

Factsheet 2

Human factors in mining

Human factors

This factsheet describes a real life case study in the mining industry and has been designed as an educational tool for supervisors, safety specialists and managers. It aims to provide an understanding of the potential impacts of human and organisational factors in mining.

Human factors in mining

Human and organisational factors support critical controls within the safety management system. These factors can affect health and safety in the workplace in many ways. They include environmental, organisational and job factors, along with human and individual characteristics, that influence behaviour at work.

If an accident occurs, an investigation into the incident needs to identify the critical controls that have failed and any factors that had an impact on the situation.

Read the case study below and think about what human and organisational factors may have contributed to the incident. See page 2 for an explanation of each factor.

Case study: Fatal elevated work platform incident

A rigger suffered fatal injuries when they were crushed between a mobile elevated work platform (MEWP) and the underside of a large, horizontal beam.

The rigger worked as a contractor on the site and was relocating the platform to ground level after tightening bolts on the structure. During the movement of the platform over walkway handrails, a crush point was created under the beam. The rigger held a valid certificate of competency to operate a MEWP and was deemed competent to operate the MEWP by the supervisor at the commencement of the contract. The rigger commenced work at about 6.00 am

and the incident occurred at 8.48am on the ninth consecutive 11-hour shift of a 10-day roster. At the time of the incident the rigger had worked a total of 88 hours, heading on to the ninth shift of that roster.

The risk of a person being trapped between the platform and a fixed overhead structure was foreseeable. The risk was identified in generic site risk assessment for the use of the MEWP; however, there was no specific task risk assessment for the task being undertaken at the time of the incident. Additionally, the majority of the controls relied on the worker to manage the risk. These lower-order controls included training and competency, procedures, and permits to work.

Crush injuries from MEWP are a well-known risk within industry. Numerous fatalities have occurred nationally and internationally over a long period of time. At the date of the incident, Australian design registration for secondary guarding device had not been finalised.

For more information on this case, read the full report [Boggabri investigation report](#).



Structure where the accident occurred

Exercise

What human and organisational factors do you think may have contributed to the incident in the case study? Explain why.

Think of a task or incident in your workplace that is similar to the case study. Give a brief description of it below.

Identify the human and organisation factors in your task or incident. Outline how the factors relate.

Common human and organisational factors

- **Fatigue and shift work:** fatigue caused by poorly planned rostering of shift work
- **Human factors in design:** tasks, equipment and plant are not designed to suit the user
- **Human failure:** relying on people for safety-critical tasks increases the risk of errors, mistakes and violations
- **Maintenance, inspection and testing:** lack of structured processes
- **Organisational change:** the organisation is undertaking a change and it is not being effectively managed
- **Organisational culture:** the organisation does not have a strong safety-focused culture
- **Procedures:** lack of easy to read, user-friendly procedures
- **Safety-critical communication:** lack of structured processes for key information sharing, including shift and task handovers
- **Staffing and workload:** insufficient staffing numbers on a shift, task or job
- **Training and competence:** staff assigned to a task do not have the right combination of skills, experience and knowledge

More information

The legislation and rules that regulate mining provide more detailed information on human factors that you need to consider when updating your work health and safety procedures. Download the relevant legislation and rules below:

- [Work Health and Safety \(Mines and Petroleum Sites\) legislation](#)
- [Work Health and Safety legislation](#)
- [Code of practice: Managing the risk of falls at workplaces](#)
- [Safe Work Australia: High risk work](#)

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