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CPD
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ENTRIES FROM THE HEALTH AND SAFETY AWARDS

Health & Safety Awards '10

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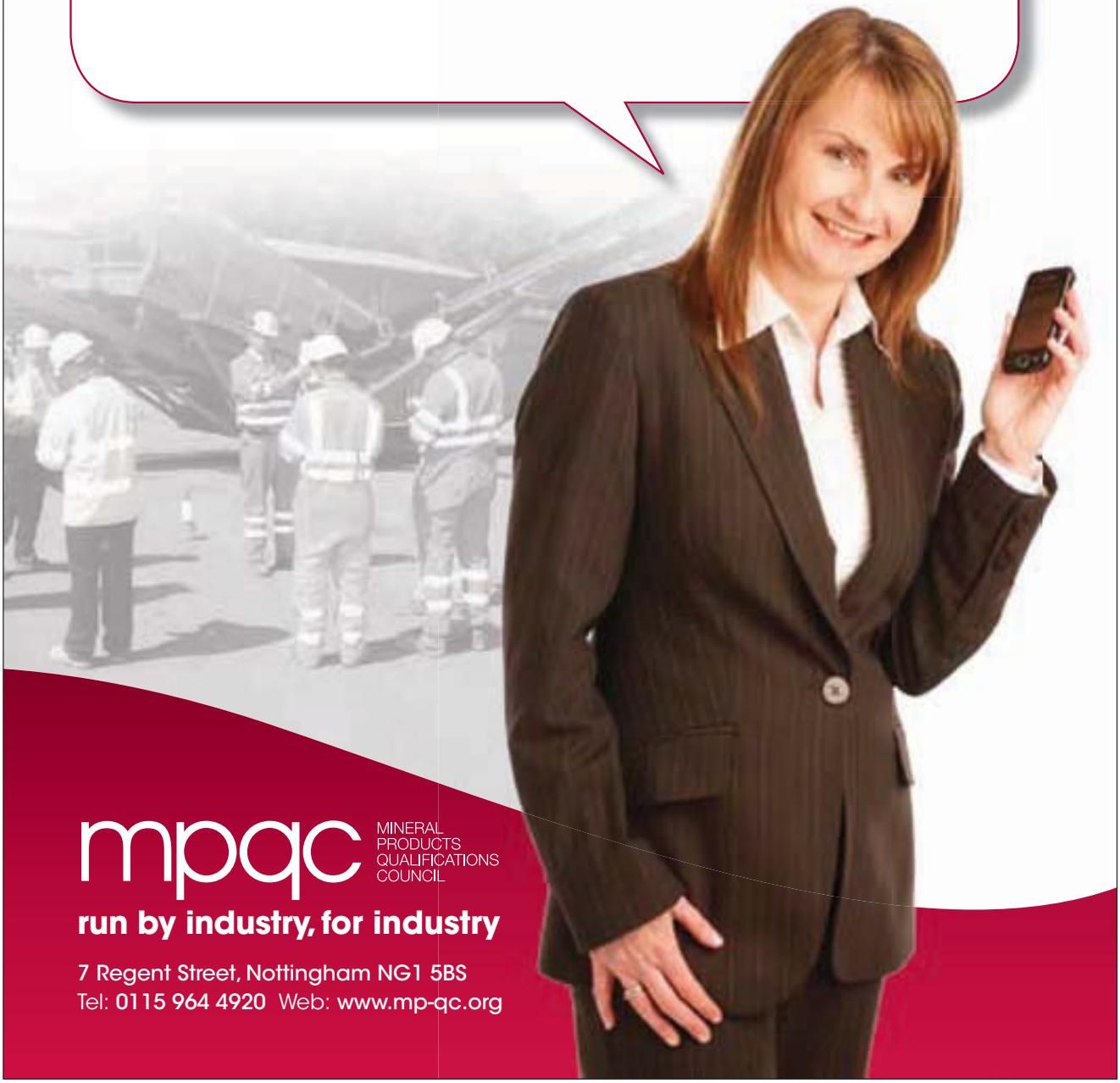

mpqc MINERAL PRODUCTS QUALIFICATIONS COUNCIL

run by industry, for industry

7 Regent Street, Nottingham NG1 5BS
Tel: 0115 964 4920 Web: www.mp-qc.org

Foreword

The mineral products industry is committed to achieving the highest standards of health, safety and welfare in all that it does. Health and safety is now at the top of our agenda and is firmly embedded in our culture.

