# FEDERAL MINE SAFETY AND HEALTH REVIEW COMMISSION

OFFICE OF ADMINISTRATIVE LAW JUDGES
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AUG 1 1986

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| RUSHTON MINING COMPANY, Contestant | : | CONTEST PROCEEDING |
| | : | Docket No. PENN 86-217-R |
| v. | : | Citation No. 2692281; 6/23/86 |
| | : | |
| SECRETARY OF LABOR, MINE SAFETY AND HEALTH ADMINISTRATION (MSHA), Respondent | : | Rushton Mine |

DECISION

Appearances: Timothy M. Biddle, Esq., and Susan E. Chetlin, Esq., Crowell & Moring; Washington, D.C., for Contestant:
Robert A. Cohen, Esq., Office of the Solicitor, U.S. Department of Labor, Arlington, Virginia, for Respondent.

Before: Judge Maurer

This case is before me upon the notice of contest and motion to expedite filed by the Rushton Mining Company (Rushton) under section 105(d) of the Federal Mine Safety and Health Act of 1977, 30 U.S.C. § 801 et seq., the "Act" and Commission Rule 52, 29 C.F.R. § 2700.52, challenging the validity of Citation No. 2692281 issued pursuant to section 104(a) of the Act. A hearing was held in Pittsburgh, Pennsylvania, on July 3, 1986.

The issue in this case is whether a violation of the mandatory standard at 30 C.F.R. § 75.1400(c) existed as alleged in Citation No. 2692281. The citation, as modified, reads as follows:

> The devices used to transport persons in the slope [do] not provide assurance they will act quickly and effectively in the event of an emergency in that the Sanford-Day Brakecar is the trailing car when entering the slope and the lead car when exiting the slope. [Slhould uncoupling take place the Sanford-Day Brakecar could not control or stop the other mantrip car used'in conjunction with the brakecar.

The cited standard provides as follows:

> (c) Cages, platforms, or other devices used to transport persons in shafts and slopes shall be equipped with safety catches or other no less effective devices approved by the Secretary that act quickly and effectively in an emergency. Such catches or devices shall be tested at least once every two months.

Rushton has filed a post-hearing motion to supplement the record to offer into evidence the affidavit of Raymond G. Roeder, Mine Manager of. the Rushton Nine (marked as Exhibit C-7) and the affidavit of Gerald P. Scanlon, Resident Mining Engineer-of the Rushton Mine (marked as Exhibit C-8). The stated purpose of these two exhibits is to supplement Rushton's evidence concerning the likelihood of a faiiure in the coupling between the brakecar and mancar, which question is at issue in this case. These exhibits contain technical analyses of the coupling strength between the brakecar and the mancar, *as* well as the loads the various components are subjected-to, which are clearly relevant, at least insofar as they concern the equipment as it existed on the day the citation was written, June 23, 1986. The Secretary-objects to these submissions on the grounds that they go beyond the scope of the testimony adduced at the hearing and obviously do not provide an opportunity for cross-examination. Considering the proffered exhibits in 'their entirety, I agree. However, I am going to admit Exhibits C-7 and C-8 into evidence for the very limited purpose of clarifying certain estimates that were made on the record at the hearing and which are applicable to the equipment as it existed on June 23, 1986. These estimates were subject to cross-examination at the hearing and I see no reason not to admit the more correct data into evidence if the party sponsoring it has taken the trouble to refine it. In each case the estimate which is in the hearing record and the later computation are relatively close and the raw data is available for anyone to verify or differ with the mathematical computations.

## Findings of Fact

1. Access into and out of the Rushton Mine is via a 16 degree slope approximately 700 feet in length beginning at the surface.

2. In its existing configuration, there is a hoist with a one-inch diameter steel cable rated to hold approximately fifty tons dead weight attached to a brakecar which is in turn coupled to a mancar or a supply car to take men and supplies, respectively, into and out of the mine.

