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SOL (MSHA) V. STEELE BRANCH MINING
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SECRETARY OF LABOR, MINE SAFETY AND HEALTH ADMINISTRATION (MSHA), Petitioner	:	CIVIL PENALTY PROCEEDING
	:	Docket No. WEVA 92-953
	:	A.C. No. 46-00506-03527
v.	:	
	:	Surface Mine No. 927
STEELE BRANCH MINING, Respondent	:	

DECISION

Appearances: Patrick L. DePace, Esq., Office of the Solicitor, U.S. Department of Labor, Arlington, Virginia, for the Petitioner;
Roger L. Sabo, Esq., Schottenstein, Zox & Dunn, Columbus, Ohio, for the Respondent.

Before: Judge Koutras

Statement of the Case

This proceeding concerns a proposal for assessment of civil penalty filed by the petitioner against the respondent pursuant to section 110(a) of the Federal Mine Safety and Health Act of 1977, 30 U.S.C. 820(a), seeking a civil penalty assessment of $9,500 for an alleged violation of mandatory safety standard 30 C.F.R. 77.404(a). The respondent filed an answer contesting the alleged violation and a hearing was held in Charleston, West Virginia. The parties filed posthearing briefs, and I have considered their arguments in the course of my adjudication of this matter.

Issues

The issues presented in this case are (1) whether the conditions or practices cited by the inspector constitute a violation of the cited mandatory safety standard, (2) whether the violation was "significant and substantial", and (3) the appropriate civil penalty to be assessed for the violation, taking into account the statutory civil penalty criteria found in section 110(i) of the Act. Additional issues raised by the parties are identified and disposed of in the course of this decision.

Applicable Statutory and Regulatory Provisions

1. The Federal Mine Safety and Health Act of 1977, Pub. L. 95-164, 30 U.S.C. 801 et seq.

2. Section 110(i) of the 1977 Act, 30 U.S.C. 820(i).

3. Commission Rules, 29 C.F.R. 2700.1 et seq.

Discussion

This matter concerns an accident that occurred at the respondent's mine site on April 23, 1991, when the operator of a Model 16 Caterpiller Road Grader, (Rayburn Browning), suffered fatal injuries when he jumped from the machine and was run over by the right front tire. According to the information developed during the course of the accident investigations, Mr. Browning had completed his grading duties and was driving the grader, with the blade in the raised position, up a haulage road toward the equipment parking area. The grader engine stopped for some unknown reason while he was travelling up the roadway and it began traveling backward down the grade. Mr. Browning jumped from the machine and was run over, and the machine continued in the reverse direction down the roadway and it came to rest against the highwall in an upright position. After the conclusion of the MSHA investigation, MSHA Inspectors Donald R. Mills and James E. Davis issued the contested section 104(a) "S&S" Citation No. 2956461, on April 29, 1991, and the cited condition or practice states as follows:

> The investigation of a fatal surface machinery (Grader) accident at this mine revealed that the Caterpillar grader involved, Model No. 16, Serial No. 49G915, was not maintained in a safe operating condition, in that based on the specifications of the manufacturer the fully charged accumulator provides for approximately five brake applications after the diesel engine had been shut off. The investigation revealed through testing that only one brake application was provided after the diesel engine was shut off. Also, the brake pressure gauge, located on the instrument panel in the cab of the grader (Company No. 03309) was found to be inoperative. The operator removed the grader from service for repair.

Stipulations

The parties stipulated to the following (Tr. 8-10):

1. The respondent owns and operates the subject mine, and the mine is subject to the Act.

2. The presiding Administrative Law Judge has jurisdiction to hear and decide the matter.

3. The inspectors who issued the contested citation are duly authorized representatives of the Secretary of Labor, and a true and authentic copy of the citation was served on the respondent.

4. The imposition of the proposed civil penalty assessment will not affect the ability of the respondent to continue in business.

5. Although the mine may no longer be in operation, at the time of the events in issue in this proceeding, the respondent's mining operation was a small-to-medium size operation.

Petitioner's Testimony and Evidence

Donald R. Mills, retired former MSHA inspector, testified that he was employed as an electrical inspector before retiring and that he also served as an accident investigator. He stated that he was trained to inspect heavy equipment, including braking systems and steering systems, and that the training took place at the Beckley Academy and in the field offices (Tr. 22-23).

Mr. Mills confirmed that he visited the mine on April 25, 1991, to assist in the investigation of a fatality involving a road grader. He was part of an accident team that included MSHA inspectors, the UMWA, and company representatives. He explained how the investigation was conducted, and he confirmed that the grader was moved from the area where it had come to rest against the highwall and moved to another location where it was restarted and the brakes examined (Tr. 24-26). He confirmed that the brakes held the machine on a grade with the engine running when it was tested (Tr. 26). He identified a copy of the citation that he issued, including the extensions and modifications (Exhibit P-2; Tr. 28-31).

Mr. Mills stated that after the grader was tested on a grade where the accident occurred, it was taken to a larger level area for further testing. He stated that he directed the investigation and that a mechanic from Walker Machinery Company provided the tools and gauges used to test the grader. Mr. Mills stated that the investigation revealed that with the engine in the off position there was only "one brake application" on the machine. He explained that "when you hit the brake pedal one time with your foot, you only had the one. On the second, third, fourth application, you had no braking ability whatsoever" (Tr. 32). He further explained that "the manual states if the accumulator is fully charged, it has approximately five brake applications"

(Tr. 33). He reiterated that with the engine running, one brake application would hold the machine and that as long as the engine is running, a pump provided hydraulic pressure for brake application (Tr. 34). However, when the engine quits, there is a loss of hydraulic brake pressure, but the braking system is supposed to continue functioning when the engine quits (Tr. 35).

Mr. Mills identified a copy of a portion of the grader equipment manual which was faxed to his office, and he quoted the manual portion which states that "Fully charged, the accumulator provides for approximately five brake applications after the diesel engine has been shut off" (Exhibit P-3; Tr. 37).

Mr. Mills confirmed that he cited a violation of section 77.404(a), which requires that machinery be in safe operating condition, and he believed that the failure to provide approximately five brake applications once the engine had been shut off rendered the machine unsafe "because you can never tell when the engine is going to shut down for any reason; contaminants in the fuel, dirt, water. When you have an engine shut down, if a brake don't work, you're in trouble. It's as simple as that" (Tr. 41).

Mr. Mills determined that the violation was significant and substantial "because this grader is operated uphill, downhill, ten percent grades, on the level, around curves. Any terrain they encounter at the job, this machine is used on it" (Tr. 42). The cited condition would affect the performance of the grader "by simply not providing brake application in the event of an emergency", such as a loss of power if the engine shuts down going uphill, downhill, or around curves (Tr. 42). Mr. Mills confirmed that the grader is equipped with a park brake,and he stated that the park brake is designed to secure the machine once it has been brought to a stop and that its primary function is to secure the machine in place once the operator has stopped it. The park brake will operate with the engine off because it is a mechanical device activated by a lever within reach of the operator. He believed that a park brake could possibly stop the machine while it was moving but did not know whether it was designed to stop the weight of the machine in question (Tr. 43-45).

Mr. Mills stated that he based his finding that the violation caused the fatality on the fact that the machine was operating on a 9.6 or 10 percent grade, and a statement made in the course of the investigation that the accident victim (Browning) had stated that the engine shut off on the hill and he could not hold his brakes (Tr. 46). Mr. Mills identified a copy of the accident report of investigation, and he confirmed that he

was familiar with it (Exhibit P-5; Tr. 48). He confirmed that he did not write the report, but that he assisted in the investigation, has read the report, and he agreed with it (Tr. 49-51).

Mr. Mills confirmed that the report indicates that "the service brake was not maintained in a safe operating condition" (Tr. 52). He explained that the accumulator, along with other component parts, make up the machine braking system. In his opinion, "the cause of this accident I believe to be the accumulator not being fully charged" (Tr. 52). He stated that "if you're driving up a hill and your engine stalls and your brakes doesn't hold, you've got a problem" (Tr. 53). He explained that with the engine shut off, only one brake application was left, and if the operator pumped the brake pedal after the first application, there was nothing to provide further brake application with the engine shut off (Tr. 53). He also indicated that the brake pressure gauge, which has red and green light signals, was inoperative, and he conceded that a defective gauge could give false signals as to the condition of the brakes (Tr. 55). He stated that after the machine was removed from the initial testing area at the scene of the accident and taken "to the top", the brake gauge did not work because "it should have been in the green" (Tr. 56).

