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MSHA V. TEXASGULF
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FMSHRC-WDC
April 20, 1988

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

v. Docket No. WEST 85-148-M
WEST 86-83-M

TEXASGULF, INC.

BEFORE: Ford, Chairman; Backley, Doyle, Lastowka and Nelson, Commissioners

DECISION

BY THE COMMISSION:

In this civil penalty proceeding arising under the Federal Mine Safety and Health Act of 1977, 30 U.S.C. $ 801 et seq. (1982) ("Mine Act"), the issue is whether substantial evidence supports the finding of Commission Administrative Law Judge Michael Lasher that three violations of 30 C.F.R. $ 57.21078, the mandatory "permissibility" standard for underground metal and nonmetal mines, were not of such a nature as could significantly and substantially contribute to the cause and effect of a mine safety or health hazard. 1/ 9 FMSHRC 748 (April 1987) (ALJ). For the reasons that follow, we affirm the judge's finding that the violations were not of a significant and substantial nature.

The Wyoming Soda Ash Operation of Texasgulf, Inc. ("Texasgulf"), is a trona mine located in Sweetwater County, Wyoming. 2/ On April 10,

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1/ 30 C.F.R. $ 57.21078 (1986) entitled "Permissible equipment" stated:

> Only permissible equipment maintained in permissible condition shall be used beyond the

last open crosscut or in places where dangerous quantities of flammable gases are present or may enter the air current.

Effective October 29, 1987, section 57.21078 was eliminated. 52 Fed. Reg. 24941 (July 1987). New regulations relating to "Approved equipment" have replaced section 57.21078. See 30 C.F.R. $$ 57.22302-57.22305 (1987).

2/ Trona is a hard rock composed of sodium carbonate, sodium bicarbonate, water, and dirt. It is refined in order to obtain sodium bicarbonate, primarily used in making glass.

April 24 and October 15, 1985, Martin Kovick, an inspector of the Department of Labor's Mine Safety and Health Administration, conducted inspections at the mine. During each inspection, Kovick examined a different continuous mining machine located inby the last open crosscut of a working section. On the first inspection, Kovick found a gap in the flange joint of the main control panel on the No. 5 continuous mining machine. On the second inspection, he found a gap in the flange joint of the connection box on the No. 4 continuous mining machine. On the third inspection, he found a gap in the flange joint of the right headlight on the No. 9 continuous mining machine. While the maximum permissible clearance for such flange joints is .004 inch (30 C.F.R. $ 18.31(a)(6)), the gaps were .005 inch, .006 inch, and .011 inch respectively. In each instance Kovick issued a citation alleging a violation of 30 C.F.R. $ 57.21078.

Kovick measured the atmosphere in the vicinity of the violations for methane. On all three occasions Kovick's hand-held methane detector indicated that no methane was present. Kovick then took bottle samples of the atmosphere. Laboratory analysis of the bottle sample taken during the first inspection indicated that the atmosphere contained .005 percent methane in the vicinity of the main control panel. The latter two bottle samples indicated .009 percent methane in the vicinities of the connection box and the headlight. Kovick did not see any evidence of arcing or sparking inside the cited enclosures or evidence that the continuous miners were electrically malfunctioning.

In the citations Kovick noted his conclusion, with respect to each violation, that the violation was of such nature as could significantly and substantially contribute to the cause and effect of a mine safety or health hazard. (See 30 U.S.C. $ 814(d)(1).) He testified that methane could get into the main control panel, connection box, and headlight through the impermissible gaps and that arcing or sparking inside the enclosures could ignite the methane and set off larger ignitions or explosions of methane in the atmosphere outside the enclosures.

Texasgulf conceded the violations but disputed the inspector's findings that the violations were of a significant and substantial nature. The administrative law judge concluded that none of the three violations significantly and substantially contributed to a mine safety hazard because there was no reasonable likelihood that all of the various catalysts needed to produce an ignition or explosion would coincide. 9 FMSHRC at 764-765. On review, the Secretary challenges this conclusion. In addition, the Secretary

argues that in his decision the judge has erroneously concluded that a violation must constitute an imminent danger in order to be designated significant and substantial. 3/

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3/ Section 3(j) of the Mine Act defines "imminent danger" as "the existence of any condition or practice in a coal or other mine which could reasonably be expected to cause death or serious physical harm before such condition or practice can be abated." 30 U.S.C. $ 802(j). In view of our disposition, we need not address this aspect of the Secretary's argument. See n.4, infra.

