake shaft to the faces. Tr. 12 at 187-88. Gary Toxey, then a member of the union, who was part of the team collecting dust samples, described the rib sloughage on the No. 4 Section, both in the area that had been flooded and in the area inby the toe of the water as “astronomical.” Tr. 12 at 683, 705.⁴⁸ Some of the equipment on the section was buried in 18 to 24 inches of rubble. Tr. 12 at 353-54.

MSHA Inspector Donald Greer, who was underground before and after the explosions, stated that the mine looked like nothing he had seen before. He noted the absence of observable rock dust and the fact that in some places, the ribs had been blown away near their tops so that the entry cross sections were trapezoidal rather than rectangular. Tr. 12 at 599-600.

Given the overwhelming testimony of these eyewitnesses, I find that the conditions in which the samples were collected following the explosions were fundamentally different from those that existed immediately prior to the roof fall. However, this finding does not doom the

⁴⁷ Chuck Stewart, the company’s assistant mine manager, who went to the No. 4 Section in early November also saw the post-accident sloughage. Tr. 15 at 913-20; *see* JWR Ex. 260. As Stewart recalled, some of the sloughed coal extended at least two thirds of the way into the entries. Tr. 15 at 917-18.

⁴⁸ Toxey’s description of the amount of sloughage was at odds with that of Kenneth Murray, an MSHA District Manager and a member of MSHA’s investigation team. Murray described the No. 4 Section as having a “bit” of sloughage. Tr. 9 at 57-58. However, under either scenario, it is clear that post-explosion sloughage was present in the affected area.

alleged violation, providing the Secretary can show by a preponderance of the evidence that despite the changed conditions the sample results are sufficiently representative of what they would have been had the samples been collected immediately prior to the roof fall.

b. The Representative Nature of the Samples

_____ After a thorough review of the record, I conclude that the Secretary has not made such a showing. In fact, she has not even come close. Rather, the record establishes beyond doubt that forces unleashed by the explosions, water that was pumped into and out of the mine, and the sloughing of the Blue Creek Seam changed the content of the dust that was sampled so that the collected mix of rock dust, coal dust, and other dust was different after the explosions than it was immediately before the roof fell. The record also confirms that the Secretary failed to show, as was her burden, that despite these changes the results were fundamentally the same as they would have been if the samples had been collected prior to the roof fall. Indeed, as will be discussed, the testimony and exhibits offered by the Secretary fail to provide a basis for answering with a requisite degree of certainty many critical questions regarding the effect of the events on the samples, and the resulting inconclusive nature of the Secretary's case defeats her efforts to prove the violation.

To understand what happened to the rock and coal dust included in the samples, it is necessary to review what is known about the effects of the events that occurred during and following the explosions. First, it is indisputable that existing rock dust on the No. 4 Section and elsewhere in the sampled areas was moved by the explosions' forces and by the flow of water when the mine was flooded. In addition, it is indisputable that draining the water from the mine also moved and removed rock dust from the formerly flooded and sampled areas.

Second, it is indisputable that forces from the explosions, the flooding of the mine after the explosions, and the sloughing of the coal ribs after the explosions moved existing coal dust and added new coal dust to the sampled areas. It is equally indisputable that draining the water moved and removed coal dust from the formerly flooded and sampled areas.

Clete Stephan was the Secretary's primary witness regarding the samples. Stephan was instrumental in the agency's decision to cite JWR for the violation of section 75.403 based on the post-accident samples. *See* Tr. 7 at 223-24. With regard to rock dust, Stephan agreed that the shaking of the ribs that accompanied the explosions would have redistributed "some" rock dust located on the surface of the ribs. Tr. 10 at 293-95. Further, he agreed that during the first explosion, rock dust on the section was lifted and moved, but he maintained that because the forces generated by the first explosion were "small," "very little" of the rock dust was moved off of the No. 4 Section. Tr. 11 at 158-59, 161-62. He also believed that although forces of the second explosion lifted more rock dust, "the dust lifted in the vicinity of the face [was] left within about two hundred feet of where it was initially picked up." *Id.* at 162.

However, Stephan's opinions are suspect. Given the totality of the testimony, it is equally plausible that forces from the explosions put much rock dust in the sampled areas into suspension and that this dust traveled out of the sampled areas, in some instances far out of them. I note that miners outby the No. 4 Section following the first explosion invariably commented about dust that soon appeared around them. Benny Franklin, the longwall production supervisor, testified that the dust in the air was so thick he had to find a second phone from which to call out of the mine. As Franklin remembered, visibility was extremely restricted, and it was hazardous to stand in the dust at the first phone. Tr. 3 at 55. In fact, the dust was so thick in the air that those working on the longwall thought miners inby were rockdusting and that the rock dust was traveling outby over them. *See, e.g.*, Tr. 3 at 39, 50. Other miners who were outby the No. 4 Section following the first explosion agreed that, as they got closer to the section, the dust in the air increased. *See, e.g.*, Tr. 2 at 290-91, 311.

Nor was transportation of the rock dust limited to underground areas. Rock dust was blown completely out of the mine. Section foreman Mike Buchanan described the surface area around the top of the 5-9 Shaft on the day after the explosions as having "rockdust all over the ground where it blew out." Tr. 13 at 42-43. Chuck Stewart confirmed this and added that some thought it looked as though it had snowed. Tr. 15 at 966-67. According to Buchanan, the rock dust was 1/8- to 1/4-inch deep around the top of the shaft, and 1/8-inch deep to a minimal amount up to 1,000 feet away from the shaft. Tr. 13 at 43-44. There is no testimony disputing Buchanan's and Stewart's descriptions of the rock dust, and Martin Hertzberg, an expert witness who appeared on behalf of the company, persuasively testified that the rock dust around the 5-9 Shaft was evidence of how the explosions' forces could transport dust great distances. Tr. 15 at 863.

I conclude that the eyewitness testimony of those both underground and above as to the presence of rock dust that appeared soon after the explosions undermined Stephan's opinion that "very little" dust was moved off the No. 4 Section by the explosions. The rock dust came from somewhere. The record confirms that rock dust in the sampled areas was picked up by the explosions' forces, yet one searches the record in vain for scientifically reliable evidence establishing how much rock dust was picked up and the distance it was moved. Indeed, Stephan admitted that MSHA did not calculate the explosions' forces (Tr. 11 at 100), a calculation that would seem to have been critical to any scientific determination of the distance that dust – rock and/or coal dust – was transported. The fact that it is impossible to determine the amount of rock dust that was put into suspension and the extent that it was moved is one of the unresolved issues that undermines the Secretary's case.

The same is true of coal dust. Trent Thrasher believed forces from the explosion blew coal dust out of the areas sampled. *See* Tr. 3 at 39, 50.⁴⁹ Stephan agreed that as a mine's atmosphere

⁴⁹ Thrasher, like many of the witnesses, used the generic term "dust" to refer to both rock dust and coal dust. It is clear, however, from the context of the testimony, that Thrasher, like the other witnesses who used the general term, believed that coal dust, in addition to rock dust, was moved by forces unleashed by the explosions.

expands during an explosion, dust (including coal dust) is picked up off the mine floor, knocked off the surfaces of the mine's roof and ribs, and put into suspension. Tr. 11 at 95. Once coal dust is placed in suspension it was moved by the atmosphere. Martin Hertzberg logically explained, "the distance that the dust gets thrown . . . depends on how big the explosion is." Tr. 15 at 438. "[C]oal dust . . . can get transported hundreds of feet to thousands of feet, depending upon the dimensions of the explosion." *Id.* at 439; *see also* JWR Exs. 253, 254 (pictorial and video depiction of coal dust propelled by explosion).

Stephan did not disagree that dust was in fact raised by the first explosion and that the amount of dust suspended and transported outby by the first explosion depended on the magnitude of the forces created by the explosion. He also did not disagree that MSHA made no calculations regarding these forces. Tr. 11 at 81-84. He testified that to some extent dust located inby the end of the track before each explosion was propelled outby by each explosion. *Id.* at 87. He agreed during his deposition that the liberation of coal and coal dust from the ribs "would contaminate the area with respect to conditions that existed before the roof fall." Tr. 10 at 219. He added that, to some extent – perhaps to a great extent – dust samples "that included . . . dust that's liberated from the ribs by the first explosion . . . would not be representative of pre-roof fall conditions." *Id.* He further agreed that there was no way to know after the explosion how much the liberated dust affected the samples. *Id.* at 219-20.

In addition, Stephan acknowledged that the second explosion transported dust a far greater distance than the first explosion (Tr. 11 at 8, 78), and that the dust would have been transported outby in all four entries of the No. 4 Section. *Id.* at 78. He testified that some dust transported in the second explosion also had been transported in the first explosion, and because the forces from the second explosion were greater, dust not moved by the first explosion was in fact moved by the second. *Id.* at 81-82. Stephan acknowledged that MSHA made no calculations as to how much dust was transported by either of the explosions. *Id.* at 83. However, he was of the opinion that some dust inby the end of the track on the No. 4 Section was pushed or propelled outby the end of the track after the second explosion. *Id.* at 87. The fact that it is impossible to determine from the record the amount of coal dust that was put into suspension and the distance it was moved is yet another unresolved issue that undermines the Secretary's case.

In addition to being unable to determine how much rock and coal dust was put into suspension by the explosions and how far it was moved, the government was unable to establish to a reasonable degree of certainty how the dust settled after the explosions. Stephan even conceded the dust could have been in compliance before the first explosion and settled in such a way that it was explosive. Tr. 11 at 7-8.

