

INVESTIGATION INFORMATION RELEASE

DECEMBER 2019

Worker injured on longwall support

DATE: 7 December 2019

Event: Worker seriously injured at an underground coal mine

Location: Ulan Underground Mine, Ulan NSW

Overview

On 7 December 2019, a worker's foot was trapped between a replacement roof support hydraulic leg cylinder and roof support. This resulted in serious lower leg and foot injuries.

The NSW Resources Regulator has commenced an investigation to determine the cause and circumstances of the incident.

Figure 1 The replacement roof support leg on the roof support pontoon



The mine

Ulan Coal Mines Limited is the operator of Ulan Underground Mine. The mine is at Ulan, about 45 kilometres north of Mudgee.

The mine extracts about six million tonnes of thermal coal each year using a longwall mining method. The mined coal is handled at the adjacent Ulan Surface Operations and exported.

The incident

The incident occurred at 3.48pm in longwall West 5. A roof support leg cylinder was transported from the maingate to number 44 roof support, in preparation for a planned changeout. The leg cylinder was transported along the longwall face by the shearer, using a purpose-built lifting arm mounted on the machine.

When the shearer reached the correct location, number 44 roof support was advanced to enable the leg cylinder to be placed onto the support's pontoons. Workers did not isolate the support. The cylinder was lowered onto the pontoon and the shearer's lifting arm was stowed. Two workers planned to secure the cylinder to the roof support using a pull lift to position it. They each straddled the cylinder while standing on the pontoon of the roof support.

The shearer driver began driving the shearer towards the tailgate. This caused an advance prime which was paused at roof support 44 to initiate, thereby advancing the support. A 150-millimetre pump-out line on the rear of the pan line made contact with the unsecured cylinder, pushing it onto one of the worker's lower leg and foot. His lower leg and foot were pinned between the leg cylinder and the roof support.

Other workers on the longwall freed the injured worker's leg by advancing the pan line from number 43 and 45 roof supports. The worker was airlifted to hospital for treatment. The worker's foot was degloved and he also suffered multiple fractures and dislocations along his lower leg and foot that required surgery.

The investigation

The Regulator responded and began an investigation to determine the cause and circumstance of the incident.

Safety recommendations

Mine operators are reminded of their duty to identify hazards and manage risks to health and safety in accordance with the provisions of the *Work Health and Safety Act 2011* and *Work Health and Safety (Mines and Petroleum Sites) Act 2013* and Regulations.

Mine operators must:

- identify risks associated with the operation of plant
- have effective safety management systems in place
- prepare and implement a mechanical engineering control plan that sets out the control measures for the risk of injury to workers caused by the operation of plant.

The risks associated with automated equipment must be considered when developing control measures. The control measures must contain steps for effective isolation and control of all energy sources. Modern longwalls have several forms of isolation. They include electrical and hydraulic isolations that may be applied on roof supports or at the maingate. The range of tasks that may be carried out under each of these types of isolation must be determined by the mine operator.

The functioning of automation used on longwall equipment can vary between manufacturer's, mines and during operations (i.e. the change from sequential support advance to multiple support advance). It is important that all workers on the face understand the automation sequence(s) and what supports may automatically advance. All supports in the area from the last sequentially advanced roof support to the trailing cutter drum of the shearer should be assessed as being capable of automatic advance (that is, a roof support advanced during multiple support advance out of the normal sequence should not be considered the last advanced support).

Further information

This investigation is continuing. The Regulator will issue a final report once complete.

About this information release

The Regulator has issued this information to draw attention to the occurrence of a serious incident in the mining industry. Further information may be published as it becomes available.

The information contained in this publication is based on knowledge and understanding at the time of writing. However, because of advances in knowledge, users are reminded of the need to ensure that the information upon which they rely is up to date and to check the currency of the information with the appropriate officer of the Regulator or the user's independent adviser.

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CM9 reference	DOC19/1098524
Mine safety reference	IIR19-14
Date published	19 December 2019
Authorised by	Chief Inspector Office of the Chief Inspector