


SAFETY ALERT NOTIFICATION		Safety Alert #	SA – 2017 - 10
 <h2 style="margin: 0;">Air Cannon Fires During Chute Inspection</h2>		IMS #	77618
		OPERATION:	Morenci
		INCIDENT DATE:	6/2/2017
		TIME:	8:00
		TYPE:	Injury
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This is NOT an investigation report. It is a NOTIFICATION of a Significant Incident that has taken place at a Freeport-McMoRan location. The information below is a preliminary assessment and not a formal investigation.

INCIDENT DESCRIPTION

A Crush Convey operator was performing a routine end of shift chute check on the R-10/R-3 chute. The employee stated she locked out the air plunger (Norgren inline lockout valve) that supplies air pressure to a series of air cannons on the chute. The employee opened the door and observed the chute was clean. As the employee was about to close the door, an air cannon fired. The event resulted in a laceration to the back of her head and back injury. The injuries are consistent with the energy released by the air cannon, and likely resulted from either the chute door, vicinity structures, or rocks contacting the employee. The employee immediately relayed the event to a fill in supervisor and paged Emergency Response through the emergency button. The employee was transported to the medical clinic.

During the initial investigation, the LOTOTO process was tested by repeating the procedures used by the operator (without opening chute doors) by locking out the air plunger that supplies air pressure to air cannons. The following observations were made:

- Air cannons still fire in sequence as the pressure is bleeding down.
- The first cannon fired with substantial force.
- The remaining air cannons followed their sequence with diminishing air pressure, the last 3 very little pressure.
- Surmised it is possible air cannons can still be active with substantial pressure after locking out air plunger.

The chute inspection procedure did not reflect the active control system and air volume for the air cannon set-up; and, therefore, did not immediately mitigate the potential for the cannons to release high energy.

FATAL RISKS	HEALTH AND SAFETY POLICIES
Uncontrolled Release of Energy	Energy Control (LOTOTO)
Choose an item.	Choose an item.
Choose an item.	Choose an item.

OTHER SIGNIFICANT RISK (specific to site or task not categorized as global)

- **Fly Material**

PROBABLE DIRECT CAUSES

The air cannon system has an automatic electronic controls, and greater air volume than the previous set-up that was reflected in the work instructions. The previous system fired the air cannons when the air supply was cut off by air actuated solenoids to effectively de-energize the system. The current system is not able to bleed stored air from the circuit as quickly and requires the operator to fire the cannons manually after isolating the supplied air and relief plunger. The LOTOTO practice in use did not effectively de-energize the air cannons prior to the operator performing the chute inspection task.

IMMEDIATE CORRECTIVE ACTION(S)

- Employee relayed event to a fill in supervisor and paged Emergency Response through the orange button on the radio.
- Senior supervision reviewed air cannon systems to determine safe procedures and ensure air cannons are depleted of air pressure before chutes are inspected again.

REQUIRED ACTIONS(S)

- Correct and communicate safe procedures ensuring air cannons are depleted of air pressure before chutes are inspected.
- Communicate to affected employees and document communication
- Conduct an RCA
- Investigate and take action on improved safety or system devices (i.e.: 3-way valves, PLC feedback and control, etc.)
Update related Safety documentation: SOPs, HIRA, Conveyor Safety Standards, Site specific training



Photo 1
Martin Air Cannon Controller



Photo 2
Chute being inspected. Chute contains a total of six air cannons, however it is uncertain which one fired first. An air cannon can be seen to left of photo.



Photo 3
Inspection chute door with air cannon on right side.



Photo 4
In-line Lockout Valve with employee lock.



Photo 5
Norgren In-line Lockout Valve - Plunger Knob on top / bleed off on bottom

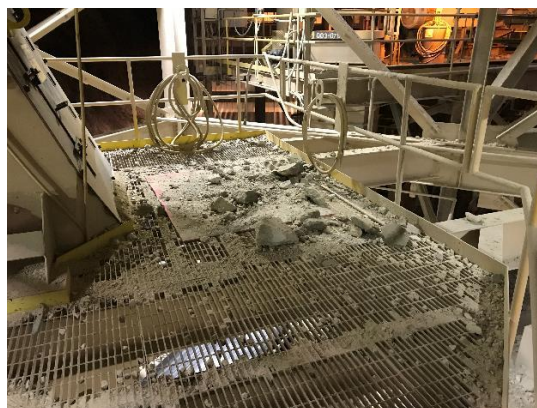


Photo 6
Floor in front of chute was clean prior to incident according to employee. Debris is dead bed material.

This is NOT an investigation report. It is a NOTIFICATION of a Significant Incident that has taken place at a Freeport-McMoRan operation and is being communicated to enhance safety awareness should a similar situation exist. The information above is a preliminary assessment of the event and is not a formal investigation.