To this must be added the fact that the explosive forces in and of themselves resulted in the liberation of coal dust that was not present before the roof fall. Witnesses for both the company and the Secretary agreed that equipment and other objects were hurled by the explosions' forces into the ribs and that the impacts fractured the ribs and freed coal dust. *See, e.g.*, Tr. 8 at 262-65

(Jim Langley); Tr. 10 at 214-17 (Stephan); Tr. 14 at 603 (Jack Tisdale);⁵⁰ *see also* Tr. 11 at 260-61. As MSHA Inspector Jim Langley aptly noted, the friable nature of the Blue Creek Seam virtually ensured coal dust would be liberated. Tr. 8 at 262, 268.

In addition, the nature of the Blue Creek Seam meant that coal dust was continually added to the sampled areas between the last explosion and the dates the samples were collected. Almost every witness who traveled underground commented upon the presence of post-explosion sloughage in the sampled areas. *See, e.g.*, Tr. 15 at 913-20 (testimony of Chuck Stewart regarding No. 4 Section); Tr. 12 at 683, 705 (testimony of Gary Toxey regarding No. 4 Section); Tr. 9 at 57-58 (testimony of Kenneth Murray regarding No. 4 Section); Tr. 8 at 271-72 (Langley); Tr. 12 at 524-26 (Mabe). True, there was disagreement as to the amount of sloughage. As has been previously noted, Toxey's description of the sloughage as "astronomical" (Tr. 12 at 683) was at odds with Kenneth Murray's description of the No. 4 Section as exhibiting a "bit" of sloughage. Tr. 9 at 57-58. However, under either scenario, it is clear that post-explosion sloughage was present in the affected area.

It is also clear that the post-explosion sloughage produced "sampleable" coal dust. Murray, the MSHA field office supervisor who co-authored the part of the MSHA accident report dealing with dust, thought that most of the dust produced by the sloughage was too large to pass through a 20 mesh sieve and, therefore, was too large to be included as part of the samples. Tr. 9 at 59. Stephan echoed Murray's opinion and stated that sloughage occurring after the second explosion would not have affected samples because coal usually sloughs in blocks or clumps and not particle sizes that pass through a 20 mesh screen. *Id.* at 538-39.⁵¹

However, I reject Murray's and Stephan's opinions and find for a fact that sloughage occurring after the second explosion liberated coal dust that was included in the samples. Miner Ricky Parker, who was chairman of the union safety committee at the time of the explosions, and who, unlike Murray and Stephan, had experience working with the Blue Creek Seam, described the coal as so soft, it could be dislodged from the ribs with one's fingers and turned to dust by squeezing. Tr. 6 at 338-39. Even more persuasive was a video offered into evidence by JWR depicting the pulling of ribs at the No. 5 Mine and the collection of resulting dust that was sifted through a 20 mesh screen. JWR Ex. 217. As the supporting testimony of JWR engineer James Jones established and as the video clearly shows, sloughage produces coal dust of a size that can be sampled. Tr. 12 at 778-91. It is logical to conclude that at least some of such dust was included in the samples that were collected following the explosions.

⁵⁰ While Stephan's testimony pertained to dust liberated from the ribs by the forces unleashed by the first explosion, it is clear that the second explosion, which was far more powerful and extensive, would have had an even greater impact, something that Stephan acknowledged. Tr. 11 at 81-82.

⁵¹ However, Stephan was not entirely consistent on this point. He also testified that he did not think think "very much" screenable coal dust would be produced. Tr. 10 at 216-17.

It is apparent that MSHA had no idea how much coal dust was produced by the sloughage and how much was included in the samples. Stephan agreed that the amount of sloughage between the second explosion and the taking of the samples was “important, relevant and unknown” (Tr. 10 at 212-13), and he conceded in his deposition that, “[t]he liberation of coal and coal dust from the ribs would contaminate the area with respect to conditions that existed before the roof fall.” *Id.* at 219. He also agreed there was no way to know how much the liberated dust affected the samples. *Id.* at 219-20.

From this review of the record, I conclude that measurable coal dust was liberated in the sampled areas during and after the explosions, that some of the dust was included in the samples, and that the Secretary does not know and cannot establish to a requisite degree of certainty how much this dust affected the sample results. It is another unresolved issue.

The effect of flooding and draining on the samples taken in the formerly flooded area also is unknown. Murray agreed the water coursing in and out of the mine would have moved and rearranged the coal dust and rock dust particles and removed them from areas where they previously existed. Tr. 9 at 180-81. Therefore, coal dust conditions in the flooded areas would have been “different” from those that existed prior to the explosions. *Id.* at 181. Murray could not say whether the difference was “large,” “small,” or “otherwise.” *Id.* at 183-84. Kevin Stricklin, a member of MSHA’s investigation team, testified that rock dust and coal dust were pumped out of the mine along with the water. Stricklin did not know if rock dust and coal dust amounts were the same after the water was gone. Tr. 7 at 271, 278-79. Nor did he know if flooding and draining the mine “changed the mine conditions by changing the dust composition of the area.” Tr. 7 at 277-79.

Stephan agreed there was no evidence as to the content of the water that was pumped from the mine. Tr. 11 at 91-92. However, he maintained that the flooding actually was beneficial to JWR because moisture was added to the incombustible content (Tr. 11 at 153-56) and because the rock dust, being heavier than the coal dust, was more likely to settle out and remain when the water was drained. Tr. 9 at 560.⁵² But Stephan’s opinions in this regard were not based on any measurements or simulations, on-site or off. As Stephan himself testified, none of the accident investigations in which he participated involved mines that had been flooded following explosions. Tr. 10 at 28-29. To put the matter plainly, MSHA simply did not know and could not tell the extent to which pre-accident dust conditions were altered by the flooding process. True, the Secretary offered guesses, but I cannot find that the samples taken out by the toe of the water are sufficiently representative based on guesses. Thus, the effect of the flooding on the composition of the dust is something that cannot be determined with any requisite degree of certainty. It is another unresolved issue.

There are two final points regarding the samples that must be made. Stephan, and thus MSHA, relied in part on two “scientific” principles to confirm the existence of the alleged

⁵² This opinion contrasted with Stephan’s earlier agreement that the water would have been “equally as likely to remove rock dust as it would be to remove coal dust.” Tr. 9 at 556.

violation. First, Stephan believed that because some coal and coal dust was burned away by the heat of the second explosion, the incombustible content of the dust sampled in the area affected by the flame of the explosion actually was higher than its pre-explosion content. Therefore, the samples taken within the zone of the flame were even further out of compliance than the results indicated. *See* Tr. 11 at 165.

While this theory might have offered some inferential support for the existence of the violation if it was established as scientifically credible, it was not. The record reveals that Stephan and other MSHA officials felt that further research was needed to verify the principal and that Stephan asked for and received the assistance of the National Institute of Occupational Safety and Health (“NIOSH”). *See* Tr. 10 at 96. As JWR points out, and as Stephan himself recognized, NIOSH experiments on the issue were not conducted under conditions equivalent to those involving the explosions at the No. 5 Mine. Lacking other scientific support the principal remains, on the basis of this record, an unsubstantiated theory, one that can have no effect on my conclusion regarding the existence of the violation. *See* JWR Br. at II-49-50.⁵³

Second, Stephan explained that all of the samples were subjected to alcohol coke tests. If the tests revealed the presence of large to extra large amounts of coke, Stephan believed that it was an indication the incombustible content of the samples was less than 50% and therefore indicative of non-compliance. *See* Tr. 10 at 79, 81; *see also* Tr. 9 at 275. Stephan felt the alcohol coke test results were “very critical . . . for making decisions about where the incombustible content was prior to an explosion.” Tr. 10 at 79-80.

However, Stephan also testified that prior to coming to a final conclusion regarding the significance of coke in the samples, he felt that consultation with NIOSH was required. As a result, Kenneth Cashdollar of NIOSH, collaborated with Stephan and others at MSHA on the significance of post-explosion coke. Tr. 10 at 97.

As part of this collaboration the sample results were reviewed, and it was noted that some samples showing large amounts of coke had incombustible contents above 50%, even above 65%.⁵⁴ These results surprised Cashdollar, who felt that more testing was needed. Tr. 8 at 358-62, 385-86.

When Stephan was asked about these “anomalous” results, he conceded that “under some conditions,” coking can occur when the sampled dust has an incombustible content of more than

⁵³ Indeed, Stephan seemed to agree. He testified, “[W]e cannot draw any conclusions regarding what may occur under other conditions.” Tr. 11 at 119.

⁵⁴ Several of the samples which had large to extra large amounts of coke showed incombustible contents ranging from 65.3% to 70.1%. Kenneth Murray agreed these results seemed at odds with the principle that coke only formed if the dust was 50% or less incombustible. Tr. 9 at 292-95; *see also* Tr. 8 at 360-62.

50% (Tr. 10 at 107), but he maintained that only a few tests showed these results, whereas “the knowledge that [MSHA had] . . . [came] from thousands of experimental tests.” Tr. 10 at 107-08. When questioned further, Stephan admitted, he had no knowledge of the thousands of experimental tests. *Id.* at 185-87.

On the basis of the record, I find the Secretary’s theory regarding the presence of coke in the samples is unsubstantiated and it will not influence my conclusion regarding the existence of the violation. *See* JWR Br. at II-49-50.⁵⁵

Accordingly, I conclude that the Secretary has failed to prove: (1) that conditions relating to the incombustible content of the mine dust did not change between the time immediately prior to the roof fall and the samples’ collection; and (2) that the sample results are sufficiently representative of results that would have been obtained at the time of the alleged violation. Therefore, I find that the Secretary has failed to establish the alleged violation.

In reaching these conclusions I am not ruling on likely causes of the explosions or on culpability for them. I am simply ruling on the issue before me – whether the Secretary has proved the alleged violation of section 75.403 by a preponderance of the evidence.

