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

CLIMAX MOLYBDENUM COMPANY, A DIVISION OF AMAX, INC., APPLICANT	Application for Review Docket No. DENV 79-196-M
v.	Order No. 331891 December 11, 1978
SECRETARY OF LABOR, MINE SAFETY AND HEALTH ADMINISTRATION (MSHA), RESPONDENT	Climax Mine
SECRETARY OF LABOR, MINE SAFETY AND HEALTH ADMINISTRATION (MSHA), PETITIONER	Civil Penalty Proceeding Docket No. WEST 79-27-M A.O. No. 05-00354-05017
v.	Climax Mine
CLIMAX MOLYBDENUM COMPANY, RESPONDENT	

DECISIONS

Appearances: Thomas Bastien and Harvey P. Wallace, Esquires,
Denver, Colorado, for Climax Molybdenum Company
James Barkley and Jerry R. Atencio, Attorneys,
U.S. Department of Labor, Denver, Colorado, for MSHA

Before: Judge Koutras

Statement of the Proceedings

These consolidated proceedings concern an imminent danger withdrawal order served on Climax by MSHA pursuant to section 107(a) of the Federal Mine Safety and Health Act of 1977, and a subsequent civil penalty proposal filed by MSHA pursuant to section 110(a) of the Act, seeking a civil penalty assessment based on the conditions described in the order, as well as two other alleged violations of certain mandatory safety standards.

Climax filed timely notices of contests in the proceedings and the parties engaged in extensive prehearing discovery, including the taking of

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depositions. A hearing was conducted in Denver, Colorado, July 16 and 17, 1980, and the parties appeared and participated therein. Climax filed posthearing briefs, but MSHA did not, and its failure to do so was "due to a shortage of clerical personnel in our office" (August 19, 1980, letter from Denver Regional Counsel).

Applicable Statutory Provisions

1. The Federal Mine Safety and Health Act of 1977, 30 U.S.C. 801 et seq.

2. Section 110(i) of the 1977 Act, 30 U.S.C. 820(i), which requires consideration of the following criteria before a civil penalty may be assessed for a proven violation: (1) the operator's history of previous violations, (2) the appropriateness of such penalty to the size of the business of the operator, (3) whether the operator was negligent, (4) the effect on the operator's ability to continue in business, (5) the gravity of the violation, and (6) the demonstrated good faith of the operator in attempting to achieve rapid compliance after notification of the violation.

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

Stipulations

The parties stipulated to the following (Tr. 5-6):

1. Climax Molybdenum Company is a large mine operator, is subject to the provisions of the Act, and any civil penalties assessed by me in these proceedings will not adversely affect its ability to continue in business.

2. Government Exhibits G-1 through G-8, consisting of eight photographs taken by Climax concerning some of the citations issued in these proceedings, as well as Exhibit G-9, a computer printout detailing Climax's prior history of violations, may be received in evidence.

Discussion

On December 11, 1978, MSHA inspector Richard F. King issued a combined section 104(a) citation and a section 107(a) imminent-danger order. The citation alleges a violation of 30 C.F.R. 57.12-30, and describes the following conditions or practices which Inspector King believed collectively constituted an imminent danger, as well as individual violations of several mandatory safety standards which he listed on the face of the order in brackets designated by a numerical reference to the specific standard:

The electrically powered equipment on the core drill located at 9 IVL East, 929 Level had not been locked out before mechanical work was done on the drill. (12-16). The power cable to the motor on the drill had

not been isolated (4-11), the power cable to the switchbox on the drill rig was

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not bushed (12-8), the 2/o power cable feeding the drill rig had an inadequate splice in it 180 ft. east down the drift (12-13). 240 ft. east down the drift, were [sic] the power-cable enters the main switch, it was not bushed (12-8).

Each of the bracketed numerical references in the "condition or practice" portion of the order is a reference to a section of the mandatory safety standards found in Part 57, and they are itemized in petitioner's civil penalty proposals as follows:

Citation or Order No.	Date	30 C.F.R. Standard
331891 A	12/11/78	57.12-30
331891 B	12/11/78	57.4-11
331891 C	12/11/78	57.12-8
331891 D	12/11/78	57.12-13
331891 E	12/11/78	57.12-16
331891 F	12/11/78	57.12-8

Petitioner's motion to withdraw its civil penalty proposal for Citation No. 331891 B, December 11, 1978, citing an alleged violation of 30 C.F.R. 57.4-11, was granted from the bench and the citation was dismissed (Tr. 7).

MSHA's Testimony and Evidence

Inspector Richard King testified that he has been employed by MSHA as an inspector since 1975, and prior to that time he had 6 years' mining experience with Homestake Mining Company. He holds a B.S. degree from the Black Hills State College in Spearfish, South Dakota, has done graduate work in criminal justice, and has received training and taken a number of MSHA training courses at the mine academy in Beckley, West Virginia, including several courses in electricity. He confirmed that he inspected the mine in question on December 11, 1978, at the No. 9 Intake Vent Lateral East on the 929 level.

Mr. King identified photographic Exhibits G-1 through G-3 as the electrically powered core drill which he cited, and stated that the conditions depicted appeared to be the same as those he observed at the time of his inspection. The switchbox depicted has only one main power control switch and it was not locked out at the time he observed it. He observed no warning signs attached to the core drill, nor did he observe anything which would lead him to believe that mechanical work was being performed on the drill (Tr. 8-12).

Mr. King identified Exhibit G-4 as the working deck of the drill rig showing the drill motor lead wire laying on the wet deck and disconnected from the motor. The wire was not connected when he observed the rig and Climax supervisor Ken Hack advised him at that time that mechanical work was being performed on the drill rig and that it was in the process of being repaired. Mr. King stated that the wire would normally have been connected to the motor, and upon observation, he determined that the wire

conductor

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leads were taped with what appeared to be one wrap of plastic electrician's tape, but the wire was not energized. The wire is energized by throwing a switch on the drill itself, and the switch is shown in Exhibits G-2 and G-3, and it is the switch which he determined was not locked out. The area where the drill was located was wet, with approximately a foot of water in the immediate area of the drill. However, the drill rig itself had a platform elevated inches above the water, and the platform itself was soaked, and portions of the drill were wet. The drill switch also controlled the rig lights, and he observed no signs warning employees not to turn the lights on or not to energize the disconnected wire. He observed no employees working in the immediate vicinity of the drill rig, but employees were in another area some 500 to 600 feet away. The rig was located in a drift which provided access to an escape raise, and anyone could venture into the area (Tr. 12-16).

Mr. King stated that it was his understanding that while the drill rig was owned by Broyles Brothers, Climax had a maintenance crew who took care of electrical problems. The drill motor was disconnected but he could not recall whether it was being taken out or being put back in, and more electrical work was certainly required to make an electrical connection. He was not sure which switch operated the wire leads he observed, but he believed that the main switch operated the rig lights. The drill switch could not be locked out at the drill location because he observed no lock-out attachments in the area, and it would have to be locked out at a disconnect switch located 240 feet away. He identified Exhibits G-7 and G-8 as the disconnect switch, and when he observed it he noted that the switch handle was in the ON position and that the power cable leaving the bottom of the switchbox was not provided with a proper fitting or bushing, and he saw none. Failure to provide such a bushing or fitting could result in the cutting of the cable conductor insulation where it exits the box and a hazard would result in that a phase conductor could go to ground and energize the switchbox, thereby resulting in an electrocution. He observed no one near the switchbox, but anyone would have access to it, and the area was wet from standing water and water from the roof (Tr. 16-21).

Mr. King identified Exhibits G-5 and G-6 as the power cable located at a splice point midway between the main disconnect switch and the drill rig, and the cable splice is shown hanging on a nail. The area was wet, and if one were reaching for the area next to the splice he would have his feet in the water. The splice phase conductors were connected to each other and were taped, and the ground conductor was intact and spliced with the other two, but no effort had been made to replace the outer cable jacket. The cable was energized at the time he observed it, and the lack of an outer jacket would diminish the insulation qualities of the cable and lessen the protection against damage to the wires. The splice which he observed would not afford protection equal to that of the original cable, and it was made with a rubberized tape (Tr. 21-27).

Mr. King testified that the drill switchbox contained no

bushings at the point where the cable entered the box, and the insulated wire phase conductors

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simply came out of the box at the opening and were not bushed. Vibration from the drill rig could cause the cable insulation to be cut and the phase current could ground and possibly energize the switchbox, and any personnel, such as electricians or mechanics, would have occasion to operate the switch. He identified the cable in question in Exhibit G-3 as the one entering the top of the box. The wire insulation was in place around the conducting wire but the jacketed portion of the cable protruded an inch and a half out of the box cable opening (Tr. 27-30).

