

Observations on Mine Safety Management

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Safe Mining – Healthy Business



NSW DEPARTMENT OF
PRIMARY INDUSTRIES

Investigation Unit

Since 1999

- We have had 38 successful prosecutions

Now

- Involved in 17 current investigations

Means Investigators get a close up view of
incident causations



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Introduction

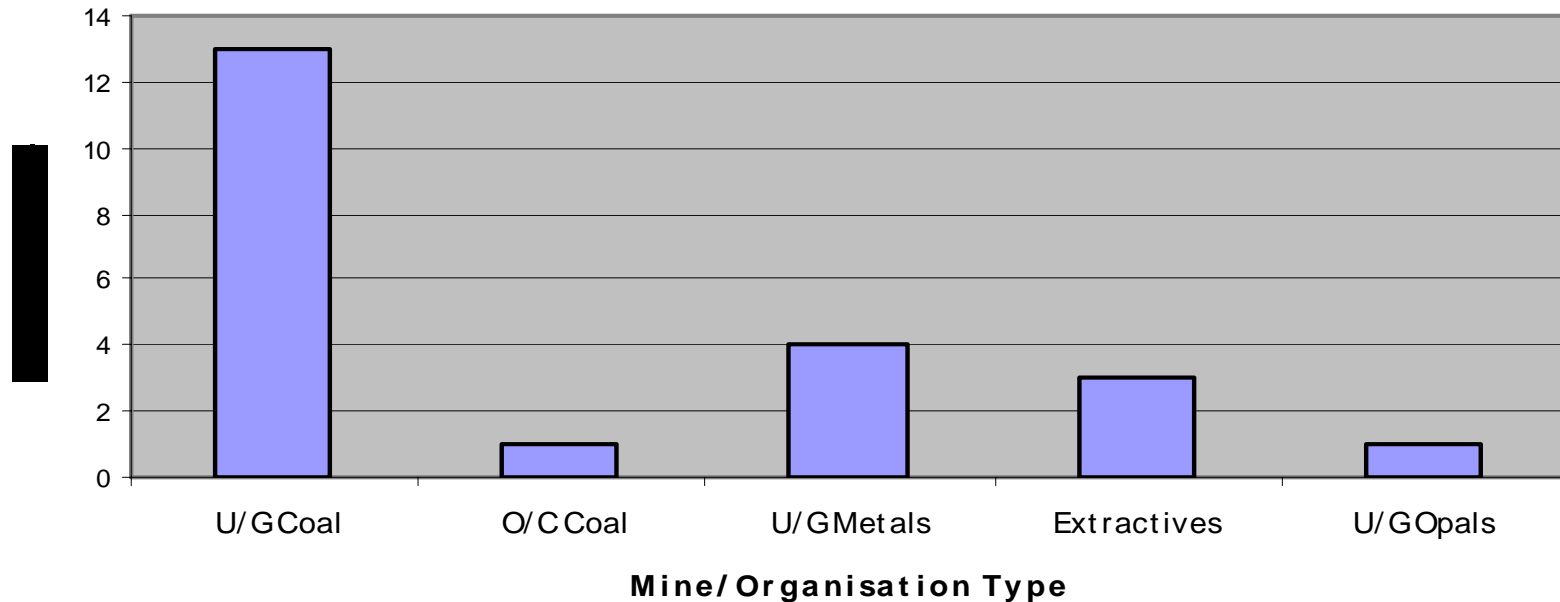
Identification of major organisational failures by:

- Analysis of published mining prosecutions caselaw
- Review of several case studies of recent investigations
- Lessons learned regarding occupational health and safety management systems