2. Order Nos. 7328088, 7328104, 7328105, and 7328106

Except for the charge in Order No. 7328105 that the preshift examination for the oncoming day shift on September 23, 2001 was incomplete because the examination was limited by mine management to electrical installations, all of the orders allege that variously required examinations on September 22 and September 23 were not adequate because “inadequate rock dust existed but was not identified by the examiner.” Gov’t Exs. 5, 6, 7, 8. The orders further allege that the “inadequate rock dust” is established by the same sample results as the alleged violation of section 75.403.

I have concluded that the Secretary failed to prove a violation of section 75.403 because, *inter alia*, she did not show that the sample results were sufficiently representative of conditions that existed at the time of the alleged violation. In view of this conclusion, the question arises whether the Secretary can nonetheless establish violations of sections 75.360(b)(3) and 75.362(a)(1) by showing the examiner failed to identify “a hazardous condition consisting of inadequate rock dust.” Although it might be possible to do so in theory, in these particular circumstances the answer is “no.” The alleged inadequate examinations are too closely tied to the sample results to survive the results’ invalidation. The language of the orders specifically cites the results, and the testimony of the Secretary’s witnesses Kenneth Murray and Kevin Stricklin make clear that, but for the results, the agency never would have cited JWR for the alleged failures to

⁵⁵ Even if I found the principles scientifically reliable, it would not overcome the deficiencies in the Secretary’s case and change my ultimate conclusion that the Secretary did not establish the sample results were sufficiently representative.

identify inadequate rock dust during the examinations. *See* Tr. 9 at 991-92, 102, 106-07; Tr. 7 at 437-38. For these reasons the orders must be vacated as they relate to the alleged failures of the examiners to detect such conditions.

This leaves the allegation in Order No. 7328105 regarding the alleged improper limitation of the September 23 preshift examination to electrical installations. Under section 75.360(b)(3), among the locations where the preshift examiner is required to conduct an examination are “[w]orking sections and areas where mechanized equipment is being installed or removed, if anyone is scheduled to work on the section or in the area during the oncoming shift.”

The record reveals that on September 23, Dye conducted the preshift examination for day shift on the No. 4 Section and No. 6 Section. Dye worked on the owl shift (11:00 p.m., September 22, to 7:00 a.m., September 23). Dye’s supervisor was Randy Hagood. Tr. 3 at 380-81. When Dye arrived at the mine, he could not immediately begin the examination because the fan was being inspected in order to make sure it was functioning properly (a “fan check”). Hagood told Dye to wait until the fan check was completed. Tr. 3 at 380-82.

Dye did not go underground to begin the examination until around 2:00 a.m. or 3:00 a.m. Dye testified that Hagood told him to examine what Dye described as “electrical parts,” which Dye understood to be “power centers and scoop chargers.” Tr. 3 at 383. Dye asked Hagood if he was supposed to “make a complete check of the section” and Hagood responded, “No, just electrical installations.” *Id.* at 384. When Dye went underground he believed that no one would be working on the No. 4 Section during the shift. *Id.*

Once underground, Dye recalled entering the No. 4 Section at the end of the track and proceeding inby along the No. 2 Entry. Dye examined the scoop battery charger and proceeded further inby along the No. 2 Entry to the power center. *See* Gov’t Ex. 83C. Dye examined these areas. Dye did not examine anything inby the power center, including any of the face areas. Tr. 3 at 395. Dye retraced his steps, and exited the mine. At about 6:30 a.m., he reached the surface.

Dye completed a written preshift report indicating that he had inspected the scoop battery charger and the power center and that he traveled in the No. 2 Entry (the track entry). Tr. 3 at 393-94. The report was signed by Dye and later by the oncoming shift foreman, Burt Duvall. *Id.* at 394. Dye testified that he did not speak with anyone about the examination.

On September 23, John Puckett was scheduled to supervise the maintenance crew on the No. 4 Section during the day shift. According to Puckett, one of the things he did when he reached the mine was to check the preshift report and make certain a preshift examination had been conducted for his shift. Tr. 4 at 126.⁵⁶

⁵⁶ Puckett claimed that he intended to sign the preshift report to indicate he reviewed the report, but he later realized he neglected to do so. Tr. 4 at 132.

Puckett was aware that he would be responsible for work on the No. 4 Section. The work had been scheduled on the Thursday before Sunday, September 23. Tr. 4 at 126-28. Puckett thought the work would include roof bolting as well as maintenance work. He did not know the specific maintenance duties that would be assigned to his crew because those changed as the needs of equipment changed, but he knew that whatever the duties, they would take place on the No. 4 Section. *Id.* at 127.

Puckett also knew the areas that Dye had examined before Puckett entered the mine. Puckett stated when a preshift examiner did not know where miners would be assigned to work, they frequently limited the preshift to “the power center areas, the charger areas, any place that power is going to be restored.” Tr. 4 at 131. When Puckett saw that Dye had restricted the preshift examination, Puckett decided to conduct a “supplemental preshift” examination after he reached the No. 4 Section. *Id.*

Once Puckett and his crew arrived at the section, Puckett led his crew up the No. 2 Entry. He had them wait at the power center while he examined the faces and conducted the rest of the supplemental preshift examination of the areas that had not been inspected by Dye. *Id.* at 132-36. The power center was located well inby the mouth of the No. 4 Section. *See Gov’t Ex. 83D.* Puckett maintained that he called Duvall to report the conditions he found during the supplemental preshift examination. Tr. 4 at 142.⁵⁷

Section 75.360(b)(3) requires the preshift examination to be conducted in “[w]orking sections and areas where mechanized mining equipment is being installed or removed, if anyone is scheduled to work on the section or in the area during the oncoming shift,” and further specifies that “[t]he scope of the examination shall include the working places.” A “working place” is defined as “[t]he area of a coal mine inby the last open crosscut.” 30 C.F.R. § 75.2. The Secretary argues that JWR personnel knew that miners were scheduled to work on the No. 4 Section on September 23, and that although the job duties to be performed on the section may have changed, the location of the work did not. Therefore, the Secretary alleges the failure of JWR to preshift examine the working places before Puckett’s crew went underground violated the standard. S. Br. at 63-64.

JWR asserts that although Dye limited his preshift examination to the electrical installations in the track entry, when the work plans for his crew changed and he understood the

⁵⁷ However, the nature of Puckett’s “supplemental” examination is open to question. Later in his testimony Puckett stated that he believed he had conducted two examinations on the No. 4 Section, a supplemental preshift examination and an on-shift. Tr. 4 at 161. He maintained that he called out the results of his supplemental preshift examination, but he agreed the results were recorded as an on-shift examination, not a preshift examination. When he was asked if he combined the two examinations, he stated that he had and “[t]here was no reason not to.” *Id.* at 166.

crew was supposed to roof bolt the faces, he conducted a supplemental preshift of the faces and other unexamined areas before the miners were to go there. JWR Br. at III-16. The company also notes that due to the continuing power outage on the No. 4 Section, the miners on Puckett's crew never in fact worked at the faces. *Id.* According to JWR, since the record reveals that the preshift was conducted in places where miners actually worked, there was no violation of section 75.360(b)(3). *Id.* at 17.

Analysis must begin with the words of the regulation, which requires an examination for hazardous conditions (i.e., a preshift examination) in “[w]orking sections . . . if anyone is scheduled to work on the section . . . during the oncoming shift.” 30 C.F.R. § 75.360(b)(3). “Working section” is defined as “[a]ll areas of the coal mine from the loading point of the section to and including the working faces.” 30 C.F.R. § 75.2. The standard also states that the scope of the examination shall include the “working places,” which, as the Secretary notes, is defined as “[t]he area of a coal mine inby the last open crosscut.” *Id.* Dye admitted that he did not examine the faces. Therefore, if anyone was “scheduled to work on the section” prior to Dye’s examination, the standard was violated.

Puckett testified that prior to going underground on September 23, he understood that he and his crew were scheduled to work on the No. 4 Section. He further stated that the work was scheduled on the Thursday prior to Sunday, September 23. He believed the work would include roof bolting and maintenance work. Tr. 4 at 126-30. Puckett’s testimony, which was not refuted, was entirely credible. Based on it, I find that JWR scheduled miners to work on the No. 4 Section prior to Dye’s preshift examination, and I conclude that Dye’s failure to examine “[a]ll areas of [the No. 4 Section] . . . from the loading point of the section to and including the working faces” (30 C.F.R. § 75.2), which includes “[t]he area of the . . . mine inby the last open crosscut” (*id.*), violated section 75.360(b)(3).

Having found a violation of the standard, I must now consider the inspector’s findings relating to the S&S nature of the violation and JWR’s unwarrantable failure to comply with section 75.360(b)(2). Further, since a civil penalty is required to be assessed for the violation, I must consider two of the civil penalty criteria for which there are no stipulations: the gravity of the violation and the negligence of JWR in allowing the violation to exist.

3. S&S and Gravity

An S&S violation is described in section 104(d)(1) of the Mine Act as a violation “of such nature as could significantly and substantially contribute to the cause and effect of a coal or other mine safety or health hazard.” 30 U.S.C. § 814(d)(1). A violation is properly designated S&S, “if, based upon the particular facts surrounding that violation, there exists a reasonable likelihood that the hazard contributed to will result in an injury or illness of a reasonably serious nature.” *Cement Div., Nat’l Gypsum Co.*, 3 FMSHRC 822, 825 (Apr. 1981).

In *Mathies Coal Co.*, 6 FMSHRC 1 (Jan. 1984), the Commission explained its interpretation of the term “S&S” as follows:

In order to establish that a violation of a mandatory safety standard is significant and substantial under *National Gypsum* the Secretary of Labor must prove: (1) the underlying violation of a mandatory safety standard; (2) a discrete safety hazard -- that is, a measure of danger to safety -- contributed to by the violation; (3) a reasonable likelihood that the hazard contributed to will result in an injury; and (4) a reasonable likelihood that the injury in question will be of a reasonably serious nature.