Section 104(d)(1) of the Mine Act provides that a violation is significant and substantial if it is 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 significant and substantial "if, based on 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 Division, National Gypsum, 3 FMSHRC 822, 825 (April 1981). In Mathies Coal Co., 6 FMSHRC 1, 3-4 (January 1984) the Commission explained:

> In order to establish that a violation of a mandatory safety standard is significant and substantial under National Gypsum, the Secretary ... 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.

The Commission has explained further that the third element of the Mathies formulation "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., 6 FMSHRC 1834, 1836 (August 1984) (emphasis deleted). We have emphasized that, in accordance with the language of section 104(d)(1), 30 U.S.C. $ 814(d)(1), it is the contribution of a violation to the cause and effect of a hazard that must be significant and substantial. Id. In addition, the evaluation of reasonable likelihood should be made in terms of "continued normal mining operations." U.S. Steel Mining Co., Inc., 6 FMSHRC 1573, 1574 (July 1984). Applying these principles to the instant case, we conclude that the judge's holding that the cited violations were not of a significant and substantial nature is supported by substantial evidence. 4/

We recognize that permissibility violations have the potential for

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4/ The judge also suggests that the Commission's interpretation of significant and substantial is in error because the statutory language of section 104(d)(1), 30 U.S.C. $ 814(d)(1), does not require explicitly that there be a reasonable likelihood that the

hazard contributed to will result in an event in which there is an injury of a reasonably serious nature. 9 FMSHRC at 759, 760, 765. Contrary to the judge's suggestion, the Commission's interpretation of the meaning of significant and substantial as set forth in National Gypsum, Mathies and the U.S. Steel decisions, including the reasonable likelihood requirement, is fully consistent with the Act as it harmonizes the statutory language of section 104(d)(1) and the overall enforcement scheme of the Mine Act. We therefore decline the judge's invitation to revisit these holdings.

serious danger. Nonetheless, whether a permissibility violation is significant and substantial must be based on the particular facts surrounding the violation, including the nature of the mine involved.

The discrete safety hazard contributed to by the violations at issue is that methane will enter the subject enclosures on the continuous mining machines through the impermissibly wide gaps in the flange joints, be ignited by arcing or sparking of electrical components and trigger a larger methane ignition or explosion. The key question here is whether there was a reasonable likelihood that this hazard would result in an ignition or an explosion. As the judge recognized, in order for ignitions or explosions to occur, there must be a confluence of factors, including a sufficient amount of methane in the atmosphere surrounding the impermissible gaps and ignition sources.

As the judge found, methane is ignitable at a 1.0 to 2.0 percent concentration and is explosive at a 5.0 to 15.0 percent concentration. Tr. 63, 68-69, 168; 9 FMSHRC at 752. At the time the violations at issue were cited, the methane levels were .005, .009 and .009 percent, well below the 1.0 percent concentration necessary for an ignition.

The judge further determined that it was not reasonably likely that ignitable or explosive concentrations of methane would have been encountered had normal mining operations continued. The methane test results taken by Inspector Kovick at the time that he observed the violations showed methane concentrations no greater than .009 percent. Tr. 68, 79, 84. Further, there has never been a methane ignition or an explosion at the mine. Tr. 62, 197, 227. Indeed, the evidence establishes that methane has never been detected in this mine at a level of concentration required for an ignition or explosion. Kovick testified that he had inspected the mine four times a year for eight years prior to the hearing and that he had never detected ignitable or explosive levels of methane in the mine. Tr. 39, 62, 75, 85-86, 90. Texasgulf's ventilation engineer, who worked at the mine for five years prior to the hearing, also testified that he had never detected ignitable or explosive levels of methane in the mine. Tr. 197-98, 242-43, 251. He testified that the highest level of methane he had ever detected was one instance of .2 percent. Tr. 165-66, 197-98, 242, 243.

Further, substantial evidence of record also supports the judge's findings that five trona mines, including Texasgulf's mine, are located within a 20-mile radius, in an area known as the Wyoming Trona Patch. All of the other mines have been subject to section

103(i) of the Act, which requires heightened inspection for mines liberating 200,000 cubic feet of methane or more every 24 hours. 30 U.S.C. $ 813(i). 5/ The

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5/ Section 103(i) states:

> (i) Whenever the Secretary finds that a coal or other mine liberates excessive quantities of methane or other explosive gases during its operations, or that a methane or other gas ignition or explosion has occurred in such mine which resulted in death or

Wyoming Soda Ash Operation liberates considerably less methane than each of the other four mines (Tr. 37, 40-41, 54, 58, 87, 222) and has never been subject to heightened inspection pursuant to section 103(i). Tr. 86, 160. The daily liberation of methane from the mine has been measured at 50,000 to 90,000 cubic feet of methane, which is well below the minimum at which more frequent inspections are required under section 103(i). Tr. 40, 161.