The 347 individual entries received this year reflect the enthusiasm and dedication of staff at all levels within the business to identify and find ways of minimising risk and potential hazards in our operations. The entries were truly representative of the Mineral Products Association's (MPA) membership covering a broad range of companies and products. Of the 22 companies that submitted entries, 15 were from independent companies.

The sharing of knowledge and innovations will help to make all our operations safer and healthier.

This will be a crucial element in the minerals industry achieving Target Zero, that is **Zero Harm**.

Nigel Jackson
Chief Executive
Mineral Products Association

target zero

A selection of the trophies presented at the MPA Awards Ceremony 2009

Contributions from MPA members in 2010

Aggregate Industries
Allen Newport Ltd
Breedon Aggregates Scotland Ltd
Brett Group
Britannia Aggregates Ltd
CEMEX UK
Colas Ltd
CPI Euromix
EPC - Groupe UK
Eurovia Roadstone
Golder Associates (UK)
Hanson UK
Hillhouse Quarry Group
J Clubb Ltd
J Wainwright & Co Ltd
Lafarge Aggregates & Concrete UK
Lafarge Cement Ltd
Leiths (Scotland) Ltd
Lhoist UK Ltd
Midland Quarry Products
Singleton Birch Ltd
Tarmac Limited

Introduction

This guide summarises the best ideas and innovations from the MPA's *Health and Safety Awards 2010* that were featured at the ceremony jointly hosted by the MPA and the Institute of Quarrying on the 6th October.

Some of the entries are flagged to show that there is a video available - the videos can be viewed at **www.safequarry.com.** In addition to this year's entries, awards from previous years can also be accessed. The website features 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 with an interest in quarrying and mineral products will find them useful and accessible. To ensure that your browsing on **www.safequarry.com** is recorded for CPD purposes, you do need to **log in** every time that you access the website.

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 nine sections that reflect the most common areas or activities requiring particular health and safety consideration. 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.

We welcome your feedback via the Safequarry website. Your involvement is crucial in helping the industry to achieve Target Zero.

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Safety audit on 'collect' vehicles

CEMEX UK > Local Asphalt - Liverpool > 0151 4899791

AWARD WINNER

ON VIDEO

DESCRIPTION

Local Asphalt operates an asphalt-collect business and has numerous customers collecting various materials from their sites. There was a need to ensure all customers and vehicles were safe and fit for purpose and that the company's site rules and policies were understood.

A programme was put in place that included the following:

- Drivers were taught a '3-point contact' message when getting in and out of vehicles and they were encouraged to promote and sign up to a 12-point safety essentials programme
- All vehicles and drivers to be re-audited every six months
- Site rules and policies were distributed and the content explained
- A PPE examination of all customers and visitors was established
- Identification and actioning of problem people and vehicles
- Overall control of vehicles
- Recording all details, defects and improvements to pass on best practices
- Involvement of all staff and customers.

BENEFITS

Customers now have a clear understanding of the safety procedures and what represents good practice. The involvement of staff and customers has helped improve the attitude to safety of all those who have participated.

Vehicle CCTV system

Hanson UK > Cement Division > 0121 7797771

RUNNER UP

ON VIDEO

DESCRIPTION

Hanson Cement is in the process of fitting new cement tankers and curtainsiders with an array of video cameras for recording road conditions and events. Each vehicle is fitted with four cameras. One forward facing, one offside facing, one nearside facing and one rear facing. The output from each camera can be downloaded to a computer.

BENEFITS

The system vastly improves the company's ability to review and analyse road risks and provides an invaluable training and coaching resource for the fleet. It also provides detailed real-time information to review and address the root causes of incidents and to make evidence-based recommendations to further improve the fleet's safety performance. In addition to providing highway information, the videos also assist in analysing risks or incidents at customer sites.