Id. at 3-4 (footnote omitted); accord *Buck Creek Coal, Inc. v. MSHA*, 52 F.3d 133, 135 (7th Cir. 1995); *Austin Power, Inc. v. Sec’y of Labor*, 861 F.2d 99, 103 (5th Cir. 1988) (approving *Mathies* criteria).

In *U.S. Steel Mining Co., Inc.*, 7 FMSHRC 1125 (August 1985), the Commission explained that:

the third element of the *Mathies* formula “requires that the Secretary establish a reasonable likelihood that the hazard contributed to will result in an event in which there is an injury.” *U.S. Steel Mining Co., Inc.*, 6 FMSHRC 1834, 1836 (Aug. 1984). We have emphasized that, in accordance with the language of section 104(d)(1), it is the *contribution* of a violation to the cause and effect of a hazard that must be significant and substantial. *U.S. Steel Mining Co., Inc.*, 6 FMSHRC 1866, 1868 (Aug. 1984); *U.S. Steel Mining Co., Inc.*, 6 FMSHRC 1573, 1574-75 (July 1984).

7 FMSHRC at 1129 (emphasis in original).

The question of whether any particular violation is S&S must be based on the particular facts surrounding the violation. *Texasgulf, Inc.*, 10 FMSHRC 498, 501 (April 1988). Further, any determination of the S&S nature of a violation must be made in the context of continued normal mining operations. *U.S. Steel*, 7 FMSHRC at 1130; *Halfway, Inc.*, 8 FMSHRC 8, 12 (January 1986).

The Secretary argues, and I agree, that the violation was S&S. First, there was a violation of section 75.360(b)(3).

Second, there was a discrete safety hazard that was contributed to by the violation in that had normal mining operations continued, power would have been restored, and miners would have

been sent forward to the face areas to roof bolt or to other areas of the section for maintenance work. Tr. 4 at 127. This was prevented by a continued disruption of the power, but the disruption was abnormal, and JWR was working to put the power back online as the day shift commenced. It is true that Puckett's "supplemental" examination covered areas not covered by Dye, but miners already had entered and advanced well into the section before Puckett's examination began. Given the gassy nature of the mine the failure to conduct the full preshift examination before miners were on the section significantly and substantially contributed to exposing the miners to a methane-related accident. Any such accident was reasonably likely to result in serious, indeed fatal, injuries.

Third, there was a reasonable likelihood that the hazard would result in an injury causing event. Section 75.360(a)(1) prohibits persons other than the preshift examiner from entering or remaining in an underground area unless a preshift examination has been completed. 30 C.F.R. § 75.360(a)(1). A working section where miners have been assigned to work is designated by section 75.360(a)(3) to be one of those underground areas. The No. 4 Section was such an area, and Puckett's testimony makes clear that miners entered the area before it was examined. According to Puckett, he had the crew wait at the power center while he examined the areas that Dye had not visited. Tr. 4 at 132-33, 135. As previously noted, the power center was located well inby the mouth of the section. Thus, miners entered one of the nation's gassiest mines and proceeded inby to a section that had not been completely examined after the fan had been off and ventilation had been disrupted. This meant that miners were on the section before the methane and ventilation tests required by section 75.360 were made. Given the propensity of the mine to liberate methane, and the fact that electric and diesel equipment was in place and that the power would have been restored had normal operations continued, I find that it was reasonably likely the failure to conduct a complete preshift examination significantly and substantially contributed to the danger of the miners being involved in a methane-related ignition or explosion. The fact that power was off does not lessen the reasonable likelihood of injuries arising from the violation since JWR was working to restore the power and in the course of normal operations would have done so.

Fourth, burns and suffocative and percussive type injuries frequently are associated with methane-related ignitions or explosions. Therefore, it was reasonably likely the injuries would be of a reasonably serious nature.

Gravity and S&S are not synonymous. The Commission has pointed out that the "focus of the seriousness of the violation is not necessarily on the reasonable likelihood of serious injury, which is the focus of the S&S inquiry, but rather on the effect of the hazard if it occurs." *Consolidation Coal Co.*, 18 FMSHRC 1541, 1550 (Sept. 1996). I conclude that hazards presented by the failure to completely preshift examine the entire No. 4 Section at this mine were indeed serious as indicated by the discussion above regarding the type of injuries that could have occurred. While I recognize the gravity of the violation was mitigated somewhat by Puckett's "supplemental" examination (Tr. 4 at 166), the fact remains that until that examination was completed, Puckett's crew was for some time exposed to the hazards of a less than fully examined section. Given the nature of the mine, the lack of ventilation prior to the shift, and the presence of

electric and diesel equipment, the mitigation does not remove the violation from the serious category.

4. Unwarrantable Failure and Negligence

Unwarrantable failure is “aggravated conduct, constituting more than ordinary negligence, by a miner operator in relation to a violation of the Act.” *Emery Mining Corp.*, 9 FMSHRC 1997, 2004 (Dec. 1987). Unwarrantable failure is characterized by such conduct as “reckless disregard,” “intentional misconduct,” “indifference,” or a “serious lack of reasonable care.” *Id.* at 2003-04; *Rochester & Pittsburgh Coal Co.*, 13 FMSHRC 189, 193-94 (Feb. 1991); *see also Rock of Ages Corp. v. Sec’y of Labor*, 170 F.3d 148, 157 (2d Cir. 1999); *Buck Creek Coal, Inc. v. MSHA*, 52 F.3d 133, 136 (7th Cir. 1995) (approving Commission’s unwarrantable failure test). Moreover, the Commission has examined the conduct of supervisory personnel in determining unwarrantable failure and recognized that a heightened standard of care is required of such individuals. *See Youghiogheny & Ohio Coal Co.*, 9 FMSHRC 2007, 2011 (Dec. 1987) (section foreman held to demanding standard of care in safety matters); *S&H Mining, Inc.*, 17 FMSHRC 1918, 1923 (Nov. 1995) (heightened standard of care required of section foreman and mine superintendent).

JWR’s failure to ensure the No. 4 Section was completely examined before miners were sent to work on the section was indicative of a serious lack of reasonable care. Puckett knew the preshift examination was incomplete for the No. 4 Section. Tr. 4 at 131. He understood miners were assigned to work on the No. 4 Section. *Id.* at 130. Nonetheless, Puckett, a representative of mine management and a person with a heightened standard of care, allowed miners to enter the section before a complete examination was conducted. Even though Puckett conducted the rest of the examination after the crew halted at the power center, placing miners on the section and thus in harm’s way before the preshift examination was completed represented a failure of compliance that was unwarrantable.

It also was highly negligent. Randy Hagood, Dye’s supervisor and a JWR management official, should have known on the Thursday before September 23, that the No. 4 Section had been designated as a place that miners would be assigned to work. It was his responsibility to assign Dye accordingly, yet he chose to give Dye instructions that effectively restricted Dye’s preshift examination. Hagood, as supervisor, is held to a high standard of care, and here he failed to meet it.

Further, Puckett, being a management official and certified examiner, also is held to a high standard of care. In view of what Puckett knew about the restricted nature of Dye’s examination and the fact that miners were assigned to work on the section, his failure to see that the entire section was examined before leading his crew onto the section was another major departure from the standard of care JWR’s supervisors were required to meet.

5. Civil Penalty Assessment

_____The criteria that must be considered in assessing a penalty have been enumerated above. Slip Op. at 17. The Commission has repeatedly instructed its judges on the importance of considering all of the criteria and of making findings of fact regarding the criteria so as to provide the parties and the Commission with notice as to the bases upon which the penalties are assessed. *See, e.g., Douglas R. Rushford Trucking*, 22 FMSHRC 598, 600-01 (May 2000).

The parties have stipulated that the proposed penalties for the alleged violations will not adversely affect JWR's ability to continue in business, that JWR is a large operator, and that the company should be credited for good faith, timely abatement. Stipulations 6, 7, 9 (Sept. 7, 2004). They also have stipulated that a computer printout from September 23, 1996 to September 23, 2001 "is the history of prior violations for the No. 5 Mine for the purposes of [this proceeding]." *Id.* at 8. The printout lists a total of 2,184 paid violations. This is a large history.

<u>Order No.</u>	<u>Date</u>	<u>30 C.F.R. §</u>	<u>Proposed Assessment</u>
7328105	12/11/02	75.360(b)(3)	\$55,000

I have found that the violation was serious in view of the types of injuries to which it could have engendered. I also have found the violation was due to the high negligence of JWR management personnel. Given these findings, the company's large size, its large history of previous violations, its good faith, timely abatement, and the fact that the assessment will not adversely affect its ability to continue in business, I conclude that a penalty of \$2,500 is appropriate for the violation.⁵⁸

C. The Order Relating to the Lack of Evacuation of Miners

Order No. 7328082 charges a violation of 30 C.F.R. § 75.1101-23(a) in that, after the first explosion on the No. 4 Section, miners were not evacuated from the mine. The order asserts that mine management personnel knew the explosion had damaged critical ventilation controls and that the section foreman believed a second explosion was possible, yet miners were not alerted to the problem.⁵⁹ The order contains an S&S finding. It also asserts the 13 miners were fatally injured as

⁵⁸ In assessing the penalty I note the inadequate preshift examination did not contribute to the fatalities that resulted from the explosions and that other violations of section 75.360 cited pursuant to section 104(d) of the Act have been assessed by the Secretary at similar amounts. *See Attachment to Stipulations (printout of previous history).*

⁵⁹ Order No. 7328082 states:

On September 23, 2001, two separate explosions occurred in 4 Section, resulting in fatal injuries to thirteen miners. The accident investigation revealed a proper evacuation procedure was

a result of the violation, the violation was due to JWR's unwarrantable failure to comply with section 75.1101-23(a), and the company's negligence was high. Gov't Ex. 2.