Substantial evidence also establishes that only the Wyoming Soda Ash Operation extracts trona from Trona Bed 20, a bed possessing unique geological features not conducive to methane liberation. Methane liberated during the mining of trona generally comes from oil shale lying in deposits above and below a trona bed. 6/ Unlike the other mines in the Wyoming Trona Patch that have a very high concentration of oil shale in the roof and the floor with resulting higher levels of methane, the roof and floor of the Wyoming Soda Ash Operation are composed of marlstone shale, a combination of clay and shale with some imbedded trona. Tr. 156-58. Marlstone differs from oil shale in that it has a higher percentage of clay. The roof of Texasgulf's mine is composed of green marlstone which contains virtually no methane. The floor is composed of a gray to light brown marlstone, which contains considerably less methane than oil shale. Tr. 159, 240-41, 315. Texasgulf's senior geologist also testified that test drilling of the

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serious injury at any time during the previous five years, or that there exists in such mine some other especially hazardous condition, he shall provide a minimum of one spot inspection by his authorized representative of all or part of such mine during every five working days at irregular intervals. For purposes of this subsection, "liberation of excessive quantities of methane or other explosive gases" shall mean liberation of more than one million cubic feet of methane or other explosive gases during a 24-hour period. When the Secretary finds that a coal or other mine liberates more than five hundred thousand cubic feet of methane or other explosive gases during a 24-hour period, he shall provide a minimum of one spot inspection by his authorized representative of all or part of such mine every 10 working days at irregular intervals. When the Secretary finds that a coal or other mine liberates more than two hundred thousand cubic feet of methane or other explosive gases during

> a 24-hour period, he shall provide a minimum of one spot inspection by his authorized representative of all or part of such mine every 15 working days at irregular intervals.

30 U.S.C. $ 813(i).

6/ During mining the oil shale may be cut into or otherwise disturbed and methane emissions may result. Trona itself neither emits methane nor burns.

entire No. 20 Bed indicates that the geological structure of the unmined portion of the bed is essentially the same as that which has been mined, showing no oil shale above or below the trona. Tr. 315, 316.

The unrefuted testimony regarding the structure of the No. 20 Bed establishes a substantial factual basis for explaining the mine's prior history of low methane liberation and for reasonably evaluating future liberation. The Secretary argues that sudden liberations of methane cannot be ruled out and that unexpected outbursts of methane have caused ignitions and serious injuries in other trona mines. The Secretary cites the statement of Texasgulf's senior geologist that "there is always a chance of something happening." Tr. 328. However, in determining whether a violation is of a significant and substantial nature the appropriate question is whether there is a reasonable likelihood of such a sudden liberation of methane. In his testimony, Texasgulf's senior geologist further characterized the chance of such a liberation as "highly unlikely." Tr. 328.

Given the detailed testimony establishing the mine's history of low methane emissions and the absence of previous ignitions or explosions, as well as the testimony establishing a reasonable expectation of low methane emissions in the future, we conclude that substantial evidence supports the judge's holding that for each violation at issue there was not a reasonable likelihood that the hazard contributed to would result in a mine ignition or explosion. Compare, U.S. Steel Mining Co., Inc., 6 FMSHRC 1866, 1867-69 (August 1984) (upholding significant and substantial finding where a coal mine liberates over one million cubic feet of methane in 24-hour period, has a history of methane ignitions, and excessive accumulation of coal nearby); United States Steel Mining Co., Inc., 7 FMSHRC 1125, 1128-30 (August 1985) (upholding significant and substantial finding where a coal mine liberates over one million cubic feet of methane in a 24 hour period, has history of past methane ignitions, can liberate dangerous levels of methane in a relatively short period, and where ventilation is below that required); Youghiogheny & Ohio Coal Co., 9 FMSHRC 673, 677-678 (upholding significant and substantial finding where a coal mine was subject to inspection pursuant to section 103(i) and sudden outburst of methane had occurred recently).

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Because the judge's conclusion that the violations were not of a significant and substantial nature within the meaning of section 104(d)(1) of the Act, 30 U.S.C. $ 814(d)(1), is consistent with applicable precedent and is supported by substantial evidence, the judge's decision is affirmed.

Ford B. Ford, Chairman

Richard V. Backley, Commissioner

Joyce A. Doyle, Commissioner

James A. Lastowka, Commissioner

L. Clair Nelson, Commissioner

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