



SANIRE

SOUTH AFRICAN NATIONAL INSTITUTE
OF ROCK ENGINEERING

Rockburst Accident Prevention

WORKSHOP

26 JANUARY 2018

- Senior rock engineers from AU and PGM mines and Rock Engineering service providers
- Mine seismologists
- Researchers
- Suppliers
- SANIRE Council and CoM

Agenda



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Time	Presenter	Organization	Subject
8h30	Naomi Ayres	SANIRE VP	Introduction

8h40 Shane D

9h00 Sanjay Si

9h30 Gerrie van
Aswegen

10h00 Colin Jer

10h30 Lindsay L

10h45 Tea & Co

Time	Presenter	Organization	Subject
11h10	Jacques Lucas	Brentley, Lucas & Associates	Soft issues always neglected
11h40	Lourens Scheepers	AngloGold- Ashanti	Rockburst accidents.
12h40	Lunch		
13h40	Naomi Ayres	SANIRE VP	Summary of Discussions
14h10	Closure		

Contributing Factors

1. Culmination of many sub-standard acts and non compliances.

Possible causes: Poor attitude and discipline, poor supervision, poor understanding, poor risk assessment to identify hazards and challenges in the process, poor layouts and conditions resulting in taking short cuts, poor reporting of conditions to allow supervision and management to assist with corrective actions; insufficient equipment.

2. At times, inadequate or ineffective supervision and management of the systems across all levels and departments.

Possible causes: Time constraints and work load, in-experience, departments working in silos, not having the whole team check through the entire process.

3. Human behaviour and attitude leads to sub-standard acts and conditions, which leads to an unsafe environment.

Possible causes: Disregard for own safety, poor attitude and discipline, risk taking, poor supervision, poor understanding of hazards and consequences, limited consequences of disciplinary actions (feeling of *I can get away with it*).

4. Mostly non-execution of the design and plan.

Possible causes: Poor attitude and discipline, poor supervision, poor understanding, in- experience.

5. Identified indicators not always addressed by relevant supervision with lower levels to ensure compliance and standard practices which leads to unsafe environment.

Possible causes: the need to continually retrain and discipline workers, time consuming disciplinary process requiring enquiries and proof with ineffective consequences, (dismissal of workers for sub-standard acts and gross negligence is very difficult).

6. Information not always of sufficient detail or good quality to make appropriate decisions and designs.

Possible causes: Time constraints, requirement of service departments to provide supervision (policing) which distracts from own work specifics and requirements such as data collection and analysis.

7. Insufficient time available to spend on: data gathering, data analysis, coaching of junior staff, coaching of crews, follow ups, numerical modelling. (across all departments)

Possible causes: Requirement of service departments to provide supervision (policing) which distracts from own work requirements.

8. Risk assessments are not always of sufficient quality and detail. Where extraordinary conditions exist the full process or chain is not always risk assessed.

Possible causes: Poor understanding of risk assessment process and the full process or chain required for a specific task or layout. Time required to conduct full risk assessment.

9. Often accident investigations do not identify the real root causes which could be used as learnings and training to prevent such future incidents.

Possible causes: hiding information primarily due to fear of judgment and disciplinary actions against individuals and the mine; time constraints to get to the true story and to prove sub-standard acts.



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Thank you