At the time the alleged violation occurred, section 75.1101-23(a) required in part:

Each operator of an underground coal mine shall adopt a *program for the instruction* of all miners in the location and use of fire fighting equipment, location of escapeways, exits, and routes of travel to the surface, and *proper evacuation procedures to be followed in the event of an emergency*. . . .

(1) The approved program of instruction shall include a *specific fire fighting and evacuation plan* designed to acquaint miners on all shifts with procedures for:

(i) Evacuation of all miners not required for fire fighting activities;

(ii) Rapid assembly and transportation of necessary men, fire suppression equipment, and rescue apparatus to the scene of the fire; and

(iii) Operation of the fire suppression equipment available in the mine.

(2) The approved program of instruction shall be given to all miners annually, and to newly employed miners within six months after the date of employment.

30 C.F.R. § 75.1101-23(a) (emphasis added).

not followed after the first explosion on 4 Section. Miners were not evacuated from the mine after an explosion damaged critical ventilation controls. These conditions were known by, and communicated to, management personnel, including the CO Room Supervisor. The section foreman believed there was a possibility of a second explosion and did not effectively communicate this information to other miners.

Miners from other areas of the mine responded to the emergency on 4 Section believing either an ignition or a fire had occurred. These miners were unaware an explosion had occurred and a second explosion was possible. Miners underground were not alerted to the problem through the mine wide telephone paging system. Also, management directed 7 additional miners to join the 13 miners already in 4 Section.

Gov't Ex. 2.

1. Section 75.1101-23(a)

The “language of a regulation . . . is the starting point for its interpretation.” *Dyer v. United States*, 832 F.2d 1062, 1066 (9th Cir. 1987) (citing *Consumer Prod. Safety Comm’n v. GTE Sylvania, Inc.*, 447 U.S. 102, 108 (1980)). Where the language of a regulatory provision is clear, the terms of that provision must be enforced as they are written unless the regulator clearly intended the words to have a different meaning or unless such a meaning would lead to absurd results. *Id.*; *Rock of Ages Corp.*, 20 FMSHRC 106, 111 (Feb. 1998), *aff’d*, 170 F.3d 148, 161 (2d Cir. 1999); *Central Sand and Gravel Co.*, 23 FMSHRC 250, 253-54 (Mar. 2001); *Consolidation Coal Co.*, 15 FMSHRC 1555, 1557 (Aug. 1993); *Utah Power & Light Co.*, 11 FMSHRC 1926, 1930 (Oct. 1989).

In my pre-hearing order denying JWR’s motion for summary decision on the applicability of section 75.1101-23(a) and the fire fighting and evacuation plan, I concluded that MSHA properly cited JWR for a violation of section 75.1101-23(a) because “the meaning of the standard is plain” and the term “emergency” referred to in the standard is inclusive of an explosion. 26 FMSHRC at 626-28 (citing *Kerr-McGee Corp.*, 3 FMSHRC 2496, 2497 (Nov. 1981); *Alabama By-Products Corp.*, 4 FMSHRC 2128, 2130 (Dec. 1982) (recognizing the language of many standards is “simple and brief in order to be broadly adaptable to myriad circumstances”)).

Based on the regulation’s plain language, it followed that JWR had adequate notice of the regulation’s requirements. *See Bluestone Coal Corp.*, 19 FMSHRC 1025, 1029 (June 1997) (holding that adequate notice provided by unambiguous regulation). Further, applying an objective standard of notice, I concluded that a reasonably prudent mine operator would have recognized that an explosion is a type of emergency event referenced in the standard. 26 FMSHRC at 626-28 (citing *U.S. Steel Corp.*, 5 FMSHRC 3, 4 (Jan. 1983); *Ideal Cement Co.*, 12 FMSHRC 2409, 2416 (Nov. 1990); *Lanham Coal Co.*, 13 FMSHRC 1341, 1343 (Sept. 1991); *BHP Minerals Int’l Inc.*, 18 FMSHRC 1342, 1345 (Aug. 1996)). I stated:

In evaluating whether a reasonably prudent person familiar with the mining industry and the protective purposes of the standard at issue would have recognized the applicability of the standard to the cited facts at issue, the Commission has analyzed a number of factors including the ordinary definition of the terms of the text of the regulation at issue, the consistency of the Secretary’s enforcement, and whether MSHA has published notices regarding its interpretation of the standard in question.

26 FMSHRC at 627 (quoting *Western Industrial, Inc.*, 24 FMSHRC 269, 270 (Mar. 2002) (ALJ) (citing *Allen Lee Good d.b.a. Good Const.*, 23 FMSHRC 995, 1005 (Sept. 2001); *Island Creek Coal Co.*, 20 FMSHRC 14, 24-25 (Jan. 1998); *Morton Int’l, Inc.*, 18 FMSHRC 533, 539 (Apr. 1996); *U.S. Steel Mining Co.*, 10 FMSHRC 1138, 1141-42 (Sept. 1988); *Alabama By-Products Corp.*, 4 FMSHRC 2128, 2131-32 (Dec. 1982))). I determined that JWR had been provided notice

of the standard's requirements by MSHA's published abstract of section 75.1101-23, which explicitly stated the standard "requires each operator of an underground coal mine to adopt a program for mine evacuation in the event of an emergency, such as fire or explosion." 26 FMSHRC at 626 (quoting 60 Fed. Reg. 23,567 (May 8, 1995)). In addition, I considered the definitions of "explosion" and "fire" in the *Dictionary of Mining, Mineral and Related Terms*, U.S. Dept. of Interior, Bureau of Mines 402, 429 (1968), which indicate that fires and explosions can be interrelated events. 26 FMSHRC at 627-28.

Having held that section 75.1101-23(a) applied to explosion-related emergencies and that JWR had been provided adequate notice of the standard's requirements, I stated that the next question was whether JWR followed its MSHA-approved fire fighting and evacuation plan on September 23. I observed that the Secretary would have to prove the alleged violation of the plan at trial. *Id.* at 628.⁶⁰

In JWR's post-hearing brief, the company again urges reconsideration of the issue, which I again deny. At the time I ruled on the motion I felt it was correct to read the standard's reference to an "emergency" as applicable to an explosion, and I think so now. At the time I ruled on the motion I also felt the Secretary would have to prove at trial that particular portions of JWR's adopted and approved plan were applicable and were violated, and I think so now.

I conclude, however, that there is an important distinction between the applicability of the standard to explosions and other emergencies and the applicability of the approved and adopted plan to the facts of a particular case. As I read the standard, it was not restricted to fires only. Rather it provided that an operator shall either expressly or implicitly include provisions relating to explosions in its adopted plan.⁶¹ Lacking such express or implied provisions, a plan adopted under the standard does not *ipso facto* apply to explosions. Nor would it make sense for it to do so, since a fire evacuation program might be considerably different from an explosion evacuation program and *vice versa*.

2. The Violation

After listening to all of the testimony and after carefully reviewing the documentary evidence, it is clear to me that the plan adopted by JWR and approved by the Secretary did not require that miners be evacuated after the first explosion on September 23. The crux of the Secretary's case is her argument that "section V.[a.8] requires miners to 'be evacuated if a fire cannot be extinguished or brought under positive control.'" S. Br. at 22. She goes on to argue that

⁶⁰ Subsequently, I denied JWR's motion for reconsideration or certification of the issue to the Commission. 26 FMSHRC 734.

⁶¹ I again note the Secretary's observation in her abstract of the standard, that the standard "requires each operator . . . to adopt a program for mine evacuation in the event of an *emergency such as a fire or explosion.*" 60 Fed. Reg. 23,567 (emphasis added).

“miners [are] not capable of extinguishing an explosion or bringing it under positive control, and so evacuation was required.” *Id.*⁶²

As JWR has repeatedly pointed out, the plan which it adopted and the Secretary approved states that “Miners shall be evacuated if a *fire* cannot be extinguished or brought under positive control.” Gov’t Ex. 34 at section V.a.8 (emphasis supplied). Nothing in the language of section V.a.8 or the provisions surrounding it indicates these words are used in the plan in other than their most commonly accepted manner. A “fire” that “cannot be extinguished or brought under positive control” is the thing specified in the plan that triggers an evacuation. There is no reference to any other initiating circumstance. Nor is one implied from the context within which the requirement is stated in that part V refers only to situations involving fires.⁶³ Therefore, I find that both the plain meaning of the evacuation provision and the overall context in which it appears require evacuation only in the event of “fire.” In other words, as used in section V.a.8 of the adopted plan, “fire” does not mean “explosion.”⁶⁴

This does not end the matter, for the plan might have required an evacuation of all miners in the event of an “emergency” other than a fire or even in a general emergency situation, such as that referenced in section 75.1103-23(a). But, it did not. It bears repeating that the *only* event explicitly or implicitly indicated as requiring an evacuation is a “fire” that “cannot be extinguished or brought under positive control.”⁶⁵

⁶² However, during the cross-examination of witnesses who testified about an explosion at the mine in 1993, the Secretary’s counsel asked questions implying that the extent of damage to ventilation, not the fact of explosion, was an essential component of determining the provision’s applicability. *See* Tr. 14 at 171-72; Tr. 15 at 1179.

⁶³ It is clear that, until this dispute arose, JWR never considered the plan to apply to anything other than fire situations, and if the Secretary considered the matter at all, she seemingly believed that to be the case as well. I find the testimony of mine foreman Burt Duvall involving the 1993 explosion at the mine instructive. The explosion disrupted ventilation and injured miners, and Duvall’s first priority was to go into the area to help get injured miners out. Other miners rushed to the area of the explosion to assist Duvall in his rescue efforts. The firefighting and evacuation plan then in effect was substantively the same as it was in 2001 (*see* JWR Ex. 236), yet MSHA issued no citations for miners going into the area of the explosion following its occurrence. Tr. 5 at 248-57, 260-61, 279; *see also* Tr. 14 at 96-99.