The video footage makes it much easier to communicate information to drivers in one-to-one training sessions and to share details of incidents and learning points with groups of drivers.

Cyclist awareness days

SPECIAL AWARD

ON VIDEO

CEMEX UK > National Initiative > 07795 051761

DESCRIPTION

Over recent years, CEMEX has invested heavily in driver training and fitting new technology to its fleet of 1000 large goods vehicles to aid the driver in improving road safety for vulnerable road users such as pedestrians and cyclists.

The safety initiatives include:

- Signage warning of vehicle blind spots
- Sensors along the nearside of the vehicle giving an audible alarm in the cab
- External audible voice alarm warning road users when the vehicle is about to turn left
- Continuous professional development for all CEMEX company drivers in driving skills plus safe and defensive driving techniques.

CEMEX decided to address further issues - the attitude of the vulnerable road user; in particular, the cyclist. CEMEX initiated the campaign by participating in events during the summer which were held in Bristol, York, Cambridge and Manchester during National Bike Week.

During the campaign, CEMEX provided large goods vehicles and management support. Cyclists and pedestrians were invited to see the driver's view of the road from within the vehicle. A specially designed floor mat, used to align the mirrors, was laid out to highlight the blind spots to the front and nearside of the vehicle. Cyclists were also given a CEMEX leaflet offering advice on safe cycling and highlighting the dangers around large goods vehicles. The response was very positive and demonstrated how few cyclists were aware of an LGV's blind spots.

CEMEX was approached by the Metropolitan Police (Met) to support similar events in London which included one held at St Paul's Cathedral attended by 300 cyclists. The Met is continuing these events in 2010 and CEMEX has committed to supporting a further 10 in London, as well as supporting National Bike Week. The MPA agreed with CEMEX to move the idea forward with other members.

BENEFITS

Between 2000 and 2004, vehicles operating on behalf of CEMEX were involved in six road traffic accidents involving cyclists on the nearside, two of which sadly resulted in fatalities. Since the introduction of these initiatives, CEMEX has experienced no further incidents of this sort.

The campaign has improved awareness of the dangers to cyclists and other vulnerable road users, raised the profile of road safety and enhanced the reputation of the industry.

Permanent markers for electric lines over highways

A-one+ Integrated Highway Services > Wakefield > 01924 225819

HIGHLY COMMENDED

ON VIDEO

DESCRIPTION

Overhead power lines present a hazard for road workers and the emergency services where they cross the highway.

A-one+ Integrated Highway Services worked with supply chain partners and the Highways Agency to develop innovative and low-cost products to warn road workers and other road users of the presence of overhead power lines.

Overhead cable marker post - The marker post is manufactured from highly durable Ultraflex™ polymer material. The knock-down, spring-back properties of this material mean that the marker post can withstand vehicle impact without creating an additional hazard on the highway. The marker posts are maintenance free and reflective ensuring high visibility even in adverse conditions. The posts are installed on the nearside verge 12m before and 12m after each overhead power line crossing the highway, providing a constant, visible warning of the hazard.

Overhead cable cone sleeve - The overhead cable cone sleeve complements the marker posts. The sleeve fits over a standard 1m high traffic cone. They are used to mark a 'protected zone' 12m either side of an overhead power line.

Before any planned works on the highway, traffic cones with the overhead cable cone sleeve are installed throughout the length of proposed traffic management scheme where overhead power lines cross the highway.

BENEFIT

Improved safety for road workers - by clearly identifying the locations where overhead power lines cross the highway, workers can easily and quickly identify the hazard, especially during hours of darkness.

Improved safety for the emergency services - the overhead cable marker posts provide accurate information regarding potential hazards in the area of any incident. This is also important when recovery operators are removing badly damaged vehicles which need to be craned onto the back of flatbed recovery vehicles.

Modifications to concrete technicians' vans

CEMEX UK > Readymix Central > 07703 205962

DESCRIPTION

CEMEX has redesigned the interior of concrete technicians' vans to reduce the manual handling of concrete samples and to improve hygiene.