Mr. Mills confirmed that he made a negligence finding of "moderate" (Tr. 57-58). He stated that he discussed the machine manufacturer's specifications with the respondent's master mechanic, Wiley Queen, and that Mr. Queen told him he did not know about the manual requirement for five brake applications (Tr. 59). Mr. Mills did not believe that the accident caused the violation because there was no damage to the braking system and it held the machine on the hill where the accident occurred (Tr. 59). He confirmed that the citation was abated after a new brake gauge, accumulator, and four braking assemblies were installed on the machine (Tr. 61).

On cross-examination, Mr. Mills confirmed that he did not conduct the employee interviews during the accident investigation, and that MSHA Inspector James Davis conducted the interviews and summarized what the employees told him (Tr. 63). Mr. Mills explained that he heard some of the statements made by employees intermittently and that he was "in and out" of the interview room (Tr. 64-65). Mr. Mills stated that it was his job to inspect the grader, and that other individuals were present when this was done (Tr. 66).

Mr. Mills identified a copy of a Caterpillar/Walker Machinery Incident Report (Exhibits P-5 and R-5), and confirmed that he had seen it (Tr. 67). He confirmed that the respondent's report was an attempt to recreate what took place at the time of the accident. He stated that the "skid marks" shown in MSHA's

report is an indication that they were caused by "tires sliding" similar to "when a car hits it's brakes and it will skid" (Tr. 70).

Mr. Mills stated that on the afternoon of April 24, 1991, he checked the grader hydraulic oil level and found that it was five-and-one-half inches above the bottom of the tank, that the fuel level was ten inches from the top of the tank, the engine oil was full, the transmission was full, and the differential oil was full. He also determined that the front wheels were turned approximately twenty to thirty degrees to the left, the transmission selector was in second speed forward, the hydraulic control levers were in the "hold" position, and the machine blade was approximately 16 inches above ground level, indicating that the machine was not actually doing any grading work at the time of the accident. The park brake was in the "off" position, and the engine governor, which is the accelerator/decelerator pedal located on the floor of the operator's cab, was in the "shut off" position (Tr. 71-74).

Continuing with his explanation of the tests on April 24, Mr. Mills confirmed that the report states that "The grader was started and brief initial system function tests performed" and that the "systems appeared to be functioning properly" and that the park brake was set and held the machine at the grade location which was approximately 10 degrees. The report also reflects that the machine was moved under its own power to another location with safety tractors attached. The following day, additional tests were made, and the pressure on the wheels was determined to be 650 psi with the engine running. When the engine was shut off, the pressure was again 650 psi on the first application, and "after that, we got zero pressure" (Tr. 75). Mr. Mills also indicated that the nitrogen precharge in the brake accumulator was tested, and it indicated 600 psi, and that the park brake held the machine while it was moving (Tr. 76).

Mr. Mills confirmed that he is an electrical inspector and is not a certified mechanic, but that he does a lot of work with electrical power equipment in connection with heavy equipment accident investigations (Tr. 77). Referring to the grader manual in question, Mr. Mills stated that a fully charged accumulator should provide approximately five brake applications, and in his opinion "approximately" includes a range of six to three applications, but not less than three (Tr. 78). He stated that a Walker Machinery representative informed him that an accumulator which provided three brake applications needed to be repaired (Tr. 79).

Mr. Mills stated that the Caterpillar grader in question has an operator's manual, a service manual, and a parts manual. He confirmed that he has his own operator's manual, and that he was also familiar with the lubrication maintenance guide (Tr. 79-80).

He confirmed that in the course of his investigation he did not consult the operator's manual or the parts and lubrication manual, and he did not know whether the same phrase "approximately five applications" is found in those manuals (Tr. 81). Mr. Mills stated that he would not expect mine management to test the machine on a grade by starting the engine and then shutting it off to ascertain the number of applications provided by the accumulator (Tr. 83).

Mr. Mills explained that the accumulator's function is to build up pressure for the application of the brakes, and it stores energy and may assist in putting the brakes in a quicker mode so that the machine can stop quicker. A further function of the accumulator is to store energy and provide braking application when the engine isn't building up enough pressure to apply the brakes with the oil pressure (Tr. 84-85). He confirmed that the grader braking system is located on the four rear wheels, and that the front wheels have no braking system, but he was not familiar with the industry standards or requirements for graders (Tr. 92).

Mr. Mills reviewed some of the conclusions found in the accident report prepared by Inspector Davis. Mr. Mills confirmed that once the grader was started during his investigation, it did not stall again. He also confirmed that his investigation determined that the accident victim was an experienced and safe grader operator who conducted daily checks of his equipment (Tr. 98). Mr. Mills was also told that the grader operator would report any problems to one of the mechanics and that the grader involved in the accident was one that was normally not used (Tr. 98). He confirmed that the report reflects that Mr. Browning shut down the grader that he normally operated because of a problem (Tr. 99-100).

Mr. Mills confirmed that he did not check the grader maintenance records as part of his accident investigation (Tr. 116-117). He also confirmed that he did not advise the respondent as to what needed to be done to abate the violation and only pointed out what was wrong with the braking system. The decision to replace all of the brake pads was made by the respondent, and neither Mr. Mills or any of the other MSHA inspectors told the respondent what needed to be done before they would certify the grader as operable (Tr. 123-124).

In response to further questions, Mr. Mills stated that he "heard a little bit" of some of the interrogation of people during MSHA's investigation, and that he also heard about certain statements by the accident victim that the brakes had failed while he was operating the machine. He could not recall when he heard this, and he thought that a foreman may have made the statement (Tr. 125-126). Referring to the sketch and skid marks shown in MSHA's accident report, Mr. Mills stated that the marks

could have been caused by something other than braking, but that he did not see the marks and was not looking for them because he concentrated on the machine (Tr. 131).

Respondent's Testimony and Evidence

William Roberts, equipment manager, Geupel Construction Company, testified that this company is a construction and mining company engaged in highway construction, coal mining, and grading and drainage projects, and it was the operator of the mine involved in this proceeding. His duties included "overseeing the equipment, repairs, and purchasing and selling of equipment" (Tr. 136). He confirmed that there were two motor graders on the property, that he "has been involved" with graders since 1964, and he explained what the grader was used for and how it is operated (Tr. 137-140). He also confirmed that there are three manuals for the Model 16 Caterpillar grader (Tr. 141).

Mr. Roberts identified exhibit R-6, as the operating and maintenance manual for the grader, and it contains information concerning the functions of the machine, the grease points, and instructions for its safe operation. Referring to page 92, of the manual, he described the brake accumulator and how it operates (Tr. 141-143).

Mr. Roberts identified exhibit R-8, as the grader lubrication guide and maintenance manual, which is used by the equipment operator and mechanics for routine and normal maintenance and minor repairs (Tr. 144-145). He stated that a mechanic or lubrication man would service the machine and that the operator would keep the mechanic or foreman advised as to any problems with the equipment (Tr. 145). Mr. Roberts referred to page 9 and 45 of the manual in question and quoted from the information pertaining to the brake accumulator (Tr. 145-146).

Mr. Roberts identified exhibit R-9, as a portion of the grader service manual titled "Hydraulic System and Brakes Specifications", and he stated that the manual is used by mechanics who are making major repairs on the machine (Tr. 147). Referring to page four of the manual,and in particular the sentence that reads "Fully charged, the accumulator provides for approximately five brake applications after the diesel engine has been shut of", Mr. Roberts stated that he has not been able to find any manual instruction that states that one is supposed to test the brake accumulation system for five applications after the engine has been shut off (Tr. 148). In response to a question as to how one would test the grader, Mr. Roberts responded as follows at (Tr. 149-150):

> THE WITNESS: The way you would make this test is that, of course, you would normally have your machine at

operating temperature, your oil warm, and what have you. You would start the engine and assume that everything is working properly. Then you shut the engine off and you make a brake application, let off of it, make another brake application, let off of it.

JUDGE KOUTRAS: Have you ever done such a test in your experience?

THE WITNESS: Yes.

JUDGE KOUTRAS: All right, Mr. Sabo.

BY MR. SABO.

