

## **COMPANY**

### **Written Safety Plan for Surface Power Haulage Equipment (30 CFR 56.23000) ID's**

56.23000 – The purpose of the Surface Mining Power Haulage Safety Program is to reduce accidents, injuries, and fatalities related to the operation of surface mobile equipment on Company's mining facilities.

Company currently operates four portable crushing plants and three portable washing plants in County, Wisconsin. The Company has active mining operations where these plants are intermittently moved into for the processing of various grades of construction aggregates.

56.23001 – The person responsible with the authority to evaluate and update the Written Safety Plan for Surface Mining Power Haulage Equipment is Safety Manager. They will also be responsible for evaluating and updating the written program on an annual basis. An evaluation of changes in mining conditions or practices, accidents or injuries, and new mobile equipment purchases would be reasons for evaluating and updating the program.

56.23002 – This written Surface Mining Power Haulage Safety Program has been developed to meet the requirements of 56.23002. This program was developed prior to the final rule promulgation date due to the importance of this topic.

56.23003 - (1) Actions utilized to identify hazards and reduce resulting risks related to the movement and operation of surface mobile equipment.

A major component of this program is training both the mobile equipment operators and other mining personnel about the hazards and associated risks involved in the operation of self-propelled mobile equipment. An emphasis shall be placed on improving the miners hazard awareness/recognition skills through both classroom training during New Miner Training (46.5); New Task Training (46.7); Annual Refresher Training (46.8) sessions, and field demonstrations and coaching sessions in the field.

Another action that is often not addressed is the importance of conducting site-specific training sessions with customer truck drivers and contractors who perform work on the various mining sites. This site-specific training needs to emphasize various aspects of traffic management, including operating speeds and control of equipment (56.9101); parking procedures for unattended equipment (56.14207); and seat belt usage (56.14131).

56.23003 (2) – Requires operators to develop and maintain procedures and schedules for routine maintenance and non-routine repairs for surface mobile equipment. Additionally, operators must comply with MSHA’s existing requirements for maintenance and repair, which includes 56.14100 (a), 56.14105 and 56.14211.

Company’s safety program integrates existing compliance best practices like incorporating the service brake and parking brake tests (56.14101 (a) (3) as part of the pre-shift inspection process (56.14100 (a)) and the manufacturers hourly recommended inspection intervals for all self-propelled mobile equipment operated at its mining operations. The manufacturers recommended hourly inspections and associated lubricant testing and lubricant changes are all tracked on a spreadsheet. Each piece of mobile equipment has a pre-operation inspection book in the operator’s cab. All our operators are given the authority to “red tag” any self-propelled mobile equipment if any defects affecting the safe operation of the equipment is identified during the pre-operational inspection.

56.23003 (3) – Requires that the program include actions the mine operator would take to evaluate currently available and newly emerging feasible technologies that can enhance safety and evaluate whether to adopt them. Such technologies might include seat belt interlock systems; collision warning systems; highwall and dump point identification technologies; and training to improve operators’ awareness of hazards.

The responsible person will evaluate these technologies and make recommendations if it is determined that such technologies would further minimize the risk related to the movement and operation of surface mobile equipment. An ongoing component of this program is the training to improve mobile equipment operators hazard awareness and recognition skills.

56.23003 (4) – Requires operators to train miners and other persons at the mines who perform work at the mines how to identify and address or avoid hazards related to the movement of self-propelled mobile equipment.

Standards applicable to the movement of self-propelled powered haulage equipment at Company's mining facilities will be presented to miners during New Miner Training (46.5); New Task Training (46.7) and Annual Refresher Training (46.8). All training will be documented on the appropriate MSHA approved forms.