Mr. King stated that he based his imminent danger order on the combined conditions he observed. He believed that the cited electrical violations, the sloppy electrical workmanship, coupled with the wet conditions and the fact that no warning signs were posted, constituted a "trap" and a place where one could "reasonably and easily get killed or electrocuted" (Tr. 31).

On cross-examination, Mr. King confirmed that the switchbox at the drill rig had a "bad bushing" which was "not functional." He stated the distinctions between a bushing and a fitting, and stated that the former was a fitting provided with some type of insulation quality, and that the latter was "just a connection point of something to fit around the sharp edge of the box." He stated that Exhibit G-6 (a fitting described by respondent's counsel as a Chase Nipple), looked familiar to him, but he could not recall seeing such a device installed on the switchbox in question (Tr. 39-40). He could not recall in detail how the lead wires on the cable he previously described were wrapped, could not recall the dielectric strength of the tape used, and he could not recall whether any portions of the wire leads were not taped (Tr. 42). He confirmed that the switch on the box was in the OFF position, and while power was coming into the box through the cable, none was coming out of or through the box. No one was working in the area, the drill was down for maintenance, and the nearest miners were located some 500 to 600 feet down the drift. He stated that if someone had simply walked up to the motor wires and picked them up by hand nothing would have happened. Even if the switchbox were in the ON position, he was still not sure what would happen if a person had picked up one of the motor lead wires because he did not know whether another switch was required to be engaged in order to energize the wires (Tr. 42-46).

With regard to the cable entering the top of the drill switchbox, Inspector King confirmed that the outer cable jacketing was missing for a distance of an inch and a half above the box. However, the phase conductors were insulated, and he did not know their dielectric strength. Although the drill was shut down at the time, he still believed the defective cable fitting or bushing contributed to the imminent danger because drill vibration would cause the cable to be cut and the defective fitting did not provide adequate protection to prevent this condition from occurring (Tr. 48). However, he conceded that the wires did not appear to be cut, there was no drill vibration present, and he was not sure when any cutting action would take place (Tr. 49).

With regard to the defective splice down the drift,
Inspector King stated that a danger would be presented if someone
were to grab hold of the

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splice while standing in the wet water conditions which were present. That person would act as a ground, but this would occur only if the splice insulation were broken or damaged or if there were moisture leakage to the phase conductor through the tape splice. Although the splice was taped with some kind of a rubberized tape, he did not know the dielectric strength of the insulation and did not know whether another type of insulation was present beneath the taped splice he observed, nor was he sure whether the type of cable in question was designated for use under water (Tr. 51-52).

Regarding the main disconnect switchbox and the lack of a bushing or fitting, Inspector King stated that the outer cable jacket itself did extend into the box, but he could not recall looking into the box. The cable jacket was not cut, and while nothing could happen "at any moment," the situation was such that it was possible that a cable conductor could contact the metal framework of the box itself (Tr. 53). The lack of a fitting or bushing on this box was not essential to his imminent-danger finding, but it still contributed to it, and even if the fitting were on the cable, he would still have made an imminent-danger finding. He also confirmed that the "open splice" contributed to the finding of imminent danger, but if the splice was made "jacket-to-jacket," and a proper bushing had been installed on the disconnect switchbox, he would not have found an imminent danger. The essential condition which prompted him to make an imminent-danger finding was "the work practice conditions that existed" (Tr. 55). When asked to describe the conditions that he believed existed and which could hurt anyone, he replied as follows (Tr. 55):

The condition is that with the violations in the contributing form in work practice that the standard requires that that circuit be de-energized, the way I looked at it back at the main disconnect switch, if you had that area posted, if you had that condition where they had no way to lock that box out on the drill rig, they should have had a sign there and people wouldn't go in there and inadvertently turn that on.

In describing the possibility of someone being injured by throwing the drill rig switch, Inspector King stated that he did not know exactly where the source of electricity would come from, and he stated that "it could have come from any of those violations that were there" (Tr. 56). He went on to explain that while there was a "district probability" of someone being hurt, "a variety of possibilities existed" (Tr. 56). He did not know which of the drill rig switches were required to be activated to energize the motor wires (Tr. 57). When asked the specifics of what conditions were required to be present for a hazard to exist, aside from a faulty switch and fitting, he stated "if the conditions were right," and when asked to clarify that answer, he stated that other than the violations he cited, he could not describe the alleged "conditions" he had in mind (Tr. 59).

Regarding the drill rig switchbox violation, Mr. King stated

that the power wires themselves were insulated, and therefore the
first sentence of the

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standard was not violated. Since the wires were not a "cable" at the point where they entered the box opening, the second sentence of the standard was not violated. However, since the wires did not pass through a substantial bushing where it passed through the metal box frame, that part of the standard was violated. Even though a Chase Nipple may have been used, it is not insulated at all and it is not an insulated bushing (Tr. 60). However, had the cable jacket itself, rather than the insulated wires, passed through the Chase Nipple, compliance would have been achieved and there would be no violation (Tr. 60).

Regarding the main disconnect switch violation of section 57.12-8, the second part of the standard dealing with the requirement that cables pass through proper fittings was the part violated (Tr. 61). Regarding the failure to lock out the drill rig switch, while the drill itself was deenergized, it was not locked out. Even though the switch was OFF, it was still not locked out, and that is a violation (Tr. 62). He was present when Inspector Enderby cited the lack of guards on the drill rig lights, and the lights were off because the power was off, and the box was locked out due to the issuance of his order (Tr. 63). He conceded that his testimony in his prior deposition that the lights were on was in error (Tr. 63).

In response to further questions, Mr King confirmed that while the power to the drill switch itself was on, the drill motor was deenergized because the rig was down for maintenance (Tr. 64). However, he was not sure which switches had to be activated to energize the motor, and he saw no independent light switch (Tr. 64). The purpose of the bushing at the place where the cable entered the drill switchbox was to keep the cable in place and to eliminate any cutting due to vibration (Tr. 73). He did not determine whether the switch had a "neutral" position, but the switch was definitely OFF (Tr. 75).

In response to bench questions, Mr. King conceded that the drill rig was down for repairs when he made his inspection and that he was aware of this fact. He began his inspection at the drill rig site, and worked his way back down the drift to the location of the other conditions he cited, and respondent's electrical foreman, Kenneth Hack, and others accompanied him during the inspection. Mr. Hack is a certified electrician, but he did not consult him before issuing the order, and he stated he "pretty well made up my mind" (Tr. 81). While the drill rig itself could not be locked out, it could have been locked out down the drift at the main disconnect switch, or the area could have posted (Tr. 82). The power was deenergized from the drill switchbox to the drill motor (Tr. 82). Power along the 440-volt cable and up to the drill rig box was "hot," but the box and motor were not (Tr. 88).

Climax's Testimony and Evidence

Kenneth Hack testified that he has been employed with Climax as an electrical foreman, and that he is a 1971 graduate of Colorado State University with a B.S. degree in electrical

engineering. At the time the

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citations in question issued, he was supervisor for electrical maintenance and construction at the 600, 629, and 929 mine production levels. He stated that he was not with Mr. King when his citations issued on December 12, but he went to the scene the next day and took the photographs, Exhibits G-1 through G-8 (Tr. 136-139).

Mr. Hack identified Exhibits C-1 and C-2 as schematic drawings depicting the circuits and current path to the drill rig and disconnect switches which were cited by Inspector King, and he explained the path of current, the function of the disconnect switch and circuit breakers used in the system, the grounding systems, and he identified Exhibit C-7 as a 2/0 conductor cable similar to the one cited by Mr. King for a bad splice (Tr. 168-171). He stated that if someone were to step into the splice area shown in photographic Exhibits G-5 and G-6 and grabbed the splice, nothing would happen (Tr. 172). He also indicated that he is familiar with the manner in which the splice in question was made through routine supervision of electricians who routinely make such splices at the Climax Mine. He described the method by which such splices are made, and indicated they are placed butt-to-butt with Okonite 35 tape, then wrapped with Scotch 88 tape in an overlapping fashion similar to that of a tennis racket handle, and he identified Exhibit C-11 as the vendor's specifications for Okonite, as well as Exhibits C-3 through C-5 as Scotch 88 electrical tape, Okonite No. 35 cable jacketing tape, and Scotchfill electric insulation putty, the products used in the making of the splice in question (Tr. 173-177).

