

(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.

(c) This standard does not apply to rail equipment.

**§ 57.14160 Mantrip trolley wire hazards underground.**

Mantrips shall be covered if there is danger of persons contacting the trolley wire.

**§ 57.14161 Makeshift couplings.**

Couplings used on underground rail equipment shall be designed for that equipment, except that makeshift couplings may be used to move disabled rail equipment for repairs if no hazard to persons is created.

**§ 57.14162 Trip lights.**

On underground rail haulage, trip lights shall be used on the rear of pulled trips and on the front of pushed trips.

SAFETY PRACTICES AND OPERATIONAL PROCEDURES

**§ 57.14200 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.

**§ 57.14201 Conveyor start-up warnings.**

(a) When the entire length of a conveyor is visible from the starting switch, the conveyor operator shall visually check to make certain that all persons are in the clear before starting the conveyor.

(b) When the entire length of the conveyor is not visible from the starting switch, a system which provides visible or audible warning shall be installed and operated to warn persons that the conveyor will be started. Within 30 seconds after the warning is given, the conveyor shall be started or a second warning shall be given.

**§ 57.14202 Manual cleaning of conveyor pulleys.**

Pulleys of conveyors shall not be cleaned manually while the conveyor is in motion.

**§ 57.14203 Application of belt dressing.**

Belt dressings shall not be applied manually while belts are in motion unless a pressurized-type applicator is used that allows the dressing to be applied from outside the guards.

**§ 57.14204 Machinery lubrication.**

Machinery or equipment shall not be lubricated manually while it is in motion where application of the lubricant may expose persons to injury.

**§ 57.14205 Machinery, equipment, and tools.**

Machinery, equipment, and tools shall not be used beyond the design capacity intended by the manufacturer, where such use may create a hazard to persons.

**§ 57.14206 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. Other movable parts, such as booms, shall be mechanically secured or positioned to prevent movement which would create a hazard to persons.

**§ 57.14207 Parking procedures for unattended equipment.**

Mobile equipment shall not be left unattended unless the controls are placed in the park position and the

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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 or rib.

**§ 57.14208 Warning devices.**

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

(b) Mobile equipment, other than forklifts, carrying loads that project beyond the sides or more than four feet beyond the rear of the equipment shall have a warning flag at the end of the projection. Under conditions of limited visibility these loads shall have a warning light at the end of the projection. Such flags or lights shall be attached to the end of the projection or be carried by persons walking beside or behind the projection.

**§ 57.14209 Safety procedures for towing.**

(a) A properly sized tow bar or other effective means of control shall be used to tow mobile equipment.

(b) Unless steering and braking are under the control of the equipment operator on the towed equipment, a safety chain or wire rope capable of withstanding the loads to which it could be subjected shall be used in conjunction with any primary rigging.

(c) This provision does not apply to rail equipment.

**§ 57.14210 Movement of dippers, buckets, loading booms, or suspended loads.**

(a) Dippers, buckets, loading booms, or suspended loads shall not be swung over the operators' stations of self-propelled mobile equipment until the equipment operator is out of the operator's station and in a safe location.

(b) This section does not apply when the equipment is specifically designed to protect the equipment operator from falling objects.

**§ 57.14211 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 component.

(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 devices which prevent free and uncontrolled descent.

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

**§ 57.14212 Chains, ropes, and drive belts.**

Chains, ropes, and drive belts shall be guided mechanically onto moving pulleys, sprockets, or drums except where equipment is designed specifically for hand feeding.

**§ 57.14213 Ventilation and shielding for welding.**

(a) Welding operations shall be shielded when performed at locations where arc flash could be hazardous to persons.

(b) All welding operations shall be well-ventilated.

**§ 57.14214 Train warnings.**

A warning that is audible above the surrounding noise level shall be sounded—

(a) Immediately prior to moving trains;

(b) When trains approach persons, crossing, other trains on adjacent tracks; and

(c) Any place where the train operator's vision is obscured.