Q. When you make that application, does it matter what shape or form the grader is in?

A. You mean the rest of the grader?

Q. Yes. I mean, does it matter whether it's on an incline or slope --

A. No. It has no bearing on that.

Q. Does the operator in the field know that he would test this way or test an accumulator? How would he know what to do?

A. I don't really know whether he would or not.

Q. There is nothing within the manual that you found that talks about a testing procedure after the engine is shut off.

A. That is correct.

Mr. Roberts explained that after the citation was issued the accumulator was inspected by a Walker Machinery representative and "the accumulator was working properly. It still had a nitrogen charge in it, the proper amount. But for some reason, they thought we ought to replace it and so we put the new accumulator on". He further explained that the new accumulator "did not help the situation any as far as increasing the amount of the applications that you would take . .you know, the applications of the brake system with the engine shut off. And then from that point, on, we took and changed all four brake assemblies on the machine. I'm assuming that they come up to the five applications. I don't even know this" (Tr. 151). He further explained as follows at (Tr. 152-153):

> So the only thing it could possibly be that changes the amount of applications is the wear in the disk which controls -- as the disk wears a little more, the piston, the hydraulic piston, has to travel farther to make the application, which, in turn, reduces the amount of applications that you get out of the accumulator.
>
> The accumulator, itself, is not -- you know, is not a very big thing. The accumulator basically was not put on the machine for excess applications. There is other manufacturers's that make -- have a similar setup to this that don't even mention how many applications that you should have after the engine is shut off. It's strictly -- they're put on there as a function to make the brakes work.
>
> There is always, with the engine running, there is always a preach (phonetic) amount of oil to apply the brakes, to give somewhere for the pump, when it builds up the pressure, to relieve itself.
>
> Again, I'll go back to the water tank business. If you had a water tank, you know how your water pump kicks on and kicks off. If you didn't have a chamber like this to hold a surge of oil, you would be getting into the same thing on the brakes.
>
> And it's just strictly a reserve amount of oil for a brake application, more than it is -- it says approximately five applications. So whatever approximately is just depends on -- as the brakes wear, it doesn't mean they're inoperable, but this amount of applications you have you lose till the -- well, it can get to the point that you could -- Well, you just wouldn't even have any brakes with one application. I mean, if the brakes are wore out, they're wore out. It's not the case on this machine.

Mr. Roberts did not know how long the condition existed, and he stated that the machine had previously been inspected by Federal and state inspectors in February, 1991, and that it had been operated only 18 hours since those inspections. He did not know if the prior inspections included the accumulator or the braking system. Other than a daily walkaround inspection by the machine operator, Mr. Roberts was not aware of any inspection records for the machine, and he has never seen any daily walkaround inspection reports (Tr. 155). He confirmed that the machine operator is not required to be familiar with the service manual, but that a mechanic and an operator would be expected to comply with any applicable manual instructions and to correct any problems (Tr. 156). He did not know if the accumulator precharge

pressure check required every 500 service meter hours by the manual, at page 92, and a "recharge if necessary" was ever done for the grader in question (Tr. 157).

In response to questions concerning the need for brake applications after the machine engine is off, Mr. Roberts responded as follows at (Tr. 157):

> A. I have no idea. Like I say, there is other manufacturers that make the same system that do not even mention this part of it.
>
> Q. On those other pieces of equipment, do the brakes work with the engine off?
>
> A. I don't know this. They would have the same -- they would have the same tendency to work as this does. It would depend on, strictly, how big an accumulator they put on and this, that and the other thing, you know.
>
> Q. Well, in your experience with heavy equipment, do the brakes usually work with the engine off?
>
> A. To be truthful with you, I never tried.

And, at (Tr. 160-161):

> Q. Am I to understand that you don't know whether or not the brakes can stop this equipment or the accumulator -- am I to understand if the engine quits, that you don't know whether or not the accumulator and brakes together will stop it?
>
> A. Oh, it will stop it, but that is not what he asked me. He asked me if I had ever tried to stop one. I've never tried to stop one without the motor running.
>
> Q. Didn't he also ask you a question, if the accumulator would not function, would it stop the equipment after the engine quit?
>
> A. No. If he did, I didn't understand it that way.
>
> Q. Well, let me ask you that question.
>
> A. If the accumulator is not functioning and the engine is stopped, the machine would not stop.
>
> Q. It would not stop.

A. No. You have no brake pressure. You would have no pressure to apply the brakes, and it would not stop.

Thomas Goodney, self employed consulting engineer with his own company, Forensic Engineering Services, was admitted as an expert witness, and he confirmed that his work includes conducting accident investigations, testifying at trials as an engineering expert, and doing road grader design work. He confirmed that he is a licensed engineer in the State of Wisconsin, and his biographical data, including his education and experience, is a part of the discovery responses submitted in this case (Tr. 162-164).

Mr. Goodney confirmed that he is a member if the Society of Automotive Engineers (SAE) and that he served on a committee that drafted industry brake standards for off highway machines such as scrapers and graders, and he explained the standards and the three braking systems for a grader (Exhibit R-11; Tr. 164-167). He confirmed that he participated in the accident investigation and reviewed the MSHA investigation report, the Walker machinery report, and the grader manuals, including the information regarding the brake accumulator (Tr. 168).

Mr. Goodney explained that the brake accumulator is a device for storing oil under pressure so that when the brakes are applied, there is an immediate source of oil to apply the brakes. The accumulator also serves as a "cushion" that allows the accumulator charging valve to function in that the pressure is allowed to vary between 850 and 1200 pounds per square inch, thereby allowing the oil to be stored for future use. He explained how the accumulator is charged through a continuous pumping system, and he stated that with a normal operating system, the oil pressure at any one time with the engine running will be between 850 and 1200 psi (Tr. 169).

Mr. Goodney stated that the grader service brake does not function as an emergency braking system, and he explained that the emergency brake is a completely separate device that is applied by a separate handle similar to a car emergency brake. The emergency brake also serves as a park brake (Tr. 170-171). With regard to the service manual reference that states that a fully charged accumulator should provide approximately five brake applications after the engine has been shut off, Mr. Goodney stated as follows (Tr. 172):

A. That is really a very loose number, because at any moment in time, the accumulator may be charged at twelve hundred psi, or at another moment in time, if it's toward the lower end, it may be eight hundred fifty psi. And with all of the variables of the system concerning pressure, brake wear, and so forth, the number of applications is very much different. So it's

not specified with any degree of thoroughness in the manual, because it is something that is very difficult to measure and to have a direct handle on.

Mr. Goodney explained that the greatest factor that would cause an accumulator not to provide five braking applications would be a lack of precharge pressure because "the accumulator will not function at all. It will not provide any oil whatsoever" (Tr. 173). He stated that the proper method for testing an accumulator to determine whether it is functioning properly is to attach a gauge to the charging port at the top of the accumulator to measure the pressure (Tr. 173). He confirmed that the Walker Machinery report reflects that the accumulator was tested more than once (Tr. 174). He further explained the testing information found in the grader manuals (Tr. 174-176).

Mr. Goodney stated that an accumulator is not unique to the Caterpillar grader in question, and that other manufacturers use it. He explained the function of the nitrogen in an accumulator and stated that "it is the medium that allows compression by the oil to store a given amount of oil" (Tr. 176). He further stated that the accumulator provides a quick response when the brake pedal is applied by instantly making oil available to fill the voids in each wheel piston assembly and allows for immediate brake application without the valve cycling that directs oil to the accumulator (Tr. 177).

On cross-examination, Mr. Goodney confirmed that he was being compensated at an hourly rate by the respondent for his hearing appearance. He stated that a piece of equipment should be operated as directed by the manufacturer's manual, and that it is important that braking function in general is available when the machine engine is off. He confirmed that the grader in question has three different braking systems, and that in addition to the complex service brakes, the emergency brake and park brake are combined together into a simple mechanically applied system. He believed that it was possible to use the park brake while the grader is rolling downhill, and that this was done when the grader was tested and it stops the machine (Tr. 184). Although one function of a park brake on a car is to secure it while it is in place, a secondary function "is your emergency brake in the event of complete loss of your hydraulic brake on your car" (Tr. 185).

Mr. Goodney confirmed that he has never operated a grader such as the one in question, but he has operated similar and slightly smaller ones. If he were operating a grader which was rolling downhill with the engine off his first reaction would be to apply the foot service brake pedal. He confirmed that the service brakes on other equipment will operate with the engine off, but only "for a limited number of applications". When asked if he would consider the cited grader to be in a safe operating

condition if he tested it and found only one brake application, he responded as follows (Tr. 186-187):

> A. I wouldn't consider it unsafe. As long as the park brake, emergency brake, was working, in good working order it's still a safe machine to operate. If you take the SAE document as the minimum performance standard for a machine, in my opinion, if this machine meets the requirements of the SAE document, the minimum performance, then you can't say it's an unsafe machine. You may say it's something I should have repaired or I should fix if you know it should have five applications, but I certainly wouldn't call it an unsafe machine.
>
> Q. If you were operating this machine on a nine degree grade regularly, every day, would you be willing to say it was safe to operate it even if only one brake application would work with the engine off?
>
> A. I think the record shows that you have one brake application with this machine. And, also, the record shows that the park brake was capable of stopping this machine on that grade.