Mr. Hack indicated that had the splice in question fallen off the spike where it was hanging, and it was skillfully made by an electrician, it would have been impervious to water. However, if water leaked into the splice, a short circuit would have developed and resulted in the main circuit breaker tripping, thereby deenergizing the line (Tr. 177). The circuit breaker would trip in about "one to 240th of a second" (Tr. 178). He could not explain why the splice was hanging on the nail. With regard to the method used to make the splice in question, he stated that when he first became employed with Climax he questioned the manner in which such splices were made, and he explained that the splice was left "open" so that water could not accumulate in it and to permit visual inspection of the interior conductors. Also, during the war, Climax could not obtain insulating material and they found that the "open"-type splice was more reliable (Tr. 179). Had the splice fallen in the water, the breaker would trip and there would be no voltage on the drill rig (Tr. 180).

With respect to the cable entering the main disconnect switchbox, Mr. Hack stated that the cable jacketing extended some 2 inches into the box, and from that point on there is an additional 6 inches on insulated conductor wires before it is connected to the disconnect inside in the box (Tr. 181). He observed no cutting of the cable that extended into the box, and if all of the conductors were pulled out of the box, there would

be no shock hazard on the rig because the cable would be deenergized and there would be no voltage to the drill rig (Tr. 182).

Regarding the drill rig switch breaker box, Mr. Hack indicated that an electrical bushing or fitting was installed at the top of the box and he identified it as a "Chase Nipple" (Exh. C-6). The device has a lock nut and a bushing and the terms "bushing" and "fitting" are used interchangeably, and when he examined it it "seemed acceptable" (Tr. 184). The 2/0 power cable jacketing entering the box through the Chase Nipple was flush with and to the bottom depth of the nipple and he observed no power conductor visible above the nipple and box, and it was that way when he observed it on the morning of the 12th before the condition was abated (Tr. 185). Mr. Hack stated that the breaker box contains an "on-off" push button which controls a starter for the drill rig motor, and that is a separate switch in addition to the "on-off" switch for the box circuit breaker itself (Tr. 189). The circuit breaker switch is for motor overcurrent protection and it is always on when drilling is taken place (Tr. 189).

Mr. Hack stated that in order to obtain electricity and voltage to the drill motor leg area where the taped wires which were lying on the deck were located, one would have to push the switch breaker on and then push the start button for the motor. Assuming one were to pick up the taped wires with both switches on, he would be in no danger and he described the method used for taping such leads (Tr. 191-192). If one were to turn the breaker switch "on" and plug in the lights, he would be in no danger, and he knew of no conditions in or around the drill rig platform, or 240 feet down the drift, on the day in question which presented any danger to anyone (Tr. 195). He did not dispute the fact that the system was not locked out when Mr. King issued his order (Tr. 195).

On cross-examination, Mr. Hack confirmed that he first observed the welding machine splice on July 14, 1980, some 2 years after the citation issued, and it was kept at the mine in his office (Tr. 205). He had no firsthand knowledge of the condition of the splice at the time it was cited, and he made no attempt to open the splice himself, but an electrician did and he (Hack) found that it was adequately made (Tr. 206-207). He described the manner in which the splice was made, did not know the thickness of the jacket, how many tape wraps were used, and conceded that it was not of the same mechanical strength of the cable insulation or the splice. No splice offers as much protection as the original cable because anytime the cable is broken, its integrity is destroyed, and while the splice may not be equal to the original, it was adequate for the application for which it was being used (Tr. 210-216).

Mr. Hack expressed some familiarity with the process of using vulcanization for making permanent splices, but has never personally used this process. If done properly, he assumed the splice which results would be equal to the existing cable, and he conceded that it is a better method for making splices, and also conceded that he questioned the "open-splice" method used by Climax when he first came to work at the mine (Tr. 217-218), and he questioned the lack of a jacket-to-jacket cover for mechanical protection (Tr. 219). Mr. Hack also indicated that the

circuit-breaking system for the drill rig is engineered to provide protection for the machinery, and if one were to touch a live wire on the rig which was not fixed to trip the breaker at the proper cut-off amperage, there is a possibility of an electrocution (Tr. 227).

Regarding the "open splice," Mr. Hack conceded that the splice was not as mechanically strong as the original, was not made as nearly as possible as strong as the original cable, and since it had no outer jacket, it did not offer damage protection nearly as possible to the original (Tr. 227). Electricians at the Climax Mine routinely splice cables in the manner he previously described, but he personally has attended no training sessions at the mine for this purpose, and has only learned that this is the normal procedure through "firsthand conversations" (Tr. 231). He would have no hesitation in grabbing the open splice in question, but if there is moisture in it, that would possibly affect his willingness to touch it because it would be a defective splice and would possibly be electrocuted (Tr. 232-233). He would accept no amount of moisture in a splice if he were standing in water, but he would be safe with .12 percent water in a splice (Tr. 235). However, he did not know the amount of water absorption tolerance for the splice in question (Tr. 239).

With respect to the main disconnect switchbox down the drift, Mr. Hack conceded that the switchbox cited by Inspector King did not have any kind of a bushing or fitting when he observed it (Tr. 249). In response to additional questions, Mr. Hack stated that the cable (Exh. G-7), has a MESA approval but he did not believe it was completely impervious to moisture (Tr. 250). The splicing method used for cables would render them mechanically strong, the electrical conductivity would be as near as possible to the original, and no splice is 100 percent as good as the original cable (Tr. 251). Vulcanization is not used at the Climax Mine because it is not practical because of the great number of cables spliced with "T-Taps," and they could not operate underground if each splice had to be vulcanized (Tr. 251). The splicing method used at the mine takes 45 minutes to make a splice, while the use of vulcanization underground would take 4 or 5 hours to make a splice (Tr. 252). Climax has MSHA's approval to use "T-Taps" in its production drifts (Tr. 253). Although the open splice hanging on the nail was mechanically strong, the electrical conductivity was as near as possible to the original, and was sealed to exclude moisture, it did not have damage protection as near as possible to the original because the outer jacket did not extend across the splice (Tr. 254). However, by hanging on the spike and being wrapped in tape, he believed damage protection was afforded (Tr. 255).

In response to bench questions, Mr. Hack stated that the subject of how Climax makes its splices in the mine has been a topic of discussion with MSHA inspectors, and aside from the "T-Taps" splices, nothing concrete has resulted with respect to the other type splices, and MSHA has issued Climax no guidelines as to the types of cable-splicing kits it would accept as compliance (Tr. 266).

On December 12, 1978, MSHA inspector James G. Enderby issued section 104(a) Citation No. 333657, charging a violation of 30 C.F.R. 57.12-13, and the condition or practice cited states as follows: "A bad splice was observed on the 440 volt power supply cable to the Chemtron welder on south and outside storke shop.

The welder was being used at the time. A Tic Tracer was used to find this condition."

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On December 13, 1978, Inspector Enderby issued section 104(a) Citation No. 333658, charging a violation of 30 C.F.R. 57.12-34, and the condition or practice cited states as follows: "The portable flood lights around the Boyles Brothers drill rig at 9 IVL East 929 level were not guarded. The light bulbs could easily be reached while standing on drill rig platform."

MSHA's Testimony and Evidence

MSHA inspector James G. Enderby testified as he has been employed as an inspector for 5 years. He previously worked as a miner, and has taken MSHA courses in electricity at Beckley, West Virginia. He confirmed that he inspected the blacksmith's shop on the mine surface on December 12, 1978, and that he issued the citations in question. The portable welder splice citation was issued after he observed that a section of the cable had been spliced and that the plastic tape was torn and deteriorated from being dragged around the shop. The splice was about a foot long, and it supplied 440 volts of power to the welder. He used a "Tic Tracer" instrument to test the cable, and he described the Tic Tracer (Exh. C-9) as a battery-powered device which detects current by emitting a "chattering noise" through a speaker device on the instrument. As cable current gets stronger, the sound gets louder. By moving the instrument along the cable, the sound became louder at the location of the splice and this indicated to him that the splice was not as good as the initial insulation when the cable was originally installed (Tr. 91-94).

Mr. Enderby stated that the welder was in use at the time he observed the splice condition, he noticed no moisture in the area, and the person operating the welder was located some 10 feet from the splice (Tr. 96). He performed no other tests on the splice and he described it as a jacket-to-jacket splice. He was concerned over the fact that continued use of the cable would lead to further deterioration and it would not be in the same condition or as strong as the original manufactured cable. He was concerned that someone could be electrocuted or shocked if they came in contact with it (Tr. 96). He did not believe the splice was equal to that of the original and that is why he cited section 57.12-13 (Tr. 97).

