Queensland Mining Industry
Health & Safety Conference

Joystick Test Module

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MMG

OUR MINING OPERATIONS

CHANGING A SHOVEL JOYSTICK: THE SAFETY RISKS

> Uncontrolled shovel movements – contact with person, machinery, mine wall

> Working at heights

> Light and heavy vehicle interactions

> Dehydration – high temperatures

> Dust

> Uneven surfaces

POTENTIAL INJURIES

> Muscular injuries

> Soft tissue injuries

> Dehydration

> Heat stress

> Dust inhalation

> Other more serious and even tragic events

HIGH COSTS:
WASTED MONEY

> Shovel downtime = lost ore production

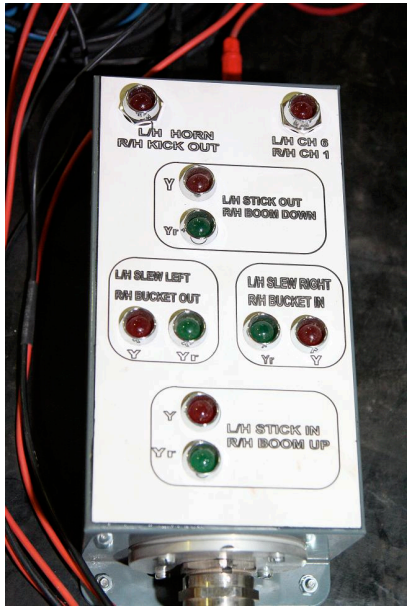
> Labour intensive – often took up to four hours

> Faulty joysticks discarded – replacement costs in 2008 = approx. $144, 000

THE SOLUTION:
THE JOYSTICK TEST MODULE

> Joystick

> Test Module



> Laptop

SAFETY FEATURES

> Allows joysticks to be remotely tested – eliminating many safety risks and reducing costs

> Can be connected to data logging software

> LED lights illuminate if joystick functioning correctly

> Lightweight material

INNOVATION PROCESS:
HOW WE DID IT

1. Identified problem – safety risks and high cost

2. Discussed problem and possible solutions

3. Designed

4. Manufactured – cost approx. $300

5. Joystick Test Module in use now

SAFETY BENEFITS:
HOW WE MADE THE PROCESS SAFER

> Eliminated potential for injuries from uncontrolled shovel movement

> Reduced exposure to working at heights

> Reduced light and heavy vehicle interactions

> Reduced exposure to heat and dust

> Reduced risk of slips, trips and falls on uneven surfaces

COST BENEFITS:
WHAT WE SAVED

> Cost about $300 in materials

> Reduced shovel downtime and production loss

> Reduced labour costs

> Reduced part replacement, fuel usage, inventory and disposal costs

Expected to produce about $400, 000 of savings in 2009.

CARBON SAVINGS:
REDUCING OUR ENVIRONMENTAL FOOTPRINT

> Committed to reducing our environmental footprint

> Carbon savings produced from:
  - Reduced vehicle and fuel usage (approx. 1.38 tonnes)
  - Reducing need to transport and store items
  - Reduced idling and turning on-and-off shovels

> Imagine the result if every mine site in Australia changed every activity they did to reduce their carbon footprint.

TRANSFERRABILITY ACROSS INDUSTRY: NOT JUST FOR CENTURY

> Can be easily applied to various hydraulic control circuits

> Applicable for use in mining and other industries

> Use of existing materials means system is inexpensive to produce

SUMMARY

> Developed to reduce safety risks and costs associated with changing out and repairing faulty joysticks

> Eliminated and reduced many safety risks, including uncontrolled shovel movements and light and heavy vehicle interactions

> Drew on experience, knowledge, ideas

> Significant cost and carbon savings for small outlay

> Easily applicable to other mining operations and industries

THANK YOU!