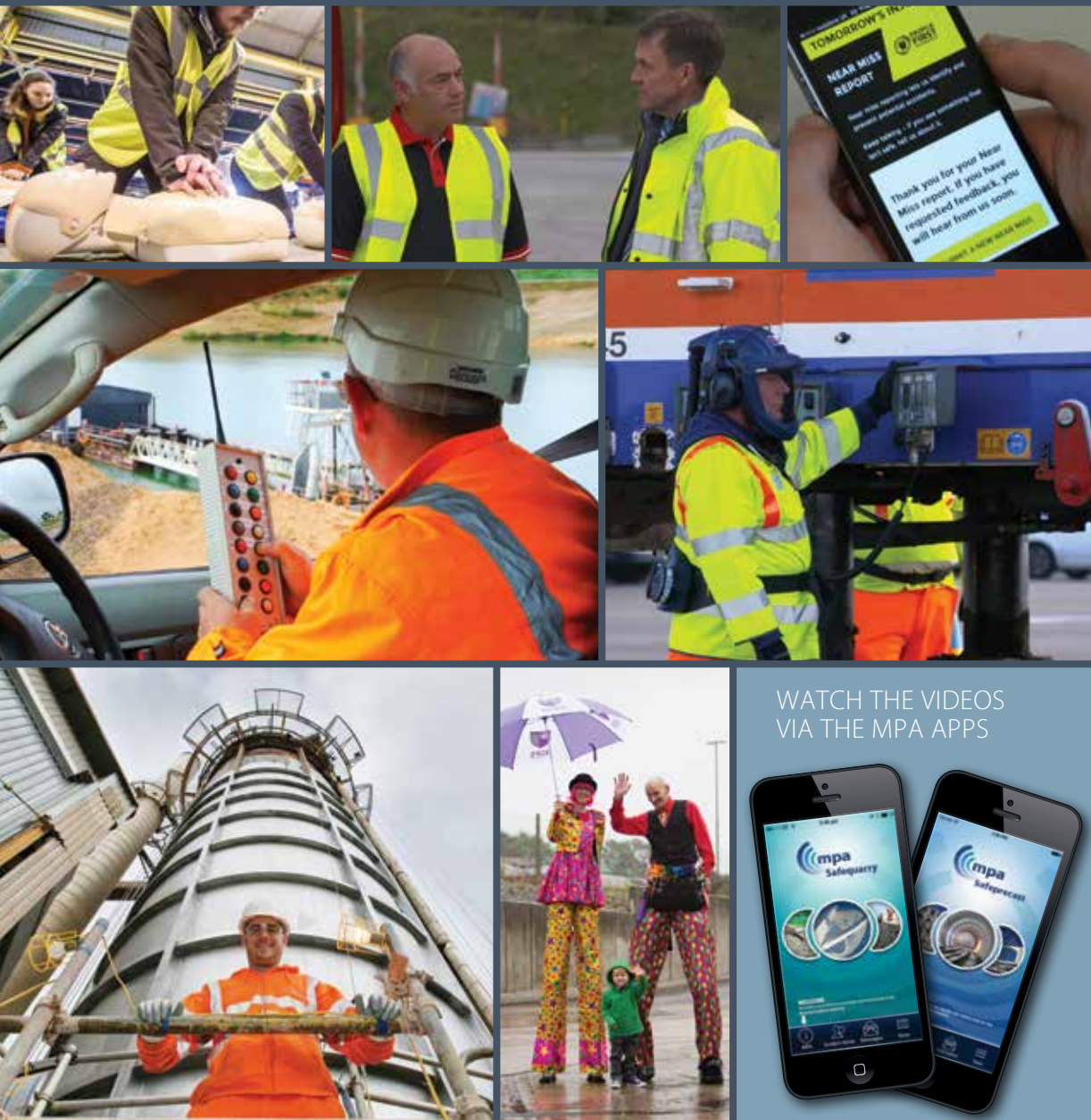


# Sharing good practice 2015/16

WAYS TO MAKE YOUR WORK PLACE HEALTHIER AND SAFER



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MPA HEALTH AND SAFETY AWARDS



# Occupational Health

We Understand Quarrying



**With 20 years' experience in construction, quarrying and aggregates IDC provides long-term, robust Occupational Health Services to any client in this sector, irrespective of organisational size or complexity.**

Providing advice specific to risk, OH professionals attend site in order to offer case management advice. We believe in engaging managers and the work place in our assessment approach as this provides more informed and engaged solutions. This leads to better health outcomes for employees and employers alike.

The quality of the Health Surveillance service provided by IDC is unrivalled. We believe we are the only OH company who achieve 100% against our SLA's and KPI's not only now but over the previous 20 years. Additionally the robustness of our approach is proven to significantly reduce occupational health issues and insurance liabilities.

## Noise

Our Gold Standard hearing assessment and hearing conservation program delivered by our Audiologists will identify and manage cases of Noise Induced Hearing Loss and reduce the risk of further hearing damage. This service also advises on PPE and risk management, is proven to protect employees hearing from noise damage and to significantly reduce our client's exposure to hearing claims.

## Dust / Respirable Crystalline Silica

Our Gold Standard program delivered by our Clinical Physiologists will assess employees' respiratory function and, in full consideration of length and extent of exposure, determine if employees require further investigation for COPD or silicosis. This service also advises on RPE suitability and efficiency and risk management

## HAVS

Our Gold Standard program delivered by our Qualified HAVS Assessors will identify and forward manage mild, moderate and severe cases of HAVS or CTS. By assessing the risk (including that from previous employment) we will advise on the necessity for adjusted duties, prevention strategies to reduce cold provocation. Where necessary we will obtain a diagnosis from a HAVS Specialist Physician.

## Other Services

- Manual Handling Assessment
- DSE Assessment
- COSHH Dermatology Surveillance
- Lone Working Assessment
- Safety Critical Worker Assessment
- Working at Heights Assessment
- Night Working Assessment
- Kiln Wreck Assessment
- Confined Space Working Assessment
- Visual Acuity and Colour Perception Assessment
- Site and Quarry Vehicle Driver Fitness Assessment
- Random Drug and Alcohol Testing
- RPE Fit Testing
- Wellness Programmes
- Lost Time Accident Services
- Ill Health Retirement Advice
- Immunity and Vaccination Programmes
- Fitness for Disciplinary / Tribunal Advice
- Sickness Absence
- Specialised Risk Assessment



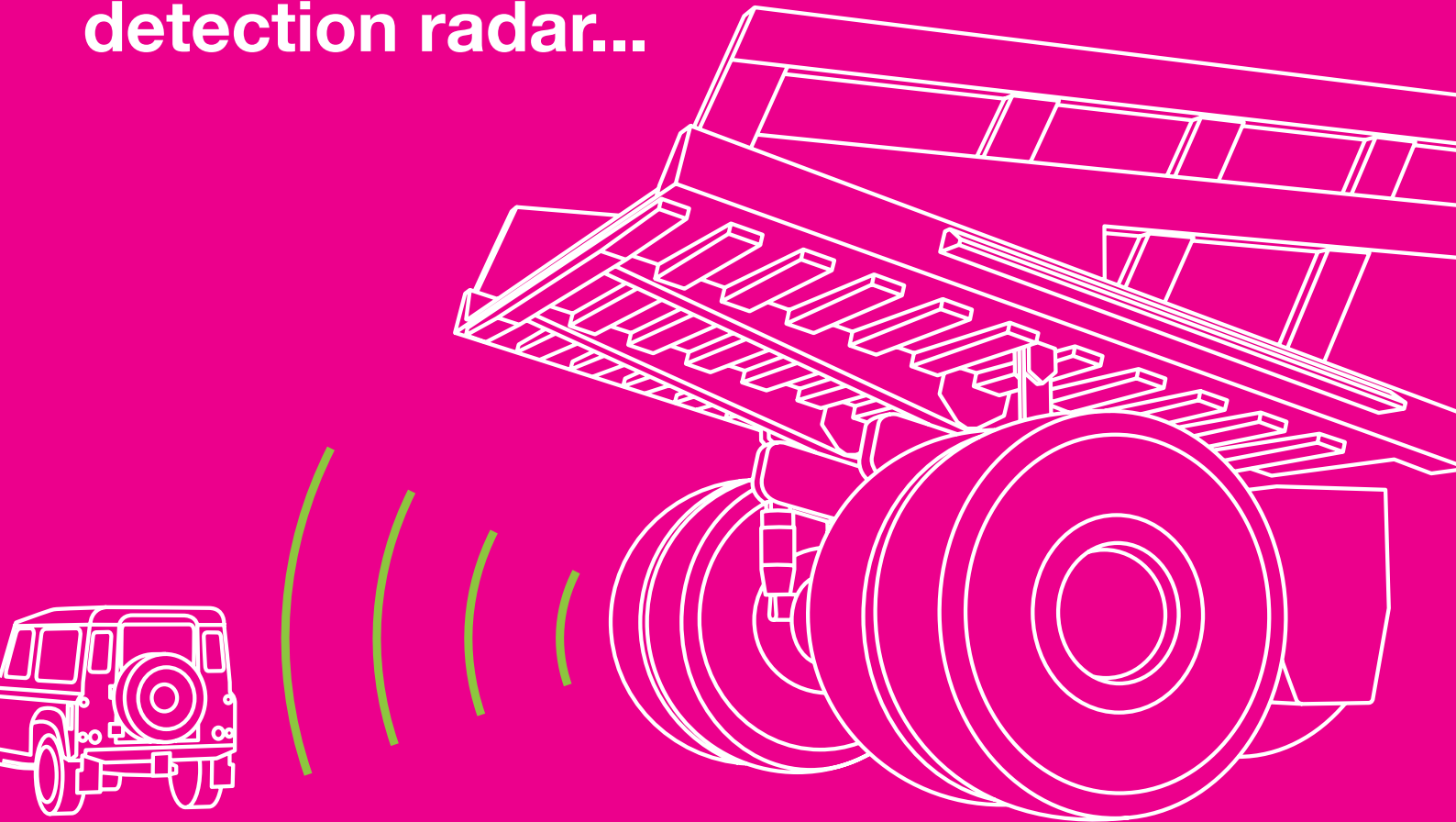
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# Foreword

This publication epitomises the MPA's 'Safer by Sharing' ethos by communicating some of the best health and safety initiatives developed by the mineral products industry in 2015. Continuously striving to identify and apply healthier and safer ways of running mineral products businesses is essential if the industry is to achieve its goal of Zero Harm. This guide enables us all to benefit from the ideas of our colleagues in other companies and from our contractors and suppliers.



The theme of the MPA Health and Safety Conference and Awards Ceremony in 2015 was 'securing sustainable health and well-being together'. This focus means that, in future, health will be regarded to be equally as important as safety. It is rewarding to see in this guide examples of the initiatives of MPA members that have enhanced the health and well-being of their staff.

Many of the winning innovations were initiated by operatives or cross-functional teams working together to address specific issues in their workplace. The results are ingenious engineering solutions or new ways of working that have helped to change people's behaviour. It reminds us that everybody in an organisation has an important contribution to make and role to play in ensuring both their own health and safety and that of all their colleagues.

Many of the entries highlighted in this guide can be easily applied or adapted to your own organisation. Alternatively, they may provide the inspiration for some other change. I would urge you to share this publication with your colleagues at all levels in your organisation and discuss how to make your workplace healthier and safer.

Please do not miss the opportunity to view the associated videos either via the Safequarry and Safeprecast apps or their related websites.

*Nigel Jackson, Chief Executive*

## Sponsors

The Mineral Products Association would like to thank the suppliers to the industry who have sponsored both our awards ceremony and this publication. The main sponsor was the Industrial Diagnostics Company. Individual sections show the companies which have sponsored them.