⁶⁴ Interestingly, the Secretary would have me apply a “plain meaning” rule of interpretation to section 75.1101-23(a), but not to a plan drafted pursuant to it.

⁶⁵ Another part of the plan, entitled “Evacuation Procedures,” requires evacuation in the event of a CO alarm signal. Gov’t Ex. 34 at sections II.d & II.e. In this case, although a communication error signal indicated that the CO sensor had stopped communicating with the computer at the mine surface, the error signal was different from an alarm signal indicating an

Therefore, I conclude that while explosions and fires are both the kind of emergencies referenced in section 75.1101-23(a) and while both may be “covered” by a plan drafted in accordance with that section, the plan has to either expressly or impliedly reference them in specifying what is required. As noted above, the plan adopted and approved for the No. 5 Mine had no express directive for evacuation in the event of an explosion. Nor was such a provision implied. For this reason, I conclude that JWR did not violate section 75.1101-23(a) as alleged.⁶⁶

I want to emphasize that, in reaching this conclusion, I am not finding that a provision requiring miners to evacuate in the event of an explosion was undesirable from a safety standpoint. One may have been highly desirable, to say the least. In fact, one may have been necessary to fully effectuate miner safety. I am only finding that such a provision was not included in the plan either expressly or impliedly and that the Secretary cannot at this late date supply through an administrative law judges’s decision something she wishes she had insisted on more than 6 years ago. It is not the role of the Commission’s judges to write or re-write plans that should have been the result of a “bilateral” process involving the parties’ “consultation, discussion, . . . negotiation and . . . mutual agree[ment].” *Jim Walter Res., Inc.*, 9 FMSHRC 903, 907 (May 1987).

D. The Order Relating to the Lack of Fire and Emergency Drills

Order No. 7328085 charges a violation of 30 C.F.R. § 75.1101-23(c) in that fire and emergency drills were not conducted at intervals of no more than 90 days. The order asserts that the lack of training regarding proper evacuation procedures affected the miners’ response to the situation in the mine on September 23.⁶⁷ The order contains an S&S finding. It also asserts the 13

emergency. *See* Tr. 5 at 384-88, 393-98.

⁶⁶ The plan contains many specific provisions relating to fire fighting and rescue. Sections I.3 and V.a.1 provide for the rapid assembly and transportation of fire suppression equipment, rescue apparatus, and personnel to the scene of a fire. Section II.4 states that “[t]he supervisor will assign men to carry necessary supplies such as first aid supplies, maps, necessary tools and brattice materials.” Section II.3 states that “[a] supervisor or designated person will assemble *all* men promptly and lead the way during the evacuation.” (Emphasis added). I note that Key and House were trying to help Adams, who remained injured on the No. 4 Section, and Blevins was intending to fight a fire. Tr. 1 at 436-437; Tr. 5 at 143-44. In view of the fire fighting and rescue provisions, I conclude that the attempts by miners and management officials to help Adams and fight a fire were not contrary to the plan.

⁶⁷ Order No. 7328085 states:

On September 23, 2001, two separate explosions occurred in 4 Section, resulting in fatal injuries to thirteen miners. The accident investigation revealed the operator failed to conduct fire and emergency drills at intervals of not more than 90 days.

miners were fatally injured as a result of the violation, the violation was due to JWR's unwarrantable failure to comply with section 75.1101-23(c), and the company's negligence was high. Gov't Ex. 4.

At the time the alleged violation occurred, section 75.1101-23(c) required in part:

Each operator of an underground coal mine shall require all miners to participate in fire drills, which shall be held at periods of time so as to ensure that all miners participate in such a drill . . . at intervals of not more than 90 days

(1) The operator shall certify by signature and date that the fire drills were held in accordance with the requirements of this section. Certifications shall be kept at the mine and made available on request to an authorized representative of the Secretary.

(2) For purposes of this paragraph (c), a fire drill shall consist of a simulation of the actions required by the approved fire fighting and evacuation plan described in paragraph (a)(1) of this section.

30 C.F.R. § 75.1101-23(c).

Interviews of underground miners and a review of mine records indicate that *no* such drills had been conducted since March, 2001. The lack of training and simulation relative to proper evacuation procedures to be followed in the event of an emergency, affected the miners' response to the emergency situation of September 23.

Gov't Ex. 4 (emphasis added). The Order was subsequently modified as follows:

A further review of the fire drill and escapeway walk records indicates that some miners received some related training. However, complete fire drills, including all miners every 90 days, had not been conducted during the period from March 2001 to September 23, 2001. Therefore, the statement, "Interviews of underground miners and a review of mine records indicate that *no* such drills had been conducted since March, 2001" is modified to reflect the following: "Interviews of underground miners and a review of mine records indicate that *few* such drills had been conducted since March, 2001."

Gov't Ex. 4A (emphasis added).

1. Section 75.1101-23(c)

Although the parties dispute the meaning of the standard, I conclude that its language is clear and its terms must be enforced as written. *See Dyer*, 832 F.2d at 1066; *Utah Power & Light*, 11 FMSHRC at 1930. Under the standard's provisions, an operator is required to ensure that all of its miners participate in fire drills at least every 90 days and to certify in writing that each miner has participated. The requirements of participation and certification are separate, and, although they are topically related, non-compliance with the certification requirement does not automatically establish non-compliance with the participation requirement. While the lack of certification can be an indication of non-participation, to establish non-participation the evidence must be examined in its totality.

The standard also is clear as to what constitutes a fire drill. It states that a drill "shall consist of a simulation of actions required by the approved fire fighting and evacuation plan." 30 C.F.R. § 75.1101-23(c)(2). The ordinary connotation of the word "shall" is "must," and it is a term of legal significance in that it is mandatory or imperative, not precatory. *Exportal Ltda. v. United States*, 902 F.2d 45, 50 (D.C. Cir. 1990). As used in section 75.1101-23(c)(2), the term "consist" means "to become composed or made up." *Webster's Third New International Dictionary Unabridged* at 484 (1993). "Simulation" is defined as "the act or process of simulating; imitation, pretense . . ." and "simulate" means "to give the appearance or effect of: feign, imitate . . . to have the characteristics of: resemble . . . to make believe: pretend." *Id.* at 2122. Nothing in the language of the standard indicates that the words "shall," "consist," and "simulation" are used in an unorthodox manner. Therefore, I conclude that under section 75.1101-23(c) a fire drill is an on-site imitation of actions specified by the approved plan to be part of the drill. Or, as the Secretary terms it, the required drill is a "hands-on simulation." S. Br. at 40.⁶⁸

2. Parties' Arguments

The order alleges that JWR violated section 75.1101-23(c) because few miners received complete fire drills between March 2001 and September 23, 2001. Gov't Exs. 4 & 4A. Consistent with the order, the Secretary argues that JWR violated section 75.1101-23(c) by failing to conduct fire drills within the required time periods, i.e., at intervals of not more than 90 days. S. Br. at 40. As noted, in the Secretary's view, the 90-day fire drills must be "simulations" for which other fire-related education or training cannot be substituted. *Id.* at 41.

⁶⁸ Based on the regulation's plain language, it follows that JWR had adequate notice of its requirements. *See Bluestone*, 19 FMSHRC at 1029.

JWR's Exhibit 164 lists the names of 163 miners. JWR Ex. 164.⁶⁹ JWR stipulated that the company did not have records headed "Fire Drill" for 130 of the 163 miners listed on Exhibit 164 "for the ninety days before the accident." Tr. 8 at 160. Extrapolating from this stipulation, and focusing on the period from January 1 to September 23, 2001, the Secretary asserts that, although 7 days remained in the last 90-day cycle, "it is implausible to think that JWR would have . . . provided drills for 130 miners who were not drilled in the previous two [90]-day cycles." S. Br. at 40 & n.31 (citing JWR Ex. 164). The Secretary argues that JWR's failure to produce records of fire drills for many of its miners is a *prima facie* violation of the standard. *Id.* at 41. She submits that the absence of records allows an adverse inference against JWR that such fire drills did not take place. *Id.*

JWR responds that, during the accident investigation, MSHA removed fire drill records without providing JWR copies, receipts, or a Bates stamp tracking system and that MSHA misplaced those records. JWR Br. at V-2, V-6-7, V-11, V-15 n.8 (citing Gov't Ex. 4A as evidence of MSHA's mishandling of fire drill records). JWR states that, consequently, "no one knows what fire drill records exist or existed at the time of the accident." *Id.* at V-2. In addition, JWR argues that, according to precedent involving analogous standards, even if some of its miners had not participated in fire drills, a violation would not be established. *Id.* at V-9-11.

3. The Violation

_____ In its most fundamental formulation, the issue before me is whether JWR violated the requirement of the standard that all miners participate in fire drills at not more than 90-day intervals. By focusing on the standard and by determining whether the evidence conforms to its requirements, it is possible to resolve the issue.