Analysis of prosecutions

Industry sector



Analysis of prosecutions

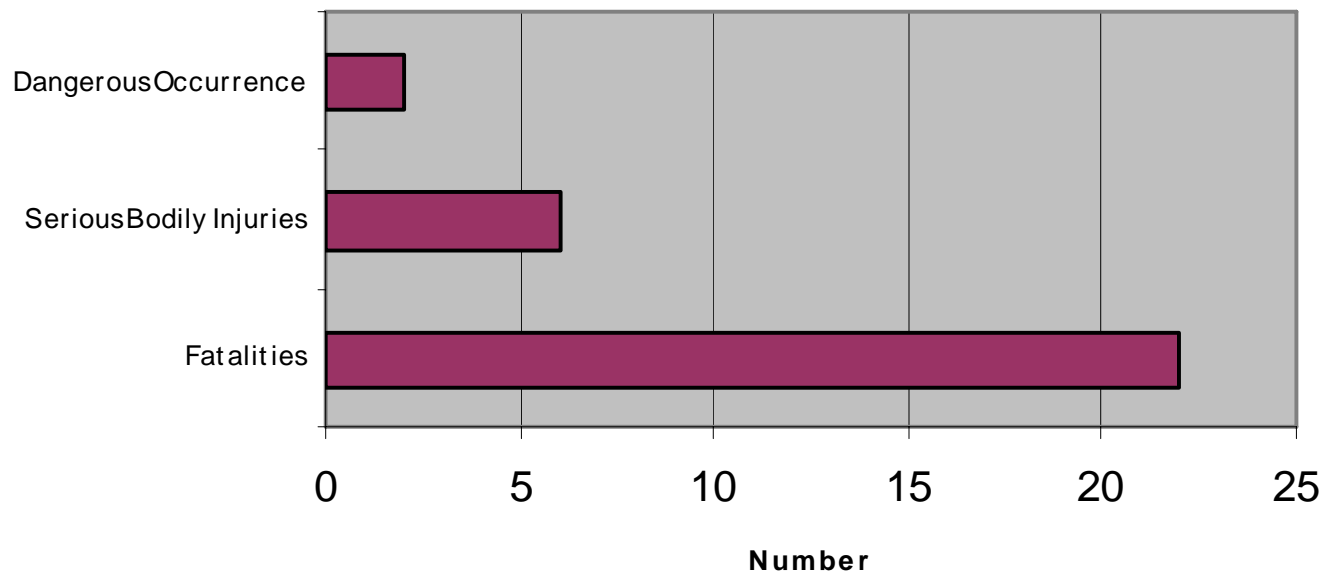
Prosecutions by OHS Act breach

- Employers' general duty to employees - 82%
sections 15 & 16 (1983 Act); section 8 (2000 Act)
- Safety and risk of premise,
plant or substance - 14%
sections 17 & 18 (1983 Act)
- Individuals acts or omissions - 14%
section 50 (1983 Act); section 26 (2000 Act)