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*John Crabbe Memorial Trophy for Outstanding Excellence in Health and Safety – CEMEX UK.*

*Trophy sponsored by Brigade*



*Sir Frank Davies Trophy for companies with less than 1000 employees – FM Conway.*

*Trophy sponsored by Babcock International*



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## Largest ever response in 2015 H&S Awards - over 150 entries from:

Aggregate Industries UK Ltd  
Barry Wood Plant Hire  
Breedon Aggregates Ltd  
Brett Group  
CEMEX UK  
Charcon Construction Solutions  
Colas Ltd  
CPI Euromix  
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O'Donovan Waste Disposal  
Sibelco Europe  
Singleton Birch Limited  
Stanton Bonna Concrete  
Tarmac  
The Forest of Dean Stone Firms Ltd  
United Asphalt  
Volvo Construction Equipment

# Introduction

This guide summarises the best ideas and innovations from the MPA's Health and Safety Awards 2015.

Some of the entries are flagged to show that there is a video available – the videos can be viewed via the Safequarry and Safeprecast websites or their Apps (see back cover for more information). In addition to this year's entries, awards from previous years can also be accessed. The websites also feature a database of incident alerts, toolbox talks and the latest on the industry's hot topics. By registering on the site, you will receive email alerts when new items are added and an 'information basket' where you can store those that most interest you.

The resources are ideal for training purposes and for Continuing Professional Development (CPD). We hope that organisations of all sizes working within the mineral products industry will find them useful and accessible. To ensure that your browsing on the websites is recorded for CPD purposes, you do need to log in every time that you access the websites.

Download the Safequarry or Safeprecast Apps to your mobile device to have instant access wherever you are to industry guidance and other key health and safety information.

## How to use this guide

This guide is a compilation of solutions that MPA companies have applied to minimise and, where possible, eliminate health and safety risks arising from their daily operations. The ideas and innovative approaches are often very simple and inexpensive and could readily be applied to a range of common industry problems.

It is hoped that by reviewing this guide, particularly those sections relating to your main area of work, you will recognise solutions that could be applied within your own workplace or that will generate an idea for an alternative solution.

The guide has been divided into eight sections to reflect the categories used in the MPA awards. They focus on those areas that have the most impact on improving health and safety in the work place. We have indicated which entries were prize winners, and which have video clips available. To help you locate entries relating to a certain subject, we have provided a keyword index. If you would like more information on an entry than that available via Safequarry and Safeprecast websites, please send an e-mail to [info@safequarry.com](mailto:info@safequarry.com) or [info@safeprecast.com](mailto:info@safeprecast.com). Please quote the entry number which is located immediately to the left of the entry title.

The sharing of best practice is crucial in helping the industry to achieve Target Zero.



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# 762 Marine contractor management – a partnership for success

**CEMEX UK**



## DESCRIPTION

Following an incident involving a contractor in early 2014, CEMEX reviewed the management of its contractors. A number of changes were introduced to encourage the development of strong safety partnerships and to enable employees and contractors to continuously improve safety management.

To initiate the changes, the Director Marine wrote to all contractors stressing that CEMEX and the contractors were in a 'safety partnership'. They had the full support of the business to cease any work if they believed all the hazards had not been effectively controlled. The goal is to have work on all sites carried out safely by competent contractors/specialists ensuring that all involved 'STOP and THINK' prior to carrying out any task and to 'STEP IN' where necessary. This was followed up with a contractor's workshop which focused on how we can learn from each other and help each other to achieve zero injuries.

The key steps in the procedures for the management of contractors that were implemented following the review are summarized below:

### Contractor pre-selection and approval:

Prior to assessment by the full PICS contractor management process, contractors are vetted in house to assess capability, technical resources and methods of working. This involves site inspections and auditing by managers and health and safety specialists. Once approved by PICS procedures, a contract is compiled to include issues such as the company's health, safety and environmental policy, standards and requirements for effective contractor communications.

### Pre-task preparation:

Relevant tasks are planned in advance by the company's engineering department in partnership with approved contractors, masters and chief engineers. A detailed induction is undertaken during the permitting process whereby ship's staff and contractors jointly assess the task and ensure that all hazards have been identified and are controlled. All contractors are required to complete a comprehensive, risk assessment based,

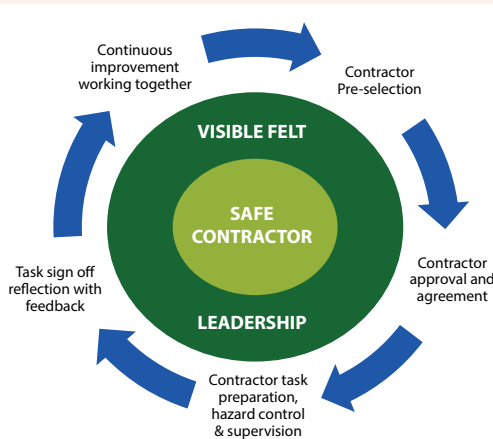
permit to work (PTW), no matter how trivial the task.

**Management of work:** Supervision and monitoring of contractors is undertaken by senior officers and crew until completion of work. Visible felt leadership (VFL) discussions by masters and management staff are undertaken regularly with contractors. This fosters safe behaviour and working practices and encourages ideas to further develop risk assessments and safe systems of work. These are reported and discussed at all safety meetings, contractor meetings and forums. A near miss hazard alert (NMHA) system is being used to help drive unsafe acts and conditions out of operations. A no blame culture is promoted, with all safety alerts and associated learning points being communicated openly with all CEMEX contractors.

### Post work procedures:

In addition to permits being signed off after the completion of work, a review is undertaken of how the task went. All involved in the task are encouraged to complete a feedback form and any issues raised are documented and closed out through the feedback process. Partnerships are encouraged that jointly assist CEMEX operations and its contractors to continuously improve safety management systems (SMS) and the safety culture. This has a direct impact on reducing contractor and employee injuries in the workplace.

**Other initiatives:** All CEMEX contractors are included in ongoing health and safety initiatives such as 'step in' and always stopping unsafe acts and conditions. The engineering department also holds workshops with attendance by the Director Marine, members of the senior management team and CEMEX contractors. Contractor performance is closely monitored and reported on a regular basis.



## BENEFITS

- Change in contractors perceptions of priorities
- Pro-active involvement and feedback from contractors
- Recognition of partnership approach for health and safety
- A safer and healthier working environment for all.

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# 740 Hazard spotting assessments

Sibelco Europe



## DESCRIPTION

Sibelco recognised the difficulty of ensuring that personnel visiting their sites were aware of safety requirements, had understood the safety inductions and had the ability to identify hazardous situations. The Sibelco Kingsteignton team felt that the traditional methods such as questions and answers were uninspiring and did not promote good quality discussions around health and safety.

Inspired by a 'Spot the Difference' article, a team member suggested using a similar 'Hazard Spotting' series of scenarios. Building on this concept, the team developed a series of industry specific scenarios which depicted potential workplace hazards.

Ten hazard spotting scenario exercises have been developed and further are planned. They have proved an excellent means of



testing the understanding a contractor or site visitor has of the hazards and controls which are applicable. The exercises offer a fun way to engage in a health and safety conversation. They overcome the reliance on the written word which eliminates the potential barriers of understanding due to language, reading and writing skills.

## BENEFITS

- Exercises have been shared across Sibelco UK and Europe
- Easy to transfer across sites and nationalities
- Used in local safety briefings and company wide induction
- Helped Sibelco engage further with its contractors
- Safer work environment for all.



## MPA NATIONAL CONTRACTOR DATABASE in partnership with PICS



MPA strongly recommends that all its members subscribe to the PICS database

### BENEFITS

- Enhanced and easier contractor searches
- Simplified pre-qualification process for your contractors
- Constantly updating and auditable record of contractors
- Reduced risk of using contractors not trained and qualified for task
- Easier to manage contractors across multi- sites and operations

- Common standard and management of contractors across your business
- Efficiencies from centralised industry contractor database
- Tailored data and reports to meet company specific requirements
- 360° feedback on client and contractor, improving health and safety systems, providing opportunity for continuous improvement.



MPA's National Contractor Database is part of the MPA Contractors Charter

*Making our work environment . . . Safer by Partnership*

Join your colleagues in BRET GROUP, CEMEX UK, DAY GROUP, HANSON, TARMAC and others to start benefiting from the PICS database.

744 **Silo user passport****CPI Euromix****DESCRIPTION**

CPI Euromix recently introduced a silo user passport scheme. This innovative scheme covers over 2,000 building sites across the UK and has helped secure the safety of more than 5,000 users.

Silo Mortar is the industry standard for housebuilders and most commercial projects. A user of the machinery is required to be trained in a safe system of work before operating and cleaning the machinery. Contractors rely on CPI to deliver and certify this training so that they can prove the competence of their workforce.

Following a near fatal incident, an investigation highlighted that it was difficult to clearly demonstrate that the operative involved had been given appropriate instruction and training on the machinery he was operating. Due to the high mobility between sites of bricklayers, contractors find it difficult to keep adequate records of the training they have received. Consequently, many contractors have allowed untrained operatives to use the machinery. CPI have worked with its client's to raise awareness of the potential risks associated with untrained users and provided warning signage. However, CPI recognised that the traditional system of certification needed to be enhanced.

CPI Euromix simple and effective solution was the introduction of a 'trained user card'. Once training has been completed, a 'trained user card' is issued to the operative. The card can be used by the operative to prove their competency as they move from site to



site. The main contractor is confident that the competence of operatives can be proven at all times, simply by asking them to produce the card. The card is valid for a period of 24 months.

The durable plastic card fits in the wallet of the operative, making it easy to retain and then produce to the main contractor when needed.

**BENEFITS**

- Eliminates need for paper certificates which are easily mislaid
- Allows main contractor to spot check the workforce at any time
- Card is being adopted as industry standard regardless of supplier – a 'silo user passport'
- Consistent approach to training with supporting resources
- Reduces risk of untrained operators using the machinery
- A safer working environment for all.

685 **Partnership in emergency planning and crisis management** EPC-UK**DESCRIPTION**

In December 2013 in Norway, a mobile explosive manufacturing unit (MEMU) caught fire.

EPC-UK learnt from the incident in Norway and updated its emergency plans and crisis management routines. However, it recognized that it was important to test out these procedures in the environment in which an emergency might occur – a quarry site. Tarmac agreed to collaborate with EPC UK to test its provisions at Basildon Quarry.

Plans were drawn up to conduct an unannounced exercise. It commenced with the MEMU crew being advised on arrival at the blast site that, for exercise purposes, an engine fire had occurred on their vehicle. The crew were required to 'walk-through' the steps that they would take, raising the alarm with quarry management, switching off the battery isolation, attempting to extinguish the fire, removing the detonators and primers from the respective compartments and evacuating.

The site management ordered a full evacuation, contacting the emergency services (who had been informed that an exercise was planned) assembling and accounting for all personnel and rendering first aid to a MEMU operator who had sustained burns from attempting to extinguish the fire.

The incident was then escalated by the EPC-UK Head of Services,

he initiated the crisis management team (CMT) in Alfreton. As with the quarry site, this was an unannounced exercise. A Sky News reporter and television crew arrived at the reception assuming it was the real thing.

Available personnel were assigned to roles, including travelling to the site to assist and the gathering of technical information to base decisions upon. Media statements were prepared, the television and social media channels were monitored and a press conference was convened.

The complete exercise was videoed from the initial emergency exercise, through the quarry evacuation, the crisis management meeting and media management.

An exercise review meeting was conducted a few days later involving the quarry management, the management overseeing the MEMU activities, CMT members and the Sky News reporter.

**BENEFITS**

- Exercise beneficial to all parties
- Lessons learnt and procedures improved as a result
- Provided valuable experience for all involved
- Excellent example of contractor and client working in partnership.

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730

## Auto locking saw guards

Marshalls PLC > Stancliffe Stone > Stoke Hall Quarry



### DESCRIPTION

Bridge saws are notoriously difficult to guard, often they are installed in tight spaces surrounded by pallets of work in progress and constant fork truck activity.

Conventional folding gates swing through too large an arc when opened or closed to be operated in such an environment. The requirement for crane access, limited space and saw debris on the floor prevent the use of tracks either above or below the gate. These limitations prevent the use of conventional concertina or sliding gates. Electronic light beam guards are expensive and impractical for this environment.

Marshall's Stancliffe Stone plant used a simple chain stretched across the opening. This offered little protection to workers should they fall, trip or simply decide to ignore it.

It was recognised that a concertina style guard with multiple folding gates would be a good solution, but in this application, every fold of the gate would need to be rigidly locked. For practical use it would need to be rigid, self locking, multiple folding guards



that were simple and inexpensive to manufacture.

