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Federal Mine Safety and Health Review Commission
Office of Administrative Law Judges

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

CIVIL PENALTY PROCEEDING

Docket No. WEST 82-1-M
MSHA Case No. 42-01689-05003 X02

v.

LaSal No. 2 Mine

AMERICAN MINE SERVICES, INC.,
RESPONDENT

DECISION

Appearances: James H. Barkley, Esq., Office of the Solicitor,
United States Department of Labor, Denver,
Colorado, for Petitioner Mr. Morris E. Friberg,
Pro Se, American Mine Services, Inc., Denver,
Colorado, Respondent

Before: Judge Carlson

This civil penalty proceeding arises out of an inspection of American Mine Services, Inc.'s (AMS) LaSal No. 2 Mine by one of the Secretary's representatives. The Secretary charges AMS with the violation of two mandatory safety regulations promulgated under the Mine Safety and Health Act of 1977, 30 U.S.C. 801 et seq. (the "Act"). After notice to the parties a hearing was held on July 27, 1983, in Denver, Colorado. Both parties waived post-hearing briefs in favor of oral arguments presented at the close of the hearing.

During the hearing the parties agreed to the settlement of citation No. 584206 as follows: AMS would withdraw its notice of contest and pay the proposed penalty of \$24 and the Secretary would amend citation No. 584206 to reflect that the violation was not significant and substantial. Because citation No. 584206 concerns a rather minor violation, one unlikely to result in serious injury, the settlement was accepted and approved at trial. That approval is reaffirmed here.

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The only remaining citation is No. 583964 which alleges a violation of mandatory safety standard 30 C.F.R. 57.12-65. (FOOTNOTE 1)

Issues

The issues are:

(1) Did AMS violate the cited standard, and, if so, was the violation significant and substantial?

(2) If a violation occurred, what is the appropriate civil penalty?

Stipulations

At the outset of the hearing the parties entered into the following stipulations:

1. AMS was the operator of the LaSal No. 2 mine at the time these citations were issued.

2. The operations and products of the LaSal No. 2 Mine affect commerce.

3. At the time of the citations the LaSal No. 2 mine was under development and there were approximately four underground employees (three scheduled and occasionally others) and three surface employees.

4. AMS has no record of prior violations.

5. Payment of the proposed penalty will not affect the ability of AMS to remain in business.

Background Facts

Little dispute exists as to the essential facts surrounding the alleged violation. Respondent's LaSal No. 2 mine is supplied with electricity by Utah Power & Light (Utah). Utah's transmission lines carry 13,200 volts. This transmission line terminates at AMS's transformer which steps down the current to 480 volts. Beyond the transformer, AMS's own lines take over to bring the 480 volt current into the mine. Utah had provided their primary lines with lightning arrestors. The secondary system provided by AMS was an above-ground cable of approximately 500 feet in length, suspended

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from poles. It consisted of three power conductors spun around a steel messenger cable that was grounded at five poles. The three power conductors were encased in insulation rated to 600 volts, but were not connected to this grounding network. All of AMS's electrical equipment is frame grounded. The secondary system was not provided with lightning arrestors or a static line. The primary lines are located on higher ground than the secondary lines.

Discussion

The thrust of the Secretary's case is that AMS's secondary transmission line lacks adequate protection from lightning strikes and therefore violates 30 C.F.R. 57.12-65. Section 57.12-65 requires powerlines to "be protected against ... lightning." MSHA inspector Hunt, who has more than three years experience as an electrical inspector and forty five years experience as an electrician, maintained that the miners in the shop and office areas were endangered because AMS's line lacked either lightning arrestors or a static line. Lightning arrestors are circuit disrupters which are designed to accept a lightning discharge and bleed off the charge to a grounding system. After the lightning charge is bled off, the arrestor restores itself to normal operation and allows the transfer of power through the cable. A static line is a bare conductor hung some distance above a transmission line and provided with grounding wires. Such a line operates to draw the lightning charge and dissipate it down through one of the grounding lines. In the opinion of the inspector, the absence of these devices, or some functionally similar system, meant that adequate lightning protection was not being provided.