Regarding the drill rig lights citation, Mr. Enderby identified Exhibits G-1 and G-2 as photographs of the lights in question and stated that there were four or five unguarded lights on the drill rig. If a man were standing on the drill rig platform in the picture identified as Exhibit G-2, the light would be in his face. It was possible that the lights could have been broken by a steel drill used during drilling, and if a person comes in contact with the broken filaments, there would be a potential shock hazard present (Tr. 100). The lighting circuit was not energized, and he saw no evidence that the lights were ever guarded prior to his inspection (Tr. 101-102).

On cross-examination, Mr. Enderby stated that in order to reach the unguarded lights, the person depicted in Exhibit G-1 (Mr. Hack), would be able to reach the lights with a bar, but

would have to jam it into the socket in order to be shocked.
Normally, he would be unable to simply reach up and in with his
hand, but with a little effort he may (Tr. 103). He confirmed

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that the lights were not energized, and while he believed that a shock hazard existed prior to the issuance of Mr. King's order, he conceded that no hazard was present on December 13 when his citation issued (Tr. 104).

With regard to the splice on the welder cable, Mr. Enderby confirmed that it was located between the man doing the work and the welding machine, and he could not recall whether the cable was AC or DC. He confirmed that when he gave his prior deposition, he indicated at that time that he used the Tic Tracer instrument to determine whether the cable was a main power supply cable or a ground. In addition, he has been trained to use the tic tracer to determine leakage in a cable and if the tracer noise increases it indicates to him a change of more current or voltage being exposed to the instrument. He also confirmed that the tracer is used to measure current. Regarding the condition of the splice, he stated that the torn and worn part of the splice appeared to be taped, that no power conductors were visible, and he did not know whether the cable had a ground wire. Even if the Tic Tracer had not indicated an increase in noise, he still would have probably issued the citation. Although the splice was mechanically strong, it was not insulated to a degree at least equal to the original, and he doubted that it was sealed to exclude moisture, and did not believe it was provided with damage protection as near as possible to that of the original cable (Tr. 106-109).

Mr. Enderby testified that the splice was not sealed to exclude moisture because the tape was torn, deteriorated, and was cracked and coming off. He did not know what was below the outer tape and believed that "Scotch Fill" is a type of insulating material used in splices (Tr. 109). He could not specifically recall making any inquiries of anyone from Climax as to the splice and how it was made (Tr. 113). He stated that he would have issued a citation even if the Tic Tracer were not used and he would have done so because of the deterioration of the tape wrapped around the splice (Tr. 111).

In response to bench questions, Mr. Enderby stated that the splice in question was a permanent splice, that the cable was some 50 feet long, and was used to power the portable welder (Tr. 114). An increase in noise from the Tic Tracer indicated to him that the splice was leaking current and was not being protected or insulated to the same degree as manufactured. He was concerned that someone picking up the cable would be electrocuted, but he did not examine the splice after it was cut out of the cable, and he was not familiar with the manner in which splices are made at the mine (Tr. 117-118).

In response to further questions, Mr. Enderby stated that he was not certain that electrical leakage detected by a Tic Tracer is an indication of diminished insulation quality from the power cable to the splice, but in "office conversation," he was told that any increase in the volume of the sound emitted by that instrument indicates "some sort of leakage" (Tr. 124). He did not remember that the manufacturer's instructions concerning the

use of a Tic Tracer instrument state that its purpose is to detect splice leakage (Tr. 124). Regarding the unguarded lights, Mr. Enderby stated that four or five bulbs were not guarded, that a man would likely stand by the drill at one location on the backside of the drill, that on similar rigs the lights are usually guarded by a cage or screen attachment, and the location of the lights is a factor in determining whether guards are required (Tr. 121-122).

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Climax's Testimony and Evidence

Regarding the welding cable splice citation, Mr. Hack stated that he was familiar with the splice in question and described how it was made. It was a butt-to-butt splice made with Scotch 88 electrician's black tape. The wire terminals were built up with Scotch Fill, an electrical putty used to maintain cable asymmetry. The sequence for making the splice is to use the tape and putty over the power conductors, and the Scotch 88 is then used jacket-to-jacket, thereby replacing the original cable jacketing (Tr. 139). The torn and deteriorated condition of the outer tape as described by Mr. Enderby is normal because the outer taping on the cable is deliberately heavily taped and built up so as to absorb any cable abuse (Tr. 140).

Mr. Hack identified the manufacturer's specifications for the tape and scotch fill (Exhs. C-10 and C-12) and stated that they are regularly used in his work in the electrical department (Tr. 140). He confirmed that no tests were conducted on the splice, that he relied on the manufacturer's representations as shown in the specifications, and he had no knowledge of any field tests conducted by the manufacturer concerning the products in question in his electrical work and had no reason to question the manufacturer's representations (Tr. 157). He examined the particular splice which was cited and found it to be made in the manner he previously described (Tr. 160). The cable portion between the welding machine and the man using it was DC and the other cable portion was AC. A Tic Tracer is primarily used to detect interior breaks or loss of voltage in trailing cable conductors which are not readily visible (Tr. 161). As an example, if a piece of equipment ran over a cable, the Tic Tracer could be used to detect a possible damaged open conductor within the cable which is not visible, and a break in a conductor could possibly indicate that the interior insulation of the conductor was damaged (Tr. 162-163). DC current cannot be measured by a Tic Tracer (Tr. 163). The floor in the machine shop where the welder was located is a concrete floor and is not normally wet. He believed the splice was acceptable in terms of being mechanically strong (Tr. 164). He was not present when the splice was cited (Tr. 164), but based on his examination of the splice after it was removed, he believed it was as good as the original and the basis for this opinion is his experience with the use of the products for making such a splice (Tr. 165).

Regarding the unguarded lights citation, Mr. Hack stated that the light depicted in Exhibit G-1 is approximately 10 feet off the drill rig deck and some 12 feet off the floor, and the other two lights are about 12 feet off the floor (Tr. 167-168).

MSHA's Rebuttal Witness

Paul Price, electrical engineer, MSHA's Denver Technical Support Center, testified that he holds a 1965 B.S. degree in electrical engineering, and that his past experience includes the design of surface and underground lighting and power-distribution systems, cable-splicing methods, grounding systems, and he helped

develop the electrical tape manufactured by the 3M Company (Tr.
273-276).

Mr. Price stated that he was present during the testimony presented in these proceedings, and upon examination of photographic Exhibit G-4 concerning the taped drill rig motor wires, he stated that based on the manner in which those wires appeared to be taped, they were exposed to the possibility of being punctured with a screw or nail, and since the power was not locked out, anyone turning on the breaker on the box and then activating the start button would be in danger. Aside from any possible punctures, he believed that the use of tape is a "last ditch" effort and he would not care to touch a "hot" taped wire. Based on the testimony he heard, the drill rig was not locked out because the box had no lock hasp and it therefore should have been locked out down the drift at the feed line (Tr. 279-280).

Upon viewing photographic Exhibit G-5 concerning the "open splice" down the drift, Mr. Price testified that he did not consider it to be a safe splice because there was no outer jacket bonding across the spliced wires. The lack of such an outer jacket violated the standard cited because the standard specifically requires an outer bonded jacket, and that jacket provides additional insulation and protection against damage and abrasions. Failure to provide such a jacket renders the spliced cable less than equal to the original. The lack of a jacket would also not afford at least equal protection against moisture. The cable in question is an MSHA-approved cable, and if it is undamaged it should not have any water in it since it is approved for use under water and .12 percent of water in a cable could only be detected under laboratory conditions (Tr. 281-285).

Mr. Price stated that the splice depicted in Exhibit G-5 presented a hazard to any miner touching it, and coupled with the water conditions in the area, if the cable were reachable, and if someone touched it, an imminent danger would be presented. He would not touch it even under dry conditions because to the untrained eye the cable may have some damage which is not readily detectable. In response to a question as to whether the spliced cable presented an imminent danger simply because it had no outer bonded jacket, Mr. Price answered as follows: "If perhaps I had done it myself and knew there was no damage, if it had not been hanging out in that location for any period of time, if it were under laboratory conditions, I wouldn't mind touching it" (Tr. 292).