As this was not available from existing suppliers, Marshalls decided

to design and develop this themselves. The machine operators were consulted and a format of 8 pivoting and 2 fixed sections was agreed. This was installed to establish that the system would work. A new locking system was then developed that ensured that the guarding could be easily opened and closed but would be rigid once closed.



### BENEFITS

- Inclusive process of design, development and testing
- A reliable and effective guarding system now in place
- System can be easily adapted to other difficult guarding environments
- Ideal for saw sheds, bridge saws and other equipment in confined space
- Guarding system now being deployed at 11 other sites
- A safer and more efficient working environment.

802

## Primary crusher wobbler improvement

Hanson UK > Cefn Mawr Quarry



### DESCRIPTION

Despite previous improvements made to the wobbler system in the primary crusher at Hanson's Cefn Mawr Quarry, there were



16 wobbler stops during a six month period. These required employee intervention to clear blockages and reset the system. This was a hazardous task in a restricted workspace and resulted in more than 13 hours of lost production.

A root cause analysis, carried out by



the quarry team, found that the 1 metre drop height from the laminator was causing large rocks to stun the wobblers dead. It was decided to remove the first wobbler from the system and replace it with a 30mm reinforced plate, set 500mm from the laminator. This modification reduces the impact and allows the stone to roll onto the next wobbler. This is a very successful solution to the problem.

### BENEFITS

- Significantly reduced down time and stoppages
- Reduced need for hazardous manual intervention
- Good feed rate maintained
- Reduced wear rate on wobblers
- Power consumption reduced by 20%
- A safer working environment.



## 765 Bucket elevator maintenance isolation and safety system (BEMISS)

CEMEX UK > Rugby Cement Works



### DESCRIPTION

Following a fatal accident overseas involving a contractor coming into contact with an electrically isolated bucket elevator, it was decided that additional isolation precautions were needed. A small group of the workforce at Rugby Plant was asked to design a mechanical isolation system for the sites many bucket elevators. From this request the Bucket Elevator Maintenance Isolation and Safety System (BEMISS) was born.

The BEMISS is a mechanical isolation system which is to be used alongside the electrical isolation. Once the BEMISS has been installed the elevator can no longer turn under its own weight. If a bucket elevator has been crash stopped and therefore the buckets on the up stroke are full with material, the elevator chain will not be in balance due to the weight of the material being held in the buckets. Therefore, there is a chance that the drive can creep backwards, or if the brake (GBX anti run back) fails the bucket elevator can turn. The BEMISS system prevents this.

The BEMISS is made up of a steel frame and fully welded to each side of the bucket elevator upward stroke leg. An opening into the casing of the elevator is then made to expose the chain (a bolted



I-beam fully welded to the casing to accommodate the isolation system

Scope for interlock system (eg castell locks) to prevent accidental start up of the elevator with the isolation bars inserted

cover is provided when the elevator is in operation). The isolation steel bars can then be slid through the chain link and positioned using the location pins. The location pins are attached to the isolation bars and are then inserted through the BEMISS steel frame which has several possible location points to allow for any deviation in the position of the elevator.

### BENEFITS

- Prevents any movement on bucket elevators and potential for injury
- System can be deployed on elevators on other sites
- Team involved motivated by inclusive and successful project
- A safer working environment for all.

## 675 The Lochton Wheel

Leiths of Scotland > Lochton Precast



### DESCRIPTION

Leiths Lochton manufactures pipe racks for oil service companies. The racks are manufactured using reinforced steel and high strength ready mix concrete. The design specifies that the rack base has to be heavier than the support structure.

The manufacturing process requires that a reinforcing cage is constructed and placed in the product mould for ready mix concrete to be poured onto the cage encasing the steelwork. As the mould is filled with the pipe rack resting at 180° from upright, emptying the mould and handling the finished product onsite was potentially hazardous. Rotating the pipe rack through 180° was achieved using an overhead crane, straps and chain. The risk assessment for this task identified many potential risks that needed to be eliminated.

The solution was a set of easy to use 'Lochton wheels' that enabled the racks to be rotated after being removed from the moulds. The wheels have internal steelwork mirroring the outline shape of the racks. They are slipped onto each end of the exposed pipe rack whilst it is held in position by a forklift. The wheels are then lowered onto a flat surface allowing the pipe rack to be turned

into the right position for storage. During the process, chocks are used to ensure control over the wheels and to minimise the risk of injury to the user. The 'Lochton wheel' has been in use for over a year and has been a great success.

### BENEFITS

- Minimises manual handling risks and potential for crush injuries
- Improves efficiency of the operation
- A safer working environment.



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# 761 Wire strand turning device

CEMEX UK > CEMEX Rail Solutions > Washwood Heath



### DESCRIPTION

CEMEX Rail Solutions recognised problems with the handling of wire strand coils. The issue was the rotation of coils lying flat on the ground to an upright position before loading into the dispenser. The existing process involved slipping a cloth strap below the coil and attaching the other side to a hook on a fork lift truck which would then lift the coil. During the process, the bottom of the strand coil would scrape along the ground. British Precast's guidelines also highlighted that cloth straps could deform the strand which could cause further safety issues.

In consultation with the works team and a local fabrication company, a turning device was designed which enabled the coil to be rotated to an 'eye up' position and have room for the forks to

be removed from below without any scraping. The turning device is driven by a motor, guarding surrounds the turner and a safety bar stops the coil from hitting the guard. The guarding can be opened on all 4 sides allowing easy access. A fork lift with a metal 'C' hook attached removes the coil from the turning device and places it safely in the strand dispensing unit.

### BENEFITS

- Reduced risk of damage to wires
- Reduced risk of breakage during stressing
- Reduced manual handling of coils
- Safer and more efficient work environment
- Addresses wire handling issues identified in BP's guidelines.



# 742 Remote dredger control

Tarmac > Eaton Hall Quarry



### DESCRIPTION

Eaton Hall Quarry dredges material from a lake. During peak times, the dredger has to be moved 2 or 3 times a day. It is moved using

4 winches that are located on each corner, which are connected to the shore via nylon ropes. To relocate the dredger required 2 operatives, they travelled via a motorised boat to the mooring located at the rear of the vessel and operated the winches.

This process exposed the operatives to a range of water related and other hazards, such as manual handling the boat and the operation of the winches. A review by the team involved recommended the development of a remote control system to move the dredger.

A system was designed so that each of the winches could be operated independently using a hand held controller. Safety features include; a requirement for the operator to press 2 buttons, if 1 is released the winch stops, and an automatic cut out if any rope is being over tensioned. A single operator is now able to move the dredger from the safety of a vehicle parked on the shore-line.

### BENEFITS

- Operators' exposure to a range of risks has been eliminated
- Operation undertaken from comfort and relative safety of a vehicle
- More efficient operation.





696

## Flooring slab final placement lifter test machine

Charcon Construction Solutions > Loud



### DESCRIPTION

Charcon Construction Solutions introduced the insertion of final placement lifters into their slab product range in 2014. As part of the production process, random testing of the lifters on the cured slabs was undertaken. The testing was undertaken at pre-determined loads. However, Charcon was concerned that the random sampling approach still risked the potential failure



of a lifter when the product was being installed with potentially catastrophic consequences. The only way to be confident that all slab final placement lifters were fit for

purpose was to carry out a mechanical pull out/proof load test on every lifter. This would require up to 1,750 test lifts per day, mechanisation of the test process would therefore be essential.

A special machine was designed that could test the lifters under pre-determined loads to ensure that they were fit for purpose. The machine was developed at a cost of £45,000, it requires a full time operative to support the testing operation.

### BENEFITS

- Avoids potential for serious injury or damage during lifting and placement on-site
- Lifters in slabs reduces manual handling injuries and crushing
- A safer work environment for all involved with handling the slabs
- Enhanced customer satisfaction.

698

## Wire dispensers for 5mm prestressed wire

Charcon Construction Solutions > Loud



### DESCRIPTION

Charcon Construction Solutions produce a high volume of T beam products in an external environment utilising 5mm prestressed wire for the stressing operations. The 5mm wire from the manufacturers was traditionally supplied in large diameter coils which were difficult to handle.

The safe and clean storage of coils was inherently problematic and it was difficult to achieve smooth, 'snagless' de-coiling. When a jam occurred, potentially hazardous manual intervention was required. Off-loading from delivery vehicles was prone to cause wire damage from forklift truck forks as the coils were often placed directly onto a trailer flat bed, the damage increased potential for wire breaks during the stressing process.

Charcon challenged the norm of delivery in large diameter coils for 5mm wire. It worked with Arcellor Mittal, a major global wire importer, who changed its packing process to deliver much smaller diameter coils. They also supplied a new wire dispenser replacing the traditional 'lobster spot' dispensers. Reducing the coil diameter also bought the 5mm coils into line with how 9.3mm and 12.5mm strands are packaged.

### BENEFITS

- Safer off-loading from delivery vehicles
- Improved and reduced storage area, free of contamination as off floor



- Improved stock management and rotation
- Reduction in wire damage
- Reduced potential for wire breaks during the prestressing process
- Simplified and better controlled dispenser – to date no 'jamming' incidents
- Elimination of the risk of hand and arm injuries, during the release process
- More efficient and safer operation
- Harmonisation of handling procedures across all wire sizes
- Complying with BP Code of Practice for Prestressed Concrete Products.

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# 817 Hanson kettle cradle

## Hanson UK > Ketton Cement Plant



### DESCRIPTION

An innovative method of replacing a gas conditioning tower at Ketton cement works has provided a major boost to safety and saved £13 million in lost production time.

The 7 metre wide tower, which was badly corroded and beyond its working life, cools kiln gases to a suitable temperature so they can be cleaned of dust particles by electrostatic precipitation filters to meet emissions limits.

Instead of demolishing the tower and closing the plant while a new one was built, engineering manager Danny Osborne came up with the idea of building the replacement structure like a sleeve around the old. This approach enabled the existing operation to continue during construction which was completed over a 7 month period. During the scheduled 3 week New Year shutdown, the original tower was dismantled from the inside on a platform, overcoming a major risk of working at height.

A clever no-scaffolding approach was used to build the new gas tower. A cradle, similar to those used by window cleaners on skyscrapers, was used. A crane was built into its support, this was used to lift the 70 steel 2-by-4 metre panels – each weighing 600 kilograms – up to the cradle where they were welded in. Removal of the old tower was done using another platform – shaped like a Polo mint – which allowed it to be cut up with gas torches and then lowered down through the centre.

### BENEFITS

- System now recommended as best practice by Heidelberg Cement
- Massive saving in plant down time

- Innovative and safer system of work.



# 807 Concrete pan mixer wash-out chute

## Hanson UK > St Ives Concrete Plant

### DESCRIPTION

A flexible pan mixer wash-out chute at Hanson's St Ives ready-mixed concrete plant in Cambridgeshire has made cleaning the plant safer and more efficient. The simple but effective chute swings into place when needed and swings out of the way when not. An automatic jet-spray washing system cleans out the mixer pan. The chute is pulled round and the waste and water run down into a skip outside instead of being washed out onto the floor below.

### BENEFITS

- Manual handling and other risks associated with old system eliminated
- Waste and water no longer discharged onto loading bay
- Cleaner and drier work loading area for operators and customers
- Improved access for all size vehicles under mixer
- A safer working environment for all.

visit [www.safequarry.com](http://www.safequarry.com) for more details or email: [info@safequarry.com](mailto:info@safequarry.com)



## 779 Ammonium nitrate mixer truck improvements

### Hope Construction Materials

#### DESCRIPTION

The ammonium nitrate mixing truck was difficult to access and required the operator to perform tasks at height. It was decided to modify the truck so that the complete loading operation would be carried out at ground level and to improve access and egress to the cab.

A set of hydraulic steps were installed at the rear of the truck and an access walkway installed. The walkway provided safe access both to the cab and to the loading hopper doors. A set of emergency drop down steps were installed in case of a failure in the hydraulic steps.

Prior to the truck enhancements, 1 tonne bags were lifted into position over the truck hopper using a crane mounted on the truck. The crane was operated via an access hatch mounted in the roof. The operator then lay underneath the bag and cut it to release the ammonium nitrate into the truck hopper. This operation exposed the operator to the risk of falling circa 6 metres.