A working table has been installed at the rear of the van to enable concrete cube moulds to be stored at the correct working height for the technician, minimising the need for stooping or bending whilst making specimens. The table has flanged edges to prevent the cube moulds from moving freely around the vehicle when in transit. Special storage areas have been created for tools and items such as slump cones. A large sealable plastic trunk has been fitted to enable PPE to be stored cleanly and safely. A first aid box, hand cream dispenser and hand towel dispenser have also been fitted where they can be easily accessed by the technician.

BENEFITS

The modifications have significantly reduced the manual handling of concrete cube specimens and made it easier to maintain a good standard of housekeeping. Tools and equipment are now safely stored during transit and are easily accessible when working. The location of the cleaning equipment has made it easier to maintain a high standard of hygiene.

Load-out control for asphalt plant

Tarmac Limited > Parkstone Asphalt Plant > 07595 799663

DESCRIPTION

On a number of occasions hot asphalt material had been dropped out of the wrong overhead hot-storage bins. This placed drivers at risk particularly if they failed to comply with the requirement to stay in their cab at all times.

Parkstone's innovative solution was to install a simple, cheap but effective light sensor system.

The system ensures that a bin cannot be opened by the operator unless there is a vehicle parked underneath it waiting for a load. The system stops the operator from inadvertently selecting and then discharging from the wrong bin. The total cost for installation for all six bins was approximately £1000.

BENEFITS

The modification has minimised the risk to drivers of being hit with hot asphalt and eliminated the possibility of the operator discharging product unless the vehicle is parked under the storage bin.

Clean, green and injury free

Lafarge Cement Limited > Portland House - Head Office > 07843 296254

AWARD WINNER

ON VIDEO

DESCRIPTION

Clean, green & injury free (CGIF) is a standardised approach to the management of housekeeping and for maintaining a tidy workplace. It aims to reduce waste, optimise productivity and safety and maintain a good working environment.

Why target poor housekeeping?

1) Health and safety – slips, trips and falls. The interaction of people with products, stocks, spillages and oils and greases for example.
2) Occupational health – Results from personnel being exposed to accumulated debris detrimental to their health leading to skin irritations (cement) or allergic reactions.
3) Quality issues – Resulting from poor organisation or storage leading to damaged products with inherent losses.
4) Staff demotivation – People perform less well in tired, old workplaces with poor welfare facilities.
5) Non-productive time – Caused by multiple handling, inappropriate storage, debris or redundant stock obstructing the required material.
6) Customer dissatisfaction – Customers expect clean, well presented, quality goods.
7) Lost revenue – All the above have an impact on the business.

How it works

CGIF is a method of organising, developing, maintaining and encouraging site personnel to take ownership of their workplaces. This is targeted through management setting standards and employees changing their culture and taking responsibility for their areas at work.

CGIF is based on the 5 "S" methodology. Inspections by senior management ensure consistent use of the programme and a member of senior management undertakes random assessments with H&S professionals to check standards at each plant, using a fixed template.

BENEFITS

Housekeeping standards are rising fast around the plants and the programme has been extended to cover the difficult areas deep within the works. In addition, the whole works has a certificate presented by a line director to encourage greater team involvement.

Contractor Management

CPI Euromix > Harlow Plant > 07771 913689

RUNNER UP

ON VIDEO

DESCRIPTION

A new system has been implemented to evaluate contractors, with a questionnaire requesting company information and emergency contact details; health & safety and environmental awareness training information; details on proposed work and insurance details. It also requests a method statement and risk assessment which have to be supplied before work can commence, enabling the company to evaluate control methods. Education and training, where required, have been provided to contractors to help with this exercise.

Once on site, all contractors are subject to a documented site induction, covering all site hazards they need to be made aware of, employees on site and all environmental considerations. A permit to work is then completed. Where the supplied method statement and risk assessment do not fully cover all the activities, then a specific task risk assessment is completed and added to the permit to work. Once work has begun, an interim inspection is carried out to ensure all control measures are being adhered to.