Mark Potnick, Director of Human Resources, Geupel Construction Company, testified that his duties include "overall safety programs, loss control, labor relations, benefits, and personnel". He stated that the respondent coal company was in operation for approximately two years, and that the mining was completed and terminated and the mine is no longer operational (Tr. 192). He confirmed that the company had a mine safety program, and that he was the company's primary representative during the accident investigation. He identified Exhibit R-4, as a copy of the company accident investigation report that he prepared, and he explained his participation in the investigation (Tr. 194-197).

Mr. Potnick stated that the grader was examined as it rested against the highwall on the day of the accident, April 23, 1991, and the decelerator switch was in the off position, and the fluid levels were checked. The grader was examined again the next day, April 24, 1991, at the accident area under operating conditions, and the service brakes, and emergency and park brakes were tested and the wheels locked and stopped the machine on the steepest grade where it was tested (Tr. 198).

Mr. Potnick stated that during the investigation he interviewed foreman Jim Sword, who was Mr. Browning's supervisor, and Mr. Sword told him that Mr. Browning stated that "the engine quit and I jumped off and the wheels ran over me" (Tr. 199). Mr. Sword said nothing about Mr. Browning mentioning the braking

system, but a truck driver who was in the area listening to the conversation between Mr. Sword and Mr. Browning mentioned to MSHA Inspector Davis that he overheard Mr. Browning mention the brakes (Tr. 199-200).

Mr. Potnick stated that Inspector Davis informed him that in order to abate the citation the accumulator had to be replaced and the brakes needed to be repaired to comply with the number of brake applications mentioned in the manual (Tr. 200). Mr. Potnick identified Exhibit R-7, as an MSHA inspection report dated March 12, 1991, reflecting the results of an inspection conducted by Inspector Noel Keith of all of the mine equipment, and the grader in question was not cited at that time for any violations, and it had only been operated for two shifts, or 16 hours, subsequent to the prior inspection, and before the accident involving Mr. Browning (Tr. 203).

Mr. Potnick stated that he received a copy of MSHA's accident report (Exhibit P-5), approximately a year ago in another proceeding concerning additional citations that were issued as a result of the accident in issue in this case (Tr. 203-205).

On cross-examination, Mr. Potnick confirmed that when the grader braking systems were tested during his investigation with the engine running they were fully operational. He also confirmed that at the time of the accident, the grader engine quit for some unknown reason. Although he believed that the emergency brake would have stopped the grader, when the grader was inspected after the accident the emergency brake was not applied and it does not appear that Mr. Browning attempted to use that brake (Tr. 210).

In response to further questions, Mr. Potnick stated that the accumulator was not checked with the grader under power during his investigation immediately after the accident "because if you have brakes and it stops, then your accumulator is working" (Tr. 211). He stated that the accumulator was checked a day or two later after the grader had been tested under operating conditions and that "everything worked" (Tr. 211).

Mr. Potnick stated that during the joint testing of the grader, the engine was shut off and the service brakes were applied with one application, and they locked the wheel and stopped the machine (Tr. 213). The machine was then taken to the top of the hill, and when asked how the hydraulic pressure testing of the accumulator was conducted, he replied as follows at (Tr. 214-215):

> A. Okay. After this operational check, the grader was then taken to the top of the hill and was placed in the

> yard area. A day or so later, MSHA came back. Walker equipment people came back. Our personnel were there. The grader was then checked.
>
> It was at that time, as the grader sat still, that the various components were again checked for pressures. This was the first check they had done for various spec's. They checked pressures at the wheels. They checked pressure on the accumulator tank and the pressure on the accumulator tank was right up to spec.
>
> It was when the investigators or mechanics applied the brake pedal after power was shut off, they found that they had one application at that point in time, one brake application. It was let up. It was applied again and there was no brake resistance.
>
> And it was at that time that they then attempted to state that the one application, as opposed to the five or approximately five that is listed in the manual, made the machine unsafe.

Petitioner's Arguments

The petitioner asserts that mandatory safety standard 30 C.F.R. 77.404(a), imposes liability upon the respondent regardless of its knowledge of unsafe conditions. Peabody Coal Company v. Secretary of Labor, 1 FMSHRC 1494, 1495 (October 1979). Citing Secretary of Labor v. Southern Ohio Coal Company, 13 FMSHRC 912, 916 fn.2 (June 1991), quoting Secretary of Labor v. Alabama By-Products Corp., 4 FMSHRC 2128, 2129 (December 1982), the petitioner relies on the Commission's ruling that a violation of section 77.404(a), is based upon "whether a reasonably prudent person familiar with the factual circumstances surrounding the allegedly hazardous condition, including any facts peculiar to the mining industry, would recognize a hazard warranting corrective action. . ."

The petitioner argues that the respondent violated mandatory safety standard 30 C.F.R. 77.404(a), by allowing the cited road grader in question to be operated while failing to maintain it in safe condition in that the accumulator provided for only one application of the brakes with the grader engine off. In support of its position, the petitioner asserts that the respondent presented no evidence to contradict the testimony of Inspector Mills that only one brake application was provided for after the grader engine was shut off, and that the inspector's observation is corroborated by a statement made by an equipment serviceman (James Trent) in a report he prepared upon inspecting the grader on April 24, 1991, as part of MSHA's accident investigation (Exhibit R-5).

The petitioner further asserts that the service manual for the grader specifically indicates that when in proper operating condition, the braking system should provide for approximately five brake applications after the engine has been shut off (Exhibit P-3). The petitioner points out that Inspector Mills was informed by Walker Machinery that if only three applications were provided for, repairs would be necessary, and that Mr. Mills, who has received extensive training on heavy equipment braking systems, determined that the conditions which he found were not in compliance with the service manual.

The petitioner cites the testimony of equipment manager William Roberts, who is employed by the respondent's parent company, Geupel Construction, that a mechanic charged with maintaining the grader should be familiar with, and is expected to comply with, the service manual and is expected to correct conditions which are out of compliance with the service manual. The petitioner also cites the testimony of respondent's braking system expert, Thomas Goodney, that equipment should be operated according to the service manual specifications, and his acknowledgment that similar equipment made by other manufacturers provided for a number of braking applications with the engine off. Acknowledging the fact that the service manual does not indicate that exactly five brake applications must be provided for the system to be working properly, the petitioner concludes that the fact that only one application was provided for must be considered out of compliance with the service manual.

The petitioner asserts that although the fact that the grader was not in compliance with the service manual is not definitive evidence that it was not in safe operating condition, the Commission has rejected the attempt to distinguish between defective and unsafe equipment, citing Secretary of Labor, v. Propst and Stemple, 3 FMSHRC 304 (February 1981). Accordingly, the petitioner concludes that it must be presumed that any equipment which is defective is unsafe, and that the uncontradicted evidence in this case clearly establishes that the grader was defective in that only one brake application was provided with the engine off.

Even without acknowledging that defective equipment is presumed to be unsafe, the petitioner concludes that the evidence clearly establishes that the condition cited by Inspector Mills rendered the grader unsafe to operate. In support of this conclusion, the petitioner asserts that while the brakes operated properly with the engine on, brake function remained necessary in the event the engine failed. The petitioner cites the facts in this case that show that it is possible for the grader engine to go off without warning, and that with the accumulator not functioning properly, the operator would be unable to stop the grader with the service brakes when the engine was off. The petitioner cites the testimony of equipment manager Roberts who

testified that "if the accumulator is not functioning and the engine is stopped, the machine would not stop. You have no brake pressure. You would have no pressure to apply the brakes, and it would not stop" (Tr. 161).

Acknowledging the fact that the grader parking, or emergency brake, which is an alternative braking system, was not found to be in unsafe or defective condition, the petitioner maintains that the parking or emergency brake is not designed to stop the grader in an emergency. Further, although expert witness Goodney testified that the parking brake would have stopped the grader if it had been applied, the petitioner points out that Mr. Goodney acknowledged that an operator's initial reaction would be to attempt to activate the service brakes, and that Mark Potnick, who conducted an accident investigation for the respondent, concluded that the park brake had not been applied at the time of the accident.

The petitioner concludes that given the fact that the grader was operated on a curvy, steep road, that the engine could shut off at any time without warning, that the parking brake is not designed to stop the grader in an emergency, and that an operator's first reaction in an emergency will be to attempt to activate the service brakes, it is apparent that the failure of the service brakes to provide for more than one application with the engine off was a hazard which warranted corrective action according to the standard delineated in Alabama By-Products, supra, and served to make the grader unsafe to operate.

In response to the respondent's suggestion that the force of the accident may have actually damaged the braking system such that the accumulator could no longer provide for more than one application of the brakes with the engine shut off, the petitioner cites the inspector's testimony that the accident did not cause extensive damage to the grader, and could not have caused the condition which he cited. The petitioner also cites the respondent's own accident investigation report that the only damage to the grader was a cracked rear cab glass and two broken engine mounts.

