

Methods of working and control of bench heights

Issue: There have been several incidents relating to equipment reach versus bench heights, as well as the types of equipment used at small mines.

The Resources Regulator is concerned that not enough focus is being given to controlling risks associated with forming and working on benches in quarries. Plant selection and methods of work, considering mine design and the hazards and risks on the site is essential to the provision and maintenance of safe systems of work and the provision of fit-for-purpose plant for workers.

A [safety alert](#) regarding the issue was published in September 2016, however there have been further incidents since that time.

Contributing factors to these incidents have been:

- over-high bench heights
- poor or non-existent rock face scaling after blasting
- stockpiles (including ROM muck piles) with materials at height
- mining practices and equipment that are not fit for the purpose for the task at-hand.

The regulator undertook a project aimed at raising awareness of the hazard of uncontrolled bench heights, muck piles and the types of machines used in these locations.

What we did

There were two components to this project: One, to directly address the issue on sites during inspections and two, to engage with industry and seek expert opinion about this issue in order to understand the issues and improve guidance materials. To give effect to this we:

- formed a working group of department inspectors, a risk analysis expert and industry representatives to:
 - ✓ review incidents to date
 - ✓ discuss existing work practices
 - ✓ undertake a bow tie analysis of working practices.
- sought input from the industry group on updating guidance material using the outcomes of the bow-tie analysis and the working group
- presented project proposals to Institute of Quarrying Australia in Newcastle

- presented project proposals to CCAA in Maitland
- increased inspections of risk controls related to forming and working on benches.

Outcomes

Industry associations have increased awareness of the regulator's expectations in relation to forming and working on benches.

Industry has increased awareness for methods of working to be matched to fit-for-purpose mining equipment along with proper training and procedures for mine workers.

The bow-tie analysis of existing work practices developed in collaboration with industry has informed the development of guidelines for industry.

Next steps

Publish guidance material - *Guideline for health and safety in quarries*. This guide will include information on managing risks associated with forming and working with benches and how to manage these risks with fit-for-purpose mining equipment.

Raise awareness of the new guidelines during a small mines roadshow scheduled for late 2018.

Recommendations

Mines should follow the recommendations in the following safety alert and bulletin:

- Safety alert [SA16-03 Falling rock strikes loader operator](#)
- Safety bulletin [SB18-05 Increase in shattered windscreens on mobile plant](#)

Mines should also refer to [MDG 15, Guideline for mobile and transportable plant for use at mines](#), section 4.12 Operators cabin and protection.

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