The system was modified by installing a hopper in the ammonium nitrate building, the bags are lifted over the hopper by crane in the storage facility, they are automatically punctured by a spike when lowered into the hopper. The material is then transported from the loading hopper to the ammonium nitrate truck hoppers via an auger that discharges directly into the trucks storage. The whole operation is carried out by 1 operative working at ground level.

#### BENEFITS

- Significantly reduced risk of falls from height
- More efficient and safer handling of ammonium nitrate
- Operation conforms with safety legislation.



## 797 Guards above and beyond

### Barry Wood Plant Hire > Buxton

#### DESCRIPTION

Barry Wood Plant Hire undertook a 12 month campaign to upgrade the standard of guarding across their entire fleet of 30 plus crushers and screens. The levels of guarding achieved exceeds manufacturers' and industry standards.

#### BENEFITS

- Excellent feedback from customers
- Demonstrates companies commitment to health and safety
- A safer environment for employees and the contractors of organisations using the machines.





# 707 Visible felt leadership and incident prevention talks

Marshalls PLC > Group wide



## DESCRIPTION

In 2013, Marshall's observed that the trend of continual improvement in the LTIFR was starting to plateau. The improvements had been achieved by a focus on workplace policies, safe method statements and ensuring that these were followed. It was agreed that placing greater emphasis on employee behaviour would help to re-energise the drive to achieve a healthier and safer work environment. Professor Peter McKee, former MD of Dupont, was asked to assist in the implementation of a visible felt leadership (VFL) programme.

The first phase was for the Chief Operating Officer to meet face to face with every employee suffering an LTI and their immediate supervisor. The aim was to raise the profile of accident prevention and demonstrate that senior management took H&S seriously. Key issues or learning points that arise from the meetings are fed back to the site and, if appropriate, shared across the

group either via a general announcement or safety alert.

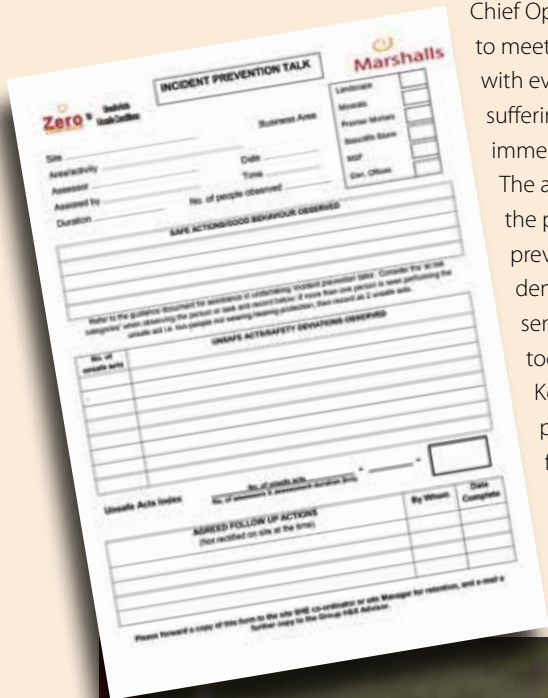
The second phase involved a training programme. This involved a day's training split between the classroom and workplace to observe employees and engage them in an H&S conversation. These conversations were described as 'Incident Prevention Talks' (IPTs).

By the end of 2013, the majority of the directors and senior management team had been trained. An IPT template was created that was used to record the H&S discussions that took place on site. Once completed a copy was left on site, a copy retained by the individual and a third sent to the H&S department. All those trained in the process were given, as part of their personal development review, a certain number of IPTs to be completed.

A total of 170 directors, managers and supervisors have now been trained in the concept of VFL and in 2014, a total of 1,053 IPTs were conducted.

## BENEFITS

- Major improvements in H&S KPIs across business
- Consistent approach to safety by senior management
- Improved quality of risk assessments across business
- Training extended to include supervisors in 2015
- LTIFR reduced by 61%
- LTISR reduced by 58%
- Recognisable change in safety culture across the business
- Improved worker engagement and communication channels
- A safer working environment for all.





## 766 Behavioural safety training and cultural development

Breedon Aggregates Scotland > Company wide



### DESCRIPTION

In 2012, Breedon Aggregates Scotland began looking at further ways to influence health and safety culture and behaviour. The business had adopted visible felt leadership (VFL) some years previously, and launched fundamental rules for the business to follow known as 'Breedon Basics'. However, analysis found that over 90% of reported incidents were caused by human factors.

Breedon reviewed other potential initiatives to change behaviour. It wanted to demonstrate management's

commitment to improving safety and create a work environment where the workforce and management were looking out for each other.

This led to the innovative use of drama to get across key messages on behavioural safety. With management support, the idea was developed by the H&S team and Macnaughton McGregor, a training company that specialised in drama based training techniques.

The resulting health and safety roadshow visited the Scottish business in January 2013. The roadshow consisted of a facilitator and two actors to play the roles of the characters. The theme was 'Near Miss Reporting'. Building on the success of this, a second was run in 2014 on the 'The Willing Worker'. This scenario highlighted a worker taking risks and cutting corners for what he thought was good of the company. During the drama the actors engaged with the audience and ultimately, the audience was able to influence the final outcome. The presentations create a lasting impression and help attendees question their own behavioural decisions.

In January 2015, a 3rd series of roadshows was run. The theme for 2015 was about how behavioural decisions taken at the workplace can have a major impact on the individual's home life.



### BENEFITS

- Significant changes in H&S KPIs across business
- 70% reduction in LTIFR since behavioural sessions started
- Has helped change behaviours and attitude to H&S across business
- Has helped build common H&S ethos with employees of acquired companies
- Near miss reporting increased by 200% following roadshow
- Near miss reporting has stayed at a consistently high level
- Quarterly reports on near miss reporting sent to the home address of all employees
- Employees still talking about the roadshows many months after the event
- Filming roadshows has created valuable H&S resource for future
- Roadshows have helped to build a sustainable and interdependent H&S culture.





# 758 On-site silo training programme

CEMEX UK > CEMEX Dry Silo Mortar > Rugby

## DESCRIPTION

CEMEX Dry Mortar is one of the largest suppliers of silo-based product in the United Kingdom. Its fleet of service engineers provide a comprehensive service which includes the initial set up of the silo, training and maintenance. They work with clients to ensure safe and efficient deliveries and to optimise the safe operation of the silo mortar system.

Recognising that the service could be improved, a team involving the service, logistics experts and management was established to review and recommend changes, this resulted in the following:

- New vans were purchased which were specified to facilitate the safe completion of the site engineer's tasks. The vans are all equipped with reversing aids, i.e. cameras/bleepers, flashing lights and are Crossrail compliant. Bespoke racking for the vans was then designed to eliminate as much manual handling as possible.
- The existing paperwork system has been overhauled and computerised; this includes all risk assessments, safe systems of work and other paperwork needed for the site.
- New guides were introduced for site assessments and training procedures for customers using the silos.

Prior to any silo being delivered to site, an engineer visits and reviews all the requirements with the customer. He will also assess the site with the customer and point out any hazards or problems with recommendations on how to overcome them. The engineer will leave the customer with the following documentation:

1. A Customer Information Sheet providing details of all aspect of silo delivery e.g utilities
2. The method statement and risk assessment for delivery of the silo
3. A health and safety data sheet
4. Concrete pad design and lifting by crane information sheets
5. A customer signed copy of the engineer's site assessment showing all agreed information

The engineer will also agree a training date with the customer. On this date, the engineer completes the final set up, connects the utilities, PAT tests the mixer and completes a full check list.

The service engineer will then complete a detailed training programme with selected personnel that covers:

1. Deliveries of dry mortar
2. Start-up and shut down procedures
3. Maintenance and cleaning
4. Breakdown procedures
5. Weekly electrical inspection
6. Winter working procedures

The training emphasis will be predominantly based on safety, making the customer aware of lock-out procedures and making sure that the working area is free from any slip, trip and fall hazards.

All the documentation is regularly reviewed by the management and engineers. Updates are easily applied as all the documentation is held on a central server. The documents, including the initial site assessment form, all risk assessments and safe systems of work together with a signed certificate of training/understanding, are packaged in a presentation CEMEX folder and given to the customer on site.

## BENEFITS

- Comprehensive and in-depth training system for clients
- All key documentation regularly reviewed and easily accessible on-line
- Silo's correctly installed and maintained
- Site users fully trained in safe use of silo system
- Reduced risk of manual handling injuries for service engineers
- Inclusive process helps ensure buy-in of all involved
- Fits with CEMEX ethos 'everyone goes home safely'
- A safer working environment for all.





## 679 Leadership, visibility, involvement and behaviour

**Finning UK Ltd**



### DESCRIPTION

The health and safety culture at Finning UK has been built around the 4 pillars of Leadership, Visibility, Involvement and Behaviour.

Continuous improvement is achieved by empowering people at all levels within the company to make key health and safety decisions, by seeking to simplify processes and innovate in all parts of the business. Detailed below are some examples of how these principles have been applied.

**Simplification** – A team of key representatives from around the business reviewed the risk assessment process to make it more efficient and more easily understood. The outcome was a simplified and innovative 3 tier approach:

Tier1 – Full in depth risk assessment

Tier 2 – A stop and think card highlighting the significant findings of the risk assessment and controls which could be applied

Tier 3 – A pre task assessment form where engineers would review the stop and think card at the point of work and identify local hazards and controls

**Innovation** – Extensive and regular H&S communications. For example, following an incident, the core details and route cause are shared across the workforce which includes a video of the injured person sharing his personal experience.

### Engagement –

The Finning safety culture involves everybody at all levels, employee consultation is key. Each location has an action team with representatives from all departments. The teams discuss general health and safety issues, trends and review Caterpillar Production System cards detailing potential process improvement initiatives and hazard reports. Key items identified by the local teams are referred to divisional teams to discuss with business leaders.

**Leadership** – The business offers in house leadership training courses. Every month, the SHeQ department compile a monthly check sheet for managers to take around the workplace. They check local compliance across a range of areas and also engage with workforce to carry out a waste walk.

### BENEFITS

- Engagement and ownership of health and safety by all staff
- Improved H&S metrics across the business
- External recognition – e.g. Sir George Earl Trophy, RoSPA's highest award
- Initiatives well received by the business
- A safer environment for all.



## MPA 'Safer by Sharing' 2016 Seminars



- **Special focus on 'Stress and Mental Health in the workplace'**
- **Key speaker – Dawn Collins – Mental Health First Aid instructor**
- **Helping you, your colleagues and your families enjoy a safer and healthier life**
- **MPA Members, non-members, contractors and hauliers welcome**



### REGIONAL VENUES AND DATES

South West – 11th May, Earth Science Centre, Shepton Mallet

East Anglia – 24th May, Tattersalls, Newmarket

North – 26th May, Middlethorpe Hall Hotel, York

Midlands – 29th September, Swinfen Hall Hotel, Lichfield

London & South East – 4th October, The Goring Hotel, London

**Contact Jane Blake at [jane.blake@mineralproducts.org](mailto:jane.blake@mineralproducts.org) to secure a place at a location near you or for more information**





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## Don't walk by DVD

Charcon Construction Solutions > Lound

### DESCRIPTION

Charcon Construction Solutions identified that a proportion of their employees, working at all levels within the organisation, had a mind-set that could potentially expose both them and their colleagues to a higher level of risk. These individuals were pre-disposed to 'walk on by' when they saw something that was potentially hazardous. For some, the concept that it was 'not their job' or 'not their position to interfere' seemed engrained. For others, it might be that they perceived the company's priority was that they should focus on getting the job done.

Charcon recognised that changing engrained cultural norms or perceptions was not easy. To address this issue, a hard hitting DVD was produced that would help employees to internalise the key message;

It is everyone's responsibility to take immediate action if they see something wrong – 'don't walk by'.

2 types of incident were selected that were of particular relevance to Charcon and other companies operating in the Precast sector. The DVD depicted 2 scenarios where an individual's failure to either deal with a potential hazard themselves or to challenge a colleague about their unsafe behaviour, directly resulted in a serious injury or fatality.