BENEFITS

The new system has provided greater H&S and environmental awareness, ensuring the safety of both contractors and the company's employees.

What good SHE looks like

Tarmac Limited > West Region > 07841 367575

RUNNER UP

ON VIDEO

DESCRIPTION

In order to maintain an ethos of continuous improvement in the company's Safety, Health and Environmental Protection (SHE) performance, to ensure consistent standards and to share and embed best practice across all units, Tarmac Quarry Materials West Region has developed a 'standard setting process' as a means of delivering these objectives.

The process consists of two audits:

Part A – managing safety – consisting of nine sections:

1. Policy leadership and commitment
2. Risk management
3. Targets, objectives and performance
4. Training, awareness and competence
5. Communication, consultation and workforce involvement
6. Operational control
7. Emergency preparedness and response
8. Contractor management
9. Incident reporting and investigation.

Part B – Golden Rules – consisting of ten sections:

1. Fundamentals
2. Confined spaces
3. Working at heights
4. Energy and machinery isolation
5. Vehicles
6. Mechanical lifting
7. Quarry operations
8. Working on or near water
9. PPE
10. National Contracting (only to be completed for a site with NC involvement).

Questions have been developed for each of the 19 sections together with examples of 'what good looks like' and a photo library is available on a server to support this. Each site completes a team review for Part A & B together with an electronic excel spreadsheet which are saved on the server. A summary report is produced from the workbook and from this a score sheet can be maintained for all the units.

All unit managers have access to this information. The site can be reassessed as often as necessary with an updated version put on to the server.

During the year a minimum of 10 peer reviews are completed by a dedicated peer review team of 32. From the team, six members are selected to visit a nominated site - none of the team has any responsibility for the site - and they are lead by a district manager. The team completes their own assessment of Part A & B and provides feedback and the completed report to the site team at the end of the day. The peer review team ensures that as many people as possible on site are engaged with and spoken to during the day.

The whole process is designed to be a positive experience celebrating success and building upon opportunities for the site.

BENEFITS

- Unit managers can review the scores from other sites and contact any site to ask for help and guidance on how they can improve their own site to reach the same standard
- The process encourages continuous improvement
- The process enables 'what good looks like' to also improve as processes and technologies develop
- The dedicated peer review team consisting of operational, technical and SHE employees are able to improve their auditing skills over time
- Peer review team members are able to share best practice with the site they are assessing and also take away best practice to implement at their own site
- Worker involvement and consultation are ensured through the site assessment and peer review process, further helping to change the mindset of everyone.

Visitors and contractors induction system

RUNNER UP

ON VIDEO

CEMEX UK > Norton Disney Quarry > 07810 851132

DESCRIPTION

CEMEX policy is that all visitors to operating sites within the company (including contractors and in house CEMEX personnel) should receive a formal induction to site. The system had existed but was adhoc and of varying standards. The new requirement was to remove any ambiguity and to ensure all visiting personnel received critical information about hazards and safety precautions required on site.

It was recognised that the standard of these inductions still varied dependant upon who provided the induction, their experience and their operational strengths. To correct this issue and ensure a high consistent standard of induction was maintained it investigated several methods from a basic checklist to a DVD/video presentation. It was decided to use PowerPoint with the potential to provide the best of both worlds, pictures and diagrams from the DVD format and personal interaction from the checklist field. In doing so it covered the learning potential of most individuals i.e. those who learn best by reading, discussion and visual aids. Two versions were drafted - one for visitors and an extended one for contractors who needed a more detailed induction revolving around the task/s they are undertaking. The visitors' version covers:

- Signing-in requirements, site layout and emergency assembly points
- Mobile phone and smoking policies
- Site PPE requirements for the area of visit and identification of first aid staff
- Traffic and pedestrian routing and danger points (animated for greater effect)
- Significant hazards that may be met on site during their visit, how they are expected to behave and the care needed in those locations e.g. moving mobile plant and the safe method of approaching
- Noise and dust zone maps
- Sign-off sheet to ensure all major points are covered in summary and signed off by the visitor.