Regarding the cable citation at the point where it entered the drill switchbox (Exh. G-3), Mr. Price testified that at the point where the cable enters the box a clamp fitting providing for strain relief should have been installed. Since the inspector testified that the cable jacket was out of the fitting, a proper clamp-type fitting would have prevented this. By allowing the cable to move up and down out of the box, there was a danger that the phase conductor would have been disconnected from its normal contact point inside the box, thereby energizing the box frame or the frame of the machine. A "Chase Nipple" is not a clamp-type fitting, and it was originally designed for use in protecting cables which are installed in conduits, and it is totally inadequate for use in conjunction with a cable or single

insulated wires which enter a switchbox such as the one in question (Tr. 289-290). Assuming the cable did not extend into the box and the

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wires were stripped above the point where they enter the box, those wires are no longer considered a "cable," but rather, "power wires," and permitting them to enter the box without a fitting is a poor wiring practice (Tr. 290).

Mr. Price stated that the term "fitting" is a generic term covering basically all fittings. A "bushing" is a particular type of fitting which may or may not be insulated. Under section 57.12-8, insulated wires and power cables are treated differently. A cable entering a machine or a box should be provided with a relief-type or clamp-type fitting that would hold it securely in place to prevent it from slipping up and down inside the box. If this is not provided, the cable may slip up and down enough to dislodge the connector connections inside the box thereby causing a short (Tr. 286). Viewing Exhibit G-7, a photograph of the switchbox 240 down the drift, Mr. Price stated that it should have a clamp-type fitting to secure the cable, and there is no proper fitting at all installed on that box (Tr. 287). However, the cable itself appears to be adequately insulated (Tr. 288).

In the interest of time, the parties stipulated by way of a proffer by MSHA's counsel, that Mr. Price would also testify that the use of a Tic Tracer adequately and accurately indicates whether a splice is insulated to the degree of the original cable, that the placement of the unguarded lights at the locations shown in Exhibits G-1 through G-3 presented a shock and burn hazard to men in the area should they or their equipment come into contact with the wiring inside the lights, and that the splice on the cited welding machine did not comply with the standard because the same danger and insulation protection as the original was not provided (Tr. 293-294).

On cross-examination, Mr. Price stated that rather than taping the wires on the drill motor, he would leave them bare, but only if the machine was locked out. He conceded that anyone unlocking the box, pushing the starter, and then picking up the bare wires, would be electrocuted, but that would be a remote set of circumstances. It would also be equally remote for someone to push the starter button, and pick up taped wires and be hurt (Tr. 294-295). He stated that he had never visited the Climax Mine or any large underground molybdenum mine (Tr. 295). He also indicated that any cable has an absorption rate and none are 100 percent impervious (Tr. 296), and that under certain conditions, a Chase Nipple is a proper fitting (Tr. 297).

Mr. Price identified a PST system of cable splicing as a kit manufactured by the 3M Company which provides jacket-to-jacket protection and is approved by the Bureau of Mines. He described the method of splicing with such a kit, and indicated that it is extremely similar to the method described by Mr. Hack with respect to the welding machine cable up to the point of the outer jacket. The kit is provided with a neoprene tube and spring to hold it in place over the splice after the scotch fill and taping is done, and the splice is then vulcanized by a chemical process which bonds to the tube to the outer cable jacket. This

procedure does not require a vulcanizing machine and would not take as long as taping (Tr. 300).

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In response to a question from me as to whether the cited standard concerning splices would be clearer if the standard specifically required the use of Bureau of Mines approved splicing methods for making splices, Mr. Price answered "I don't think we would be here" (Tr. 302). When asked why this had not been done, he answered "Non-electrical people make the standards" (Tr. 302).

Climax's Challenge to the Authority of the Inspectors

In its posthearing brief at pages 25-26, Climax asserts that MSHA has failed to establish that Inspectors King and Enderby were "authorized representatives of the Secretary" within the meaning of the Act. In support of this assertion, Climax argues that MSHA has failed to establish that the inspectors who conducted the inspection and issued the citations and withdrawal order were in fact acting in their capacity as authorized representatives of the Secretary of Labor, and that there is nothing in the Act which designates employees of MSHA as authorized representatives of the Secretary. This assertion and defense is rejected. I am satisfied from the inspectors' testimony that they are duly authorized representatives of the Secretary, that they are qualified and competent to conduct mine inspections, that they did so at all times pertinent to these cases, that mine management was aware of the fact that Mr. King and Mr. Enderby were in fact MSHA inspectors, and that the inspections were conducted in accord with the provisions of the Act.

Findings and Conclusions

Docket No. DENV 79-196-M

The issue presented in this contest is whether or not the conditions or practices cited by Inspector King in the section 107(a) imminent danger Order No. 331891, December 11, 1978, in fact constituted an imminent danger within the meaning of the Act. "Imminent danger" is defined in section 3(j) of the Act, 30 U.S.C. 802(j) as: "The existence of any condition or practice in a coal or other mine which could reasonably be expected to cause death or serious physical harm before such condition or practice can be abated."

The legislative history with respect to the concept of "imminent danger," Committee on Education and Labor, House of Representatives, Legislative History of the Federal Coal Mine Health and Safety Act of 1969 at page 44 (March 1970), states, in pertinent part, as follows:

The definition of an "imminent danger" is broadened from that in the 1952 Act in recognition of the need to be concerned with any condition or practice, naturally or otherwise caused, which may lead to sudden death or injury before the danger can be abated. It is not limited to just disastrous type accidents, as in the past, but all accidents which could be fatal or

nonfatal to one or more persons before abatement of the condition or practice can be achieved.

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And, at page 89 of the report:

The concept of an imminent danger as it has evolved in this industry is that the situation is so serious that the miners must be removed from the danger forthwith when the danger is discovered * * *. The seriousness of the situation demands such immediate action. The first concern is the danger to the miner. Delays, even of a few minutes may be critical or disastrous.

The former Interior Board of Mine Operations Appeals has held that an imminent danger exists when the condition or practice observed could reasonably be expected to cause death or serious physical harm to a miner or normal mining operations are permitted to proceed in the area before the dangerous condition is eliminated. The dangerous condition cannot be divorced from normal work activity. *Eastern Associated Coal Corporation v. Interior Board of Mine Operations Appeals, et al.*, 491 F.2d 277, 278 (4th Cir. 1974). The test of imminence is objective and the inspector's subjective opinion need not be taken at face value. The question is whether a reasonable man, with the inspector's education and experience, would conclude that the facts indicate an impending accident or disaster, likely to occur at any moment, but not necessarily immediately. *Freeman Coal Mining Corporation, 2 IBMA 197, 212 (1973)*, *aff'd.*, *Freeman Coal Mining Company v. Interior Board of Mine Operations Appeals, et al.*, 504 F.2d 741 (7th Cir. 1974). The foregoing principles were reaffirmed in *Old Ben Coal Corporation v. Interior Board of Mine Operations Appeals, et al.*, 523 F.2d 25 (7th Cir. 1975), where the court, following Freeman, phrased the test for determining an imminent danger as follows:

Each case must be decided on its own peculiar facts. The question in every case is essentially the proximity of the peril to life and limb. Put another way: Would a reasonable man, given a qualified inspector's education and experience, conclude that the facts indicate an impending accident or disaster, threatening to kill or to cause serious physical harm, likely to occur at any moment, but not necessary immediately? The uncertainty must be of a nature that would induce a reasonable man to estimate that, if normal operations designed to extract coal in the disputed area proceeded, it is at least just as probable as not that the feared accident or disaster would occur before elimination of the danger.

In a proceeding concerning an imminent-danger order, the burden of proof lies with the contestant, and the contestant must show by a preponderance of the evidence that an imminent danger did not exist. *Lucas Coal Company, 1 IBMA 138 (1972)*; *Carbon Fuel Company, 2 IBMA 43 (1973)*; *Freeman Coal Mining Corporation, 2 IBMA 197 (1973)*. However, since withdrawal orders are "sanctions" within the meaning of section 7(d) of the Administrative Procedure Act (5 U.S.C. 556(d) (1970)), and may be imposed only if the Government produces reliable, probative

and substantial evidence which establishes a prima facie case,
MSHA must bear the burden of establishing a prima facie case. It

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should be noted that the obligation of establishing a prima facie case is not the same as bearing the burden of proof. That is, although the applicant bears the ultimate burden of proof in a proceeding involving an imminent-danger withdrawal order, MSHA must still make out a prima facie case. Thus, the order is properly vacated where the applicant proves by a preponderance of the evidence that an imminent danger was not present when the order was issued. See *Lucas Coal Company*, supra; *Carbon Fuel Company*, 2 IBMA 43 (1973); *Freeman Coal Mining Corporation*, supra; *Zeigler Coal Company*, 4 IBMA 88, 82 I.D. 111 (1975); *Quarto Mining Company and Nacco Mining Company*, 3 IBMA 199, 81 I.D. 328 (1973-1975); *Kings Station Coal Corporation*, 3 IBMA 322, 81 I.D. 562 (1974).