The following 30 CFR Standards will be covered during these training sessions:

## **COMMUNICATION**

### **56.9316 – Notifying the equipment operator.**

**When an operator of self-propelled mobile equipment is present, persons shall notify the equipment operator before getting on or off that equipment.**

Additionally, miners on foot need to be aware of the traffic patterns typically traveled by self-propelled mobile equipment. Use the following protocols when approaching self-propelled mobile equipment:

- Be aware that large loaders and haul trucks have blind spots. The larger the equipment the greater the distance of the blind spot.
- Use a radio, flashing lights or hand signals to get the attention of the equipment operator. Do not approach until the equipment operator acknowledges your presence.
- An equipment operator will acknowledge your presence by responding to you on the radio, or by flashing his headlights. Do not approach a loader if the bucket attachment is still in the air. Only approach if the bucket is on the ground.
- Miners on foot shall not walk the toe of large stockpiles. Loaders typically are driving around these piles and miners walking in these areas will be in the blind spot of the loader operator.
- Do not drive or park smaller vehicles in mobile equipment's potential path of movement.

**56.14132 - Horns and backup alarms.**

(a) Manually operated horns or other audible warning devices provided on self-propelled mobile equipment as a safety feature shall be maintained in functional condition.

(b)(1) When the operator has an obstructed view to the rear, self-propelled mobile equipment shall have

(i) An automatic reverse activated signal alarm.

(ii) A wheel-mounted bell alarm which sounds at least once for each three feet of reverse movement.

(iii) A discriminating backup alarm that covers the area of obstructed view; or

(iv) An observer to signal when it is safe to back up.

(2) Alarms shall be audible above the surrounding noise level.

(3) An automatic reverse activated strobe light may be used at night in lieu of an audible reverse alarm.

**56.14200 – Warnings prior to starting or moving equipment.**

Before starting crushers or moving self-propelled mobile equipment, equipment operators shall sound a warning that is audible above the surrounding noise level or use other effective means to warn all persons who could be exposed to a hazard from the equipment.

**Company mobile equipment operators including pick-ups and service trucks shall sound their horn and wait about 5 seconds prior to placing the equipment in motion when on mining property.**

**56.14208 – Warning devices.**

**Visible warning devices shall be used when parked mobile equipment creates a hazard to persons in other mobile equipment.**

- Company will equip all smaller pick-ups and service trucks with flags or strobe lights on the cabs of their vehicles to make loader operators aware of their location. Flags equipped with a strobe light at the top shall be high enough to be in the view of equipment operators.

## **TRAFFIC MANAGEMENT**

56.9100 – To provide for the safe movement of self-propelled mobile equipment

(a) Rules governing speed, right-of-way, direction of movement, and the use of headlights to assure appropriate visibility, shall be established and followed at each mine; and

(b) Signs or signals that warn of hazardous conditions shall be placed at appropriate locations at each mine.

### **The following rules apply at all Plant Operations:**

- Truck traffic and heavy self-propelled mobile equipment will be encountered at our sites. Front end loaders have the right of way followed by all other heavy equipment.
- Obey all posted traffic signs. Follows a right-hand drive traffic pattern for all haul roads.
- The speed limit inside any of the mining operations is 15 mph. Always slow down when conditions are wet, icy or dusty.

### **56.9101 – Operating speeds and control of equipment.**

Operators of self-propelled mobile equipment shall maintain control of the equipment while it is in motion. Operating speeds shall be consistent with conditions of roadways, tracks, grades, clearance, visibility, and traffic, and the type of equipment used.

### **56.9313 – Roadway maintenance**

Water, debris, or spilled material on roadways which creates hazards to the operation of mobile equipment shall be removed.

### **56.9315 – Dust Control**

Dust shall be controlled at muck piles, material transfer points, crushers, and on haulage roads where hazards to persons would be created as a result of impaired visibility.

## **56.20011 Barricades and warning signs.**

Areas where health or safety hazards exist that are not immediately obvious to employees shall be barricaded, or warning signs shall be posted at all approaches. Warning signs shall be readily visible, legible, and display the nature of the hazard and any protective action required.

