HAZARD ALERT

Suspended load equipment failure

A failure of a lifting cross connection can result in dropped loads, presenting a serious pinch, crush, or impact hazard to workers.

What happened?

A crew was pouring a concrete floor using a shotcrete machine and 1,000 kg bulk bags of concrete. While lifting a bag, the connection between the lifting jib and the lifting cross failed, and the load was dropped. No injuries occurred.

Why did it happen?

Preliminary investigation revealed that the hoist ring on the lifting cross failed. A retaining pin was missing, and the hoist ring was heavily worn, contributing to the equipment failing. The incident is currently under investigation, and the exact cause of the failure has yet to be determined.

How to reduce the risk

Employers and workers should implement the following practices to safely manage suspended loads and prevent equipment failures or dropped-load incidents:

- Maintain consistent inspection, maintenance, and repair records for equipment.
- Establish a preventive maintenance program outlining what components to inspect, how often, and how to document results.
- Develop inspection criteria for equipment returned from site to ensure staff are trained to identify damage or wear.
- Clean equipment before inspection - cement or debris buildup can prevent proper examination and hide defects.

Mining operations rely on lifting equipment to safely move materials and support daily work activities. To prepare everyone for safe work:

- Train and verify competency of all workers involved in hoisting and rigging activities.
- Require operator pre-use checks of lifting devices before each task.
- Develop and communicate emergency procedures to respond quickly and safely to equipment failures or dropped-load incidents.

For more information on preventing injuries from suspended loads, **contact your local health and safety specialist**.

Workplace Safety North
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Key controls to manage risk from suspended loads

Lifting operations present significant hazards in mining environments. Effective controls must be implemented to prevent dropped loads and protect workers from serious or fatal injuries.

Safe lifting procedures

- Follow written procedures and lift plans.
- Define load weights, lifting points, and equipment limits.
- Establish exclusion zones to keep workers clear of suspended loads.

Equipment inspection and maintenance

- Maintain a preventive maintenance program and track all lifting devices.
- Inspect equipment before each use and upon return from site.
- Clean equipment before inspection to identify wear or damage.
- Follow OEM specifications and engineering standards.

Worker competency and training

- Ensure workers involved in lifting operations are trained and competent.
- Provide training on hazard recognition, equipment care, and safe lifting practices.

Hazard identification and risk assessment

- Conduct pre-task hazard assessments before each lift.
- Identify pinch points, swing areas, and overhead hazards.
- Use lessons learned from previous incidents and near misses to improve controls.

Communication and supervision

- Ensure clear communication between operators, riggers, and other workers during lifts.
- Stop work immediately if unsafe conditions or deviations from procedures are observed.

Compliance and continuous improvement

- Follow Ontario Regulation 854: Mines and Mining Plants and the Occupation Health and Safety Act.
- Apply company policies, client procedures, and recognized industry best practices.
- Review incidents, audits, and corrective actions to verify control effectiveness.

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