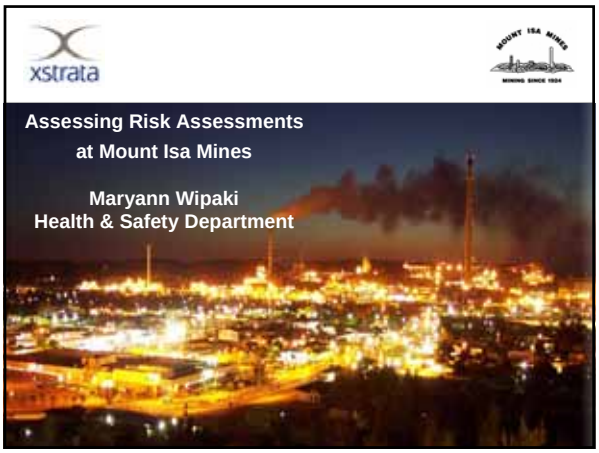


Introduction

- Statutory change and increased improvement in OH&S highlighted the need to review the Risk Management process
- The process was aligned to AS-4360 (identification of workplace hazards, assessment of the risks posed, introduction of controls, monitoring the effectiveness of controls)
- Two important tools were developed to assist in the implementation - Task Analysis and Effectiveness of Controls

Evolution of Task Analysis

- Incident Investigation, Workplace Checks and Standard Work Instruction (SWI) Teams existed in Copper Mining
- Incident Investigation and Workplace Checks components were relatively rigid and processes existed in some form
- Determining when, where and why an SWI should be developed proved more challenging
- A task analysis process which incorporated a risk assessment was used

Evolution of Task Analysis (cont)

- Tasks in areas were listed and prioritised for review using a risk calculator which considered consequence, likelihood and frequency of task
- Task steps were documented in enough detail to be able to conduct a risk assessment (by the workforce)
- Re-formatted risk assessment worksheets provided a more logical and workable process
- Level of understanding in risk assessments varied and conjecture existed regarding the development of an SWI

Risk Assessment Quality Checks

- The SWI Team determined that SWI's should be developed for critical tasks - however what determined a task critical?
- Agreement was reached that the critical task would be based on a residual risk score but the risk assessment process needed to be sound
- A tool was developed to check the quality of the risk assessment - Effectiveness of Controls

Effectiveness of Controls

EOC key areas:

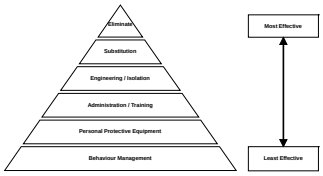
- Determining whether hazard scenario's were well defined
- Confirming the risk scores were credible
- Determining whether the additional controls were adequate
- Confirming the residual risk score
- Determining whether the task was critical

Effectiveness of Controls

- Hazard scenarios - needed to be well defined and include a target, consequence and hazard source
- Based on the existing controls risk scores were calculated using a 5 X 5 consequence and likelihood risk matrix with four layers of risk (low, moderate, high and extreme)

Effectiveness of Controls

- Additional controls needed to reflect the preferred order of implementation from the hierarchy of controls



Effectiveness of Controls

Control	Reduces	Action
Elimination	Consequence/Likelihood	Remove, redesign the process or plant so the hazard does not exist
Substitution	Consequence/Likelihood	Hazard substituted with something of a lesser risk eg red rating chemical with amber rating chemical
Engineering/Isolation	Consequence/Likelihood	Hazard controlled through isolation using an engineering measure eg machine guarding
Administration/Training	Likelihood	Hazard controlled by influencing people eg SWI's, procedures, job rotation and signage
Personal Protective Equipment	Likelihood	Hazard controlled by the use of personal protective equipment eg hearing protection in noisy areas
Behaviour Management	Likelihood	Hazard controlled by individuals attitudes, personality, beliefs, actions, assumptions, reactions, skills, knowledge, abilities eg driving within the speed limit

Effectiveness of Controls

- Each of the additional controls were scored based on the type of control used (the higher the control the higher the points achieved)

Elimination	25 points
Substitution	20 points
Engineering/Isolation	15 points
Admin/Training	5 points
PPE	2.5 points
Behaviour Mgt	1.5 points

Effectiveness of Controls

- The control score was compared to the risk score
- A control score equal to or greater than the risk score indicated the controls were adequate for the level of risk
- A control score less than the risk score indicated the controls were not adequate for the level of risk
- The residual risk was calculated considering the effect of the control recommended ie only elimination, substitution and engineering/isolation could effect the consequence

Determining Critical Task

When the controls were 'not' adequate we considered:

- Whether the additional controls were administration, personal protective equipment and behaviour management?
- Whether there was scope to introduce higher or additional controls?
- Answering yes to the first and no to the second would warrant consideration of a critical task and development of an SWI

Guidance on the Use of Administration Controls

11 Procedure Formal Training Stringent Testing Level 2	**16** Procedure Formal Training Stringent Testing Level 2	**20** Procedure SWI Formal Training Stringent Testing Level 1	**23** Procedure SWI Formal Training Stringent Testing Level 1	**25** Procedure SWI Formal Training Stringent Testing Level 1
7 Procedure Self directed learning with general assessment Level 3	**12** Procedure Formal Training Stringent Testing Level 2	**17** Procedure Formal Training Stringent Testing Level 2	**21** Procedure SWI Formal Training Stringent Testing Level 1	**24** Procedure SWI Formal Training Stringent Testing Level 1
4 Provision of information general assessment Level 4	**8** Procedure Self directed learning with general assessment Level 3	**13** Procedure Formal Training Stringent Testing Level 2	**18** Procedure SWI Formal Training Stringent Testing Level 1	**22** Procedure SWI Formal Training Stringent Testing Level 1
2 Provision of information no assessment Level 5	**5** Provision of information general assessment Level 4	**9** Procedure Self directed learning with general assessment Level 3	**14** Procedure Formal Training Stringent Testing Level 2	**19** Procedure SWI Formal Training Stringent Testing Level 1
1 Provision of information no assessment Level 5	**3** Provision of information general assessment Level 4	**6** Procedure Self directed learning with general assessment Level 3	**10** Procedure Formal Training Stringent Testing Level 2	**15** Procedure Formal Training Stringent Testing Level 2

Summary

- This process is being used by the workforce through the facilitation and review of risk assessments
- We encourage consideration to defences in layers, particularly when relying on administration controls
- The process still relies on the participants perception of risk however we believe the process provides a sound framework