Examples of using barricades or signage to warn miners of various traffic conditions include the following:

- Placing a catchment berm in front of a highwall that has overhanging material.
- Placing a berm in front of a dump ramp when workers are unplugging the feeder or jaw crusher.
- Placing a berm across the roadway to prevent access when a road has been washed out because of storm runoff.

## **56.14207 – Parking procedures for unattended equipment.**

Mobile equipment shall not be left unattended unless the controls are placed in the park position and the parking brake if provided, is set. When parked on a grade, the wheels or tracks of mobile equipment shall be either chocked or turned into a bank.

## **56.9318 – Getting on or off moving equipment.**

Persons shall not get on or off moving mobile equipment. This provision does not apply to trainman, brakemen, and car droppers who are required to get on or off slowly moving trains in the performance of their work duties.

## **56.14206 – Securing movable parts.**

- (a) When moving mobile equipment between workplaces, booms, forks, buckets, beds, and similar movable parts of the equipment shall be positioned in the travel mode and, if required for safe travel, mechanically secured.

(b) When mobile equipment is unattended or not in use, dippers, buckets and scraper blades shall be lowered to the ground.

## **SEAT BELTS**

**56.14130 (a)** - Roll-over protective structures and seat belts shall be installed on:

- (1) Crawler tractors and crawler loaders;
- (2) Graders
- (3) Wheel loaders and tractors;
- (4) The tractor portion of semi-mounted scrapers, dumpers, water wagons, bottom dump wagons, rear dump wagons, and towed fifth wheel attachments
- (5) Skid-steer loaders; and
- (6) Agricultural tractors

(g) Wearing seat belts – Seat belts shall be worn by the equipment operator except when operating graders from a standing position, the grader operator shall wear safety lines and a harness in place of a seat belt.

(i) Seat belt maintenance. Seat belts shall be maintained in functional condition, and replaced when necessary to assure proper performance.

### **56.14131 – Seat belts for haulage trucks.**

- (a) Seat belts shall be provided and worn in haulage trucks.
- (b) Seat belts shall be maintained in functional condition, and replaced when necessary to assure proper performance.

All other self-propelled mobile equipment not listed above are required to be equipped with seat belts and seat belts must be worn when on mining property. This includes pick-ups, suburban passenger vans, larger service trucks and smaller 4 wheeled Kubota's or similar vehicles.

## **DUMPING PRACTICES**

### **56.9300 - Berms or guardrails.**

- (a) Berms or guardrails shall be provided and maintained on the banks of roadways where a drop-off exists of sufficient grade or depth to cause a vehicle to overturn or endanger persons in equipment.
- (b) Berms or guardrails shall be at least mid-axle height of the largest self-propelled mobile equipment which usually travels the roadway.
- (c) Berms may have openings to the extent necessary for roadway drainage.
- (d) Where elevated roadways are infrequently traveled and used only by service or maintenance vehicles, berms or guardrails are not required when all the following are met:
  - (1) Locked gates are installed at the entrance points to the roadway.
  - (2) Signs are posted warning that the roadway is not bermed.
  - (3) Delineators are installed along the perimeter of the elevated roadway so that, for both directions of travel, the reflective surfaces of at least three delineators along each elevated shoulder are always visible to the driver and spaced at intervals sufficient to indicate the edges and attitude of the roadway.
  - (4) A maximum speed limit is posted and observed for the elevated unbermed portions of the roadway.
  - (5) Road surface traction is not impaired by weather conditions, such as sleet and snow, unless corrective measures are taken to improve traction.

### **56.9301 – Dump site restraints.**

Berms, bumper blocks, safety hooks or similar impeding devices shall be provided at dumping locations where there is a hazard of overtravel or overturning.

Berms or bumper blocks should be mid-axel height of the largest vehicle accessing the dump site. These dump sites can include waste dump areas and large stockpiles where a loader or dump trucks are dumping material.

### **56.9303 – Construction of ramps and dumping facilities.**

Ramps and dumping facilities shall be designed and constructed of materials capable of supporting the loads to which they will be subjected. The ramps and dumping facilities shall provide width, clearance, and headroom to safely accommodate the mobile equipment using the facilities.