Copies of the DVD were given to all employees and other stakeholders. It was also made available via other relevant social media platforms.

### BENEFITS

- A resource that will help drive change in behaviour
- Charcon employees could identify with scenarios
- Available for use by other companies within Precast sector
- Improved safety culture within Charcon
- A safer working environment for all.

713

## Campaign to reduce hand injuries

Tarmac Building Products Ltd

### DESCRIPTION

At Tarmac Building Products, analysis showed that the largest number of accidents and incidents were related to hand injuries in 2013, they represented 37% of the total. A co-ordinated plan was implemented throughout 2014 to review the root causes of hand injuries and to focus on these areas to make significant improvements. The multi-faceted plan included the following elements:

1. A bi-monthly, hand injuries safety briefing was issued to all employees.
2. A hand protection manufacturer visited sites to improve the hand protection available.
3. Hand protection assessment surveys to ensure appropriate protection was being used.
4. Conducting hand protection trials based on manufacturer's recommendations.
5. Rationalising the glove range from 70 to a core list of 10 from a sole PPE provider.
6. A poster campaign to support the core list of products.
7. Focus on root cause and contributory factors to hand injuries.
8. Improvement in the accident investigation reporting procedure of minor injuries.
9. Analysis of behavioural factors enhanced quality of mitigation measures.
10. Hand protection incorporated as topic in Charcon's 2014 safety

week.

11. Mandatory wearing of hand protection introduced from 1 December 2014.
12. Risk assessments and operating procedures specify type of hand protection to use.
13. Senior management leading by example in wearing gloves and discussing with staff.
14. Occupational health screening at regular intervals helps to pick up issues.

### BENEFITS

- Cost savings from glove rationalisation from 70 to 10
- Improved awareness of the importance of wearing hand protection
- Engaged workforce as they were involved at all stages of process
- Clear guidance on type and use of gloves available to workforce
- Increased awareness of hazardous substances
- Improved behaviour of individuals in their approach to carrying out tasks
- Improved understanding of root causes behind accidents/incidents
- Improved risk assessments and working procedures
- Reduction in hand injuries and incidents.



# 813 Professional drivers recognition scheme

## FM Conway Ltd



Having achieved BS EN ISO 39001 Road Traffic Safety Management System and FORS Gold, F M Conway reviewed innovative ways to further reduce occupational road risk.

Based on suggestions from a drivers' forum a Professional Drivers Recognition Scheme was set up. This rewarded good practice, encouraged a better attitude to safety and promoted a healthier lifestyle. The system is based on bronze, silver and gold levels of achievement. A driver must achieve the lower level before progressing to the next. The requirements for each level are summarised below;

### Bronze standard

- Driver induction and assessment completed
- Qualifications checked and verified
- Attended an internal customer services training course
- Signed up to Conway's automated driving license check
- Completed the Safer Urban Driving training course
- Hold a full driver qualification card
- No complaints from members of the public or site personnel.

### Silver standard – in previous 3 months

- Received six Commended Service Cards
- Observed and reported one near miss report per month
- Completed 3 FORS online training modules
- No Health and Safety or PPE issues
- No issues regards lorry walk round checks or completion of daily defecting
- Kept their vehicle clean and tidy, inside and out
- No tachograph infringements

### Gold standard

- Attend 2 workshops on health related topics from our health and wellness programme

- Record one near miss per week
- Obtain one commended service card per week
- Complete one driver CPC course per annum
- Completed an internal SAFED driving course
- FORS online courses are still valid (to be renewed every 2 years)
- Retaken and completed the Safer Urban Driving on a 2 year basis
- Evidence of going the extra mile on 3 separate occasions

### BENEFITS

- Helps to maintain an excellent reputation in occupational road risk
- Ensures vehicles are maintained to a high standard

- Changing attitudes to H&S and improving behaviour
- Drivers keen to participate and upgrade their skills
- Development of the H&S culture within the organisation
- Improved reporting of near misses
- Ensures drivers are competent and the competencies are maintained
- A more efficient workforce
- Educating and improving the health and wellbeing of our drivers
- Improved relationships with clients, members of the public and others
- Reduction in occupational road risk for FM Conway and 3rd parties
- 51 drivers have achieved silver and circa 180 bronze
- A safer environment for all.





## 764 Independent haulier safety training and DVD CEMEX UK



### DESCRIPTION

CEMEX has developed a 45 minute, interactive training session comprising of a hard hitting, 20 minute video and some discussion points. The interactive package is designed to encourage open discussion and to help the independent haulier's challenge their perceptions about the management of road risks.

The video shows drivers sharing their experiences following serious road traffic collisions and the effects this had on the drivers, colleagues, managers and their families. It challenges attitudes towards risk taking and a driver's behaviour. It encourages drivers not to take risks on the road and to be observant of their surroundings at all times. The sessions asks 3 main questions;

1. What / where are the risks of driving?
2. What are the consequences of getting safety wrong?
3. What would you say / do to keep your child safe in the job?

### BENEFITS

- Improved road safety across all drivers
- Better educated fleet of drivers about road risks

- Better awareness of the potential consequences of their actions
- Part of an integrated suite of training
- Reduced risk of injury to drivers and other road users.



## 799 Activated variable message motorway sign Hanson UK



### DESCRIPTION

Hanson and MQP were concerned about merging vehicles with live traffic at the end of the lane closure on a central reservation hardening project. Similar concerns about the potential for an accident had been expressed by other contractors working on the scheme.

The issue was discussed at a site meeting with all the members of the joint venture and the Highways Agency. The proposed solution was to install a variable message sign (VMS) immediately in advance of the site exit. The VMS displays the message 'Works Traffic Merging from Right' to warn approaching traffic. The VMS is operated by a sensor which only displays this message when a vehicle is actually leaving the closure.

Alongside this initiative, it was agreed that 'Work Access' and 'Work Exit' signs would be installed to make it clear to asphalt delivery drivers where they should enter and leave the site. This is an incremental development on the use of specifying numbered work access and egress points, which are common-place on long distance closures.

### BENEFITS

- Innovative solution to common traffic management issue
- Road users warned of potential hazard
- Safer for contractor/project vehicles to merge with traffic.





# 755 Tipper rollover campaign CEMEX UK



## DESCRIPTION

CEMEX experienced 1 to 2 tipper vehicle rollovers every year when products were delivered on site. In 2013, this increased to 4 rollovers, primarily articulated vehicles. CEMEX wanted to understand if this was just a company issue or an industry problem. It approached the MPA to survey its members. The survey revealed that during a 3 year period there had been over 50 tipper rollovers just within the MPA membership.

A working party was set up within CEMEX, involving representatives from both logistics and the quarries. Following a detailed analysis of the incidents a range of contributing causes were identified and the team proposed a number of improvements:

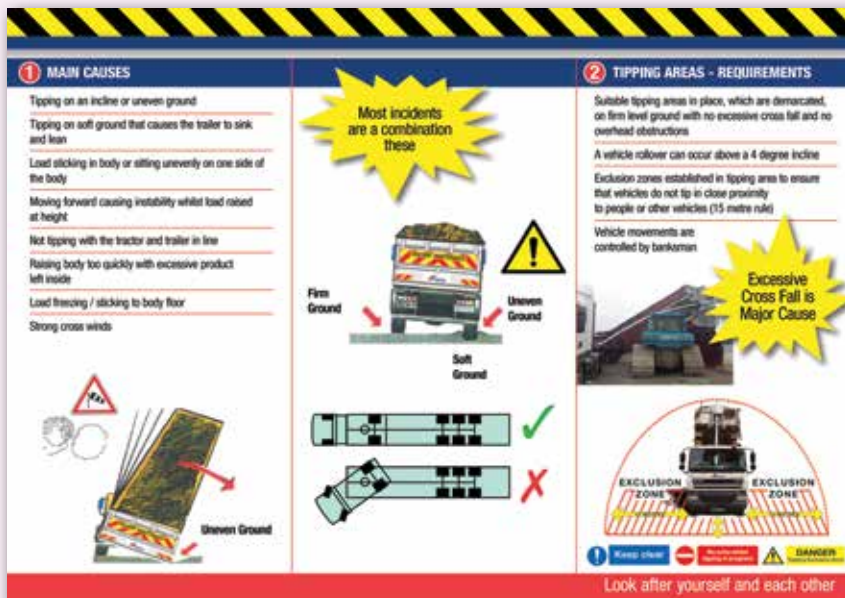
- Training materials produced for drivers, loaders and weighbridge staff to understand the problems and remedies for safe loading
- Leaflets and posters produced for drivers, loaders and customers. The customer leaflet highlights site conditions
- Cameras / mirrors on weighbridges so that the driver / weighbridge operator can check of the vehicle is evenly loaded
- Communication with drivers to reinforce that it is their choice to decide if the site is safe to tip. CEMEX empowers them to make the decision and will back them if they say it is unsafe
- Safe tipping signs are erected at all CEMEX sites advising of a 15 metre exclusion zone when vehicles tipping
- Every single CEMEX site audited/risk assessed to review tipping procedures and risks of rollovers



- On the few sites where the risks cannot be managed during tipping, the erection of tipping frames
- Results of the working party shared with QNJAC
- Fitting inclinometers to all CEMEX articulated tippers.

## BENEFITS

- Industry better understands causes of roll overs
- Resources and guidelines widely shared with industry
- Incidents of roll overs in CEMEX reduced
- Safer working environment for driver
- Saving high cost of each roll over incident
- Safer working environment for those on site.





## 796 Pedestrian and mobile plant interaction sensors

**Eurovia Roadstone**

### DESCRIPTION

Eurovia undertook a review to identify ways of reducing the risk created by pedestrians being in close proximity to mobile plant. A trial of personal proximity tags was undertaken at its Dagenham depot, a site with high traffic volumes. The equipment was installed on two loading shovels.

The system works by issuing all plant operatives and visitors that require access to the depot with transponder tags, these are unique to each individual. The individual is required to wear the transponder using a simple armband whilst on-site.

Before starting the shovel, the operator must enter his unique card, this makes the system live and starts recording data. Each time a pedestrian comes within a pre-determined range of the shovel a warning light and alarm is sounded in the cab. If there is more than one individual within range, a different alert sounds. The shovel driver is able to take appropriate action to avert any potential risk to the pedestrian.

The device logs all proximity events which can then be



downloaded for analysis. This data can be used to identify potential issues and to investigate in detail any accidents or near misses. The system has a detection range of a full 360° from 3-9 meters.

The system is being rolled out to other Eurovia sites.

### BENEFITS

- Increased pedestrian awareness of vehicles on-site
- Significantly reduced risk of collisions with pedestrians
- Data analysis enables corrective action to be taken
- System can be easily rolled out to other sites
- System can be applied to surfacing teams
- A safer working environment for all.



## 753 Blind spot reduction

**CEMEX UK**

### DESCRIPTION

CEMEX has been an industry leader in seeking ways of protecting vulnerable road users, in particular cyclists. The wide range of initiatives it has introduced include:

The use of indirect vision aids which have been fitted on the CEMEX fleets such as cameras, additional mirrors and proximity sensors.

Supporting the lobbying of the European Parliament for changes in the Construction and Use Regulations (C&E Regs).

Working closely with Mercedes in sponsoring the first Econic 8, wheeled tipper vehicles which is now on trial in London. The use of this vehicle significantly enhances a driver's ability to see and establish direct eye contact with cyclists and other road users.

A simple but effective modification has been made to the existing fleet to improve a driver's direct vision. It involves cutting a hole in the passenger door of a tipper at the level where a cyclist's head and shoulders would be seen. A glass panel is inserted in the hole providing a driver with direct vision of cyclists on his front near side. The system was piloted and drivers consulted on its effectiveness.

### BENEFITS

- New tipper with a 90% improvement in driver visibility on trial in London
- Simple modification improves direct vision on nearside
- Reduced risk of injury to cyclists and other vulnerable road users.





Occupational Health and Well Being sponsor

# 780 Hope health and well-being

## Hope Construction Materials > Company wide



### DESCRIPTION

Hope Construction Materials (HCM) believes passionately that it can have a positive impact on the wellbeing of its colleagues and that, in turn, this will have a positive impact on its business. Its vision is to create a supportive and positive environment in which people can flourish. It developed a people's strategy to help deliver this. The strategy was split into 9 key focus areas, 2 of which are 'wellbeing' and 'giving something back'.