In conclusion, the petitioner argues that considering the fact that equipment which is not maintained as specified in the manufacturer's service manual is defective and therefore presumed to be unsafe, and the clear evidence that the conditions observed by Inspector Mills did create a hazard which rendered the grader unsafe to operator, and that the accident which occurred reveals precisely why this condition was unsafe, it has established that the condition of the braking system rendered the road grader unsafe, and therefore, in violation of 30 C.F.R. 77.404(a).

Respondent's Arguments

The respondent argues that the petitioner has failed to carry its burden of proving that the cited grader in question was operating in an unsafe condition. The respondent takes the position that Inspector Mills issued the citation after concluding that the failure of the accumulator to provide approximately five brake applications once the engine had been shut off rendered the grader in an unsafe condition in violation of section 77.404(a). However, the respondent points out that this standard requires machinery and equipment to be maintained in safe operating condition, and it suggests that the basis for the citation was that the equipment was unsafe when it was not operating. In support of this conclusion, the respondent cites the testimony of Inspector Mills that the braking system is supposed to work with the engine off, and that it did not provide the approximate five brake applications once the engine had been shut off.

The respondent points out that after the accident, the grader brakes were tested and found to be at the appropriate psi pressure. Further, after the grader was started on the steepest part of the grade, the service brake held the grader after it was stopped, and that the "park brake" was then set and also held the grader at that grade.

The respondent cites the testimony of braking expert Thomas Goodney explaining the Society of Automated Engineers (SAE) brake standards for graders, and his explanation of the three-part grader braking system consisting of the service brake, which is the primary system for stopping the vehicle, the emergency stopping system used to stop a vehicle in the event of any single failure in the service brake system, and the parking system which is used to hold the stopped vehicle in a stationary position.

The respondent cites the SAE reports describing the emergency brake application, and Mr. Goodney's explanation that it is desirable to have the emergency braking system separate from the service braking system. Respondent cites Mr. Goodney's testimony that the SAE does not accept the accumulator as an emergency braking system because in the event of any single part failure there must be a separate emergency brake system, and for this reason, the separate system is used. Respondent also cites Mr. Goodney's testimony that the approximate number of five accumulator applications has nothing to do with any industry standard for an emergency braking system, nor does it have anything to do with an emergency application.

The respondent asserts that although there are three Caterpillar grader manuals, only one, not used by the operator or mechanic, refers to approximately "five" applications, and that there is nothing in the service manual used by the shop mechanic

that deals with testing the accumulator five times after engine shut off. The respondent further notes that there is nothing in the service manual stating that the accumulator has to be capable of operating five times after the engine is off, let alone to test for this. The respondent also notes that the operator's manual advises that a "slight amount of nitrogen leakage is normal" and that "low accumulator precharge will reduce the number of reserve brake applications but may not noticeably affect the brake performance during its normal operation". Conceding that the manual advises the operator to check the accumulator precharge pressure every five hundred service hours and to recharge if necessary, the respondent points out that nowhere is the operator advised that the accumulator should function for a period of five times, or be tested to see that it does, or to start the engine and check the accumulator five times.

The respondent maintains that if the accumulator is fully charged, as it claims it was, the manual provides that the accumulator will have approximately five braking operations. Since the accumulator was fully charged, the respondent concludes that it did what was required. The respondent further concludes that merely because the accumulator does not work "approximately" five times in the off position does not mean the vehicle is in an unsafe operating condition. In support of this conclusion, the respondent maintains that the accumulator has nothing to do with the safe operation of the grader at all, and it cites the testimony of equipment manager Roberts that the installation of a new accumulator on the grader did not change the situation as far as the number of applications were concerned. The respondent points out that as confirmed by Mr. Goodney and Mr. Roberts, other manufacturers make similar graders and mention nothing about the applications of the accumulator, and it cites the testimony of Mr. Goodney that "so long as the emergency brake was working, this grader was a safe machine and not in an unsafe operating condition "(Tr. 186).

Although the citation makes reference to an inoperative brake pressure gauge, the respondent asserts that there was no contention at the hearing or in any MSHA reports that the pressure system gauge in any way contributed to any fatality, and that all tests reflected that the system was fully charged and under pressure. Further, since the grader struck the highwall, the respondent believes there is no way to tell whether the pressure braking system was damaged by the accident. However, the respondent concludes that this would appear to be the case since the grader had only been run sixteen operating hours since it was inspected by MSHA in February, 1991, and the operator (Rayburn Browning) made daily vehicle checks and there was no indication that the gauge in question was not working.

Finally, the respondent argues that the negligence of the employee grader operator Rayburn Browning, cannot be imputed to the respondent, that a special "Commission" assessment is not appropriate in this case, that the penalty was not assessed within a reasonable time, and that since the respondent has ceased its operations, it is inappropriate to impose any penalty.

Findings and Conclusions

The respondent is charged with a violation of mandatory safety standard 30 C.F.R. 77.404(a), for not maintaining the cited Caterpillar grader in a safe operator condition. Section 77.404(a), provides as follows: "(a) mobile and stationary machinery and equipment shall be maintained in safe operating condition and machinery or equipment in unsafe condition shall be removed from service immediately".

In Alabama By-Products Corp., 4 FMSHRC 2128, 2129 (December 1982), the Commission held that equipment is "unsafe" under 30 C.F.R. 75.1725(a), which is identical to section 77.404(a), when a "reasonably prudent person familiar with the factual circumstances surrounding the allegedly hazardous condition, including any facts peculiar to the mining industry, would recognize a hazard warranting corrective action within the purview of the applicable regulation".

In Southern Ohio Coal Company, 12 FMSHRC 1627 (August 1990), I affirmed a violation of section 77.404(a), after finding that two broken metal plates, or track pads, on a D-7 Caterpillar bulldozer crawler track which was used by the operator as a means of mounting, dismounting, and servicing the machine, rendered the machine unsafe to operate and required its immediate removal from service. I rejected SOCCO's argument that the broken condition of the cat pads did not render the machine inoperable or unsafe to operate because the primary purpose of the track pads was to provide machine traction which was not affected by the broken pads, and that section 77.404(a) did not apply to a stumbling or tripping hazard created by the broken pads. I also concluded that notwithstanding the fact that the purpose of the track was to provide machine traction, the tracks, including the pads, were an integral and functional part of the machine used by the operators to mount, dismount, and service the machine, and could not be divorced from the safety requirements found in section 77.404(a).

On appeal, the Commission affirmed my decision, Southern Ohio Coal Company, 13 FMSHRC 912 (June 1991), and rejected SOCCO's contention that in order for section 77.404(a) to apply, the unsafe condition must render the equipment unsafe to operate, and that since the use of the dozer tracks as a walkway did not

involve the "operating condition" of the dozer, any stumbling or tripping hazard created by the broken pads was not within the scope of section 77.404(a).

Citing its holding in Ideal Cement Co., 12 FMSHRC 2409, 2414-15, (November 1990), that "the integrity of a machine is not defined solely by its proper functional performance but must also be related to the protection of miners' health and safety", the Commission stated as follows in Southern Ohio Coal Company, 13 FMSHRC 915:

> If a machine cannot be used safely by miners, the machine is not in "safe operating condition". Thus, a dozer is not in "safe operating condition" if miners are unable to enter and exit the dozer's cab without risking injury. Because the dozer's tracks serve as the only walkway for the operator to mount and dismount the dozer and to check the fuel, oil, transmission fluid and water level, we conclude that the dozer's track pads were within the scope of section 77.404(a) and that the dozer was not in "safe operating condition". In so concluding we find that a "stumbling and tripping hazard" is covered by the standard.

In a prior case involving the same loader which was cited in the instant case, Commission Judge Weisberger affirmed a violation of section 77.404(a), based on a determination made by Inspector Mills during his accident investigation, that the grader steering wheel had between 270 to 300 degrees of slack in that the wheel had to be turned to that extent in order for it to respond and that a delay in steering could cause an accident should this occur while the vehicle was being driven around a blind curve. Steel Branch Mining, 14 FMSHRC 871 (May 1992). In making his determination, Inspector Mills did not drive the grader, and did not start the engine. He simply turned the wheel and observed between 270 to 300 degrees of slack through which the steering wheel had to be turned before the wheels responded.

