Safety Alert

NSW RESOURCES REGULATOR

Underground mine fire initiates emergency response

Incident date: 23 June 2018

Event: Fire at an underground metalliferous mine

Overview

A 60 tonne underground mine dump truck caught fire, blocking a main decline and contaminating the ventilation in the mine. This resulted in an emergency evacuation and mines rescue response.

All mine workers underground reported to places of safety or refuge chambers, before they were subsequently brought to the surface. The fire was eventually extinguished by members of the mines rescue team. There were no injuries.

Photograph 1: Dump truck after the fire. Photo by Resources Regulator

The incident

The operator of the dump truck saw the orange glow of a fire coming from the right side of the truck as he was travelling down the decline. The operator started to turn off the main decline but when he realized that he was entering a refuelling bay, he steered the truck back into the main decline and stopped it just past the intersection.

He manually initiated the fire suppression system, which appeared to initially extinguish the fire. The operator then called an emergency alert from the truck and retreated to the rear of the machine. When he looked back, the fire appeared to have gone out. He heard voices over the radio in his truck and went back to the cab and found that the fire had reignited. He then left the truck, walking up the decline.

A service operator who was at the refuelling bay walked to the truck with a 9 kg fire extinguisher. He walked down the turbo side of the truck past the front wheel, and emptied the extinguisher through an opening into the engine bay. This had no significant effect and he retreated up the decline to a nearby crib room.

When the emergency was called, all workers underground went to the nearest refuge chamber, where they were all accounted for from the surface by two-way radio.

Members of the mines rescue teams assembled. A team equipped with self-contained breathing apparatus was dispatched to fight the fire and coordinate the safe evacuation of workers.

Positive ventilation was maintained throughout the event. Damage to the decline tunnel infrastructure included burning through a communication cable, which cut communication with workers in refuge chambers below the fire.

Workers were all safely evacuated from the refuge chambers by the mines rescue teams and brought to the surface approximately 10 hours after the emergency was first declared.

At some point during the event, it appears the compressed air supply to one of the refuge chambers may have been inadvertently isolated. The occupant of this chamber followed their training and site procedures and initiated bottled oxygen and carbon dioxide scrubber back-up systems to control the refuge chamber air supply.

The findings of initial enquiries by Resources Regulator inspectors suggest the actions of the mine rescue teams, emergency incident training, and the reinforcement and implementation of that training by mine personnel contributed significantly to the successful outcome of the emergency response effort.

The investigation

The cause of the fire had not been identified at the time of writing. The incident is now the subject of an investigation by the Resource Regulator's Major Investigation Unit.

Safety observations

Mine operators must ensure their mechanical engineering control plan sets out the control measures to manage risks to health and safety arising from uncontrolled fires being initiated or fueled by plant. In developing these control measure mine operators must also take into account the identification, assessment, management and rectification of defects that affect the safety of plant.

Suppliers of plant are reminded of their duty under section 25 of the *Work Health and Safety Act 2011* to ensure the plant is without risks to the health and safety of people who use the plant.

Mine and petroleum site 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 and petroleum site operators are also reminded that effective implementation of Work Health and Safety (Mines and Petroleum Sites) Regulation 2014 emergency management (division 6) and information, training and instruction (division 7) requirements will have a significant impact on keeping workers safe in an emergency.

All isolation points on fresh air supply lines to refuge chambers must be clearly identified.

Further information

- → Mining design guideline MDG 15 - Mobile and transportable plant for use on mines and petroleum sites
- → In-service fires on mobile plant - September 2017

NOTE: Please ensure all relevant people in your organisation receive a copy of this safety bulletin, and are informed of its content and recommendations. This safety alert should be processed in a systematic manner through the mine's information and communication process. It should also be placed on the mine's notice board.

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