Haulage Conveyors

1 PURPOSE

To provide a guideline which allows for a safe and productive work environment for personnel who work with and provide maintenance on haulage conveyor systems.

2 SCOPE

This procedure applies to all functional operations, offices, including employees, vendors, visitors and contractors within the scope of the Integrated Management System (IMS).

3 DEFINITIONS AND ACRONYMS

Bend Pulley a pulley used to change the direction of the transport belt.

Conveyor Belt is a rubber or special material strip designed to transport materials (normally aggregates and/or minerals) at a given speed. It is fully protected and it is moved with the aid of pulleys and rollers.

Counterweight is used to apply tension to the transport belt. The most common is the gravity type which uses a counterweight. Tension can also be applied by winches, hydraulic jacks or threaded jacks. Tail pulleys are often used as counterweight pulleys.

Grizzly is a device on a hopper/feeder similar to a screen used for sizing the material entering into the hopper.

Guards are normally manufactured from a metal element which is designed to protect against accidental contact with a machine's exposed moving parts. This is an object which can be removed to allow for maintenance activities provided that all of the conveyor belt system is stopped and properly locked out.

Head Pulley is a pulley located at the unloading end of the conveyor belt. In most cases, the head/crown pulley is a driving pulley powered by a motor.

Hopper is the structure where all the material or mineral from the cut or quarry is placed for subsequent crushing and/or selection processing.

Pull Cord is an emergency stop system that is parallel to the conveyor and when struck or pulled it deactivates the conveyor drive system. This cord is positioned in such a manner that a person falling against it would cause the emergency stop to activate for the conveyor system.

Return Pulley is a pulley used to increase the contact arc in the head or driving pulley.

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Return Roller is a roller used to prevent sagging and unnecessary motion or travel on the return side of the conveyor.

Tail Pulley is a pulley used to change the direction of movement of the belt, for return with the load in the opposite direction.

Troughing Idlers are used on the conveyor belt feed side to maintain a curve or through in the conveyor belt to prevent material from spilling.

4 ROLES AND RESPONSIBILITIES

Document Owner

HMR

Responsible Roles and Position-Holders

Contractors/Vendors are businesses performing a service for the COMPANY. They are responsible for ensuring their employees working on COMPANY sites have the required training as specified in this procedure and that their employees understand and comply with the requirements as outlined in this procedure.

Employees and Contracted Employees are all employees in any position whether COMPANY or contracted employees working on any COMPANY site. They are responsible for complying with the requirements as outlined in this procedure and be familiar with the hazards associated with haulage conveyor systems.

Visitors are anyone not employed by the COMPANY in any capacity but are traveling or touring on a COMPANY site. They are responsible for complying with the requirements as outlined in this procedure.

HSLP is any COMPANY employee working under and including the Regional Director of HSLP. They are responsible for periodically auditing for compliance, to this procedure.

A Supervisor/Foreman can be a COMPANY employee or a contractor/vendor working or traveling on any COMPANY site. They are responsible for enforcement of all requirements, rules, and established guidelines as outlined in this procedure. They ensure personnel are provided with needed tools/equipment, the necessary proper instructions/training, that they are familiar with the hazards associated with haulage conveyor systems, and that a MSHA 5000-23 form is completed for conveyor safety as required.

According to the plant's designs, responsible supervisors will prepare a daily and general inspection checklist of the plant. This checklist must include the most critical points of accident potential such as: placement and state of protection guards, emergency stops, electrical motor keys, housekeeping, fuels for generators (where it applies), availability of lock-out and tag-out equipment, water drainage and others considered as important.

5 DIRECTION

All employees, vendors, contractors, and visitors traveling/working on site shall comply with and ensure that personnel accountable to them comply with the following requirements of this procedure.

General

Everyone working on any haulage conveyor system shall be trained in and understand the Energy Isolation procedure.