Analysis of prosecutions

Outcome of incident related to prosecutions



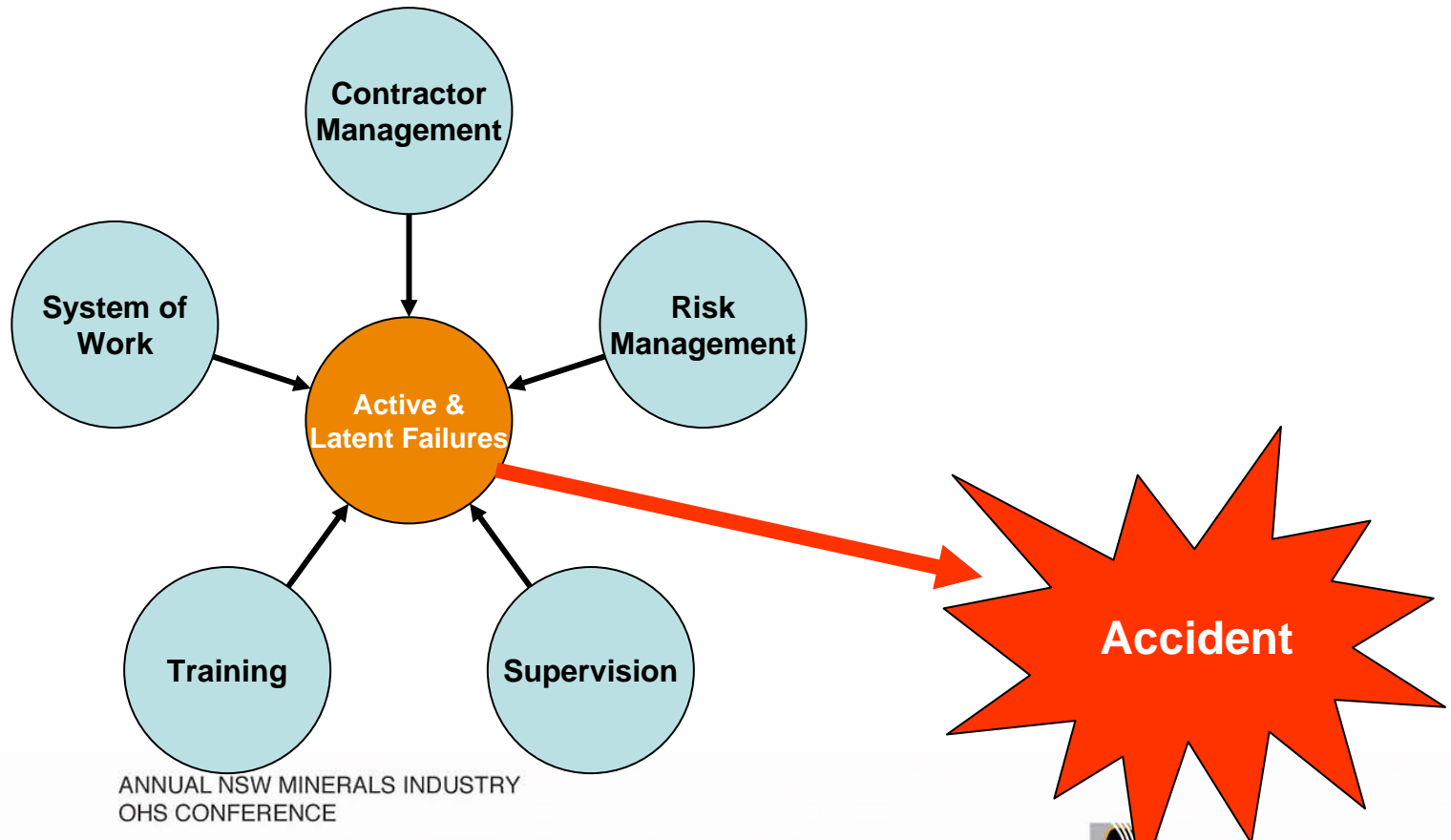
Analysis of prosecutions

Organisational failures:

- Contractors 19.7%
- Risk management 23.0%
- Systems of work 9.8%
- Training 9.8%
- Supervision 3.3%



Major organisational failures



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Review of investigations

- **Six investigation case studies**
- **Determine if findings from prosecutions review indicative of current organisational failures identified by investigations**



Case study No.1

- Underground coal mine
- Installation of Longwall – shortening of FC chain using shearer (36t line pull)
- Two chain assemblies placed around tailgate ranging arm
- Placed Titan connector in side load
- Titan connector failed
- Major head injuries to employee



Case study No.2



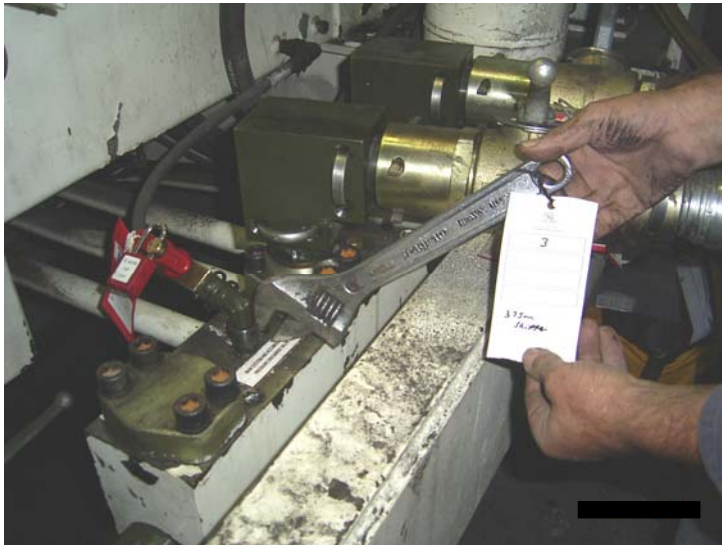
- Underground coal mine
- Two persons riding on continuous miner during cable recovery
- Machine pivoted over canche pushing employee into roof
- Severed spinal cord and paraplegia

Case study No.3

- Coal preparation plant
- Contractors planned to do maintenance in HV switchroom
- On the day mine decided to leave power on and only service half the board
- Contract employee contacted live 11kV bus bars
- Electric shock and burns



Case study No.4



- Underground coal mine
- Contractor obtaining solcenic oil sample from longwall pump station
- Struck in face by oil at 303 bar from high pressure manifold
- Fatal

Case study No.5

- Opencut coal mine
- Contractors working in basket of EWP on shovel bucket
- Safeguards to prevent movement not available or used
- Inadvertently drove EWP into shovel bucket
- One man trapped, one injured



Case study No.6



- Underground metal mine
- Contractors working in drive using a Jumbo drill
- A fitter loosened a hydraulic fitting allowing the boom arm to roll
- Operator was crushed and trapped against the sidewall
- Serious internal and head injuries, paraplegia

Risk assessments

- Quantity rather than quality
- All energy sources not identified
- Inappropriate risk controls
- Failure to source information
- “Power of one” risk assessments
- Little or no review of risk assessments



Systems of work

- Documented systems not followed
- Incorrect plant and equipment
- Safe work procedures
- Poor monitoring, review and audits
- Effects of fatigue not identified



Contractor management

- Scope of work
- Supervisory role of principle
- Supervisory role of contractor
- Failure to enforce, maintain and audit standards of contracts or of the contractor's safety management plan
- Fatigue and hours-of-work



Supervision

- Supervisors not competent to monitor tasks being undertaken
- Failure of supervisors to enforce rules and safe work procedures
- Failure of supervisors to identify foreseeable risk
- Supervisors not identifying when change management required



Case study observations

- OHS management systems are appearing to be of greater quality.
- But there is a “disconnect” between the system and what is done by supervisors and employees.
- Risk management systems are being plagued by time-consuming procedures that inadvertently create token-compliance.
- Contractors are strongly represented in incidents. Contractor management has been found wanting.



Conclusion

- Major organisational failures
- Disconnect between work practices and OHS systems
- Industry examines OHS management system elements and focus on systematic approach to OHS management

