HEALTH, SAFETY & ENVIRONMENTAL MANUAL	13.5 Guards, Conveyors, and Electrical Safety			
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GUARDS, CONVEYORS, AND ELECTRICAL SAFETY

Purpose

To give all workers an understanding of the hazards involved with conveyors and electrical equipment and the controls for those hazards, including guarding and lockout.

Scope

Conveyor Regulations (Mining):

1. No person shall ride on a conveyor belt.
2. A conveyor shall have,
    a. A means to safely apply belt dressing while the conveyor is in motion; and
    b. If the conveyor is started automatically by remote control or if a portion or portions of the conveyor are not visible from the operator's position, a start-up warning device.
3. The following pinch points shall be guarded by a guard that, unless it would render the pinch point inaccessible, extends at least 0.9 meters from the pinch point:
    a. The head, tail, drive, deflection, and tension pulleys.
    b. If the lift of the belt is restricted, the return rollers and the carry rollers.
4. If it is impracticable to comply with the guarding described above, then:
    a. A fence shall be in place that prevents access to the pinch points.
    b. A barricade shall be in place that prevents access to the pinch points; or
    c. A gate equipped with an interlocking device, which has a manual reset switch, shall be in place that prevents access to the pinch points while the conveyor is operating.
5. If the position or construction of the conveyor provides equivalent protection that renders the pinch points inaccessible, then guarding, fencing barricades or gates are not required.
6. Guards shall be provided beneath a conveyor,
    a. That passes over a worker; or
    b. From which falling materials or parts may endanger a worker.
7. A conveyor shall be stopped and the prime mover de-energized, locked and tagged out when the conveyor is undergoing repairs, adjustments, or maintenance unless,
    a. It is necessary to run the conveyor during such work; and
    b. Effective precautions are taken to prevent injury to a worker from moving parts.
8. Every conveyor shall have an emergency stopping system that operates a manual reset switch that stops the conveyor.
9. If a conveyor is accessible to a worker, the emergency stopping system is required,
    a. At any pinch point on the conveyor that is not set out in Section 3 and the emergency stopping system must be within easy reach of a worker at each of those pinch points and;
    b. At any other locations along the conveyor in order to ensure that the system is always within easy reach of a worker.
10. A conveyor is considered inaccessible to a worker by any means listed here:
    i. a fence
    ii. a barricade

iii. a gate equipped with an interlocking device, which has a manual reset switch that renders the conveyor inoperative when the gate is moved or opened.
iv. the location of the conveyor renders it inaccessible.
v. any combination of the above.

Workers must exercise caution when working near conveyors and follow these safety points:

- Ensure that the Original Equipment Manufacturer (OEM) and/or company-fabricated guards are functional and affixed to all required pinch points and areas where a worker may be endangered while in operation. A guard must be designed so that it can only be removed using a tool.
- All workers shall familiarize themselves with the conveyors on their jobsite by locating conveyor pinch points, grease fittings, emergency stopping systems, operating controls and start/shut-off procedures.
- It is strictly forbidden to remove a guard to access parts of the equipment while the machine is in operation until lock-out and tag-out procedures have been implemented prior to guard removal. See Lock-Out and Tag-Out Section.
- Workers must avoid walking under conveyors, stackers, transfer belts, or similar equipment while in operation. If you can't get around because of the set-up then STOP, look up and around for falling stones, material, or other hazards, and then only proceed through and away from the conveyor if safe to do so.
- Keep loose clothing, tools, and body parts away from conveyor pinch points.
- "D" handle shovels are not permitted in proximity of crushing/screening equipment or conveyors.
- All emergency stopping systems on all conveyors and/or screen plants must be tested prior to setup and at least monthly. Log them on the inspection checklist. If the systems do not work, they must be repaired. Lock out the unit and contact your supervisor.
- Conveyors must be lowered from their elevated position when moving distances greater than its typical pile shift.

Genset / Crusher Electrical Safety

- Repair, maintenance, or service work is NOT ALLOWED to be performed on electrical components of gensets or other electric processing equipment by an unauthorized employee, nor can an electrical panel cover be removed by an unauthorized employee. Certified electricians or certified mechanics will be called for this type of work.
- All electrical equipment must be grounded to the specifications dictated by the manufacturer or a certified electrician.
- All gensets and electric processing equipment must be inspected regularly by a certified industrial electrician.
- Most electrical motors are operated remotely and therefore employees must be mindful of sudden start-ups and proper lock-out procedures. A loud horn or siren must be used to indicate their start up.

GUARDS, CONVEYORS, AND ELECTRICAL SAFETY

General electrical safety – tools, cords, generators:

- Use only tools that are polarized or double insulated. Make sure the casings of double-insulated tools are not cracked or broken.
- Make sure that tool cords, extension cords, and plugs are in good condition.
- Use only 3-pronged extension cords.
- Make sure that extension cords are the right gauge for the job to prevent overheating, voltage drops, and tool burnout. A 12-gauge extension cord is typically ideal.
- Receptacles must be GFCI-protected.
- Use only generators with neutral bonded to frame.
- Always use a Type A ground fault circuit interrupter (GFCI) with portable electric tools operated outdoors or in damp or wet locations. GFCI's detect current leaking to ground from a tool or cord and shut off power before damage or injury can occur.

REQUIREMENTS

Legislation:

- Mining Regs. 854, Sections 90, 159, 160, 185, 196, various

Training:

- Employees will be trained in the Surface Miner specialty module if it applies to the task they are performing (i.e. generator, conveyor)