

SAFETY ALERT

DATE: September 2020

Drill rig contacts 22kV power line

This safety alert provides safety advice for the NSW mining industry.

Issue

An exploration drill rig contacted energised 22kV overhead power lines while travelling across a paddock. One of the three overhead lines was broken and dropped to the ground. The operator dismantled the rig without suffering any injuries or electric shocks.

Figure 1. Raised jib contacts 22kV overhead power line



Circumstances

The incident occurred at around 3:30 pm on Sunday 20 September 2020, at an exploration site in central western New South Wales.

The drill, a Shramm 685 rubber tyre truck mounted rig, had just completed drilling an exploration hole and was being moved to set up on the next hole. The operator lowered the mast, however the rod handling jib remained raised.

As the drill rig passed under the 22kV overhead powerline the raised jib contacted the energised conductors.

Investigation

Initial investigations indicate that a failure to follow procedure and lower the raised jib allowed the rig to contact the 22kV power lines, dragging the first line into contact with second line causing a high voltage fault which subsequently tripped the power and caused the power line to fall to the ground.

The operator dismantled the rig thinking a tyre had blown, not realising that the rod handling jib had struck the power line.

The incident was notified to the Resources Regulator as a dangerous incident. The Regulator issued a prohibition notice requiring the operator to establish a 24-hour exclusion zone around the drill rig to minimise risks to workers and other persons in the event of one or more tyres exploding. Previous incidents have shown that brief contact with power lines can cause one or more truck tyres to explode immediately, or hours after the event. The heat generated in the tyre creates an explosive gas which can ignite.

The investigation is ongoing.

Recommendations

Work activities in remote areas can pose additional hazards and constraints on available risk control measures, however, this does not justify failure to control the risks.

- Risk assessments should consider the risks associated with all activities that may occur near overhead power lines, irrespective of the frequency or complexity of the activity.
- Risk assessments should identify all controls to prevent equipment encroaching on safe approach distances for high voltage overhead power lines, including:
 - alternate travel routes or work sites
 - limits on maximum height for any equipment that may travel, or be transported below, or work near overhead power lines
 - warning signage or barriers (temporary or permanent) for overhead power lines (include safe height limits).
- The use of procedures, check lists and permits should also be supported by planned tasks to verify their implementation and effectiveness in managing the risk.

- Emergency procedures should be established and include contact details of the electricity supply controller.

Operators should also familiarise themselves with the guidance provided in the NSW Code of Practice for [Work near overhead power lines](#).

NOTE: Please ensure all relevant people in your organisation receive a copy of this safety alert 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 common area, such as your notice board where appropriate.

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