Turning first to the plain meaning of the regulation, I find that "all miners" means exactly what it says. I am not persuaded by JWR's negatively stated argument to the contrary, i.e., a violation would fail to be established if the evidence showed that some of the company's miners had not participated in fire drills. JWR Br. at V-9-11. JWR relies upon *Southwestern Illinois Coal Corp.*, 5 FMSHRC 1672, 1675 (Oct. 1983) (citing *North American Coal Corp.*, 3 IBMA 93, 107 (1974)), a case that involved interpretation of the phrase "shall be required to wear . . . safety belts and lines" as used in the surface coal protective clothing standard, 30 C.F.R. § 77.1710(g). See 5 FMSHRC at 1672-73. In *Southwestern*, the Commission held the regulation did not state that a mine operator must "guarantee" that belts and safety lines be actually worn, therefore, "when an operator requires its employees to wear belts when needed, and enforces that requirement, it has discharged its obligation under the regulation." *Id.* at 1675. The Commission specifically restricted its holding to the regulation at issue in that case. *Id.* Here, however, section 75.1101-23(c) states that "[e]ach operator . . . shall require all miners to participate" and "ensure

⁶⁹ The list was compiled by Stanley Blankenship, MSHA's special investigation supervisor. It is headed "JWR Hourly Employees [Who] Did Not Participate in Fire Drill From January 1 through September 23, 2001." JWR Ex. 164; Tr. 8 at 150-51, 153-54.

that all miners participate” in fire drills every 90 days. Unlike *Southwestern*, the operator’s obligation is not discharged by merely requiring training because under section 75.1101-23(c)(1) the operator is also required to certify the training. The term “certify” means to “confirm,” “assure,” or “guarantee.” *Webster’s* at 367. Thus, section 75.1101-23(c) provides for the protection of miners by directing that mine operators certify that the required fire drills were conducted for all, not merely some, of its miners.

Having concluded that the standard applies to each and every miner, the next step is to determine the nature of the “fire drill” in which all miners are required to participate. Section 75.1101-23(c)(2) states that “a fire drill shall consist of a simulation of the *actions required by the approved . . . plan.*” (Emphasis added). Therefore, I must look at the plan. As I have noted previously, once the plan is adopted by the operator and approved by the Secretary, its provisions are binding and enforceable as though they were mandatory safety standards. 26 FMSHRC at 628.

The plan for the No. 5 Mine is far from a model of clarity.⁷⁰ In fact, it is poorly drafted and confusing. Nevertheless, it is the plan JWR adopted and the Secretary approved so its provisions must be applied. Under the heading “Fire Drills (part V) the plan mingles the duties of fire fighting with those of a fire drill. However, a careful reading of part V reveals specific duties that designated miners and supervisors are required to perform during a drill. For example, “[m]iners are assigned by occupation to handle the different types of fire fighting equipment.” Gov’t Ex. 34 at section V.a. In this regard, the electrician must “[p]ull power and man fire extinguishers,” the miner operator must “[m]an [a] fire hose,” etc. *Id.* Under the plain language of the standard, this means that, during a fire drill, there must be an on-site simulation of a response to a mine fire. Therefore, during the drill the miners must go through the motions of actually carrying out the duties specified in the plan.

The plan also requires miners to “be acquainted with procedures for rapid assembly and transportation of necessary personnel, fire suppression equipment, and rescue apparatus to the scene of the fire during the first fire drill conducted each year,” and it requires the section foreman to “acquaint the miners with these procedures.” *Id.* at section V.a.1. This means that during the

⁷⁰ For example, under the heading “Fire Drills” the plan specifies the jobs to which various personnel remaining in the fire area are assigned “in the event of an actual fire.” Gov’t Ex. 34 at section V.a.2. Further, the plan surprisingly fails to specify that evacuation is part of the drill. As already discussed, the plan states that “Miners shall be evacuated if a fire cannot be extinguished or brought under positive control,” another provision that only comes into effect in the event of an actual fire. *Id.* at section V.a.8. However, this latter gap in the plan is, to a large extent, filled by 30 C.F.R. § 75.383(c) entitled “Escapeway maps and drills,” which plainly allows that practice escapeway drills “may be used to satisfy the evacuation specifications of the fire drills required by § 75.1101-23,” and the record contains numerous documents showing that practice escapeway walks were conducted at the mine. *E.g.*, JWR Exs. 6, 14, 50, 53, 69, 70, 94, 136, 158, 198, 199.

first quarter of each year, at least, the on-site simulation must include verbal instruction from the section foreman in the assembly and transportation requirements.

Further, the plan requires all miners not assigned to specific jobs during a drill to assemble at a posted evacuation map. *Id.* at sections V.a.3 & V.a.7. This means, as part of the same on-site simulation, unassigned miners must physically travel to the posted evacuation map.

The plan also specifies the instruction of new miners on their first day of employment in the use of self-rescuers and annual re-instruction of all miners thereafter, and imposes a duty on the section foreman to review the proper use of the self-rescuer with miners who need instruction during a fire drill. *Id.* at section V.a.6. This means that, during the same fire drill occurring in the appropriate quarter and thereafter, the section foreman must demonstrate – presumably orally and physically – the use of self-rescuers to miners who require it.

Did all miners participate in an on-site imitation of the actions specified in the plan? Credible testimony establishes they did not. Tarvin, who worked at the mine for 20 years, stated that fire drills at the mine “were more of a discussion” than a simulation of fighting a fire. Tr. 1 at 489-90. Corbin, who worked for JWR since 1997, testified that he could recall no “physically [sic] hands-on fire drill” taking place in 2001. Tr. 2 at 38. Jarvis too stated that he could not recall any instance prior to the explosions in which he was required to “simulate” or “act out” actions required by the plan. Tr. 3 at 213. In like measure, Dye, who worked for JWR at the mine since 1981, testified that he did not participate in an “actual hands-on simulation” of fighting a fire. *Id.* at 403. Bonner, who worked for JWR at the mine since 1979, also did not recall participating in any “hands-on” fire drills prior to the accident, although he noted that since September 23, 2001, such drills have been “extensive.” Tr. 4 at 56. Randy Clements, a JWR employee since approximately 1980, testified that in the 6 months prior to the explosions he had not participated in a fire drill that simulated what he was “to do under the firefighting and evacuation plan.” *Id.* at 341. Goggins, who started working at the mine in 1999, maintained that between 1999 and September 2001, he did not participate in a “hands-on” fire drill. Tr. 5 at 289. Finally, Robbins, who began work at the mine in 1996, stated that he could not recall “a fire drill where [he] simulated the duties . . . [he] would be expected to carry out if there were a fire.” Tr. 6 at 14. I find that the credible testimony of these miners establishes that JWR violated the standard by failing to ensure their participation in the type of simulated fire drills required by the standard at least every 90 days.

The plan also states that “[a] record of each fire drill will be maintained on the attached form [and that] [t]hese complete forms will be located on the surface in the safety office.” Gov’t Ex. 34 at section V.a.4. No form was attached to the copy of the plan that was entered into evidence as the official exhibit. *See id.* It is clear, however, that JWR’s practice was to make available to MSHA forms that MSHA accepted as appropriate certification. During the course of the investigation the company submitted to MSHA numerous different documents that served as its fire drill records. *See* Gov’t Ex. 35 (single exhibit containing forms entitled “Fire fighting, Escape and Evacuation Plan Washer Facilities,” “Fire Fighting, Escape and Evacuation Plan All Surface

Facilities Other than Washer,” “Fire Drill Record Underground Longwall,” “Fire Drill Outby Crews,” and “Fire Drill Section Crews”); Tr. 8 at 21-22. While these forms may or may not have included the form stated to be attached to the plan, they do not reflect the type of fire drill that I conclude was required by the regulation and the plan, i.e., an imitation of fire drill activities specified by the plan or, as the Secretary terms it, a “hands-on simulation,” and I do not find that the records overcome the credible testimony of Tarvin, Corbin, Jarvis, Dye, Bonner, Clements, Goggins, and Robbins – testimony that establishes they did not participate in the type of drills the standard requires. Going further, I infer from the testimony of these witnesses that there was a general lack of on-site simulations at the mine. There are too many miners with similar credible testimony for them to represent isolated instances.

I recognize, of course, that JWR argues its fire drills included escapeway walks, hands-on training and demonstration of fire fighting equipment, safety meetings, group discussions, role playing and putting out mock fires, using self-rescuers, instruction on the danger of methane, and first aid training, and that together these activities constituted drills that complied with the standard. JWR Br. at V-2-3. I also recognize that JWR represents this training took place at daily, weekly, 6-week, and 90-day intervals, and annually during annual refresher training. *Id.* at V-3, V-12-14. I conclude, however, that although many of the subjects included in the plan may have been covered, these “drills” did not meet the simulation requirement of the standard and the plan. There is too much testimony about a lack of the type of drills that I conclude was required for me to hold otherwise.

Not surprisingly, JWR points to MSHA’s *PPM* as sanctioning its fire drill practices. The *PPM* lists examples of the types of training that meet section 75.1101-23’s requirements for fire drills as follows:

Various types of training will constitute a fire drill, e.g., demonstrations (surface or underground), hands-on training, group discussions, and task-oriented training. Firefighting plans will be acceptable if the fire drills as outlined in such plans satisfy the intent of this regulation, which includes making all miners familiar with firefighting procedures to be followed at the mine.

* * *

All fire drills required by paragraph (c) of this Section need not be held underground. The evacuation portion of the drill need not be held at the same time as the firefighting portion of the drill.

JWR Ex. 146 (excerpt of V MSHA, U.S. Dep’t of Labor, *Program Policy Manual*, Part 75, at 105-06 (1994)). The *PPM*, however, is not binding on the Secretary and does not have the same force and effect of law as a mandatory safety standard. *D. H. Blattner & Sons, Inc.*, 18 FMSHRC 1580, 1586 (Sept. 1996); *King Knob Coal Co.*, 3 FMSHRC 1417, 1420 (June 1981); *see also*

Brock v. Cathedral Bluffs Shale Oil Co., 796 F.2d 533, 538-39 (D.C. Cir. 1986) (reversing Commission which improperly regarded the Secretary's general statement of enforcement policy as binding).⁷¹ Nor can the provisions of the *PPM* change the compliance responsibilities of the operator when the meaning of the standard is clear. See *Mingo Logan Coal Co.*, 133 F.3d 916, No. 97-1392, 1998 WL 3613, at 3 (4th Cir. 1998) (unpublished *per curiam* opinion).