On Appeal of the decision, Steel Branch asserted that since the grader was equipped with "hydraulic steering", slack is always present when its engine was off and that such slack is eliminated when the grader was running. Since the grader was not operated during the inspection by Mr. Mills, Steel Branch contended that the inspection of the Steering wheel was deficient and that section 77.404(a) addresses only "the condition of the . . . . .vehicle while it is operating". Steele Branch also relied on the fact that its head mechanic who drove the grader sometime prior to the accident did not perceive excess slack, and that when he replaced all loose parts after the accident, he believed "it wasn't that loose . . . . to cause it to be unsafe to operate".

In affirming the judge's decision, the Commission concluded that substantial evidence supported his determination that the excessive play exhibited by the steering wheel rendered the grader unsafe to operate, and it pointed out that there was no dispute that the grader was operating at the time of the accident and that Steel Branch did not assert that the steering wheel slack was caused by the accident. Steel Branch Mining, 15 FMSHRC 597, 600 (April 1993).

In the instant case, it is undisputed that the grader engine quit for some unknown reason while it was being operated by Mr. Browning. When the engine quit, the loader was being driven up an inclined haulage road in the direction of an equipment parking area. Respondent's witness, Mark Potnick, who participated in the investigation, confirmed that the loader engine quit for some unknown reason, and that when he interviewed Mr. Browning's supervisor, foreman Jim Sword, Mr. Sword told him that Mr. Browning stated to him that the engine quit and he jumped off the loader and was run over by the wheels.

At the conclusion of the investigation, which included an examination and testing of the other grader brakes, MSHA Inspector Mills concluded that the grader was not being maintained in a safe operating condition. Mr. Mills relied on the provisions of the grader manufacturer's equipment manual that indicated that the grader's fully charged brake accumulator should provide approximately five brake applications after the loader engine has been shut off.

The grader service manual provides a schematic drawing of the grader brake system components, including the accumulator, and it states as follows at page "Group 70, Page 1" (Exhibits P-3 and R-9):

> Accumulator (5) is the pressure source or brake actuation. Its accumulation of oil, under nitrogen pressure it released to apply the brakes whenever the brake pedal is depressed. The accumulator is maintained in the charged condition by accumulator charging valve (7). After the accumulator is fully charged, accumulator charging valve (7) directs all pressure oil from the large section of hydraulic oil pump (2) into the power control hydraulic circuit. Fully charged, the accumulator provides for approximately five brake applications after the diesel engine has been shut off. (Emphasis added).
>
> The brakes (4) are actuated by pressure oil directed from brake control valve (6). When brake control valve (6) pedal is depressed, pressure oil from the accumulator is directed to the oil actuate wheel brakes (4).

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The service manual also contains detailed information explaining the operation, removal, installation, assembly and disassembly of the brake accumulator, as well as the procedures for checking and charging the dry nitrogen gas used in the accumulator. I take note of the fact that the service manual information concerning the grader hydraulic system and brakes refers to the parking brake and the wheel brakes, and it does not use the term "emergency" brake. The parking brake is described as follows at page "Group 170, Page 1" (Exhibit R-9):

> The parking brake is a mechanically operated, internally expanding shoe brake mounted on the front of the range transmission. The brake is manually applied by a hand lever located to the left of the power control levers. Expanding shoes act against a brake drum, which is bolted to the range transmission output shaft.
>
> The parking brake lever is connected by mechanical linkage to a lever on the brake cam. When the hand lever is operated,the linkage moves, actuating the brake lever and, through action of a brake cam, forces the brake shoes out against the brake drum.

The grader operation maintenance guide, at page 41, states "To stop the motor grader apply the foot brake" (Exhibit R-6). The guide also contains detailed information concerning the parking brake but does not use the term "emergency" brake. The brake accumulator cylinder is mentioned at page 93, and it states as follows:

> The brake accumulator cylinder is lubricated with oil and charged with dry nitrogen gas under pressure when assembled.
>
> A slight amount of nitrogen leakage is normal. Low accumulator precharge reduces the number of reserve brake applications but may not noticeably affect brake performance during normal operation. Check the accumulator precharge pressure every 500 service meter hours and recharge if necessary.

The grader lubrication and maintenance guide, at pages 9 and 45, mentions the brake accumulator and reflects that the nitrogen precharge pressure should be checked (Exhibit R-8).

According to the evidence and testimony in this case, the accumulator is a device whose primary function is to provide an immediate source of oil under pressure for a quick and immediate responsive brake application to quickly stop the machine when the brake pedal is applied. A secondary function of the accumulator is to provide a margin of safety by facilitating the storing of

oil for future brake applications. The accumulator, along with the foot brakes, and the emergency, or park brake, and other component parts, constitute the grader braking systems. Respondent's equipment manager William Roberts stated that the accumulator is installed on the loader "As a function to make the brakes work".

During the inspection and testing of the brakes in the course of the investigation, Mr. Mills found that the foot brake held the machine in place on a grade with the engine running with only one application of the foot pedal. However, when further brake testing was conducted with the grader engine shut off, Mr. Mills found that only one brake application was provided when the pedal was applied, and that upon a second, third, and fourth application, or pumping of the foot brake pedal, there was "no braking ability whatsoever" and that there was nothing to provide further brake application with the engine shut off. Since the grader equipment manual indicated that a fully charged accumulator should provide for approximately five brake applications after the engine was hut of, Mr. Mills concluded that the lack of more than one braking application when the brake pedal was applied during the testing rendered the loader unsafe to operate and constituted a violation of section 77.404(a).

Although Mr. Potnick testified that during the initial testing of the grader brakes during the investigation, one application of the foot service locked the brakes and stopped the machine, he confirmed that no further applications of the brakes were attempted or made at that time (Tr. 214). However, upon further investigation a day or so later, in the presence of the MSHA inspectors, the Walker Equipment Company personnel,and the respondent's personnel, Mr. Potnick confirmed that when the brakes were tested with the engine shut of, only one brake application was available, and when the brakes were applied a second time "there was no brake resistance".

The respondent's assertion that the accumulator "has nothing to do with the safe operation of the grader at all" is not well taken and it is rejected. Although Mr. Roberts indicated that the installation of a new accumulator did not change the situation with respect to the number of braking applications with the engine shut of, he went on to explain that all four brake assemblies were also changed on the machine, and he assumed, but did not know, that five braking applications were provided after this post-accident abatement work was completed.

As noted earlier, Mr. Roberts confirmed that the purpose of the accumulator was "to make the brakes work". He also confirmed that the had no idea about the need for brake applications after the machine engine is off, and he conceded that in his experience with heavy equipment he never tried the brakes with the engine shut off to determine whether the brakes worked. He also

conceded that if the accumulator is not functioning and the engine is stopped, the machine would not stop because of the lack of brake pressure to apply the brakes.

Inspector Mills was of the opinion that the accident occurred because the accumulator was not being fully charged, and he indicated that when it was tested, the accumulator nitrogen precharge indicated 600 psi, and when the engine was shut off, the pressure was 650 psi on the first brake application, and "after that we got zero pressure". Respondent's expert engineer Thomas Goodney testified that the number of braking applications provided by a fully charged accumulator with the engine shut of would depend on a number of variables, including pressure and brake wear. He also indicated that an accumulator may be charged at any moment in time at 1,200 psi, and at another time, "if it's toward the lower end, it may be 850 psi". Mr. Mills found 600 psi during the accumulator nitrogen precharge test, which is below "the lower end", and with the engine off, he found 650 psi on the first brake application, and zero pressure after that, Mr. Goodney agreed that the greatest factor that would cause an accumulator not to provide fine braking applications would be a lack of precharge pressure because the accumulator "will not function at all" and "will not provide an oil whatsoever". It would appear to me that Mr. Goodney's testimony lends support to Mr. Mill's conclusion that the accumulator was not fully charged.

Mr. Goodney further testified that if one were aware of the fact that the brake accumulator should provide for five brake applications, and it only provided for one such application, he would have the accumulator repaired. Inspector Mills testified that a representative of the Walker Machinery Company informed him that an accumulator that provided three braking applications needed to be repaired. A report of April 25, 1991, prepared by Walker Machinery mechanic James Trent, who assisted in the testing of the grader during the investigation, states in relevant part follows (Exhibit R-5, attachment):

> . . . . .Checked number of applications readily available from the accumulator with the engine off. Pressing and releasing the brake pedal with the engine off, supplied oil to the brake packs only once. Pressure at that time was approx. 620 psi. Thereafter the pressure was zero. The number of braking applications that is normally supplied by the accumulator with the engine off is five applications.