In response, AMS insists that it provided adequate lightning protection by a variety of means, notwithstanding the absence of lightning arrestors or a static line.

Section 57.12-65 does not define the type or degree of lightning protection which is required. The Commission has consistently recognized the Secretary's wide latitude in promulgating broad or simple regulations in order to cover a large range of situations. E.g., United States Steel Co., 5 FMSHRC 3,5 (1983); Alabama By-Products Corp., 4 FMSHRC 2128, 2130 (1982); Kerr-McGee Corp., 3 FMSHRC 2496, 2497 (1981).

Where the standard does not specify the type of protection required, the adequacy of the protection is measured against the objective reasonable prudent person standard. United States Steel Corp., 5 FMSHRC at 5. The question thus becomes whether a reasonably prudent person "familiar with all the facts, including those peculiar to the mining industry" would find the lightning protection to be adequate in the "context of the preventive purpose of the statute." Id.

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AMS places much emphasis on the fact that Utah provides a static line and lightning arrestors on their primary transmission line. AMS reasons that since Utah's primary line had a higher elevation it would be hit before the secondary line and would dissipate the lightning charge before it reached the secondary line.

Inspector Hunt, however, testified that the protection on the primary circuit offers only partial protection for the secondary circuitry because there is a significant chance that the lightning would strike the 500-foot-long secondary line where the Utah's arrestors and static line provided no protection.

AMS's expert, John Vickery, also has extensive electrical experience. Vickery has a degree in electrical engineering, is senior electrical engineer for AMS, and has nearly forty years experience in the field. Vickery's own testimony corroborates Hunt's concern that lightning could directly strike the secondary line. Vickery said that lightning "diverts from patterns from time to time, and you're never sure when it happens" (Tr. at 162). Vickery also stated that:

[T]he [secondary] line was not supposed to go up over the brow of the hill as it did later. It was to stay down on the level more, and when I realized he had put it up that way, it occurred to me that that high spot might be a potential spot for lightning to strike. (Tr. at 162)(Emphasis added).

Hunt gave uncontradicted testimony that lightning strikes can reach 200,000 volts (Tr. at 40, 77).

Hunt also testified that a strike on the primary line could surge past the transformer onto the secondary line. He maintained that Utah's static line might not be able to bleed off all of the current from a powerful lightning surge before it traveled to the secondary. His chief concern, however, was the potential for the lightning to hit the secondary circuitry, rendering protection on the primary circuitry valueless.

AMS insists that further protection for its secondary circuitry is provided by the messenger wire on the triple cable. Vickery felt that if lightning hit the secondary circuitry it would be dissipated by the messenger cable to the grounding poles and would not flow along the power conductors.

Inspector Hunt did not agree. In his opinion lightning could strike the power conductors directly and burn through the neoprene

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insulation which is only rated to 600 volts. Enormous current would then travel on the ungrounded power conductors. Even if the lightning did strike the messenger cable, he believed there is a real possibility that the 200,000 volt current from the strike would travel from the messenger cable to the phase conductors after burning the insulation. Finally, assuming that the current only flowed on the messenger cable, electrocution could still result to miners working with or near electrical equipment. The messenger is grounded by five poles, each of which can only dissipate a finite amount of charge and might not bleed off the entire charge generated by a heavy lightning strike. Therefore, according to Hunt, the messenger cable provides insufficient protection.

I find the testimony of both Mr. Vickery and Inspector Hunt to be credible. Both men were knowledgeable in the field and helpful in understanding the technical issues. I especially appreciate Mr. Vickery's candor on cross-examination. He did not dispute the fact that lightning's behavior may be unpredictable.

Taken as a whole, the evidence presented by AMS convinces me that its existing system of protection significantly lessened the danger that a lightning strike in the area would kill or injure a miner. I accept, for example, the argument that a discharge would be more likely to strike Utah's primary line on high ground than AMS's secondary line. I further accept the possibility that strikes of less than maximum voltage could be safely conducted away by the bare messenger line or the frame grounding on the electrical equipment in the shop. Inspector Hunt made no serious effort to prove otherwise.

