

# Severed Finger Incident

## Machinery Guarding

**David Bradley  
HSE Manager  
Drill Safe Forum  
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Brisbane**



# Fracturing NSW

## Task – Checking Radiator Water

Injured worker stepped here to access radiator caps and slipped.



# What went wrong?

Inspection guard missing – IP slipped on tank – fingers contacted rotating fan blade



## What was wrong?

The equipment design requires operators to work in an elevated position and on a cluttered work surface not designed for that purpose



# Failed Barriers

**Person**

**Knowledge**, skills,  
intelligence, motives,  
personality

**Environment**

Risk Management, tools  
processes, equipment,  
**engineering**, systems



**Behaviour**

Complying, coaching,  
recognizing, communicating,  
**Leading - supervisor**

**All three factors: People, Behavior, &  
Environment are equally important!**

# Causal Factors

## Behavioural

- New Employee, 3 months
- Risk Perception – had done before
- No one challenged work method and inadequate design

## Work Environment

- Design, no platform
- Wet Surface
- Cramped

## Root Cause

- Working Environment
  - Guarding NI

# Corrective Actions

- **Design and install walkway platform**
- **Hazard Hunt – Machinery Guarding**
- **Plant Risk Assessment – *How and what* tasks we perform on our equipment – team exercises with positive results to date**

# Hazard Hunt - Guarding



## Safety Stand Down

**When:** Tuesday 8<sup>th</sup> March

**Where:** All Australasia Locations

**Why:** Notify all employees of serious injury involving partially unguarded machinery

### Incident

After climbing onto the front of the Cummins pump via the ladder, the operator attempted to step onto the diesel tank to check the water level in radiator and slipped. He extended his left hand to break his fall, placing it onto the drive cover of the air compressor. A small inspection cover was missing from the large cover exposing the drive blades. His ring and small finger on his left hand entered this hole and were seriously damaged by the rotating fan blades.



*Fingers contacted unguarded rotating fan impeller*

*Other causal factors include:*

- equipment design
- slippery surface (wet)
- difficult / restricted access to check engine components
- no walkways

## HAZARD HUNT Machine Guarding

**Duration:** Tuesday 8<sup>th</sup> – Friday 11<sup>th</sup> March

Inspect all equipment / machinery that requires guards and ensure complete guarding is in place.

**If no guard – Tag equipment for immediate repair and control the existing hazard.**



## Hazard Hunt Results

### Machine Guarding - March 2005

During the week of March 8<sup>th</sup> a Hazard Hunt was conducted across Australasia on Machine Guarding. The aim was to identify any equipment that was missing or required improved guards to prevent personnel contacting moving machinery parts.

What did we find?

Locations that identified guards that were missing or in need of improvement or repair

New Zealand – 7    Papua New Guinea – 2    Canning Vale – 1    Moolamba – 20

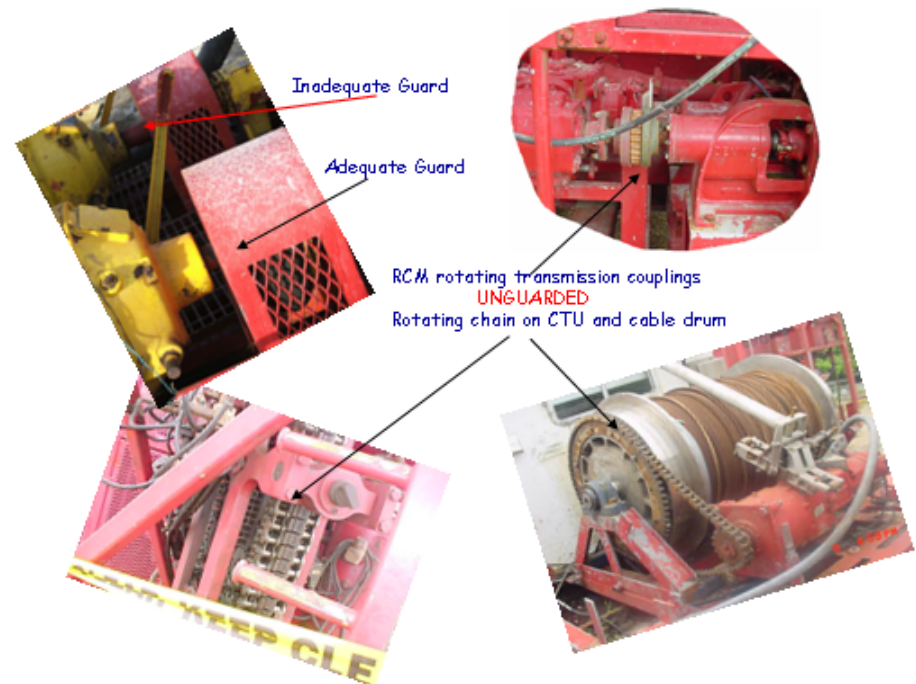
Roma – 8    Cheltenham – 0

Darwin / Dampier – 0

Total = 38

What are doing to fix?

Each location has tagged identified items and are commencing repair. On cases where there are inadequate design issues solutions are being developed to manufacture the required level of guarding.



Guidance for the safe guarding of machinery can be found in below company HSE standards and Australian Standard. For a copy of the Australian Standard AS 4024.1 please contact any member of Australasia HSE Department.

Reference:

HSE Standards and Guidelines. Category 4: Equipment, Standard 13 - Machine Guarding AS 4024.1-1996 Safe Guarding of Machinery – General Principles



**Hazard Hunt – not a new tool but can achieve Quick Win, engages workforce and does change the work environment**

*Theme specific hazard hunts are scheduled on quarterly basis*

## **Majority of our incidents are:**

- **Single person events**
- **Occurring in tasks that are or are perceived to be low risk**  
*(for this incident the risk was always high)*

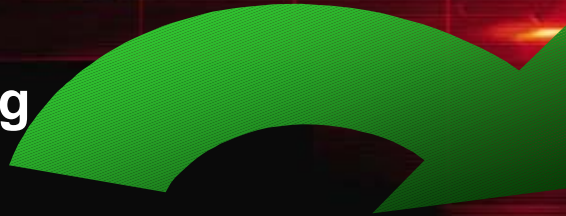
## **Significant Issues**

- **Risk id / assessment – understanding consequences - perceived risk**
- **We often inadvertently reward people for working At-Risk**



# Areas of Focus on 2005 Plan

Coaching



Teaching BBP  
Leadership

Positive Reinforcement

**Behaviour**

Haz-id

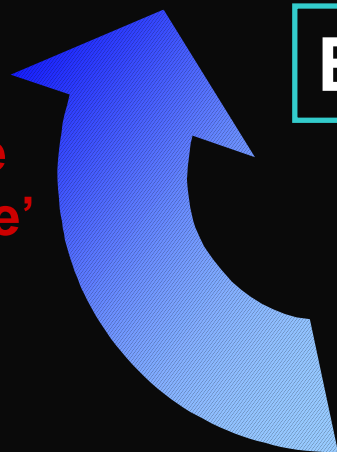
'Beyond the  
Red Zone'

- Front Line  
Point of Exposure

- Line of Fire

- Eyes on Task

- Hazard Hunts, Plant  
RA, Spot the Hazard



Observation and Feedback



- Care
- Observe
- Analyze
- Communicate
- Help