The Seventh Circuit also noted in its *Old Ben* opinion that an inspector has a very difficult job because he is primarily concerned about the safety of men, and the court indicated that an inspector should be supported unless he has clearly abused his discretion (523 F.2d at 31). On the facts presented in *Old Ben*, the court observed that an inspector cannot wait until the danger is so immediate that no one can remain in the mine to correct the condition, nor can the inspector wait until an explosion or fire has occurred before issuing a withdrawal order (523 F.2d at 34). Thus, on the facts presented in the instant proceeding, MSHA must show that reasonable men with the inspector's education and experience would conclude that the conditions cited by Inspector King constituted a situation indicating an impending accident or disaster, likely to occur at any moment, but not necessarily immediately.

MSHA's theory seems to be that an imminent danger existed sometime before Inspector King's inspection, and its counsel candidly admitted this at the conclusion of the hearing when he stated "[t]here was an imminent danger there sometime before the inspection" (Tr. 256). In addition, I take note of the fact that on direct testimony by Inspector King to support his imminent-danger order, after MSHA's counsel had completed his questioning concerning the conditions observed, Mr. King said not one word about any imminent danger. The question was put to him after I inquired of counsel as follows (Tr. 30):

MR. BARKLEY: Your Honor, that concludes my questioning of this witness.

JUDGE KOUTRAS: You're not going to ask him the \$64,000 question?

MR. BARKLEY: I would if I knew what it was.

JUDGE KOUTRAS: How did he come to the conclusion that all these conditions constituted an imminent danger?

Gentlemen, we're not playing games in this proceeding and I have a responsibility to make a record, and if Counsel doesn't ask a critical question, I'm going to ask it. I assume that's why you sighed, Mr. Bastien?

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Inspector King then went on to explain his rationale for issuing the imminent-danger order as follows (Tr. 31):

Q. Mr. King, did you draw a conclusion at the time of your inspection as to whether or not any or all of the conditions that we talked about presented an imminent danger?

A. Yes, I did.

Q. On what facts did you base that conclusion?

A. I based it on the observations I had made at the time of the inspection when I entered the 9 IVL Drift. I based it on the fact that excessive water was in the area, multiple electrical violations I had discussed in my testimony, the fact that there were no warning signs, there was nothing to tell anybody that there was danger in there. I perceived this as a trap, a place that you could reasonably and easily get killed, electrocuted.

The power cable, the main feed cable was under water in some cases around the drill rig, there was evidence of sloppy workmanship in the insulation of the electrical equipment, the cables not being bushed or having proper fittings, the bad splice, the power to the drill rig. That's basically what I based it on.

Although Inspector King testified as to some arcing inside the drill switchbox, and included this observation on his inspector's statement in support of the order, the fact is that he did not observe such a condition when he issued the order, was unaware of any loose lug inside the box, and inserted the comment concerning arcing in his inspector's statement on December 15, after abatement had been achieved and after the order had been terminated, and MSHA counsel candidly admitted that any arcing condition had nothing to do with the imminent-danger order (Tr. 261). Although the record is somewhat unclear as to the amount of arcing, the fact is that based on the testimony of Mr. Hack, it is clear to me that any prior arcing was not an imminently dangerous situation, and it had been corrected, and MSHA's attempts to amend the condition cited by the inspector or to add to those conditions 2 years after the fact on the basis of any speculative testimony generated at the hearing was summarily denied (Tr. 262-263).

It is clear from the testimony and evidence adduced in this case that at the time Inspector King issued his imminent-danger order, the drill rig in question was shut down, the drill motor had been removed and was down for maintenance, no drilling or mining was taking place, and the only employees remotely close to the area were miners who were working in another section some 500 to 600 feet away. In addition, the drill motor junction box was disconnected, the activating switches were not on, and the drill was down for repairs. With respect to the inadequate splice some

180 feet from the rig,

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while it may not have contained a jacket-to-jacket outer bonding to render it as mechanically strong as the original cable, Mr. Hack indicated that electricians at the mine routinely splice cables in this manner, and the cable itself is an MSHA-approved cable which is approved for underwater use. Aside from the fact that he believed the lack of an outer jacket diminished the insulation and physical protective qualities of the splice, Inspector King conceded that the splice-phase conductors were connected and taped, and that the ground conductor was intact and spliced with the conductors. Further, the splice was hung up on a nail and was somewhat isolated by a ditch of water (Exh. G-6). While Mr. King's concern was over the fact that someone standing in the water and grabbing the splice would be in danger, he conceded that this would be true if the insulation were damaged or there was moisture leakage through the taped conductors. However, he had no knowledge of the insulation qualities of the tape in question, was not aware of the fact that the cable was MSHA approved for use under water, and he did not rebut the fact that the splice was in otherwise good condition.

After careful review and consideration of all of the foregoing circumstances which I believe prevailed at the time Mr. King issued his order, I am not convinced that the conditions cited, taken collectively or singularly, presented any imminent danger. It seems clear to me that Mr. King's principal concern was in connection with what he believed were "sloppy work practices" and he candidly admitted as much (Tr. 55). However, I find his somewhat speculative concern over a "probability that a variety of possible circumstances" would result in an imminent danger to be conjecture unsupported by any credible facts. As for Mr. Price's testimony, I find that while he is a qualified electrical expert, his testimony was mostly theoretical and speculative. He has never been in the Climax Mine, did not view the conditions cited by the inspectors during the course of the inspections, and had no firsthand knowledge of those conditions. MSHA's attempts to support the imminent-danger order by simply having Mr. Price present listening to the testimony and giving his opinions are rejected. Accordingly, I conclude and find that MSHA has failed to establish a prima facie case of imminent danger, and the section 107(a) order in this regard is VACATED.

Findings and Conclusions

Docket No. WEST 79-27-M

Fact of Violations

The overall conditions or practices described by Inspector King on the face of the combined section 104(a) citation and section 107(a) imminent-danger Order No. 331891 are as follows:

The electrically powered equipment on the core drill located at 9 IVL East, 929 Level had not been locked out before mechanical work was done on the drill (12-16). The power cable to the motor on the drill had not been isolated (4-11). The power cable to the

switchbox on the drill rig was

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not bushed (12-8). The 2/o power cable feeding the drill rig had an inadequate splice in it 180 ft. east down the drift (12-13). 240 ft. east down the drift where the powercable enters the main switch, it was not bushed (12-8).

As indicated earlier, each of the bracketed numerical references following the conditions described in the order are references to the mandatory regulatory sections found in Part 57, Title 30, Code of Federal Regulations. In addition, the top portion of the citation form itself, in the space labeled "Part and Section," includes a citation to mandatory standard section 57.12-30, which provides as follows: "When a potentially dangerous condition is found it shall be corrected before equipment or wiring is energized."

MSHA's civil penalty proposals include a separate proposal for an alleged violation of section 57.12-30, and I take note of the fact that the portion of the citation asserting a violation of section 57.4-11, for an alleged failure to isolate the drill motor power cable was dismissed on MSHA's motion at the hearing. Since the Secretary opted not to file any posthearing arguments, I have no way of knowing the theory of MSHA's assertion that Climax has somehow violated section 57.12-30. One can speculate that the inspector believed that all of the combined individual violations enumerated on the face of the citation/order also violated section 57.12-30. However, after close examination of the trial transcript, I find no testimony or evidence advanced by MSHA to support a violation of section 57.12-30, separate and apart from any of the other enumerated cited alleged violations.

Although MSHA's counsel alluded to section 57.12-30 during a discussion of the manner in which the drill motor leg wires were taped (Tr. 191-192), and touched on it during his opening remarks (Tr. 46-47), it is clear to me that Inspector King did not specifically cite the wire leads which he believed were inadequately taped, as a separate violation. Petitioner's counsel stated that this was in fact the case. That is, Inspector King did not cite what he believed was a poor splicing job on the wire leads testified to as violations (Tr. 44). Counsel believed that the conditions concerning the wire motor leads had something to do with "the standard that requires adequate measures or whatever the wording is" (Tr. 44). He also conceded that the wire lead conditions testified to by Inspector King were not among those conditions cited on the face of his order (Tr. 44).