In addition the Contractors' version covers:

- Permit to work including safe systems of work and a risk assessment for the tasks being undertaking
- Equipment inspections, COSHH data sheets, lifting plans and exclusion areas
- Certificates of competency and training and EPIC passport clearance
- Issue of relevant site rules and isolation procedures
- Introduction of liaison personnel on site, lines of communication and agreed limits of work and work areas
- Environmental issues and awareness.

When complete a short test is undertaken by the contractor/s to ensure that key points have been understood and to identify gaps in their knowledge/understanding so that they can be covered again in more detail. To ensure consistency of the induction remains high and all major points are covered, slide notes are provided for the inductor providing a script whilst the visitor/ contractor watches the presentation. It also provides an additional method of induction should the computer system be inoperative for any reason.

The system has been successful since its introduction with several minor modifications and has now been implemented across area 7 in the central region. It has also been recognised as best practice by both National Operations and the H&S Department and is being considered for a national rollout (following modifications to cover hardrock and asphalt locations).

BENEFITS

- Raised awareness of site-based hazards and expected safe behaviour of visitors and contractors
- Consistent health and safety message to visitors and contractors across all sites in area 7
- Standard induction content with emphasis of key messages through an approved script irrelevant of the inductor's background, experience or personal agenda
- Ensures all CEMEX procedures and requirements under the Quarries Regs 1999 (and others) are covered for every visit
- The unit and system has been recognised as best practice by the operations manager who has extended it to every site in the area. It has also contributed to the site winning the title of "Best Quarry in CEMEX UK" in 2009 and may be utilised nationally as an induction process.

Improving small contractor competency in risk assessment and risk control

HIGHLY COMMENDED

Lafarge Aggregates & Concrete UK > National > 0116 2648905

DESCRIPTION

On many sites a significant amount of work, including maintenance tasks, is being undertaken by contractors. The size of the contractors varies from large organisations to small one or two man operations.

Not all the contractors were able to generate high quality risk assessments and risk control procedures. A significant number of smaller contractors do not have the support and resources to ensure full competency in this area. Some of the smaller contractors had become reliant on Lafarge employees to generate their assessments for them. This was considered unacceptable.

It was decided to invite a number of small contractors within Southern Asphalt area to take part, with Lafarge employees, in risk assessment (RA)/safe system of work (SSOW) training, thus utilising the training expertise of the company's in-house HSQE team, enabling the company to deliver to small contractors the same level of competency in generating RAs and SSOWs. The training consisted of both classroom learning and on-the-job assessments to demonstrate and practice the knowledge gained.

As a result, small contractors have been trained to the same high standard as Lafarge personnel and fully understand their duties and responsibilities in relation to risk control thus increasing their competency.

The session was so successful that a training day was held at Mountsorrel Quarry for small contractors only. As well as the general RA/SSOW training and practical exercises, there was an opportunity for the contractors' current RAs and SSOWs to be reviewed with the Lafarge HSQE manager to give feedback and advice on areas of improvement.

Since this session, there has been a marked improvement in the quality of RA and SSOW being generated by the small contractors with reduced reliance on direct assistance from Lafarge personnel, demonstrating the increased competency of the small contractors in this field. A programme of further small contractor training days is being developed with the aim of holding further training days across the whole business.

BENEFITS

- Increased competency in risk assessment and risk control by small contractors at no cost to them
- Small contractors received the same high standard of training as Lafarge employees
- RA/SSOW review and advice session with HSQE department.

Guarding guidance

HIGHLY COMMENDED

CEMEX UK > National Initiative > 07711 537523

DESCRIPTION

Following a considerable amount of work within CEMEX to target guarding standards, the need was identified for a new training/guidance tool to ensure all personnel knew what was expected of them. It was decided to adapt the 2005 QPA guidance making it easier to use and understand, and enabling it to be used in training and to be communicated electronically. A new PowerPoint presentation was developed expanding on the original guidance, including diagrams to highlight some of the key points. The finished presentation was split into sections and made interactive enabling users to get to the section they were interested in quickly via the use of hyperlinks.

