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Safe systems of work on Jumbo and other drill rigs

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

Issue

The Resources Regulator is presently undertaking an assessment program at underground metalliferous mines focussing on procedures and systems for isolation of energy on drilling equipment.

The intent of this program is to establish whether:

- isolation of energy procedures used to manage risk to drill rig operators and maintainers are in place and effective, and
- the hierarchy of controls is being appropriately considered and applied regarding isolation of energy procedures for drilling equipment.

Recent incident

During a recent assessment at a mine, a Jumbo operator, newly employed at a mine, was observed by Resources Regulator inspectors operating a Jumbo drill rig with a laser curtain protection system installed. The laser curtain is designed to detect people who entered the hazardous area in front of the stabilising jacks during drilling or roof bolting operations and shut down the powerpacks, thereby immobilising the boom functions by depowering the hydraulics. The Jumbo drill rig also had a manual control switch that could be used to perform the same function if the laser curtain failed to be effective.

The Jumbo operator, who had not previously used a rig fitted with a laser curtain or been trained in its operation, was aware the laser curtain was not operating correctly. The operator was also assisted by and was mentoring an offsider who had been employed in the industry for two weeks. It was observed that the Jumbo operator had directed the offsider to change consumables within the hazardous zone in front of the stabilising jacks without initiating any form of immobilisation to protect the offsider from an unplanned movement of the drill rig booms or drifters.

Failure to ensure safety of workers

Contributing factors identified by Resources Regulator inspectors included:

- the inexperienced offsider being placed at risk by working in the hazardous zone without implementing risk controls.
- neither worker was trained in the operation of the laser system fitted to the Jumbo.
- the Jumbo operator was not aware that the manual control switch could be used to shut down the power packs whether the laser curtain system was functioning or not.
- the prestart inspection sheets did not require the Jumbo operator to conduct a test on the critical function of the immobilisation of the drill rig booms.

- supervisors of the drill rig operator were unaware that the laser curtain was not operating as designed and had not been for some time.

Although the offsider was not injured, there was a high potential for serious or fatal injury to occur. A section 195 prohibition notice was issued to the mine operator.

Recommendations

1. Mine operators should ensure that when assigning a mentor to an inexperienced worker that the mentor is trained and competent in the responsibilities associated with the task.
2. Refresher training should be provided on a regular basis to drill rig operators that incorporates identification of hazards associated with operating and maintaining the equipment, and the correct application of isolation of energy procedures.
3. Mine operators must ensure that equipment is only operated by competent operators who have been fully trained in all functions related to that equipment.
4. Mine operators should review and update their pre-start and inspection sheets to include the testing and effectiveness of the critical function of immobilising the drill rig booms and drifters.

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 bulletin 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.

Go to resourcesandenergy.nsw.gov.au/safety to:

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