After careful review and consideration of the entire record adduced in these proceedings, I cannot conclude and find that MSHA has established a violation of mandatory safety standard section 57.12-30, and that portion of the citation citing this alleged violation is VACATED and MSHA's proposal for a civil penalty for this asserted violation is REJECTED and DISMISSED.

Citation No. 331891-C, December 11, 1978, 30 C.F.R. 57.12-8, states that "the power cable to the switchbox on the drill rig was not bushed." Citation No. 331891-F states that

"240 ft. down the drift, where the power cable enters the main switch, it was not bushed."

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Section 57.12-8 states as follows:

Power wires and cables shall be insulated adequately where they pass into or out of electrical compartments. Cables shall enter metal frames of motors, splice boxes, and electrical compartments only through proper fittings. When insulated wires, other than cables, pass through metal frames, the holes shall be substantially bushed with insulated bushings.

Although Inspector King's citation states that the drill switchbox power cable was not bushed, the fact is that a fitting or bushing was provided but that Mr. King believed it was defective because it permitted the cable or conductors to move up and down as they entered the top of the box and, in short, he did not believe that the fitting was a proper fitting. Since both the inspector and Mr. Hack agreed that the terms "bushing" and "fitting" are used interchangeably, the fact that Mr. King used the term "bushed" does not, in my view, render the citation defective. The question presented is whether MSHA has established a violation by a preponderance of the evidence.

I find that MSHA has established that the power cable entering the drill switchbox did not enter the top of the box at the opening provided through a proper fitting. In short, it was not bushed as required by section 57.12-8. Having examined a Chase Nipple produced at the hearing (Exh. C-6), I conclude that it was not a proper fitting for use with the cable in question because it did not permit the cable to be maintained in a "locked-in" or rigid position, but rather, allowed for free movement of the cable in and out of the box opening. The inspector observed insulated wires protruding from the opening, and although a Chase Nipple may have provided some protection against possible cutting, I cannot conclude that it provided adequate protection to prevent the cable or cable conductors from being pulled out of the box and being accidentally disconnected in the event tension were applied to the cable. Citation No. 331891-C is AFFIRMED.

With regard to the power cable which entered the main disconnect switchbox some 240 feet down the drift and out by the drill rig itself, I find that MSHA has established a violation by a preponderance of the evidence. Although Inspector King's narrative description of the condition cited is far from a model of clarity, I believe it is clear that he cited section 57.12-8 because the box opening through which the cable passed contained no fitting at all to keep the cable in place and to prevent it from coming loose or being pulled out of the box. Again, while the inspector used the term "bushed," it seems clear to me from his testimony that since there was no fitting at all, he believed the standard was violated. Since the second sentence of the standard requires that cables entering electrical compartments shall enter only through proper fittings, the absence of any device at all to maintain the cable in place is sufficient to establish a violation of the cited standard. Respondent's evidence does not rebut the fact that at the point where the

cable entered the box, no fitting or other device was present to prevent the cable from being cut or accidentally pulled out or disconnected from the box. Citation No. 331891-F is AFFIRMED.

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Citation No. 331891-D, December 11, 1978, 30 C.F.R. 57.12-13, states the "the 2/0 power cable feeding the drill rig had an inadequate splice in it 180 ft. east down the drift." Mandatory standard section 57.12-13 states as follows:

Permanent splices and repairs made in power cables, including the ground conductor where provided, shall be:

(a) Mechanically strong with electrical conductivity as near as possible to that of the original;

(b) Insulated to a degree at least equal to that of the original, and sealed to exclude moisture; and

(c) Provided with damage protection as near as possible to that of the original, including good bonding to the outer jacket.

Inspector King's citation asserts that the cable in question had an "inadequate" splice. The term "inadequate" is a rather broad conclusion and it would be much better if MSHA inspectors would detail their findings in more specific terms so that an operator is informed as to what is required for corrective action and abatement. More attention to such detail will also preclude evidentiary and credibility problems which invariably always regularly arise when citations are drafted in such a general manner, and an inspector later attempts to justify his citation at the hearing months later.

Exhibit G-5 is a photograph of the splice in question and Inspector King testified that while the splice phase conductors were corrected and taped and the ground conductor was intact and spliced with the other conductors, the outer cable jacket was missing. Respondent does not dispute the fact that the cable splice in question did not contain an outer jacket and that it was not bonded at all. Further, respondent's own witness, Mr. Hack, candidly admitted that the lack of an outer cable jacket at the splice did not offer damage protection as nearly as possible to that of the original cable, and that the cable in such a condition was not as mechanically strong as the original.

I conclude that the condition of the cable splice as depicted by Exhibit G-5, coupled with the testimony of Mr. King and Mr. Hack, supports a finding that the failure to install an outer bonded jacket to the cable splice in question rendered it inadequate in that a cable in that condition is not mechanically strong as nearly as possible to that of the original cable with the outer jacket intact, nor does it provide damage protection as nearly as possible to that of the original cable. Failure to install the outer bonded cable as part of the splicing process constitutes a violation of section 57.12-13, and Citation No. 331891-D is AFFIRMED.

Citation No. 331891-E, December 11, 1978, 30 C.F.R. 57.12-16, states that "the electrically powered equipment on the core drill located at the 9 IVL East, 929 Level had not been

locked out before mechanical work was done on the drill."

Section 57.12-16 states as follows:

Electrically powered equipment shall be deenergized before mechanical work is done on such equipment. Power switches shall be locked out or other measures taken which shall prevent the equipment from being energized without the knowledge of the individuals working on it. Suitable warning notices shall be posted at the power switch and signed by the individuals who are to do the work. Such locks or preventative devices shall be removed only by the persons who installed them or by authorized personnel.

Inspector King's citation asserts generally that "electrically powered equipment on the drill rig was not locked out." Again, the citation is rather ambiguous since it does not specify the particular equipment that Mr. King had in mind at the time he issued the citation. However, his testimony reflects that what he had in mind was the fact that the switchbox mounted on the drill rig itself, as shown in photographic Exhibits G-2 and G-3, was not locked out (Tr. 62). The reason that it was not locked out is that the box was not equipped with a hasp or lock attachment, and in these circumstances, Mr. King believed that the main disconnect switch located some 240 feet away (Exhs. G-7 and G-8), and which supplied power to the rig should have been locked out. While it is clear from the photographs that the disconnect box was equipped with a lock and hasp, and that it was in place at the time the citation issued, Mr. King's testimony that the switch handle was in the ON position, indicating that the power was on the cable exiting the box, has not been rebutted by the respondent.

Respondent concedes that the drill rig switchbox was not locked out (Tr. 195). Its defense to the citation is based on the fact that the drill itself was deenergized, that the electrical source to the drill motor was disconnected, and that mechanical work to complete the installation of a new motor had not been completed. In addition, since several steps were required to activate the flow of current to the motor legs, respondent also argues that it would have been impossible for the motor legs to have been energized without the knowledge of the individuals working on the equipment.

Respondent's arguments in defense of the citation are rejected. In my view, these arguments go to the extent of the gravity or seriousness of the situation presented at the time the citation issued. Although the facts may support a finding that respondent was in partial compliance with section 57.12-16 by deenergizing the drill rig motor by disconnecting it from its power source, and that the drill switchbox itself was not energized or functional due to the maintenance which was taking place, the fact is that in this case the main disconnect switchbox which supplied power to the rig was energized and was not locked out by throwing the switch to the OFF position and locking the box in that mode. Therefore, to this extent, I conclude that MSHA has established a violation of the second

sentence of section 57.12-16, which clearly requires that power switches be locked out while mechanical work is being performed. The "other measures" preventative arguments advanced

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by the respondent leave too much to the imagination and they are rejected as an absolute defense to the citation, but may be considered in mitigation of the seriousness of the citation condition. Citation No. 331891-E is AFFIRMED.

Citation No. 333658, December 13, 1978, 30 C.F.R. 57.12-34, states as follows: "The portable flood lights around the Boyles Brothers drill rig at 9 IVL East 929 level were not guarded. The light bulbs could easily be reached while standing on drill rig platform."

Section 57.12-34 requires that "portable extension lights, and other lights that by their location present a shock or burn hazard, shall be guarded."

Although it is true that the drill rig lights were not energized at the time the citation issued, this fact may go to the gravity of the citation but it may not serve as an absolute defense to the violation. The record establishes that none of the lights on the drill rig were guarded. The light depicted on photographic Exhibit G-2 would be within one's reach and respondent concedes that it could present a hazard if it were energized. With regard to the other lights shown in Exhibit G-1, while Inspector Enderby stated on the face of the citation that they could easily be reached while standing on the drill rig platform, I believe his real concern was his belief that the lights could have been broken by a drill bit used on the drill. Mr. Hack testified that the lights are some 12 feet off the mine floor and approximately 10 feet off the drill platform.