This tool has subsequently been used by all CEMEX UK Operations to conduct reviews of guarding standards and to ensure suitable measures are put in place.

BENEFITS

The guidance document has been well received and has become a valuable reference tool when discussing guarding issues. It has been used in safety meetings, H&S forums, management meetings and during site visits.

There is increased awareness of the standards required and safety inspections are identifying fewer guarding related issues since its introduction. The guidance is being shared with the MPA working Group 5 addressing plant and processes.

Working together in leading contractor safety

HIGHLY COMMENDED

CEMEX UK > Logistics, National Initiative > 07825 845003

DESCRIPTION

Over 95% of CEMEX sites achieve zero injuries and some sites have gone a number of years without a lost time injury. Overall though, CEMEX is still having incidents resulting in either lost time or restricted work – in turn impacting on an individual's health and wellbeing. Major customers are now setting higher standards on contract compliance across the supply chain, with a main focus on transportation and logistics.

CEMEX has introduced a number of initiatives to improve H&S, resulting in a reduction of employee lost time injuries year on year, but contractor statistics are not improving. On analysing the accidents it was found that they were all as a result of an unsafe act, not an unsafe condition. CEMEX decided that in order to drive down incidents, it would have to change the attitude and behaviour of its contractors.

The business had lead a successful roll-out of a H&S leadership workshop to employees. It was decided to include contractor management who could then influence their employees.

The targeted population was the owners and senior management of haulage contractors who are responsible for over 70% of CEMEX's deliveries. These people play a crucial role in leading H&S standards within their business and are the key influencers in ensuring the correct management and control mechanisms are in place to protect employees.

Subjects covered in the workshops include leadership, ownership, sharing best practice and the principle that overall H&S makes 'good business sense'. The sessions emphasise coaching, development and collaboration with contractors - using internal CEMEX controls and measures as best practice.

Having CEMEX senior management in attendance and delivering the workshop has boosted the overall emphasis on how important H&S leadership is. This is critical in tackling the 'us and them' environment that is typical in any industry and helps in bringing people to work together as one team.

Feedback from attendees of workshops has shown that CEMEX is giving people the right tools for the job. This has been further enhanced by CEMEX conducting supportive and constructive audits at hauliers' premises, which review all areas of their business including legislation, administration, employee development, safe systems of work/risk assessments, and control measures in place. Best practices from CEMEX operations are shared to offer guidance and examples of how to manage key areas.

BENEFITS

- No lost time incidents since the workshops began (previously 4 per year)
- One Team' approach – CEMEX fleet and contractors are 'One Fleet'
- CEMEX shares safety alerts which are relevant on incidents to all contractors, the contractors are also providing feedback on incidents to CEMEX
- Employee engagement in seeing that CEMEX is addressing the issue.

Training and awareness day for local authority personnel

HIGHLY COMMENDED

Hanson UK > Needingworth Quarry > 01487 849026

DESCRIPTION

A training day focusing on raising awareness of potential dangers within quarries was organised and presented at Needingworth Quarry to 18 site inspectors and office staff from Cambridgeshire County Council.

The session was arranged at the request of the council's Minerals and Waste Planning Manager with the objective of training the attendees on how to remain safe whilst carrying out planning condition audits within quarries. The awareness day was organised to focus on the obvious dangers such as lagoons, silting ponds and issues with and around stockpiles. It was also designed to show the hidden and less obvious dangers which included, supervision, risk assessment, safe working practice, emergency response details and slips, trips and falls.

The training session was very successful and feedback from the county and all the attendees was very positive with praise for the site tour and the professional quality of the presentations.

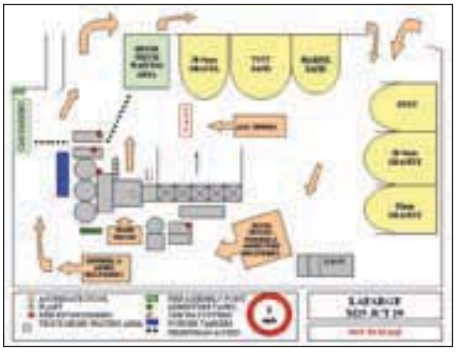
BENEFITS

County council planning auditors now have a better understanding of the quarry regulations and are more aware and informed of the possible dangers (both the more obvious risks and some that may be hidden from sight) that they may come across whilst on site.

