

# COMPLIANCE PRIORITIES OUTCOMES

July to December 2019

Underground coal

## Fire risk and lifelines on underground coal mine conveyor belts

**Issue:** Planned inspections at some underground coal mines continue to identify fire risks on conveyor belt roadways. Conveyor rollers running in coal-fines accumulations, belt fibres and failed roller bearings are the most common problem. This, and several reported fires on underground coal mine conveyor belts in the 12 months prior to this project, has led to a focus on conveyor fire risk.

In addition, this project includes an assessment of emergency escape lifelines where they exist in a conveyor roadway. The NSW Resources Regulator's targeted assessment program identified problems with lifelines where they had to negotiate obstacles such as conveyor drive units, loop take-ups and transfer points.

### What we did

Assessments were undertaken at a sample of underground coal mines, focussing on fire risk and lifeline standards in conveyor belt roadways. Eight mines were assessed, including operations in all coal districts of NSW. Each mine received individual feedback and, where appropriate, relevant notices.

### What we found

The findings below may be specific to all or only some of the sites assessed.

#### Conveyor fire risk:

- Some mines had documented conveyor management systems based on a formal risk assessment.
- At one mine, the conveyor system was audited weekly by a third party.
- All mines had some form of condition and/or environmental monitoring on the conveyor belt system. However, it was noted that some carbon monoxide monitoring points were not positioned to best achieve the early detection of a fire and TARPs required review.

- Three conveyor belts had to be shut down using Section 195 prohibition notices. The belts had rollers running in accumulations of fine coal, rollers wrapped in belt fibre and some guarding issues.
- Inspectors found tagged rollers that had not been actioned in the timeframes determined in the mine's own TARPs.
- Inspectors found excessive dust on the floors of some mines, which was raised into suspension by foot traffic. Float dust on the conveyor structure was also an issue at some operations.
- Training and assessment for competent persons on conveyor inspection and maintenance had lapsed.
- Inspectors found some belt wander switches that would not have detected belt rubbing on the structure.

#### **Lifeline issues:**

- Some mines had well documented standards for lifelines, with a single point of responsibility for standards compliance.
- Some mines lacked lifeline standards to negotiate obstacles such as conveyor drive units, loop take-ups and transfer points.
- Some mines did not have a standard for lifelines run through an elevated length of roadway, such that the lifeline could be dropped down to a usable height when needed.
- Inspectors found areas where the lifeline had been tied up, so that a job could be undertaken and not released when the job was done.
- Inspectors found areas where the lifeline had been pinned up by the installation of services (pipes/cables) and would be unusable in an emergency.

## **Outcome**

The assessments resulted in the following:

- five section 23 notices issued
- six section 191 notices issued
- three section 195 notice issued.

## Next steps

The Regulator will continue to monitor the trends in this area to determine whether a broader and deeper assessment of industry practice is required.

## Recommendations

To promote improvement on conveyor and lifeline standards in underground coal mines, industry should:

- Develop a documented conveyor management system based on a formal risk assessment.
- Implement a comprehensive inspection program undertaken by competent persons to verify controls are in place. Consider the use of photographs in training to communicate pass/fail standards for damaged rollers and housekeeping.
- Review the condition and environmental monitoring location and TARPs such that early detection of problems is achieved.
- Consider conveyor belt fire scenario for emergency exercises.
- Develop a full set of standards for lifeline installations that consider elevated areas and obstacles such as loop take-ups, drive heads and transfer points.
- Determine clear responsibilities for the installation sign-off and ongoing inspections so that systems are maintained.

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