Inspector Mills confirmed that the tools and gauges used to test the grader during the investigation were provided by the Walker Machinery Company mechanic. Mr. Goodney explained that the proper testing method of the accumulator to determine if it is functioning properly is to attach a gauge to the charging port at the top of the accumulator to measure the pressure, and he

confirmed that his review of the Walker Machinery Company report reflects that the accumulator was tested more than once. I find no evidence to support any conclusion that the accumulator testing by Mr. Mills was faulty or improper. Indeed, Mr. Robert indicated that the way to test the grader would be to turn on the engine, let it warm up, then shut it of and "make a brake application, let off of it, make another brake application, let off of it". It would appear to me that this is precisely how Mr. Mills tested the grader. I conclude and find that the testing of the loader braking system with the engine off was a reasonable and logical method for determining whether the machine service braking system, which included the critical accumulator, would stop the machine in the event of engine stoppage.

The respondent's suggestion that the loader pressure braking system may have been damaged in the accident when the loader drifted back and came to rest after it struck the highwall is rejected. The credible and unrebutted testimony of Inspector Mills reflects that there was no collision damage to the loader braking system as a result of the accident, and as noted by the petitioner, the respondent's accident report reflected that the only damage to the grader was a cracked rear cab glass and two broken engine mounts.

The respondent suggests that the citation cannot stand because section 77.404(a) only required the loader to be maintained in a safe condition while it was in operation, and that Mr. Mills determined that it was unsafe because of the failure of the accumulator to provide approximately five braking applications with the engine off, and believed that the braking system is supposed to work when the engine is of. The respondent's argument is rejected. It is undisputed in this case that at the time of the accident, the grader was in operation and that the engine subsequently quit for some unknown reason.

The respondent advanced a similar argument in the prior proceeding involving the same loader when it took the position that the failure of Inspector Mills to test the loader steering wheel mechanism while the grader was in operation rendered the citation deficient and failed to establish that the loader was unsafe while it was being operated. The respondent's argument was rejected by the Commission in its decision affirming a violation of section 77.404(a).

A similar defense was also raised in the Southern Ohio Coal Company case, supra, where it was argued that stumbling and tripping hazards created by broken bulldozer track pads did not involve the unsafe operating condition of the dozer and did not fall within the scope of section 77.404(a). The Commission rejected this argument in affirming my finding of a violation of section 77.404(a).

I find little merit in the respondent's arguments concerning the absence of any information provided in one of the three grader manuals with respect to the testing of the accumulator. As correctly pointed out by the petitioner, equipment manager Roberts confirmed that the mechanic charged with maintaining the grader should be familiar with and is expected to comply with the service manual and is expected to correct conditions which are out of compliance with the manual, and Mr. Goodney agreed that equipment should be operated according to the manual specifications. Inspector Mills confirmed that the respondent's master mechanic was unaware of the manual provision concerning the five braking applications provided by the accumulator (Tr. 59). While it is true that the manual uses the term "approximately" five braking applications, I cannot conclude that the inspector's interpretation of that term to include a range of six to three braking applications is unreasonable. Further, notwithstanding the absence of any specific testing information in the manual, equipment manager Roberts described how he has tested the machine for proper braking applications with the engine off, and that test is similar to the one used by the inspectors.

The respondent's assertion that the accumulator was found to be fully charged, and therefore functioned properly and provided what was required in terms of braking applications is not well taken. Although the Walker Machinery report of April 26, 1991, reflects that the accumulator nitrogen charge without any oil pressure was within the 600 psi specification, the report for the previous day on April 25, 1991, indicates that with the engine off, the initial 620 psi pressure made available to the brakes by the accumulator on the first braking application had reduced to zero pressure after the first application. Mr. Potnick confirmed that the accumulator was not checked with the grader under power during his investigation immediately after the accident because the brakes worked and stopped the machine and he concluded that the accumulator was functioning properly. However, since the primary purpose of the accumulator is to provide additional braking capability beyond the first application of the service brake after the engine shuts down, the fact that the first application of the service brake stopped the machine under power is not particularly significant, nor does it support any conclusion that the accumulator was functioning properly. It seems clear to me that in this case the accumulator provided only one brake application with the engine off, rather than the "approximately" five called for by the service manual.

Mr. Goodney described the grader emergency braking system as "a simple drum-type brake with simple mechanical linkage to the brake" that also functions as a park brake. He further indicated that the emergency brake is similar to that on a car in "which you apply a separate handle which puts a separate brake on" (Tr. 170). He was of the opinion that as long as the park brake was in good working order, the machine would not be unsafe to

operate even though the service brakes had only one available braking application. Although Mr. Goodney believed that it was possible to use the grader emergency brake while the machine is rolling downhill, and that this was done when it was tested, Inspector Mills indicated that the park brake is designed to secure the machine in place after it has come to a stop. He confirmed that the park brake was set during the initial testing of the grader on a grade and that it held the machine. Mr. Mills did not indicate that the park brake was applied while the machine was actually rolling downhill, as suggested by Mr. Goodney, and I find no evidence that the testing included allowing the grader to roll free on a grade and then bringing it to a stop while it was rolling by activating the park brake. The respondent's accident investigation report reflects that the parking brake was operative and stopped the grader on a grade, and an "incident report" explaining some of the testing reflects that after the grader was started, the "park brake was set and held at that grade location" (Exhibit R-4 and R-5).

The SAE ground vehicle standards for braking performance for graders reflects that the service braking system is the primary system for stopping and holding the machine. The emergency stopping system is described as the system used for stopping in the event of single failure in the service braking system, and the parking system is described as the system to hold stopped machinery stationary (Exhibit R-10). Although Mr. Goodney believed that the grader park brake would stop the machine while it were rolling downhill, he agreed that if he were operating the machine while rolling downhill, his first reaction would be to apply the foot service brakes. Inspector Mills confirmed that the grader park brake was in the "off" position when he inspected the machine after the accident, and this was confirmed by Mr. Potnick who indicated that the park brake was not applied and that it did not appear that Mr. Browning attempted to use that brake.

The respondent's assertion that the operative grader park brake rendered the grader safe to operate pursuant to section 77.404(a), notwithstanding the failure of the service braking system accumulator to provide for more than one service brake application with the engine turned off, is rejected. I conclude and find that the purpose of the park brake is to hold the grader in place after it has been brought to a stop by activating the foot service brakes which served as the primary braking method for stopping the machine. The fact that the park brake was operative, and held the machine in place on a grade during the post-accident testing, is not relevant to the issue of whether or not the failure of the brake accumulator, which is an integral and critical component of the primary service braking system, provided for more than one braking application of the

service brakes after the grader engine quit while it was being operated by Mr. Browning, rendered the grader unsafe pursuant to section 77.404(a).

I believe that one can reasonably conclude that in the event of unexpected engine failure, the first instinct of the operator would be to attempt to stop the grader by depressing the foot service brakes, the primary braking system designed to stop the loader under operating conditions. Although the service brakes may have functioned properly with the engine running, it seems clear to me that continued and quickly available braking function becomes critical and necessary in the event of unexpected engine failure or stoppage, particularly when the equipment is being operated on a steep roadway. The evidence in this case establishes that with the engine off, the brake accumulator only provided for one application of the brake. According to the service manual, a fully charged accumulator should provide approximately five braking applications after the engine is shut off. This was corroborated by the mechanic who participated in the testing of the grader during the investigation, and his report concluded that five braking applications are normally supplied by an accumulator with the engine shut off. Further, braking expert witness Goodney agreed that an accumulator that provided for only one braking application should be repaired, and Inspector Mills indicated that an accumulator that provided or only three braking applications should be repaired.

I conclude and find that the grader brake accumulator is a critical and integral component of the machine's braking system and that it was intended to function and provide more than one braking application in the event of an unforeseen or unexpected engine stoppage. Based on all of the credible evidence and testimony adduced in this case, including my previously made findings and conclusions, I conclude and find that the grader brake accumulator in question was defective and not in proper operating condition in that it failed to fully function and provide the necessary braking capability when the machine engine quit, thereby rendering the grader unsafe to operate within the meaning of section 77.404(a). Accordingly, I further conclude and find that a violation of section 77.404(a), has been established, and the contested citation IS AFFIRMED.

Significant and Substantial Violations

A "significant and substantial" 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 C.F.R. 814(d)(1). A violation is properly designated significant and substantial "if, based upon the particular facts surrounding the 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 Co., 3 FMSHRC 822, 825 (April 1981).

In Mathies Coal Co., 6 FMSHRC 1, 3-4 (January 1984), the Commission explained its interpretation of the term "significant and substantial" 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.

In United States Steel Mining Company, Inc., 7 FMSHRC 1125, 1129, the Commission stated further as follows:

> We have explained further 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., 6 FMSHRC 1834, 1836 (August 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 Company, Inc., 6 FMSHRC 1866, 1868 (August 1984); U.S. Steel Mining Company, Inc., 6 FMSHRC 1573, 1574-75 (July 1984).

