

# First Watch Special Edition

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



Crushing Services International – Gum Trolley

## About the Innovation Awards

In May this year, First Watch featured the winners of CME's 2010 Safety and Health Innovation Awards. The awards featured three categories including People, Systems and Engineering and were judged by a panel of industry representatives.

This special issue of First Watch features a selection of entries that were not selected as winners but showed great innovation and have made a significant contribution to improving safety and health across the resources sector.

Submissions for the 2011 Safety and Health Innovation Awards are currently being accepted. Entry is open to all WA companies in the resources sector including contractors associated with the industry.

Entries will close on Wednesday 15 December 2010.  
More information available on [www.cmewa.com](http://www.cmewa.com)

## Crushing Services International Gum Trolley

Crushing Services International (CSI) designed and developed a device making the maintenance of front end loader buckets significantly safer, easier and cheaper.

Caterpillar 988 loaders are used to feed crushers and the ground-engaging tools on these machines require regular replacement. The buckets use protective edge segments, known as gums, between the teeth. These weigh around 40kg, and previously required two people to lift them and a third to fix them to the bucket edge about 1m off the ground. Hazards associated with this method involved lifting-related injuries, strains and pinch points.

The new gum trolley device, developed by CSI's site manager and onsite workforce, allows lifting and positioning of the edge segments to be safely conducted by one person. The trolley is operated through an extended handle that requires minimal force. In addition to reducing risk of injury, the device saves time and reduces labour costs. As it is designed specifically for lifting and fitting the gums, there is also minimal risk of injury through misuse. It is compact in size, allowing it to be maneuvered easily.

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## Modern Motor Trimmers

### Reusable Safety Barrier

Working on mine sites across the State, Modern Motor Trimmers identified a need for a more robust, longer lasting and safer temporary safety barrier.

The use of 75mm plastic tape is commonplace to identify hazards or cordon off areas subject to accident investigations. But the tape poses problems as it can be broken, is difficult to see at night and cannot be recycled. In searching for a solution, Modern Motor Trimmers conducted rigorous testing on a range of potential materials and settled on a UV-treated webbing with reflector material stitched to both sides.

In addition, sturdy D-shackles were added to provide strong anchor points and a retractable, geared hand winder added for ease of installation and removal. The barrier tape can be readily mounted on a wide range of anchor points, ranging from pillars and bag trolleys to vehicles. There are also many potential uses across other industries and applications including use by emergency services, crowd control and a broad range of other temporary barrier requirements.

*Further information: Garry Spouge – [garry@moderntrimmers.com.au](mailto:garry@moderntrimmers.com.au)*



The difference of attaching ours to tying the plastic

## Macmahon

### Solar Powered Haul Road Delineation

Following a fatality at a mine site in Western Australia, Macmahon identified the existing use of reflectors for haul road delineation as a hazard, particularly for night-shift operators. Illuminated markers were identified as the solution but the practicality was an issue. Solar power was deemed to be the answer and after considerable research, an appropriate product was identified. The chosen product could be fully charged with just four hours of daylight, was a self-contained unit requiring minimal labour to install and maintain, and was capable of emitting different coloured light.

As the project progressed, colour coding was introduced to identify a range of factors including left and right-hand sides of the road, drill and blast areas and production areas.

Since implementation, there have been no breaches of entry of unauthorised personnel into restricted zones in the active mining area during night shift. The change proved to be a win-win situation as it enabled a smoother transition to the total restriction of vehicle interaction in active mining areas.

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## Rio Tinto

### Pit Lid Covers

Hume pits and oily water separator pits at Rio Tinto Iron Ore's Greater Paraburdoo Mine Site require weekly maintenance. Some are sealed with heavy concrete lids which need to be completely removed, while others are open with guard rails around them.

Safety risks associated with these included the potential for injury from manual handling of the lids, working-at-height and confined space risks, especially for maintenance workers.

These issues were addressed by manufacturing grid mesh lids with a removable trap door section to allow the safe insertion of hoses. The new lids were designed to fit on to the retaining lip of the pits that held concrete lids in place. The smaller trap door opening eliminates fall hazards and the mesh has resolved the issue of concrete lids becoming seized due to dirt becoming stuck around the edges, which increased manual handling requirements and risks.

For previously open pits, larger mesh lids were manufactured. Maintenance can be performed via the smaller trap door, which can be located at the most convenient position within the lid.

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## Compass Group

### Origin Foods

Compass Group's Origin Foods initiative was developed to identify and eliminate health and safety risks associated with catering services in remote site operations.

Through a comprehensive review of health and safety issues across its operations, Compass Group identified strains associated with manual handling and knife handling injuries were the most common cause of incidences.

The first solution was to remove the need for remote-site staff to carry out common tasks leading to such injuries. Slicing, dicing and cutting could be carried out offsite using machinery, with pre-packaged components transported to site. This also resolved issues with food safety by providing washed and vacuum-sealed ingredients.

Onsite handling risks were reduced due to more consistent package sizes and weights. For example, by delivering chopped, peeled, washed and pre-packaged pumpkin, prepared and transported in temperature controlled conditions, problems associated with delivering whole pumpkins were alleviated.

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