I conclude, therefore, that the record supports finding that JWR violated section 75.1101-23(c) by failing to conduct the kind of simulated fire drills required by the standard.

4. S&S and Gravity

JWR contends that if section 75.1101-23(c) was violated, the violation was only technical because no miner lost his life on September 23 due to a lack of fire drill training. JWR Br. at V-17-18.

With regard to the question of S&S, the Secretary has established that there was a violation of section 75.1101-23(c), satisfying the first *Mathies* element. 6 FMSHRC at 3-4. The remaining *Mathies* elements require, *inter alia*, that the violation be proven to have contributed to a discrete safety hazard that is reasonably likely to result in serious injury. *Id.* In this case, the facts show that JWR's mine is one of the gassiest mines in the country (Tr. 1 at 82; Tr. 9 at 16; Tr. 15 at 32) and the mine experiences occasional fires.⁷² If JWR failed to train its miners in how to fight a fire,

⁷¹ I find unavailing JWR's argument that MSHA assured the mine's compliance with section 75.1101-23(c) during quarterly "AAA" inspections by auditing its fire drill records and that the mine had never been cited for, nor had MSHA questioned the quality of, its fire drills. JWR Br. at V-4-5, V-11, V-14 & n.8. The evidence shows that MSHA did not consistently document its examination of fire drill records during the second quarter. Moreover, the records or lack thereof, do not outweigh the statements of those who testified to a lack of required drills. Further, the fact that JWR had not been previously cited for a violation of section 75.1101-23(c) does not prevent the Secretary from alleging a violation in this case. The Commission has repeatedly held that a lack of previous enforcement of a safety standard does not constitute a defense to a violation and that estoppel does not generally apply against the Secretary. *U.S. Steel Mining Co., Inc.*, 15 FMSHRC 1541, 1546-47 (Aug. 1993) (citing *King Knob Coal Co.*, 3 FMSHRC 1417, 1421-22 (June 1981); *Bulk Transp. Serv., Inc.*, 13 FMSHRC 1354, 1361 n.3 (Sept. 1991)); see also *Emery Mining Corp. v. Sec'y of Labor*, 744 F.2d 1411, 1416 (10th Cir. 1984) (courts invoke the doctrine of equitable estoppel against the government with great reluctance).

⁷² Tr. 1 at 523-28, 543-44 (Tarvin stating that in the 1993 explosion miners put out the fire); Tr. 2 at 301, 309, 317 (Chris Key stating that there have been many ignitions and he has fought fires); Tr. 3 at 265-68 (Lee stating that a few weeks prior to the September 23 accident, there was a small ignition on the No. 4 Section and it was promptly extinguished using a water hose, fire extinguishers, and rockdust); Tr. 5 at 94-95, 109 (Linn stating that about 2 weeks prior

the likelihood of the miners exhibiting ineptitude in fire suppression techniques when confronted with a fire, the likelihood of their confusion in how to respond to a fire, and even the likelihood of panic in the event of a fire would be increased. However, while I conclude that JWR did not provide all miners with the on-site simulated fire drills required by the standard, it is clear the company regularly instructed its miners through other exercises in fire fighting practices and techniques.⁷³ Thus, the violation at issue does not relate to the company's failure to conduct all training in how to confront a fire or in how to respond to a fire emergency. Rather, it relates to the failure to conduct the type of on-site, hands-on drills required by the standard and the plan. Given the other types of instruction and training that JWR's miners received, I conclude that it was not reasonably likely that the lack of training specified in the standard would result in an injury, and that the violation was not S&S.

I further conclude that the violation was only moderately serious. Certainly, I agree with the company that the record confirms no miner lost his life on September 23 due to a lack of fire drill training. JWR Br. at V-17-18. Nevertheless, the focus of the gravity criteria is on the effect of the hazard if it occurs (*Consolidation Coal Co.*, 18 FMSHRC 1541, 1550 (Sept. 1996)), and it is conceivable that the effect of not conducting on-site, hands-on fire drills for all miners could have had serious consequences in the event of a fire.

to the September 23 accident, the face ignited so he and his partner used the water hose and fire extinguishers to fight the fire until the scoop arrived with rockdust to put it out); Tr. 5 at 218-21, 230, 255, 263-65 (Duvall recalling the 1993 explosion/fire as well as two ignitions/fires on the No. 4 Section and one ignition/fire on 6 Section in the months prior to the September 23 accident); Tr. 5 at 460 (Darrell Key acknowledging that ignitions have occurred over the years); Tr. 6 at 412-13, 459-72, 478 (Brown recalling an ignition on the No. 4 Section in early September 2001); Tr. 9 at 88-89 (Murray stating the mine had spontaneous combustion problems and a history of occasional ignitions).

⁷³ I credit the testimony of supervisors who signed the company's fire drill records, stating that drills which the company considered compliant with the standard were regularly conducted on a quarterly basis. Tr. 3 at 71-87 (Franklin stating that he conducted fire drills with his crew on a regular basis, including during 2001); Tr. 4 at 181-83, 189-93 (Puckett stating that he conducted fire drill training regularly, perhaps every 90 days); Tr. 6 at 366-67, 403-04, 457-58, 478-80 (Brown stating that fire drills were conducted quarterly and that he recorded all of them); Tr. 12 at 504-06 (Mabe stating that fire drills were conducted on a regular basis as required by the regulations). *See also* Tr. 5 at 229, 231 (Duvall stating that foremen and crews were keeping up with fire drill training requirements every 90 days); Tr. 12 at 235, 246, 284-85, 360 (Thrasher stating that miners received fire drill training every 90 days). I also note the testimony of virtually every miner witness that he received much of this training.

5. Unwarrantable Failure and Negligence

Regarding unwarrantable failure, I find that JWR’s action in failing to conduct the type of fire drills required by the standard and the plan did not exhibit “reckless disregard” for the company’s compliance responsibilities. The record supports finding that JWR honestly believed that it was complying, a belief abetted in no small part by the *PPM* and the Secretary’s failure to previously cite the company for not conducting proper drills. As discussed above, JWR’s supervisors credibly testified about what they believed were compliant fire drills, i.e., company personnel honestly believed that other training, such as group discussions and instruction, constituted an alternative means of compliance. In addition, according to section 75.383(c), JWR’s escapeway walks satisfied the evacuation specifications of fire drills required by section 75.1101-23, and JWR’s annual refresher training included the topic of firefighting and evacuation. Therefore, I conclude that JWR’s violation of section 75.1101-23(c) was not an unwarrantable failure to comply with the standard.

Even so, I conclude that JWR was moderately negligent for failing to comply with the requirements of a standard that is clear on its face. It is the operator’s responsibility to adopt a plan and to conform to it after its approval. Here, JWR did not conform, and in failing to abide by its plan it exhibited a lack of care required by the circumstances.

6. Civil Penalty Assessment

As discussed earlier, the parties stipulated that the proposed penalties will not adversely affect JWR’s ability to continue in business, JWR is a large operator, and the company should be credited for good faith, timely abatement. Stipulations 6, 7, 9 (Sept. 7, 2004). In addition, as previously found, the company has a large history of prior violations.

<u>Order No.</u>	<u>Date</u>	<u>30 C.F.R. §</u>	<u>Proposed Assessment</u>
7328085	12/11/02	75.1101-23(c)	\$55,000

I have found the violation was moderately serious and JWR was moderately negligent. Given these findings, the company’s large size, its large history of previous violations, its good faith, timely abatement, and the fact that the assessment will not adversely affect its ability to continue in business, I conclude that a penalty of \$500 is appropriate for the violation.⁷⁴

IV. A FINAL WORD

In reaching this decision, I have tried to be careful to rule and to render an opinion only on the specific issues that are before me. Also, I have tried to be mindful that the events and

⁷⁴ This assessment is in the range of other assessments proposed by MSHA for moderately serious violations that resulted from the company’s moderate negligence. *See* Attachment to Stipulations (printout of previous history).

conditions of September 23, 2001 will impact the lives of those involved for so long as they live. In this regard, the case represents the resolution of disputes as to whether certain of those events and conditions were engendered by violations of the Mine Act. Under the Act, such disputes are resolved through the hearing process – a process that, at times, can be rancorous and acrimonious. I am compelled to observe, however, that in this instance all of those involved, i.e., the parties’ counsels, representatives, witnesses, and technical support personnel, never lost sight of the underlying tragic circumstances which brought us together. Each person conducted herself or himself so as to accord full respect to the memory of those who lost their lives and empathy and understanding for the sorrow of those left behind. In this way, each person paid tribute to what Congress has termed the mining industry’s “most precious resource – the miner.” 30 U.S.C. § 801(a).

ORDER

Citation No. 7328083, Citation No. 7328081 and Order Nos. 7328088, 7328104, 7328106, and 7328082 are **VACATED**. Order No. 7328105 is **VACATED IN PART** to the extent it refers to an incomplete preshift examination due to the failure to detect the presence of inadequately inerted mine dust and is **AFFIRMED IN PART** to the extent it refers to an incomplete preshift examination due to the failure to preshift examine the areas of the No. 4 Section where miners were scheduled to roof bolt and perform maintenance work. Order No. 7328085 is **AFFIRMED** but **MODIFIED** to a citation issued pursuant to section 104(a) of the Act. 30 U.S.C. § 814(a). The inspector’s S&S finding is **DELETED**. His gravity and negligence findings are **MODIFIED** to conform with my findings.

JWR is **ORDERED** to pay a total civil penalty of \$3,000 in satisfaction of the violations in question. Payment is to be made to MSHA within 30 days of the date of this proceeding. Upon receipt of full payment, this proceeding is **DISMISSED**.

David F. Barbour
Administrative Law Judge

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