The question of whether any particular violation is significant and substantial must be based on the particular facts surrounding the violation, including the nature of the mine involved, Secretary of Labor v. Texasgulf, Inc., 10 FMSHRC 498 (April 1988); Youghiogheny & Ohio Coal Company, 9 FMSHRC 2007 (December 1987). Further, any determination of the significant nature of a violation must be made in the context of continued normal mining operations. National Gypsum, supra, 3 FMSHRC 327, 329 (March 1985). Halfway, Incorporated, 8 FMSHRC 8, (January 1986).

The respondent's posthearing brief does not specifically address the "significant and substantial" (S&S) violation issue presented in this case. Inspector Mills believed that the cited condition caused the fatal accident in question, and he concluded that the violation was S&S because the grader was operated over curved and hilly roadway grades and that the failure of the

accumulator to provide for more than one braking application would affect the operation of the loader by not providing it with critical braking capability in the event of engine failure while it was traveling over such roadways.

Citing the appropriate "S&S" precedent Commission case decisions, the petitioner takes the position that all of the required elements for a significant and substantial violation of section 77.404(a), have been shown in this case. In support of its position, the petitioner asserts that a violation of section 77.404(a), occurred because the respondent allowed a machine in an unsafe operating condition to remain in use. The petitioner further asserts that the violative grader condition was such that it contributed to a discrete safety hazard in that the failure of the accumulator to provide more than one braking application resulted in the grader having no adequate primary braking system with the engine off. Notwithstanding the fact that the grader brakes worked properly with the engine on, the petitioner believes that the accident itself shows why it was important to have some braking capability with the engine off. Agreeing that no one determined why the engine quit, the petitioner asserts that given the fact that the grader was operated on a road with many curves and grades, all braking systems must be maintained in order to prevent a situation in which the grader cannot be controlled.

The petitioner further asserts that there is a reasonable likelihood that the hazard contributed to by the violation will result in an injury, and points out that the inspector concluded that the violation resulted in the fatality. Conceding the fact that none of the investigations unequivocally stated the cause of the fatality, the petitioner nonetheless believes that the facts in this case suggest that the inspector's conclusion is correct and that the loader engine failure resulted in a chain of events which led to the fatality. In support of this conclusion, the petitioner advances what it believes to be a plausible scenario after the loader engine quit which culminated in Mr. Browning's jumping of the loader and being run over by the machine.

Apart from the fatality which occurred in this case, the petitioner concludes that the discrete hazard created by the failure of the accumulator to provide for more than one braking application with the engine off, particularly when the grader is operated over an inclined roadway with many curves, presented a reasonable likelihood that the hazard created would result in an injury. Since the grader is a large mobile vehicle, the petitioner further concludes that any accident or brake failure involving such a large machine would reasonably likely result in an injury of a reasonable serious nature.

After careful consideration of all of the evidence and testimony adduced in this case, including the arguments advanced

by the petitioner, which I find persuasive and adopt as my findings and conclusions with respect to the "significant and substantial" nature of the violation, I conclude and find that the violation which has been affirmed was significant and substantial, and the inspector's finding in this regard IS AFFIRMED.

Size of Business and Effect of Civil Penalty Assessment on the Respondent's Ability to Continue in Business

The parties stipulated that the respondent was a small-to-medium sized mine operator when the violation was issued in this case, and that the payment of the proposed civil penalty assessment would not affect its ability to continue in business. In the absence of any evidence to the contrary, I adopt these stipulations as my findings and conclusions on these issues.

History of Prior Violations

An MSHA computer print-out reflects that for a two-year period beginning November 20, 1989, and ending April 28, 1991, the respondent was assessed for thirty-seven (37) violations, and paid civil penalty assessments totalling $6,122. Included in this history are seven (7) prior violations of section 77.404(a), the details of which are not known or documented in this case. For an operation of its size, I cannot conclude that the respondent's compliance record is such as to warrant any additional increase in the civil penalty assessment that I have made for the violation which has been affirmed.

Good Faith Compliance

The record reflects that the cited grader was removed from service by the respondent and repaired. I conclude and find that the violation was timely abated by the respondent in good faith.

Gravity

In view of my findings and conclusions affirming the violation as a "significant and substantial" violation, I conclude and find that the violation was serious.

Negligence

The respondent's assertion that any negligence on the part of grader operator Browning cannot be imputed to the respondent is rejected. As noted by the Commission in the prior Steel Branch Mining case, supra, at 15 FMSHRC 600, fn. 5, the Commission has held repeatedly that an operator is liable for violations of mandatory standards committed by its employees.

It would appear from the evidence developed by the inspector in the course of his investigation that Mr. Browning was an experienced and safe grader operator who conducted daily checks of his equipment. The inspector indicated that Mr. Browning shut down the grader which he normally operated because of some problem, and proceeded to operate the grader involved in the accident, a grader that he normally did not operate.

In support of the inspector's moderate negligence finding, the petitioner asserts that the respondent is liable for maintaining machinery in safe operating condition regardless of its knowledge of unsafe conditions, but agrees that what the respondent knew or should have known is relevant in determining the appropriate penalty. In this case, the inspector believed that the respondent was responsible for maintaining its equipment in safe operating condition and in compliance with the manufacturer's specifications. The inspector's unrebutted testimony indicated that the respondent's master mechanic admitted that he was unaware of the service manual recommendation that the accumulator should provide approximately five brake applications with the grader engine off, and equipment manager Roberts testified that he was unaware of any accumulator pressure checks ever being made for the grader, and had no knowledge that the grader accumulator had ever been tested.

The petitioner concludes that since Mr. Roberts believed that the only cause for the failure of the accumulator was wear in the brake disc, it was incumbent on the respondent to check this out, and that the respondent's failure to present any evidence that the accumulator had ever been tested reflects that it had no method of prevention maintenance which could have detected the condition prior to the accident. Under the circumstances, the petitioner further concludes that the cited condition supports a finding of moderate negligence.

I agree with the petitioner's arguments, and I conclude and find that the violation was the result of a moderate degree of negligence on the part of the respondent. The respondent's reliance on MSHA's prior inspection of the grader, which did not result in violations, as a defense to the violation, or to support a finding of no negligence on its part, is rejected. The inspector's moderate negligence finding is affirmed.

Civil Penalty Assessment

The respondent's assertion that the Commission imposed the "special" civil penalty assessment for the violation in question is erroneous. The assessment was proposed by the U.S. Department of Labor, Mine Safety and Health Administration (MSHA), an agency separate from the independent Commission. The proposed assessment was calculated by MSHA following its assessment procedures found in Part 100, Title 30, Code of Federal Regulation. It is

well settled that the presiding judges is not bound by those assessments regulations, and is free to impose a penalty on a de novo basis, taking into account the civil penalty criteria found in section 110(i) of the Act.

The respondent's assertion that since it has ceased operations, it is inappropriate to impose any civil penalty assessment for the violation this case is rejected. The Act mandates the imposition of a civil penalty assessment when a violation of any mandatory safety or health standard has occurred. Further, the fact that an operator ceases any mining operation at one location does not necessarily mean that it does not intend to continue mining at some future time, either at the same location using the same equipment, or at some other location using the existing equipment.

The respondent's suggestion that no civil penalty should be assessed in this case because of the inordinate delay between the time the citation was issued and the date of the issuance of the proposed penalty assessment is rejected. The record reflects that the respondent informed MSHA of its assessment contest and request for a hearing on May 28, 1992, and that the petitioner's filing of the proposed civil penalty assessment with the Commission followed on July 16, 1992. In any event, the respondent presented no evidence to establish that it was prejudiced by any delays in this matter, or that it was in any way prevented or adversely affected in presenting its defense to the citation, including calling its own witnesses and cross-examining the inspector.

On the basis of the foregoing findings and conclusions, the facts presented in this case, and taking into account the civil penalty assessment criteria found in section 110(i) of the Act, I conclude and find that a civil penalty assessment of $4,500 is reasonable and appropriate for the violation.

ORDER

The respondent IS ORDERED to pay a civil penalty assessment of $4,500, for the violation which has been affirmed. Payment shall be made to the petitioner (MSHA) within thirty (30) days of the date of this decision and order, and upon receipt of payment, this matter is dismissed.

~1702

George A. Koutras
Administrative Law Judge

Distribution:

Patrick L. DePace, Esq., Office of the Solicitor, U.S. Department of Labor, 4015 Wilson Boulevard, Room 517, Arlington, VA 22203 (Certified Mail)

Roger L. Sabo, Esq., Schottenstein, Zox & Dunn, Huntington Center, 41 South High Street, Columbus, OH 43215 (Certified Mail)

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