

# Rules to Live By III "Preventing Common Mining Deaths"

## Coal Priority Standards

**30 CFR § 75.362(a)(1) - On-shift examination** - "At least once during each shift, or more often if necessary for safety, a certified person designated by the operator shall conduct an on-shift examination of each section where anyone is assigned to work during the shift and any area where mechanized mining equipment is being installed or removed during the shift. The certified person shall check for hazardous conditions, test for methane and oxygen deficiency, and determine if the air is moving in its proper direction."

During the review period, violations of 30 CFR §75.362(a)(1) contributed to 9 fatalities in 9 fatal accident investigations.

### **Conditions Leading to Fatalities**

- An additional examination of the working area was not conducted when there was a previous hazardous condition found.
- The on-shift examination conducted in the working places failed to detect and subsequently correct a widespread and obvious hazardous roof condition.
- The on-shift records revealed that hazardous ribs had been recorded with little or no corrective action taken to limit or prevent exposure.
- The foreman failed to identify metal roof straps installed on the day shift which created a hazardous condition for the night shift continuous mining machine operator.
- Adequate on-shift examinations were not performed for several shifts, with hazardous conditions existing for at least a week.

**30 CFR § 77.404(a) - Machinery and equipment; operation and maintenance** - "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."

During the review period, violations of 30 CFR §77.404(a) contributed to 15 fatalities in 14 fatal accident investigations.

### **Conditions Leading to Fatalities**

- Ineffective maintenance procedures allowed water to accumulate in the parking brake system, causing freezing in the system and not allowing the parking brakes to apply.
- The operator or contractor had no policies or procedures in place to ensure equipment was maintained in safe condition.
- A front-end loader remained in operation after a serious oil leak was observed.
- Brakes on mobile equipment were out of adjustment or otherwise improperly maintained.
- The man lift was not maintained in safe operating condition.
- Thorough pre-operational exams were not conducted.

**30 CFR § 77.405(b) - Performing work from a raised position; safeguards** - "No work shall be performed under machinery or equipment that has been raised until such machinery or equipment has been securely blocked in position."

During the review period, violations of 30 CFR §77.405(b) contributed to 7 fatalities in 7 fatal accident investigations.

#### **Conditions Leading to Fatalities**

- A driver placed himself in a hazardous position beneath the truck between the axle and an improvised metal stand.
- A lead mechanic performed work beneath a front-end loader bucket that was not blocked against motion.
- A mechanic became pinned to the ground when the belly pan of a bulldozer fell on him.
- A 10-foot step ladder was hit by an overhead rolling steel door that was not securely blocked, causing the employee to fall.
- A hoist boom that was not securely blocked in position fell, fatally striking a miner working directly underneath it.

**30 CFR § 77.1000 - Highwalls, pits and spoil banks; plans** - "Each operator shall establish and follow a ground control plan for the safe control of all highwalls, pits and spoil banks to be developed after June 30, 1971, which shall be consistent with prudent engineering design and will insure safe working conditions. The mining methods employed by the operator shall be selected to insure highwall and spoil bank stability."

During the review period, violations of 30 CFR §77.1000 contributed to 6 fatalities in 5 fatal accident investigations.

#### **Conditions Leading to Fatalities**

- The ground control plan for the mine did not include methods to keep persons from being exposed to the hazardous condition of portions of the highwall having been developed in dirt, on a near vertical angle, and being unstable.
- The mine operator's established ground control plan was not being followed where a highwall drill was being used to drill blast holes.
- The segment of the highwall that failed was oriented nearly parallel to a well developed joint set.
- The operator's established ground control plan was not adequate to provide safe control of the highwall, pits, and spoil banks.
- The mine operator engaged in aggravated conduct constituting more than ordinary negligence by allowing mining operations to proceed before hazardous conditions were corrected.

**30 CFR § 77.1605(b) - Loading and haulage equipment; installations** - "Mobile equipment shall be equipped with adequate brakes, and all trucks and front-end loaders shall also be equipped with parking brakes."

During the review period, violations of 30 CFR §77.1605(b) contributed to 10 fatalities in 10 fatal accident investigations.

### **Conditions Leading to Fatalities**

- The flow of brake fluid to the wheel was stopped due to a piece of rubber blocking a fitting.
- The brakes were contaminated with grease and oil.
- Wear on the brake drums was in excess of the maximum allowable diameter.
- Bluing indicating excessive heat was found on the brake drum.
- Five of the six service brake chamber pushrod strokes for the truck exceeded the maximum allowable pushrod stroke readjustment limit.

### **30 CFR § 77.1606(a) - Loading and haulage equipment; inspection and maintenance -**

"Mobile loading and haulage equipment shall be inspected by a competent person before such equipment is placed in operation. Equipment defects affecting safety shall be recorded and reported to the mine operator."

During the review period, violations of 30 CFR §77.1606(a) contributed to 9 fatalities in 9 fatal accident investigations.

### **Conditions Leading to Fatalities**

- A truck with multiple brake system failures was not adequately inspected before being placed into service.
- There was no program in place to ensure that pre-operational checks were conducted.
- The pre-operational inspection failed to reveal that the driver side steering axle brake linings did not contact the brake drum when the brakes were applied.
- An adequate pre-shift inspection was not conducted which would have revealed that six trailer brakes were ineffective.
- Inspections of the defective truck were not being conducted by a qualified person before the truck was placed in operation.
- Defects affecting safety were not being recorded and reported to mine management.

### **30 CFR § 77.1607(b) - Loading and haulage equipment; operation - "Mobile equipment operators shall have full control of the equipment while it is in motion."**

During the review period, violations of 30 CFR §77.1607(b) contributed to 11 fatalities in 11 fatal accident investigations.

### **Conditions Leading to Fatalities**

- A rock truck backed over the edge of a dump site and overturned.
- An equipment operator failed to maintain full control of a dozer he was operating on extreme slope conditions.
- An operator overturned a truck into a newly constructed pond.
- Management knew that trucks were routinely overloaded and did nothing to stop this practice.
- A mobile equipment operator received crushing fatal injuries when the operator of a second truck failed to maintain control of his vehicle and hit the back of the victim's haul truck.

**30 CFR § 77.1713(a) - Daily inspection of surface coal mine; certified person; reports of inspection** - "At least once during each working shift, or more often if necessary for safety, each active working area and each active surface installation shall be examined by a certified person designated by the operator to conduct such examinations for hazardous conditions and any hazardous conditions noted during such examinations shall be reported to the operator and shall be corrected by the operator."

During the review period, violations of 30 CFR §77.1713(a) contributed to 8 fatalities in 7 fatal accident investigations.

#### **Conditions Leading to Fatalities**

- Loose material from a blast of overburden migrated to the edge of a highwall and fatally struck a worker hand shoveling spoil material below.
- The operator failed to conduct an adequate on-shift daily examination that would have indicated that the edge of a dump point had no berms, bumper blocks, safety hooks, or similar means to prevent overturning.
- The hazards of a sliding stockpile that were discovered during an examination were neither reported nor corrected.
- A highwall was examined from the top only, leaving hazards on the pit floor unobserved.
- Examinations of areas where tree cutting was being conducted were made from a remote location and did not adequately detect hazardous conditions.