3. A "man-trip" is composed of two cars, the brakecar and a mancar, which can take a maximum of 52 people, 32 in the mancar and 20 in the brakecar, into or out of the mine. It is used at the beginning and end of each shift, of which there are. three, to take the full complement of miners into and out of the mine.

4. Normal procedure is for the mancar to be disconnected from the brakecar during the shift and left on a side track on the surface. The brakecar remains attached to the hoist rope and a supply car is coupled to the brakecar to make up a "supply-trip."

5. The brakecar is only detached from the hoist rope when the cable is changed, which is approximately every 4 to 6 months and on those occasions when heavy equipment is moved into or out of the mine.

6. Attaching the hoist rope to either the brakecar as is presently done or the mancar as is proposed by MSHA, requires a relatively complex (compared to the brakecar-mancar attachment) multi-step connection process which takes two men to accomplish because the coupling assembly weighs 177 pounds.

7. The brakecar contains a braking system which can be activated either manually by a person seated in the front seat of the car or automatically if either of two centrifugal switches senses an overspeed condition which would occur when the brakecar reaches a speed of approximately 300 feet per minute. The hoist normally runs at 100 feet per minute when hoisting people in the mantrip. In the event of an overspeed condition, such as would be caused by a hoist rope break, the brakes would automatically stop the brakecar and the coupled mancar.

8. These brakes are tested in the slope at least monthly and when tested together with the mancar, the brakes have performed properly, holding both the brakecar and the mancar.

9. The mancar is connected to the down-slope end of the brakecar by means of a steel drawbar that is 23 inches long, from 6 to 5-1/4 inches wide and 1-1/4 inches thick. There are two three-inch holes in either end of this bar through which a 2-1/2 inch steel pin connects the drawbar to the mancar. A 2-1/4 inch steel pin connects the drawbar to the brakecar by a coupling lever which obviates the need for anyone to go between the cars to connect them.

In addition to the drawbar assembly, two separate one-inch link safety chains independently connect the brakecar and mancar.

10. The steel drawbar assembly existent at the time the citation was written is estimated to be capable of withstanding a load of fifty tons. 1/ The safety chains, whose purpose is to keep the two cars connected in the event the drawbar or one of the pins should fail, can withstand eighteen tons of stress on each chain.

11. The brakecar weighs approximately 13,500 pounds and the mancar weighs 11,280 pounds. Thus, the total weight of the empty mantrip is 24,780 pounds. When fully loaded with 52 men (assuming 200 pounds per man), the mantrip will weigh an additional 10,400 pounds or approximately 35,180 pounds total. When the fully loaded mantrip is on the 16-degree slope track, however, resolution of the force of gravity into two components determines that 72.5% of the total weight acts perpendicular to the surface of the slope and is absorbed by the slope track leaving only 27.5% or approximately 5 tons of dead weight acting parallel to the slope and-pulling on the hoist rope that is capable of supporting fifty tons.

12. When fully loaded (at 200 pounds per man) the mancar weighs 17,680 pounds. On the 16 degree slope track, the perpendicular component of gravity again absorbs 72.5% of the total weight. Thus the actual weight drawing on the pin and drawbar coupling assembly between the cars is approximately 5,000 pounds or 2.5 tons of dead weight pulling on a drawbar capable of supporting fifty tons.

13. The mantrip, in its existing configuration, was placed in service in late 1972. Since that time, the instant citation is the only one written by MSHA for the alleged failure of this equipment to meet the cited mandatory standard. In that time there has never been an accident involving the cable attachment or the coupling assembly between the cars. Nor have the brakes ever failed.

1/ Because the manufacturer could not define with certainty the steel characteristics of the existing drawbar and pins, Rushton has purchased a new drawbar and new pins. The load capacity of the new drawbar is 405,000 pounds or 202.5 tons. The new 2-1/4 inch pin has a load capacity of 248,125 pounds or 124.06 tons and the new 2-1/2 inch pin a load capacity of 306,875 pounds or 153.43 tons.