Employees shall Report to their supervisor any faults or abnormalities in the operation of the equipment as well as the protection guards:

Do not wear loose clothing, jewelry, or other objects/implements hanging from the body which may become tangled at a trapping point. Long hair must be protected from any possibilities of it being captured.

Conveyor belt systems must not be used unless all safety mechanisms and controls are properly installed and operational.

Wear appropriate Personal Protective Equipment as required.

Conveyor Belt

Any safety and/or protective device, such as belt alignment, zero velocity, unloading tops, level detectors, or pull cord “emergency stop” devices shall never be bridged or disabled in order to continue in operations without other effective controls.

Emergency stops must be properly marked and located on each conveyor belt according to the plant’s design. Marking would be red cords & flags located on the side of the belt.

It is absolutely prohibited to use the belt as a means to transport personnel or objects.

Conveyor belts can only be walked on when:

- **a** The system is totally stopped and locked out according to the procedure.
- **b** The whole structure that support the belt has anchoring fixed points for the use of life lines and safety harnesses.

Conveyors must be built in areas where return rollers are at a minimum height of 8 feet or if less theyare appropriately guarded.

It is prohibited to cross over or under a belt, unless there are bridges or walkways which are properly protected and/or guarded to ensure that there is no contact between the system and the worker.

Walking under the belt will be permitted when:

- **a** Pedestrian walkings have signs and are free of residual material.
- **b** The walkways have guards where there is a risk of falling material (stones, sand, etc.).

c The walkways or bridges are set up, properly marked and delineated.

d They must always be kept clean and in good operating condition.

There must also be passages or roads to be exclusively used by mobile units or service vehicles that comply with the same safety conditions used for the pedestrian walkways.

Only after complying with the Standards for Energy Isolation – Lock-Out/Tag-Out is permitted to cross over or under unguarded belts.

It is PROHIBITED to work closer than 6 feet from conveyor belts IN MOTION that are not equipped with functioning emergency stop devices (pull cords) or are fully guarded.

Pedestrian aisles parallel to the belt must be kept free of debris.

Pulleys must never be cleaned manually while the conveyor is operating.

No attempts must be made at repairing, accommodating or holding a belt (maintenance), its rollers or other parts of the system while they are in motion.

Before coming in contact with any moving part and prior to removal of guards, the system must be stopped using the Energy Isolation procedure for Lock-Out/Tag-Out.

Violating a guard for the purpose of gaining access to lubricating points is prohibited.

Keep service walkways and stairs clean at all times.

The Supervisor must ensure theat the layout of work areas and pedestrian traffic is adequately identified and isolated.

On a daily basis, the Conveyor Operator must check on the proper operation and placement of safety and protective devices and ensure the good condition and operation of all protective guards and equipment safety systems such as pull cords.

Belt guards must comply with the ASME standards (B15.1-200) and/or MSHA standards for US Operations.

The clearance between the top cover of the guard and the conveyor belt must not exceed 4 inches to prevent a hand from fitting into.

A fence guard which protects people from pinch points must not be closer than 40 inches from the pinch point.

A proper collection system must be installed at an point along a conveyor belt, where material or water is likely to fall and become a hazard to people.

Crushing/Screening/Transport Conveyor Belt Systems

Portable crushing/screening/conveyor belts systems must not be operated unless all safety mechanisms and controls are operational and properly installed. This includes emergency stop cords, guards and dust covers/seals.

The Supervisor must ensure that the layout of work areas and pedestrian traffic is adequately identified and isolated.

On a daily basis, the Conveyor Operator must check on the proper operation and placement of safety and protective devices.

Personnel carrying out maintenance or clearing jams at the Grizzly must wear a safety harness.

Hoppers and Grids for Crushing Plants

Hoppers will be considered as confined spaces especially when conducting maintenance work. Appropriate confined space entry permits must be used.

Entrance gates or screens to these areas will be easy to handle by the worker in order to allow him to work freely.

Hoppers and Grids will have anchoring points (lugs to support the worker's weight when working at heights..