Effective Maintenance Practice
Exploring a constructive procedure-management system
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1. “Maintainers represent a significant proportion of people who are involved in safety incidents and fatalities in the mining industry.”

52 fatalities between 2000 to 2012 in WA; 69% were maintainers and operators.

Impact that procedures have on fatalities:
- No procedure 27%
- Compliance with procedure 11%
- Non-compliance with procedure 62%
- Procedures in place 73% of the time

2. A Common Solution...
   Follow the Procedures!

   Problems with this solution...
   - People comply with procedures in a different manner.
   - Not all procedures are appropriate.

3. A Proposed 2x2 Framework of Compliance

4. Compliance Behavioural Profile
   Compliance Behavioural Profile
   Traditional View
   - Compliance: 80%
   - Non-compliance: 20%

   Proposed View
   - Surface Compliance: 80%
   - Deep Compliance: 20%

5. For constructive procedure management, we do not only need the right kind of compliance behaviour, but also proactive behaviour.

   Speaking up
   Promotive: Raise positive suggestions. Prohibitive: Point out inappropriate practices.

   Taking charge
   Bring in positive change.

   Helping co-workers
   Support each other!

6. Research Model
   Predictors
   - Personal Factors
   - Organisational Factors

   Maintenance Practice
   - Compliance
     - Surface Compliance
     - Deep Compliance
     - Adaptive Compliance
     - Non Compliance
   - Proactivity
     - Speaking up
     - Taking charge
     - Helping co-workers

   Performance Outcomes
   - Asset reliability
   - Asset availability
   - Significant Potential Incidents (SPI)
   - Self-reported incident involvement

7. Research Design
   - Literature review and analysis of accident statistics
   - Interview Study
   - Pilot Study
   - Main Survey Time 1
   - Main Survey Time 2

   Objective performance data collected.