



Industry &
Investment

MINE SAFETY

INVESTIGATION UNIT

Fatal injuries during maintenance of
shearer loader at underground coal mine
4 April 2009

Struck by shear shaft coupling

- 4 April 2009
- Incident underground at a coal mine in Hunter Valley
- Replacing shear shaft of shearer loader
- Coupling breaks off and struck mineworker



The incident

- Shearer loader stops
- Shear isolated and shaft replaced
- Difficulty engaging, try for almost an hour
- Shearer reenergised and trammed to help engage



The incident

- Further frustrating attempts to engage by tramming for an hour
- Shear shaft taken out and cleaned without isolation
- Coupling retaining screws left out
- Cutter motor 'flicked'



The incident

- Shear shaft engages, rotates wildly and comes out of the cutter motor
- Shear shaft coupling struck panline
- Coupling breaks free at head height
- Catapults through air striking mineworker



The injuries and treatment

- Significant injuries to head by impact
- First aid and emergency response by trained longwall crew
- Paramedics taken into mine
- No signs of life, mineworker deceased
- Injuries were fatal as a result of the combined effects of blood loss and brain injury

Causal factors

- Shearer loader isolation removed before maintenance work completed
- Human factors in not fitting retaining screws
- Inadequate safe work procedures
- Risks not identified in regard to energised plant and engaging shear shaft

Best practice

- Recognise that there are human factors involved in all aspects of maintenance
- Ensure actions and decisions of maintenance personnel do not leave plant in an unsafe condition
- Use safe work procedure, regardless of low risk or repetitive maintenance, when working on large energy plant
- Incorporate adequate independent inspections at key points of the maintenance activity in the safe work procedure

Related published resources

- Safety Alert, SA09-06, *Fatality – repairs to shearer*
Department of Industry and Investment
www.dpi.nsw.gov.au/minerals/safety/safety-alerts
- Reason J., (1997). *Managing the Risks of Organizational Accidents*, Ashgate Publishing UK
- Health and Safety Executive (HSE). (2000). *Improving maintenance a guide to reducing human error*, HSEbooks www.hse.gov.uk