I find that the location of the three lights as shown in Exhibit G-1 was such as to reasonably preclude a shock or burn hazard in the unlikely event they were broken by someone handling a drill bit. The location of the lights some 10 feet off the deck of the rig would place them out of the reach of someone who may inadvertently come into contact within any exposed filaments. As for the light bulb shown in Exhibit G-2, its location is such as to bring it within reach of anyone working in the area, and, as indicated above, respondent conceded that this unguarded light presented a hazard if it were energized. Accordingly, Citation No. 333658, as applied to the single unguarded drill rig light bulb, is AFFIRMED.

Citation No. 333657, December 12, 1978, 30 C.F.R. 57.12-13, states as follows: "A bad splice was observed on the 440 volt power supply cable to the Chemtron Welder on South end of outside storke shop. The welder was being used at the time. A Tic Tracer was used to find this condition."

Inspector Enderby's citation alleges that the welder cable in question contained a "bad splice." That conclusion is not further elaborated on by the inspector and the citation is devoid of any specifics. However, his testimony clearly reflects that he issued the citation after visually observing that the splice contained some torn and deteriorated tape, and by use of an instrument called a Tic Tracer, he determined that the splice had

somehow lost some of its original insulation qualities, thereby supporting his assertion that the splice was "bad."

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Section 57.12-13 requires that permanent splices and repairs made in power cables be mechanically strong, insulated and provided with damage protection. The requirement that it be mechanically strong includes a requirement that the electrical conductivity of the splice be as near as possible to that of the original cable. Insulation must be to a degree at least equal to that of the original cable, and the splice must be sealed to exclude moisture. Damage protection must be as near as possible to that of the original cable, and must include good bonding to the outer jacket.

By failing to detail on the face of the citation the specific cable defects noted, it is difficult to ascertain from that notice how one can conclude that the splice was "bad." However, a review of Mr. Enderby's testimony reflects some doubt on his part that the cable was adequately sealed to exclude moisture or to provide damage protection. The evidence in support of this conclusion is limited to Mr. Enderby's visual observations that the taped splice was torn and somewhat deteriorated, coupled with his use of a Tic Tracer device. Mr. Enderby did not examine the splice after it was cut out and removed from service, he was not familiar with Climax's procedures for making splices, and he could not recall whether the cable was AC or DC. In these circumstances, I cannot conclude that MSHA has established that the so-called "bad splice" was in fact made in such a manner as to be in violation of the cited safety standard, and the reasons for my finding in this regard follow.

Mr. Enderby's use of the Tic Tracer to support his finding of a "bad" splice is somewhat suspect. To begin with, his testimony that he used the Tic Tracer to detect a drop or leakage in cable current is directly contrary to his testimony taken by deposition where he stated that he used the device as a means of determining whether the cable was a ground cable or main source of power. Further, he did not establish to my satisfaction that the use of such a device is a reliable means for determining the existence of a "bad splice." As a matter of fact, Mr. Enderby candidly admitted that any current leakage indicated by a Tic Tracer is not in fact an indication of diminished insulation, and such a conclusion on his part came by "office conversations" with his fellow inspectors. Further, a review of the manufacturer's specifications concerning the use of the device (Exh. G-9), makes no reference to the fact that it may be used to detect faulty splices. As a matter of fact, the literature seems to indicate that the use of the device is limited to AC current, and I am not convinced from Mr. Enderby's testimony that he was at all certain as to whether the cable he cited was in fact AC or DC. Quite frankly, aside from his cursory observations that the tape used to make the splice was torn, I am not convinced that he made any real evaluation or assessment of the condition of the splice, and once observing that the outer splice tape was torn, he made a summary conclusion that the splice itself did not meet the requirements of section 57.12-13. In these circumstances, I conclude and find that MSHA has failed to establish a violation and the citation is VACATED.

Size of Business and Effect of Civil Penalty on Respondent's
Ability to Remain in Business

The parties stipulated that Climax is a large mine operator and that any civil penalty assessments will not adversely affect its ability to remain in business. I adopt this stipulation as my finding in this regard.

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Gravity

Citation No. 333658, concerning the unguarded light bulb on the drill rig, is nonserious. The rig was down for maintenance, no one was in the area, and the inspector conceded that the condition would be serious only if the lights were energized. The lights were not only deenergized, but the power switch had been locked out as a result of Mr. King's order (Tr. 63).

Citation No. 331891-D, concerning the open splice located 180 feet down the drift, is serious. Although the splice was hung on a nail, failure to provide jacket-to-jacket bonding exposed the splice to possible damage or saturation with water in the event it fell off the nail and into the water. The lack of an outer jacket also affected the mechanical strength of the splice and respondent's own witness admitted that this was the case.

Citation No. 331891-F, concerning the lack of a bushing on the main disconnect switchbox power cable is serious. Power was on the box and the cable was energized. The lack of any bushing or fitting would in time subject the cable to possible damage or becoming disconnected from the power source inside the box.

Citation No. 331891-C, concerning the inadequate bushing on the drill rig switchbox, is nonserious. The inspector's concern was over the possible cutting of the cable jacket caused by vibration of the rig. However, at the time the citation issued, the rig was down for maintenance, no one was present in the area, the motor was not energized, there was no power entering the switchbox, and the cable itself was not cut and was otherwise in good condition.

Citation No. 331891-E, concerning the failure to lock out the drill rig at the main disconnect switch, is nonserious. While it is true that power was on at the main disconnect switch, the drill rig itself was not in operation since it was down for maintenance. The mechanical work being done on the drill was work connected with the motor. However, the motor was not energized and was disconnected from the rig. As a matter of fact, Inspector King did not know whether the motor was being taken out or being put back in.

Negligence

I conclude that each of the violations which have been affirmed resulted from ordinary negligence. I find that Climax failed to exercise reasonable care to prevent the cited conditions and I believe that closer attention to the work being performed and onshift or preshift inspections by qualified electrical personnel possibly could have prevented the conditions cited by the inspectors.

Good Faith Compliance

Citation No. 333657, concerning the unguarded lights on the

drill rig, was abated on December 21, 1978, a day before the time fixed by the inspector, and this reflects rapid good-faith compliance by Climax. As for the remaining violations which I have affirmed, the record supports a finding that Climax corrected the conditions cited in good faith after the order issued and after being advised of the conditions by the inspector.

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History of Prior Violations

Climax's prior history of violations is reflected in Exhibit G-9, an MSHA computer printout indicating 159 paid violations for the period covering December 12, 1976, through December 11, 1978. Included among these prior paid violations are 17 for violations of section 57.12-8, three for prior violations of section 57.12-13, five for prior violations of section 57.12-34, and one prior violation of section 57.12-16.

For an operation the size of Climax, I cannot conclude that its overall prior history of violations is necessarily a poor one. However, I take note of the 17 prior citations for violations of the cable fitting and bushing requirements of section 57.12-8, and an inference can be made that this seems to be a recurring problem which Climax needs to address in its mining operation.

ORDER

Docket No. DENV 79-196-M

In view of the foregoing findings and conclusions made in this case, the section 107(a) imminent-danger order, No. 331891, December 11, 1978, is VACATED.

Docket No. WEST 79-27-M

On the basis of the foregoing findings and conclusions, the following citations are VACATED, and the proposals for assessment of civil penalties, insofar as these alleged violations are concerned, are DISMISSED:

Citation No.	Date	30 C.F.R. Standard
331891-A	12/11/78	57.12-30
333657	12/12/78	57.12-13

Citation No. 331891-B, December 11, 1978, 30 C.F.R. 57.4-11, was DISMISSED from the bench upon motion by MSHA, and it is VACATED.

On the basis of the foregoing findings and conclusions concerning the citations which I have affirmed, and considering the six statutory criteria set forth in section 110(i) of the Act, civil penalties are assessed as follows:

Citation No.	Date	30 C.F.R. Standard	Assessment
331891-C	12/11/78	57.12-8	\$200
331891-D	12/11/78	57.12-13	250
331891-E	12/11/78	57.12-16	200
331891-F	12/11/78	57.12-8	250
333658	12/13/78	57.12-34	20
			\$920

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Respondent is ORDERED to pay the civil penalties assessed in these proceedings, as indicated above, in the total amount of \$920 within thirty (30) days of the date of these decisions.

George A. Koutras
Administrative Law Judge