

First Watch Special Edition

Great ideas lead to safer, healthier workplaces -
an innovative and proactive approach to prevention

2011 Safety and Health Innovation Awards

The CME's Safety and Health Innovation Awards entered their seventh year in 2011, recognising creativity and ingenuity in the workplace to overcome safety and health issues and risks.

The presentations were held in March at CME's Safety and Health Conference, highlighting the resource sector's shared commitment to

solving issues that lead to improvements in workforce and community safety and health.

Congratulations to the winners and all entrants for participating amongst a strong field in the CME's 2011 Safety & Health Innovation Awards programme.



Argyle Diamonds' Contractor Management System has seen the contractor all injury frequency rate drop to zero

Rio Tinto Argyle Diamonds Contractor Management System

Improvements to Rio Tinto's Argyle Diamonds Contractor Management System (CMS) have led to the contractor all injury frequency rate reducing to zero for the first time in the company's history.

Contract workers in the mining industry are typically susceptible to higher injury rates than employees. Over 25 years of surface mining operation, Argyle Diamonds' contractor all injury frequency rate (AIFR) exceeded that of employees. Worldwide, Rio Tinto has seen significantly higher rates of fatality, serious injury and significant injury cases among contractors than employees. Based on this, Argyle Diamonds set up a dedicated team to revise and improve the CMS.

Based on the team's findings, in 2009 Argyle Diamonds implemented a range of improvements including company representatives for training and audits, quarterly contractor meetings, principal meetings, comprehensive monthly reporting on contract company KPIs, and consolidated its pre-qualification process. Contractors were also included in all HSE initiatives including wellness assessments, hydration testing and HSE awards.

The result was that as of October 2010, the AIFR for contractors had reduced to zero. Argyle Diamonds is now setting the challenge to its employee workforce to achieve the same results.

The outcome saw Argyle Diamonds taking honours in the Systems category.

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Safescape

Laddertube

Working as a mining contractor to install escapeways in underground operations, Steve Durkin recognised the need for a safer, more flexible emergency escape ladderway system.

Traditional escape ladderways have been manufactured from wood or galvanised materials with wire cages to provide protection against large rockfall. However, they are exposed to finer materials. In addition, ladders are subject to constant water and often salt exposure, leaving them slippery, scaled and susceptible to corrosion.

The Safescape Laddertube consists of ladder sections that can be joined to provide a straight line of ladderway at any practical length. Manufactured from resilient plastics, the Laddertube is lighter than traditional galvanised options, flexible and non-corrosive.

Rest platforms are installed at 6m intervals. A static line has also been included allowing people to attach a harness and rope shunt that locks in the case of a fall.

Although the Laddertube can be manufactured in any colour, the standard offering is safety yellow, providing an easily visible entry to ladderways. Because it is enclosed, users are protected from falling debris in the event of emergencies that require evacuation.

Ventilation is also made simpler and more cost effective, as a vent curtain can be fitted at the bottom of the ladderway. Being enclosed, the need to install multiple ventilation walls and the risk of lost ventilation is significantly reduced.



The Safescape Laddertube is lighter, brighter and more resilient than traditional options

Other advantages include less maintenance due to the ladderway being enclosed, no risk from many corrosive materials, and greater ease of installation

It took six years to complete the design and testing process. Considerations for safety as well as cost were incorporated, with the final solution winning in the Engineering category.

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Rio Tinto Argyle Diamonds

Wellness Programme

A “pitstop” style biometric assessment forms part of an innovative Wellness Programme that saw Rio Tinto Argyle Diamonds winning an award in the People category of the Innovation Awards.

When a health questionnaire was distributed to eight of Rio Tinto’s Australian businesses, it was discovered that 56% of the workforce did not meet National Heart Foundation guidelines for exercise, 60% were overweight or obese, and 20% smoked. Other issues identified included medium to high risk of mental illness and above average alcohol consumption.

The Health team at Argyle Diamonds initially implemented a Full Wellness Assessment in 2006, which required 90 minute individual consultations. Time constraints meant there were some barriers to this approach, so a series of adaptations have occurred to arrive at the current model.

As well as the pitstop assessment, which includes testing for BMI, blood pressure, cholesterol, vision and cardiac risk factors, the programme has seen the introduction of an after-work sports schedule and, in partnership with the Ord Valley Aboriginal Health Service, testing for renal disease.

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Sinclair Knight Merz

Replacement of Transverse Beams

Working at heights is one of the major contributors to fatalities in the mining and construction sectors in WA. Add to that the issue of confined space entry and health and safety risks are compounded.

The Sinter Fines building at Rio Tinto’s Cape Lambert facility houses surge bins for the storage of fines iron ore. These bins are fed by a tripper conveyor, which runs on trusses supported by transverse beams across the top of the bins. During a structural integrity inspection undertaken by SKM engineers, five of these beams were found to be damaged due to corrosion and in need of urgent replacement.

Traditional repair methods of installing compensation plates on the existing beams could only occur during planned shutdown periods to limit the impact on the critical nature of the fines iron ore operations. This was not an option, so contract repairer Monadelphous proposed to insert the beams with the use of a cantilever lifting apparatus through holes cut in the bin walls.

Through a collaborative approach involving SKM, Rio Tinto and Monadelphous, the entire repair process was completed within three weeks. As the bulk of work was conducted from the ground, safety risks were significantly reduced and the work was completed without interruption to the fines operations. This improved technique saw SKM winning the Engineering category of the Innovation Awards.

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