## DISCUSSION, FURTHER FINDINGS OF FACT, AND CONCLUSIONS OF LAW

MSHA's interest in the Rushton mantrip dates back to sometime in 1984 when at least one inspector became concerned with whether it met the regulations in its present configuration. The matter began to come to a head in April of 1986 when an MSHA inspection party visited the mine to observe hoist operations. At that time they requested that Rushton relocate the brakecar to place it inby the mancar, i.e., switch the cars around. When Rushton balked at doing this, his "superiors" directed Inspector Reichenbach to issue the instant citation, which he did on June 23, 1986.

MSHA's concern over this configuration of the cars in the mantrip stems from the fact that the mancar has no independent braking system or anything else for that matter to stop it from running away down the slope should it become detached from the brakecar. While MSHA agrees that the coupling assembly, together with the two one-inch link safety chains appears to be a secure method of attaching the two cars, MSHA argues that in order to satisfy the cited regulation, the attachment must be permanent, or the mancar must be up-slope from the brakecar. Mr. Gossard, the chief witness for the Secretary at the hearing testified on direct examination at Tr. 59:

> Q. Now, the mantrip car and the braking car are attached by means of a link aligner?
>
> A. It's a pin and link arrangement, yes, sir.
>
> Q. Okay. And, safety chains?
>
> A. That's correct, bridle chains.
>
> Q. And, in order for the mantrip car to come unattached from the braking car, would both of those devices have to fail?
>
> A. Both devices, if they were both hooked up, initially, both devices would have to fail to cause a situation.
>
> Q. And, in your opinion could that situation occur?
>
> A. It may. I wouldn't want to bet thirty men's lives on that it wouldn't occur.

The key phrase in the above-quoted testimony is that "[i]t may", and that is the crux of the Secretary's case.

Since the mancar has *no* independent means of stopping, it is axiomatic that it cannot comply with the regulation unless it is attached to the brakecar. The issue herein, however, is does the regulatory standard require a down-slope mancar to be a permanent fixture on the brakecar in order to have the brakes on the brakecar satisfy the regulatory requirement for the mancar. It is not disputed herein that the brakes on the brakecar would stop both cars fully loaded should there be a hoist rope break or other overspeed condition, as long as the two cars remained attached. In fact, the preferred method of abatement of this citation is to simply reverse the order of the cars, putting the brakecar on the down-slope end. In that configuration per MSHA, the mancar would not require an independent braking system, but rather the brakes on the brakecar would suffice to handle the braking for both cars.

I conclude that the regulation does not require a permanent brakecar-mancar attachment. On the contrary, I conclude that if these two cars are sufficiently tied together, they are in fact operating as a single device used to transport persons in a slope and that device (i.e., the mantrip) is equipped with an adequate automatic braking system capable of stopping both cars in an emergency (such as a hoist rope break).

Therefore, the ultimate issue is the adequacy of the attachment between the mancar and the brakecar since everyone appears to agree that so long as the mancar remains coupled to the brakecar there is no hazard under any conceivable emergency situation. The possibility of brakecar-mancar uncoupling is the hazard the Secretary is concerned with.

The only empirical data or scientific evidence concerning the strength of the coupling assembly between the two cars, including the safety chains, came from the contestant and I find such evidence to be credible. The gist of that evidence was that the coupling assembly can withstand many times the maximum fully loaded weight of the mancar. Likewise, the safety chains in the event that the principal coupling did break would be sufficient, by a safety factor of at least 8 (eight), to keep the mancar attached to the brakecar. This evidence was unrebutted. Also unrebutted was the fact that Rushton has 13 years experience operating this mantrip in that configuration without experiencing any separation of the cars or any other problem associated with the coupling or safety chains.

In his brief, the Secretary states that "[T]here *is* still a possibility that the connection between the [mancar]

and brakecar could fail due to either excess wear or human error." That may be, but the Secretary has the burden of proving that allegation and he introduced no evidence of either.

The clear preponderance of the relevant evidence in this record does not support the alleged violation. Accordingly, I find that there has been no violation of the cited standard.

ORDER

Citation No. 2692281 is VACATED and the contest is GRANTED.

Roy J. Maurer
Administrative Law Judge

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