

Trickle Duster

Xstrata Coal Queensland – Newlands Northern Underground

The Problem or Initiative

a) Identified problem

- The current process requires 3 personnel to hang 2 x 1 tonne bags (on chains) behind the exhaust of the auxiliary.
- The hanging process was a high risk, time consuming operation.
- The primary safety issues were manual handling and the risk of strain and sprain, working at heights and working with suspended loads.
- The system of hanging bags of dust was the standard at use on site and other undergrounds.

b) How the improvement opportunity was identified

- Concerns were raised by the workforce as to the safest method for completing the task.
- This was a common task performed by crews during panel advance.
- A risk rating analysis was completed for this process, and the improvement opportunities were identified and discussed.

c) What health and safety consequences were to be addressed

- Manual handling
- Working at heights
- Suspended loads
- Inefficient dispersion of stonedust into the return (statutory).

The Solution

a) Strategies and initiatives developed to identify and address the problem

- After researching and reviewing alternatives, a modified QDS pod was designed to disperse stone dust.
- The pod design was specifically for positioning behind an auxiliary fan in a development panel.
- The QDS rubbish pod (already onsite) was modified to incorporate a steel frame internally as a trial.

b) Internal and external resources used

- The team brain-stormed for alternative methods, and modified an existing pod onsite to trial new system.
- Utilized external manufacturing business to engineer and manufacture pod.

c) Methods used to trial and test

- Put in place and replaced standard setup to get field trial.
- Monitored performance and relocation/re-establishment advantages.

d) Implementation process

- Once proven (and feedback from workforce) modified, then engineered and purchased first pod.
- Eliminated all the existing risks associated with standard previously utilised process (hanging bags).

e) Demonstrate how hierarchy of control has been applied

- Risk ranking of the new system resulted in elimination of the primary risks
- Management of Change process utilized

Benefits / Effects / Outcomes

a) Safety and occupational health benefits

- No working at heights
- No manual handling
- No suspended loads
- Quantifiable stonedust applications in the return
- No wastage (previous system had wastage onto the floor)



- No rubbish (no empty bags or pallets to remove)
- Only requires one operator to setup
- Doubles as a baffle for the auxiliary fan
- Double QDS allows for quicker relocation and resupplying of the pod
- Quicker installation during panel advances, now get 2 panel advances before refilling required.

b) Supporting data

- Panel Advance flow charts completed by panel officials with time frames for tasks – indicating a reduction in setup times
- Prior setup time was 135 minutes (it took 3 personnel 45 minutes).
- New setup time is 5 minutes (it takes 1 person 5 minutes).
- Positive feedback from all crews regarding the improvement in safety / reduction in risk.

c) Extent of deployment

- All development panels at Newlands Underground.



Transferability

- a) Potential for innovation to be used, modified, transferred across the industry
- Can be utilised at all underground operations in development panels, no modifications required to current system/pod.

Innovation

a) Originality of the innovation

- Unique to Newlands Northern Underground.

Approximate Cost

a) Statement of approximate cost, if known

- \$15,500