All ramps must have berms or guardrails installed that are mid-wheel height of the largest piece of equipment accessing the ramp.

### **56.9304 – Unstable ground.**

- (a) Dumping locations shall be visually inspected prior to work commencing and as ground conditions warrant.
- (b) Where there is evidence that the ground at a dumping location may fail to support the mobile equipment, loads shall be dumped a safe distance back from the edge of the unstable area of the bank.

### **56.9305 – Truck spotters.**

- (a) If truck spotters are used, they shall be in the clear while trucks are backing into dumping position or dumping.
- (b) Spotters shall use signal lights to direct trucks where visibility is limited due to the weather.
- (c) When a truck operator can not clearly recognize the spotter's signals, dumping operations shall stop.

A best practice often used at dump sites is to have the dozer operator act as a spotter. The spotter will have the trucks dump about 10 feet short of the edge of the dump site and the dozer operator will then push the material over the edge.

### **56.9306 – Warning devices for restricted clearances.**

Where restricted clearance creates a hazard to persons on mobile equipment, warning devices shall be installed in advance of the restricted area and the restricted area shall be conspicuously marked.

Such restricted clearance structures include overhead pipes, conveyors and other plant structures. Additionally, signage warning mobile equipment of overhead powerlines should be placed at least 50 feet before the crossing in both directions. Another best practice is to have reflective devices installed by the utility company on the overhead lines.

## **PRE-SHIFT INSPECTIONS OF SELF-PROPELLED MOBILE EQUIPMENT**

### **56.14100**

- (a) Self-propelled mobile equipment to be used during a shift shall be inspected by the equipment operator before being placed in operation on that shift.
- (b) Defects on any equipment, machinery, and tools that affect safety shall be corrected in a timely manner to prevent the creation of a hazard to persons.
- (c) When defects make continued operation hazardous to persons, the defective items including self-propelled mobile equipment shall be taken out of service and placed in a designated area posted for that purpose, or a tag or other effective method of marking the defective items shall be used to prohibit further use until the defects are corrected.
- (d) Defects on self-propelled mobile equipment affecting safety, which are not corrected immediately, shall be reported to and recorded by the mine operator. The records shall be kept at the mine or nearest mine office from the date the defects are recorded, until the defects are corrected. Such records shall be made available for inspection by an authorized representative of the Secretary.

### **56.14101 Brakes.**

- (a) Minimum requirements (1) Self-propelled mobile equipment shall be equipped with a service brake system capable of stopping and holding the equipment with its typical load on the maximum grade it travels. (2) If equipped on self-propelled mobile equipment, parking brakes shall be capable of holding the equipment with its typical load on the maximum

grade it travels. (3) All braking systems installed on the equipment shall be maintained in functional condition.

It is Company's policy that both the service brake and parking brake tests are completed as part of the pre-shift inspection at the beginning of each shift.

## **GROUND CONTROL**

### **56.3130 – Wall, bank, and slope stability.**

Mining methods shall be used that will maintain wall, bank, and slope stability in places where persons work or travel in performing their assigned tasks. When benching is necessary, the width and height shall be based on the type of equipment used for cleaning of benches or for scaling of walls, banks and slopes.

### **56.3131 – Pit or quarry wall perimeter.**

In places where persons work or travel in performing their assigned tasks, loose or unconsolidated material shall be sloped to the angle of repose or stripped back for at least 10 feet from the top of the pit or quarry wall. Other conditions at or near the perimeter of the pit or quarry wall which create a fall-of-material hazard to persons shall be corrected.

Bench or pit floor areas which have overhanging or unconsolidated material on highwalls shall have a catchment berm placed in front of the overhanging or unconsolidated section(s). These berms typically are 15 to 20 feet from the toe of the highwall and at least 5 to 10 feet tall. As an alternative, a berm can be placed across the access point to the bench when conditions warrant to protect equipment and persons from falling materials. This berm shall remain in place until the unsafe highwall conditions are corrected.