In 2014, a survey was undertaken with specific questions relating to wellbeing and giving something back. The survey asked colleagues to rate the following:

- I am comfortable with the levels of pressure/stress in my role.
- I am happy with the balance between my work life and my home life.
- I feel that Hope really cares about both my health and my safety.
- I am aware of the work that Hope does to support worthy causes (e.g. charities).
- I believe Hope supports worthy causes in a way that makes me proud.
- At Hope I feel I can contribute to supporting worthy causes.

HCM's plan was to work on these areas and improve – starting with a clear focus on leadership and communication.

Some examples of the activity undertaken are:

- The annual management conference in January
- Safety, health and personal wellbeing were among the main themes
- Colleagues invited to participate in two wellbeing activities such as a gym challenge, Thai Chi or massage.
- Subsequently, cascaded through the business at local team development days.

### National Health & Wellbeing Forum

HCM invited volunteers from across the business, roles and geographical areas to join this forum. Its role was to meet



on a quarterly basis and share ideas and promote wellbeing focused activities in which all can participate. Some examples of this great work are outlined below:

### Resilience Campaign

- Development of awareness/promotional material
- Workshops to build resilience and confidence for success and happiness

### Giving something back

- 'Hope for Others' volunteering scheme – supporting voluntary work in the community
- Supporting local charity events, charity days and bake sales
- Open days

### Physical activity

- 'Hope 10,000 steps challenge'
- Cycle to work scheme and promotion
- Hope organised walks

### Healthy eating

- Free fruit baskets

Those participating in activities are encouraged to share their experiences either within their team or the wider organisation.

### BENEFITS

- Very positive feedback from all involved
- Better work life balance being established
- Better understanding of importance of health and well being
- More engaged workforce
- Increasing levels of participation
- Enhanced quality of community engagement
- Healthier eating options available to staff
- Improving health of those engaging in activities.

visit [www.safequarry.com](http://www.safequarry.com) for more details or email: [info@safequarry.com](mailto:info@safequarry.com)





# National road planing

Tarmac > National Road Planing Ltd



## DESCRIPTION

National Road Planing had limited data available on silica levels when planing out existing concrete carriageways. Therefore, it undertook a series of operational tests to identify the silica levels, evaluate the best machinery and PPE to minimize these levels and what training would be most effective.

The initial trials used both a standard 2m planer and a 2m planer fitted with a dust extraction system. As expected the machine with the dust extraction performed better but it was decided to enhance the machine by adding water suppression. However, operator exposure to silica on both machines were in excess of the maximum limits.

Working with Vibrock, the dust mask and extractor providers, it was established that either a full face fit mask or personal dust extract system would be required. These were trialed with 2 crews. The operators were consulted about the process and the results were reviewed with all involved. Problems were found with the face fit when people failed to shave and the work period exceeded 1 hour. The personal dust extraction system was found to be ideal. The recommendations were presented to the employee forum and Safety committee.

Several types of air fed units and full fit masks were then trialed with gangs that had not been involved with the initial trials.



Feedback was obtained and resulted in two types of air flow units being preferred and a single face fit mask. These were then made available to every gang based on personal preference. They were further modified to incorporate two way communication packs.

## BENEFITS

- Exposure to dust significantly reduced
- Effectiveness of PPE confirmed
- Information shared with all Tarmac planer crews
- System adopted as industry standard by Federation of Planing Contractors
- A healthier and safer work environment for all.





738

## Monitoring and raising awareness of dust using visual displays

Sibelco Europe



### DESCRIPTION

Sibelco has been carrying out dust exposure monitoring for many years. It was looking for a new way of showing to the workforce how dust levels varied throughout the process plant and with different activities, especially in relation to pM10 particles which are virtually invisible to the naked eye.

A small team comprising of health, safety and engineering specialists developed the idea of combining real time dust level measurements in a graphical form together with a visual record of the activity or process being carried out. They believed a short video showing how dust was generated together with received



exposure levels would be both more easily understood and a powerful way to raise dust awareness with employees. Personal monitoring or spot readings do not have the same impact.

The team combined a real time particulate monitoring instrument, a cheap compact video camera linked together with software from the internet. This tool is now used throughout Sibelco UK to assist site 'No Dust Teams'. It identifies and then provides a visual display to employees showing how dust levels can vary significantly within quite a small area. It is also used as a tool to locate on production processes sources of dust emission.

The combined dust measurement and video can be quickly downloaded onto a laptop and shown back to the operators. They can easily see and quickly understand which part of their activities are generating varying dust levels.

### BENEFITS

- Management and maintenance staff can quickly identify problem areas
- Information on dust is better understood by staff
- Management of dust levels is more effective
- Particularly useful in showing levels of virtually invisible pM10 particles
- Equipment has been extremely popular with the workforce
- A safer and healthier working environment.

694

## Manual handling reduction – tow tugs

CEMEX UK > CEMEX floors > Wick



### DESCRIPTION

During the production of Tee beams at CEMEX Floors various items of equipment are moved around the production areas on trolleys that weigh up to 200kg. This work exposed operators to manual handling risks and the possibility of a musculoskeletal injury.

Tow tugs were purchased which can tow anything with a corresponding hitch. The existing trolley handles were removed, the wheel configurations changed and a tow hitch added, allowing all trolleys on site to be pulled by a tug. The tugs were fitted with a horn, gel batteries for safe charging, foam filled tyres to prevent punctures and an enabling switch which when released stops the tug from travelling.

Operatives were involved in the risk assessment process and trialing of various ideas for the control measures.

### BENEFITS

- Eliminates risk of manual handling and musculoskeletal injury

- Operatives cannot move trolleys without using tug
- Operatives involvement enhanced acceptance and safety culture
- A safer working environment for all.



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# 772 Near miss hazard reporting system

FM Conway Ltd



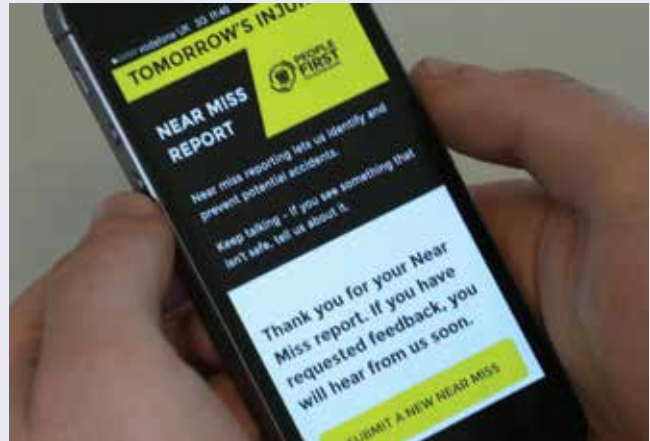
## DESCRIPTION

FM Conway received negative feedback from an employee survey about the quality of its 'Say What You See' near miss/hazard reporting system.

- The name of the system was not clear and did not identify what had to be done
- Alternative communication options were needed
- No feedback from the card system – the site post boxes were perceived as 'black holes'
- It was difficult for many operatives to return the cards to the post boxes.

This feedback and the receipt of only 248 near misses/hazard reports in 2013, confirmed that the employees were disengaged with the system. To help resolve this issue, a three tier communications approach was introduced to appeal to as many employees as possible.

**A bespoke App:** a customised mobile App was developed in-house with simple drop down menus and free text boxes which allow confidential, real time reporting from site. The App is available via QR codes printed on all health and safety poster and notices boards, it is combatable on all phone platforms. Employees can opt to receive feedback or to remain confidential. The employee receives an acknowledgement of their submission. (App web address is [www.fmconway.co.uk/nearmiss](http://www.fmconway.co.uk/nearmiss))



**Freepost Near Miss Cards:** Freepost reporting cards, available at all depots and work sites, enable confidential reporting at no cost to staff. The cards can be posted anywhere in the UK, a key concern for employees who were transient and unable to use the former site based system.

**Phone:** a confidential phone number is displayed prominently on all workplace health and safety material. Employees can also inform their line manager of any near misses.

Following extensive consultation the system was simply named the 'Near Miss Reporting System' and the resources supporting it branded with Conway's People First: Go Home Safe Logo.

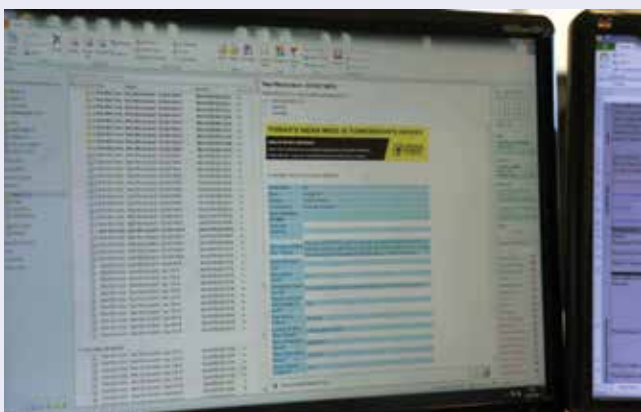
Robust procedures ensure that all issues reported are logged, allocated to an independent investigator and followed through to conclusion. The provision of feedback to the employees is critical, this is constantly monitored. Employees are able to track the progress of their issues via a shared spreadsheet without losing their confidentiality. These measures also provide a rich source of data to analyse trends, identify common issues and develop behavioural health and safety interventions.

Following an employee suggestion, Conway also contribute £1 per near miss reported to the construction based charity The Light House Club.

Since re-launching this system, over 800 employees have been trained on near miss reporting.

## BENEFITS

- Near miss reporting has increased over 890%
- Employees engaged with the mobile app solution
- 89% of reports now received via APP
- Employees committed to a system they were involved in designing
- Better managed process for responding to near misses
- A safer and healthier work environment for all.





# 785 Qualified training group

**Brett Aggregates Ltd**



### DESCRIPTION

In order to engage the workforce and encourage participation in health and safety, Brett Aggregates asked the business units to nominate individuals to undertake a 'Train the Trainer' course. The course developed the individual's skills and confidence to competently deliver toolbox talk type training modules in the workplace. Each area nominated enough individuals to ensure the training could be rolled out to the entire workforce each month.

When the trainers were qualified, a series of toolbox talks were written which incorporated the Brett SHE Management System 'QHEST'. These toolbox talks were then delivered by the Qualified Training Group (QTG) to their fellow workers. The delivery of the toolbox talks by someone the employees both knew and to whom they could relate, created a more relaxed atmosphere and significantly greater levels of interaction and engagement.

Once the QTG members were more confident and accomplished at delivering talks, they were asked to help to create the content. This was achieved by the group meeting each month facilitated by a trainer. During the first part of the meeting, they would provide feedback on what worked well and discuss how to deliver the toolbox talk for that month. Then they would discuss the content of the next month's topic and assist in writing up the toolbox talk



on this subject. This process not only allows direct input from the workforce into their own training but also gives greater ownership of the topics and the messages that the company is trying to get across.

### BENEFITS

- Increased willingness to challenge and discuss the topics and information in the training sessions
- Training is enhanced and more relevant for employees
- Training aligns with company's health and safety systems/policies
- Greater ownership of health and safety across work force
- A safer working environment for all.

# 815 PPE and small tools working group

**FM Conway Ltd > Company wide**



### DESCRIPTION

FM Conway set up a Personal Protective Equipment Working Group (PPEWG). Its remit was to discuss PPE issues and to involve the operatives directly with the range and suppliers of PPE.

The group's participants have remained the same since its formation two years ago. This has brought significant benefits in terms of its effectiveness, open nature of discussions, shared objectives and focus on managing group tasks. The majority of the group are operatives, the balance are supervisors, contracts managers, the SHEQ manager and a director. Members are drawn from across all divisions within the company. The success of this has resulted in Conway setting up a Small Tools Working Group with a similar remit in relation to the selection of small tools.