Nevertheless, I must conclude that the inspector is correct when he insists that a heavy strike on the AMS line was possible, and that such a strike would carry with it a real potential for injury or death to miners at the site. In reaching this conclusion I find it noteworthy that all three forms of protection which AMS relied upon do not have lightning protection on the mine site as their primary purpose. The purpose of the arrestors and static lines on Utah's line was to protect its equipment, not mine employees working near the secondary lines or circuitry, which had no lightning protection per se (Tr. at 28, 74, 76). The primary purpose of the messenger wire was to physically support the power conductors (Tr. at 79). The primary purpose of the frame grounding was to provide fault protection for an ordinary 480 working voltage, not the heavy surges which could result from lightning. I am reluctant to believe that a reasonable and prudent person, having expertise in electrical phenomena, would regard AMS's measures, designed as they were for other purposes, as adequate protection for miners against lightning hazards. Furthermore, inspector Hunt effectively showed where each of the systems in place was deficient to neutralize the hazardous effects of the megavoltages generated by lightning.

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Beyond that, I give weight to inspector Hunt's assertion that of those mines in the area which had pole-suspended power lines, an overwhelming majority had arrestors, static lines, or similar devices designed to deal with lightning (Tr. 210). This gives some indication that the industry regards such specific protection as reasonable and prudent. That Utah Power and Light saw fit to use arrestors and a static line strengthens this inference.

In summary, I must construe the standard to require either lightning arrestors, static lines, or some device providing equivalent protection. Since AMS had none of these, the level of protection demanded by the standard was not met, and the alleged violation must be affirmed.

In considering whether the violation was significant and substantial within the meaning of the Act, I would note again that the devices in place at the time of inspection afforded some protection against some lightning strikes. Nevertheless, I must conclude that the evidence shows that the level of protection was such that there was a reasonable likelihood that a lightning strike on AMS's power line would cause injuries of a reasonably serious nature to miners working with electrical equipment. Cement Division, National Gypsum Co., 3 FMSHRC 822 (1981).

Penalty

The Secretary seeks a civil penalty of \$87.00. Section 110(i) of the Act requires the Commission, in penalty assessments, to consider the size of the operator's business, its negligence, its ability to continue in business, the gravity of the violation, and the operator's good faith in seeking rapid compliance. The size of the mine is small. The parties stipulate that imposition of the proposed penalty would not affect the operator's ability to continue in business. AMS was negligent, but the negligence was in part attributable to an honest misapprehension of the requirements of the standard. The gravity of the violation was moderate. A lightning strike was reasonably possible, but the likelihood was not great. If one occurred, however, the resulting injury could well be severe. The number of miners exposed to potential injury, on the other hand, was small. The evidence as to good faith abatement is equivocal, and I make no finding on that element. Overall, the facts do not favor a heavy penalty. The Secretary apparently made due allowance for the mitigating factors, and proposed a low figure. I conclude that \$87.00 is the appropriate penalty for the violation.

CONCLUSIONS OF LAW

Based upon the entire record and the factual findings made in the narrative portions of this decision, the following conclusions of law are made:

1. The Commission has jurisdiction to decide this case.
2. Respondent AMS violated the mandatory standard published at 30 C.F.R. 57.12-65.
3. The violation was significant and substantial.
4. The appropriate civil penalty for the violation is \$87.00.

ORDER

Accordingly, it is ORDERED that citation 583964 is affirmed; and that AMS, within 30 days of this order, shall pay to the Secretary a civil penalty of \$87.00 in connection therewith.

It is further ORDERED that the settlement of citation 584206 made at the hearing is approved; that the violation alleged therein is affirmed but shall not be classified as significant and substantial; and that AMS, within 30 days of the date of this order, shall pay to the Secretary a civil penalty of \$24.00 in connection therewith.

John A. Carlson
Administrative Law Judge

~FOOTNOTE 1

57.12-65 Mandatory. Powerlines, including trolley wires, and telephone circuits shall be protected against short circuits and lightning.