### **56.3401 – Examination of ground conditions.**

Persons experienced in examining and testing for loose ground shall be designated by the mine operator. Appropriate supervisors or other designated persons shall examine and where applicable, test ground conditions in areas where work is to be performed prior to work commencing, after blasting, and as

ground conditions warrant during the work shift. Highwalls and banks adjoining travel ways shall be examined weekly or more often if changing ground conditions warrant.

### **56.3430 – Activity between machinery or equipment and the highwall or bank.**

Persons shall not work or travel between machinery or equipment and the highwall or bank where the machinery or equipment may hinder escape from falls or slides of the highwall or bank. Travel is permitted when necessary for persons to dismount.

## **EQUIPMENT MAINTENANCE STANDARDS**

### **56.14103 – Operator stations**

(a) If windows are provided on operator stations of self-propelled mobile equipment, the windows shall be made of safety glass or material with equivalent safety characteristics. The windows shall be maintained to provide visibility for safe operation.

(b) If damaged windows obscure visibility necessary for safe operation, or create a hazard to the equipment operator, the windows shall be replaced or removed. Damaged windows shall be replaced if absence of a window would expose the equipment operator to hazardous environmental conditions which would affect the ability of the equipment operator to safely operate the equipment.

c) The operator's stations of self-propelled mobile equipment shall - 1) be free of materials that could create a hazard to persons by impairing the safe operation of equipment; and 2) not be modified, in a manner that obscures visibility necessary for safe operation.

### **56.14211 – Blocking equipment in a raised position.**

(a) Persons shall not work on top of, under, or work from mobile equipment in a raised position until the equipment has been blocked or mechanically secured to prevent it from rolling or falling accidentally.

(b) Persons shall not work on top of, under, or work from a raised component of mobile equipment until the component has been blocked or mechanically secured

to prevent accidental lowering. The equipment must also be blocked or secured to prevent rolling.

c) A raised component must be secured to prevent accidental lowering when persons are working on or around mobile equipment and are exposed to the hazard of accidental lowering of the equipment.

(d) Under this section, a raised component of mobile equipment is considered to be blocked or mechanically secured if provided with a functional load-locking device or a device which prevents free and uncontrolled descent.

e) Blocking or mechanical securing of the raised component is required during repair or maintenance of elevated mobile work platforms.

## **OTHER IMPORTANT STANDARDS**

### **56.11016 – Snow and ice on walkways and travel ways.**

Regularly used walkways and travel ways shall be sanded, salted, or cleared of snow and ice as soon as practicable.

The access ladders and platforms on loaders and other self-propelled mobile equipment are considered walkways and travel ways and must be cleared of snow and ice as part of the pre-shift examination and during the shift as conditions warrant.

### **56.9317 – Suspended loads**

Persons shall not work or pass under the buckets or booms of loaders in operation.

Additionally, the booms of cranes, manlifts, telehandlers and any other raised component of any self-propelled mobile equipment is considered a suspended load. Persons on foot shall not walk under any raised components. A best practice for crane operations and in areas where man-lifts are working is to red tape off the area and post signage to inform persons that no one is allowed in this area while work activity is being performed.

## **56.4230 – Fire Extinguishers on self-propelled mobile equipment**

- (a) (1)** Whenever a fire or its effects could impede escape from self-propelled mobile equipment, a fire extinguisher shall be on the equipment.

## **56.4201 Fire extinguisher inspections**

- (a) (1)** Fire extinguishers shall be inspected visually at least once per month to determine that they are fully charged and operable.
- (a) (2)** At least once every 12 months, maintenance checks shall be made of mechanical parts, the amount and condition of extinguishing agent and expellant, and the condition of the hose, nozzle, and vessel to determine that the fire extinguishers will operate effectively.

Both the monthly and annual requirements are to be verified during the pre-shift vehicle inspection for all self-propelled mobile equipment equipped with a fire extinguisher.