The tasks undertaken by the group involve the following;

1. Listening to and discussing issues raised by operatives representatives
2. Conducting trials on various PPE including safety helmets, gloves, glasses and footwear
3. Conducting surveys on trialled PPE to determine suitability and acceptance.
4. Provide business case and cost benefit analysis to for approval of PPE recommendations

### BENEFITS

- Greatly improved the standard of PPE supplied by the company



- Employees feel they have been consulted on PPE issues
- Greater compliance in wearing PPE
- Development of improved safety glasses following identification of magnifying issue
- Upgrade to safety helmet and associated PPE attachments.
- Introduced wearing of flame retardant overalls for selected operations
- Introduced clip on face shields/visor for line marking
- Wider choice of safety gloves and understanding of suitability for task
- Provision of PPE stations for items such as gloves, glasses and hearing protection
- A safer working environment for all.

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# 710 Safety Day

## Stanton Bonna Ltd

### DESCRIPTION

Stanton Bonna's parent group gave every factory the task of planning, organising and delivering a day dedicated to health and safety for all employees. Activities were suspended for the day to allow all employees to participate.



The aim of the safety day was to drive home the message that safety was the priority for the group and to enhance the safety culture within the workforce. Stopping all activities reinforced the message with the 10,500 employees across Europe.

Some topics were made mandatory by the parent group as they reflected common incidents across the group's factories or the type of incident where a serious injury could be caused. The other topics selected were of particular relevance for the Stanton Bonna operations. Suppliers were asked if they would be able to provide speakers and deliver presentations or demonstrations.

The group sizes were between 12 to 15 members which included a mixture of individuals from different areas of the business. An information leaflet was given to all the employees. They were split up into 10 groups, a team leader was made responsible for ensuring everyone got to each session on time.

The parent group provided a corporate video to be shown at the beginning of the day, safety posters highlighting particular hazards and a 'hazard spotting' quiz.

A central theme for the day was printed on special hi vis waistcoats - 'ZERO HARM HERO' - this was seen by everyone throughout the day.

The day started with everyone having breakfast followed by a video address from the group CEO emphasising the importance of working safely followed by Du Pont safety video.

3 speakers who are well known in the industry and recognised experts in health and safety helped to reinforce the zero harm message.



Two role play sessions highlighted; how teamwork and working together can improve safety, and how individuals can help change cultures and attitudes to health and safety.

Each team undertook the hazard spotting task, prizes were awarded to the members of the winning team. Other sessions included topics such as first aid, fire safety, isolation, cycle safety and crane safety.

The day concluded with prize giving and the presentation of certificates to employees who had successfully completed the IoSH working safely course. Feedback forms were given to all employees to gauge the success of our first safety day.

Before leaving, all employees were given a safety related gift pack with a T Shirt and waterproof fleece with the Zero Harm Hero safety message, a camping headlamp, first aid kit and a smoke alarm.

### BENEFITS

- Extremely positive feedback from employees (97% good or excellent)
- Feedback will be applied to future safety days
- Built sense of identity across the business
- Enhanced the health and safety culture
- Reinforced health and safety as top priority
- Refreshed knowledge on key health and safety issues
- The safety day will be an annual event
- A safer working environment for all.





## 732 Video on isolation

### Tarmac > Greenwich Wharf



#### DESCRIPTION

Poor energy isolation processes have led to a number of deaths and major injuries in the mineral products industry. Despite the systems in place and regular training on isolation procedures, Tarmac employees and contractors were involved in a number of incidents where an injury or near hit with a potential for serious injury had occurred.

Tarmac produced a short and simple isolation film that was used to train and refresh employees and contractors. The operational team at Greenwich wharf was used to help make the video and ensure a high level of employee involvement in the whole process.

The film script was drawn up with input from the team at Greenwich. They considered the key messages and what equipment the video should focus on. Filming took place on site over two days and, instead of hiring actors, the team at Greenwich including contractors starred in the film.

The film was trialled in the South Region and shown to more than 330 employees and contractors. As the feedback was

overwhelmingly positive, it was rolled out to the rest of the country. The video now forms part of the standard contractor induction at Tarmac.

The completed video is only 7 minutes long, short enough to keep the attention of those watching it. After showing the video, the key messages are reinforced by asking the audience to undertake a short test of their understanding.

#### BENEFITS

- Video is more accessible to operatives
- Reinforces and clarifies essential steps in the isolation process
- The film has generated a lot of discussion about isolation
- A free-to-use training aid for small and medium sized businesses
- Positive feedback from contractors
- Improvement in incident and injury statistics
- A safer working environment for all.

## 784 Going home safely

### Day Group



#### DESCRIPTION

Day Group and a contractor were prosecuted following a serious incident in which an operator employed by the contractor sustained life threatening injuries. The experience of a colleague being seriously injured, the detailed investigation that followed and the legal process had a significant impact on all those involved. Day Group and the contractor were acquitted. However, they were determined to ensure that such an incident would not occur again.

A DVD was produced which was championed by the Managing Director and the contractor's Director (Southern Vulcanizing Ltd). The aim of the DVD and a related PowerPoint was to explain the incident and to ensure that the control of contractors was understood by all of the workforce and to empower them to

challenge 'if things do not seem right'. Employees were involved in making the 'Going Home Safely' video. The video and PowerPoint were presented by department directors across the entire workforce.

#### BENEFITS

- Better control of contractors
- Employees empowered to challenge unsafe behaviour
- Resource available for others to use
- Safer working environment for all.



## 723 Hot aggregate recycling process

Aggregates Industries UK Ltd > Darwen Express Asphalt



### DESCRIPTION

Darwen Asphalt plant had a number of issues related to the recycling of hot aggregates.

When the plant was cleaned out a loading shovel was used to collect the aggregates. The operator was required to manoeuvre through customer vehicles to reach the plant. The site is tight for space which increased the risk of vehicular collisions.

A significant amount of airborne dust was created during the clean out process, often this would engulf the loading shovel, exposing the operator to the hazards of respirable crystalline silica (RCS).

The heated aggregates were transferred back to the aggregate stockpiles where they were stored for reuse. This process wasted heat and the exposed hot stone (200°C) created a potential burns risk.

A meeting was held with Invertech Solutions, electro/mechanical contractors, and system modifications proposed. The changes were discussed with the site staff before implementation. The project incorporated two key refinements.

**Enhanced control:** a system that prevents the bins from ever reaching the point where they can overflow by calculating how much aggregate is in the process and automatically switching off the feeders.

**Automatic cleaning system:** a programmable logic controller (PLC) automated clean-out system was installed. It utilised a set of synchronised plates that fold in and out of position, feeding the hot aggregate back over the screens and into the hot bins, ready to be used in the final product again.

### BENEFITS

- Clean out system re-processing 2,200 tonnes of hot aggregates per annum
- Reduced overflow from 10t per day to 2t per week
- Significant reduction in the burns risk
- Significant reduction in use of shovel during production
- Significant reduction in dust exposure, particularly RCS
- No vehicle contact incident recorded since change
- Reduction in noise generated by operation
- Reduction in running time and service costs for shovel
- Reduction in fuel usage of 60,000 litres per annum
- Reduction in risks associated with flammable liquids
- A healthier and safer work environment for all.



## 724 Third rail skip safety system

Aggregates Industry UK Ltd > Derby Express Asphalt



### DESCRIPTION

Following a potentially life threatening incident at Derby Express Asphalt when a 4 tonne skip became dislodged whilst climbing up the track way to discharge its load, a thorough review was conducted. The purpose was to both eliminate the root cause of the incident and review if other potential engineering controls to prevent skip failure could be installed.

The solution was the installation of a 3rd rail through the centre of the track and goal post caging around the track way. The goal posts would prevent the skip falling in the event of de-railment. The design both strengthens the trackway and minimises the risk of the tracks spreading causing a de-railment.

### BENEFITS

- Minimises risk of injury or plant damage
- Reduces risk of de-railment
- System adopted as best practice across the group
- A safer working environment for all.



816

## Bucket elevator tool

Breedon Aggregates England > Leinthall Quarry



### DESCRIPTION

The site management and fitting staff at Leinthall Quarry have developed a simple but ingenious tool to assist in the difficult and potentially hazardous task of assembling asphalt plant bucket elevator chain links.

Previously, it required three fitters to assemble the links, using bars to hold the link in position, and a hammer to thrash the link into the assembled position.

The new tool for joining links has been an unmitigated success.

### BENEFITS

- Significantly improved efficiency of this maintenance operation
- Only requires 2 men and completed 4 times faster
- Significantly reduced risks associated with manual handling
- Significantly reduced risk of finger pinching, eye injuries and burns injuries
- Tool can be used in other chain link applications
- A safer working environment



722

## Elevated temperature detection device

Aggregate Industries > Express Asphalt Darwen



### DESCRIPTION

After the physical failure of the casing containing a fluid coupling to the mixer drive motor, oil was spread onto hot surfaces surrounding the mixer and ignited. A plant operative who detected the heat change was confronted with a burning room when he investigated, fortunately he was uninjured.

To prevent a recurrence, sensors were located at key points and 'rate of temperature rise' programmed into a dedicated PLC in order to differentiate between the normal hot asphalt process and an abnormal (fire) situation. The latter sets off an aural and visual alarm on the control console. The remote detection allows the initial management of the incident to be made from a place of safety. The locations of the sensors depend on the plant configuration. Sensors were placed inside the mixer; above the burner; and in the apex of the building. Thought has been given to different types of fire that could occur and the most appropriate method of fire suppression: filler for a mixer fire; water for a drive

fire; fuel solenoid cut-off for a burner fire. The system also activates a fire fan to help reduce smoke and lower temperature.

Following this implementation, it was decided to install a similar system at all asphalt plants in the company that were enclosed within buildings.

### BENEFITS

- System can be easily adapted to different plants
- System can be adapted to target specific zones within plants
- Reduction in the risk of injury to operator in the event of fire
- Rapid detection and activation of appropriate forms of fire suppression
- Fire fan activation assists emergency services who may need to enter building
- A safer working environment.

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## 720 Mixer discharge protection device

Aggregate Industries > Express Asphalt Darwen



### DESCRIPTION

Following two accidental incidents whereby bitumen was discharged onto the back of customers' vehicles, the asphalt production control process was found to be flawed. Previously, once the 'Batch to Mix' ram had operated, if the aggregate being transferred to the mixer via the batch elevator didn't arrive for whatever reason, the process didn't recognise this. The system would continue to dose bitumen and filler into an empty mixer and then discharge the contents.

With drivers occasionally exiting their cabs whilst under the mixer, the potential for significant harm was evident.

With the aid of a specialist contractor, additional information was fed into the programmable logic controller (PLC) such that if the load on the mixer motor fails to increase, then the bitumen is held in the weigh hopper until the anomaly is addressed. Only a manager can authorise a reset.

### BENEFITS

- The potential for a serious accident has been eliminated
- Compliance with the COSHH regulations and environmental legislation
- Safer environment for customers and operators.



## 750 Ramlock

Aggregate Industries > Sheffield Asphalt Plant



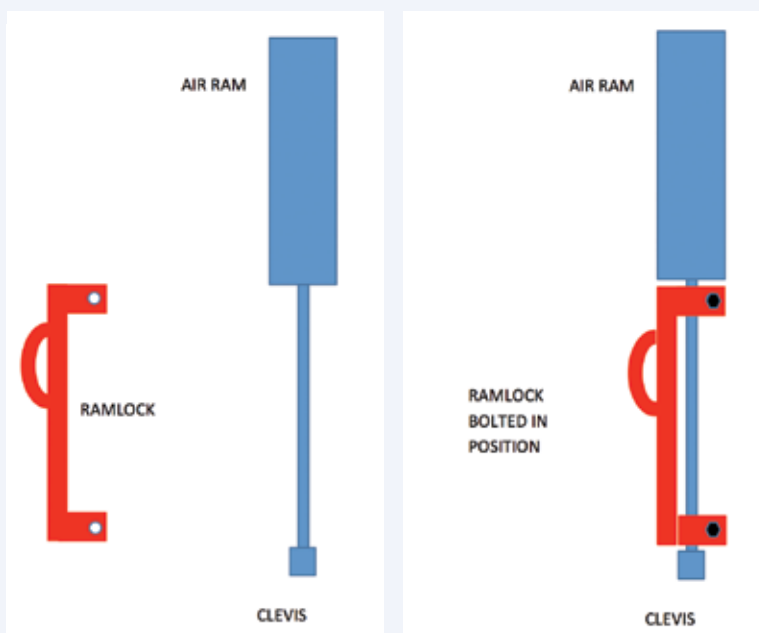
### DESCRIPTION

At Sheffield Asphalt Plant the fitter was standing with some components on the doors of the mixer whilst undertaking some maintenance work. The air in the door ram system was insufficient to withstand the weight and the doors opened, fortunately a fall and injuries were averted.

To ensure a future fail-safe system when similar maintenance is undertaken, a 'ramlock' has been devised comprising a clamp that can be fitted over the shaft of the air cylinder, secured by two bolts, one at the nose of the shaft, the other at the clevis point. This system prevents the doors of the mixer opening when under load.

### BENEFITS

- Safer for fitter to undertake maintenance work will standing on bin
- System could be easily applied to other plants.



790 **Asphalt plant dust suppression system****Colas Ltd > Carnsew Quarry****DESCRIPTION**

The asphalt plant at Carnsew Quarry required a dust suppression system on the cold-end feed. The quarry fitter devised an effective in-house system. An adjustable height, spray bar was fitted above the cold aggregates collection conveyor. Mains fed water is pumped to the spray bar when the trough conveyor is loaded. This is achieved by the underside of the conveyor coming into contact with a wheel when it is underload, this opens the valve and allows the water to flow. The rotation of the wheel also drives a mechanical pump. Non-return valves have been installed on the water supply. There are no water tanks on the system, thus

precluding legionella problems. The system is rarely needed in winter, so can be turned off.

**BENEFITS**

- Significant reductions in dust following installation
- Reduced health risk to operators
- Very low cost system compared to commercially supplied systems
- System easy to maintain and low operating costs
- A safer working environment for all.

677 **RAP elevator access****United Asphalt Ltd > Croydon****DESCRIPTION**

The RAP chute at United Asphalt's Croydon plant has numerous inspection hatches but no access platform. When accessing the chute to clear blockages, maintenance operatives needed to erect a mobile scaffold tower on the first floor of the plant. The task was further complicated by the need to build around the RAP hopper and feeder belt. This process was time consuming and exposed operatives to falling from height and manual handling risks. Following the recommendation of the safety committee, a fixed, hand-railed access platform was installed.

**BENEFITS**

- Increased use of recycled products
- Significant reduction in downtime when clearing blockages

- Improved working conditions for operatives
- Significantly reduced manual handling and fall risks
- A safer working environment for all.

809 **Abort hopper vibrator****Hanson UK > Midland Quarry Products > Cliffe Hill Quarry****DESCRIPTION**

During the continual asphalt production process on the Marini plant at MQP's Cliffe Hill Quarry, there is an amount of material sent to the abort hopper known as the start and stop. This material is cooler and stickier than the normal asphalt because of the RAP used.

The abort hopper blockages required clearing on a regular basis by operatives using jigger picks whilst working in the confined space of the hopper. To resolve this issue, a vibrator that is

activated when the discharge door is opened was installed. This has resolved the problem.

**BENEFITS**

- Eliminated working confined space hopper with jigger drills
- Reduced costs and improved efficiency
- Staff motivation following implementation of solution they recommended
- Safer working environment for all.

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## 725 Skip safety

Aggregate Industries UK Ltd > Liverpool Asphalt

### DESCRIPTION

A 'worst-case scenario' site audit identified the serious consequences of the asphalt skip falling through the inclined track onto pedestrians below. To preclude pedestrian access whilst the skip is in motion, a magnetic lock system was installed to lock access gates and power a flashing red beacon. Specific warning signage has also been erected.

### BENEFITS

- Protects pedestrians from exposure to this risk
- Cost effective and easy system to install
- System has been applied to other sites.



## 768 Bond coat sprayer – safety devices

Breedon Aggregates Scotland

### DESCRIPTION

Breedon Aggregates gave careful thought to the specification of a replacement bond coat sprayer tanker. In addition to a sleeper cab as the driver would cover a large geographical area, the following safety equipment was fitted: additional beacons, front and rear LED strobes, rear chevrons, broadband reversing alarms, near side colour cameras and infra-red and rear facing cameras, colour and infra-red/audible alarm to warn vulnerable road users that the vehicle is turning left. LED lighting was added behind the cab and at the rear. Reflective material has been added to the side of the vehicle to make it more conspicuous.

### BENEFITS

- Vehicle safer for the driver, pedestrians and other road users
- Additional safety specifications reflect the nature of work being undertaken
- Exceeds Chapter 8 requirements.





805

## Bitumen tank farm

Hanson UK > Keepersfield Asphalt Plant

### DESCRIPTION

Hanson UK replaced the bitumen tankage at its Keepersfield Plant when it was bought out of mothball. Following consultation with the workforce, a wide range of safety improvements were made to reflect industry best practice. The improvements included;

- Improved tanker access eliminating need for reversing
- Introduction of a six metre fenced exclusion zone
- Direct visibility from plant control room and recording of the delivery via CCT
- Bitumen shower with audible activation warning

- Clustered fill points and ullage warning displays
- A vent pipe 'splutter box' to direct H2S fumes away from driver

### BENEFITS

- Redesign has significantly reduced risks for delivery drivers and site operators
- Significantly reduced risk of bitumen spillage
- More efficient deliveries of bitumen
- Site reflects industry best practice
- A safer environment for all



811

## Bitumen tank delivery and dryer barrel improvements

Hanson UK > Midland Quarry Products > Ettingshall Quarry

### DESCRIPTION

#### Bitumen delivery

The first load of bitumen delivered to Ettingshall Asphalt plant after the Christmas break was unable to off load due to the flexi hose to the main intake valve being blocked. The driver coupled up to the main tank to off load – stepping up and down off a concrete plinth whilst connecting and uncoupling. He exposed himself to the risk of slips, trips and falls and the potential hazard from a hot bitumen residue left in the line.

A working group of team members and contractors recommended the installation of a steel pipe, lagged, trace-heated and accessible at ground level. This modification, together with an additional concrete plinth located in front of the intake pipework to prevent delivery vehicles reversing into it, have improved the safety of bitumen delivery.

#### Barrel dryer

Higher temperatures on the dryer barrel due to the increased use of RAP, were causing the batch heater wheels to get excessively hot. This damaged the polyurethane tyres and increased the frequency of replacement. The wheel – tyre arrangement was redesigned using three smaller tyres per wheel. This modification increases airflow and allows the heat to dissipate better. The old wheels had a solid support shaft but the new ones have separate bolt on shafts either side of the wheel to allow maintenance without removing the wheel.

### BENEFITS

- Reduced risks for delivery dryer
- Improved efficiency of bitumen delivery operation
- Minimised manual handling during maintenance of dryer barrel
- Lower replacement costs for tyres
- Reduced maintenance downtime.

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	Bond coat sprayer - safety devices	33	768	•					•								•							
	Bitumen tank farm	34	805	•											•	•			•					•
	Bitumen tank delivery and dryer barrel improvements	34	811	•											•	•		•			•			•

# Health and safety working groups

## Lime

David Brown	Lhoist UK Ltd
Julian Clayton	Lhoist UK Ltd
Paul Geaney	Lhoist UK Ltd
Andy Howe	Tarmac Cement & Lime Ltd
Viv Russell	Tarmac Cement & Lime Ltd
Kye Brown	Singleton Birch Ltd
Ian Gibson	Mineral Products Association

## Safer by Partnership

Ian Scott	Aggregate Industries UK
Glyn Barnes	Bam Richie
Paul Mack	Barry Wood Plant
Andy Taylor	Cemex UK
Grahame Thompson	Clark Contracting
Alan Dawson	D&C Engineers
Ian Knott	EPC
Darryl Hodgett	Finning (UK)
Mark Tyrer	Hanson
Jason Moore	Hope Materials
Roseanne Hayward	MPQC
Rhys Bush	PICS
Richard Hotchin	QUBE Electrical Maintenance Engineers
Jason Craig	QUBE Electrical Maintenance Engineers
Richard Solly	Rema Tip Top
Howard Austin	Roltech Engineering
Kye Brown	Singleton Birch Ltd
Ian Jones	Stokey Plant Hire
Ian Gibson	Mineral Products Association
Kevin Stevens	Mineral Products Association

## Occupational Health

Peter Luxmore	CEMEX UK Operations
Craig Buttenshaw	CPI Mortars Ltd
Helena Robinson	Hope Construction Materials
Melanie Brewster	IDC
Steve Ford	Sibelco Europe
Philip Bason	Tarmac
Kevin Stevens	Mineral Products Association

## Cement

Steve White	Aggregate Industries
Mary-Ann MacInnes	CEMEX UK Cement
Graham Dunwell	Hanson UK
Mike Cowell	Hope Construction Materials
Alison Shenton	Hope Construction Materials
Meirion Webber	Kerneos Limited
John McNamara	Lagan Cement Group
Mark Underwood	Tarmac
Ian Gibson	Mineral Products Association

## Contract Surfacing & Asphalt

Alan Barrett	Aggregate Industries
Mark Fisher	Breedon Aggregates
Dave Lewis	Breedon Aggregates
Scott McDonald	Breedon Aggregates
Russell Spooner	Brett Aggregates
Jason Barker	Cemex
Jon Burton	Cemex
Phill Beaumont	Colas Ltd
Mike Betchley	FM Conway
Andrew Cox	FM Conway
Brett Coupland	Eurovia
Paul Kidd	Eurovia
Ian Darroch	Hanson UK

Steve Urch	J Wainwright & Co Ltd
Mark Goslin	Tarmac
Carl Wignell	Tarmac
Steve Cooper	Tripod Crest
Darren Stokes	Tripod Crest
Mike Cowley	United Asphalt
David Isham	United Asphalt
Glen Smith	Wirtgen
Ian Gibson	Mineral Products Association
Kevin Stevens	Mineral Products Association
Malcolm Simms	Mineral Products Association

## Bitumen

Matt Avery	Aggregate Industries
Jason Barker	CEMEX UK Materials
Ian Burrows	Eurovia Roadstone
Gary Dowell	Hanson UK
Andrew Williams	Nynas Bitumen
Arnold Marsden	Tarmac

## Transport Working Group

Jeff Stobart	Aggregate Industries
Tom Clubb	Brett Group
Robert Wilkinson	CEMEX
Dominic Day	Day Group
Peter Parle	FM Conway
Nigel Clamp	Hanson
Nick Elliott	Hope Construction Materials
Ben Street	Mldland Quarry Products
Trish Jagger	MP Skills
John Dargie	Myers Group
Paul Needle	Smiths Bletchington
Sean McGrae	Tarmac
Kevin Stevens	Mineral Products Association
Jerry McLaughlin	Mineral Products Association

## Leadership and Workforce Engagement

Ian Scott	Aggregate Industries
Lesley Hall	Brett Group
Chris Leese	CEMEX
Tyrone Partridge	Day Group
Andrew Cox	FM Conway
Nigel Clamp	Hanson
Andy Price	Sibelco
Mike Cowley	United Asphalt
Kevin Stevens	Mineral Products Association

## Performance Statistics

Andrew Taylor	CEMEX UK Operations
Tyrone Partridge	Day Group
Paul Lacey	Hanson
Carl Wignell	Tarmac

## Marine

Nigel Reeve	Britannia Aggregates
Chris Andrew	Britannia Aggregates
Ken Hunter	CEMEX UK Marine
Mark Williams	CEMEX UK Marine
Mark Tyrer	Hanson Aggregates
Robin Baker	Hanson Aggregates Marine
Gordon Tuck	Tarmac Marine
Stewart Ferrier	Tarmac Marine
Barry Smith	Tarmac Marine
Mark Russell	Mineral Products Association
Kevin Stevens	Mineral Products Association



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The Mineral Products Association is the trade association for the aggregates, asphalt, cement, concrete, dimension stone, lime, mortar and silica sand industries.

Written by Daybreak Communications Ltd, Winchester  
 Designed by Generate UK  
 Managing editor: Kevin Stevens, MPA

Printed on paper and board which is totally chlorine-free and produced from pulp from sustainable forests.