Where are we going? – A clear direction for contractors on site

HIGHLY COMMENDED

Lafarge Aggregates & Concrete UK > M25 J29 and Cricklewood RMPs > 07896 233199



DESCRIPTION

The Cricklewood RMP is a very busy, small site with a large number of vehicle movements. As a result, the company has strict traffic management on site to ensure that vehicles are kept separate from pedestrians, mobile plant and other road vehicles.

To ensure that all drivers know the rules of engagement at the plant a handout has been developed with a plant schematic and site rules, that is given to all drivers delivering to the site. Topics covered include parking areas, speed limits, locations of H&S equipment and safe parking areas, stocking bays and delivery points.

A sign-off sheet is provided to confirm that the rules, and the possible consequences should they not be adhered to, are understood. All the rules and systems are supported by signage placed around site.

This simple tool was so effective that it has been used at the M25 Junction 29 mobile site plant. At this plant, a strict one way system is in force with plant drive-through facilities to ensure that reversing on-site is kept to a minimum. The sign-off sheet is also used.

BENEFITS

There have been several benefits to the introduction of the hand-out and sign-off sheets

- Drivers can see clearly the traffic management routes on site
- Plant personnel have confidence that delivery drivers know what routes to take around the plant
- As well as traffic management, fire safety/assembly points are highlighted
- Pedestrian footpaths are clearly identified.

Preventing personal exposure to acid cleaning products

HIGHLY COMMENDED

ON VIDEO

J Clubb Ltd > East Peckham Quarry > 01322 225431

DESCRIPTION

Following a routine call to a ready-mix site to seek advice for using acid cleaning it became apparent that the safe procedure was not being adhered to. An alert was put out to all company sites/personnel halting the use of these products until further notice. Further investigation concluded that a more robust system was required.

After consultation with other managers, a safe system of work was completed, detailing the use of acid cleaning products. The issue of all such products was recorded in a simple log book, together with details of who they were signed out to. The system includes reporting any potentially hazardous issues using the company near-miss forms. The acid cleaning products can only be issued by a manager/supervisor/competent person from a locked storage facility, and only when the driver has presented themselves with the appropriate PPE. Relevant managers were inducted, and, in turn, they trained and signed off drivers as required. All persons must be signed off in the safe use of this type of product, before use.

BENEFITS

Drivers are able to use acid cleaning products in a controlled and safer environment, reducing the risk of injury to themselves and others. The 'COSHH Dangerous Substance Log Book' is in place for any other products that may be assessed as high risk. Logging each usage also enables easier auditing and monitoring of the use of potentially dangerous products.

MQP driver safety awareness days

Midland Quarry Products > Transport - Whitwick > 01530 276623

DESCRIPTION

A two day, driver safety awareness course was run at Cliffe Hill Quarry. Short presentations and workshops aimed at highlighting H&S and environment issues that are relevant to road haulage in the quarrying and construction industry. Participants included Network Rail, Towergate Risk Solutions, Volvo, Arco PPE, Safe Drive, S.A.F.E.D and the Mineral Products Qualifications Council (formerly Epic).

A vehicle was used to provide practical demonstrations and to promote best working practices. Network Rail gave a presentation on an incident involving an MQP vehicle in a hazardous location and carried out an anonymous driver awareness survey which identified some beneficial facts in understanding the industry's driver culture. Other attending organisations offered information on new legislation, products and services to benefit and enhance the welfare and knowledge of the driver. The two days were open to all in the industry and it is hoped that this event will grow and be adopted by other companies.

BENEFITS

- Drivers' awareness of health, safety and environmental issues have been raised
- Drivers' awareness of best working practices have been raised.

Workplace hazard awareness

Midland Quarry Products > Transport - Cliffe Hill > 01530 230530

DESCRIPTION

A serious incident on a live rail site and a subsequent panel of enquiry identified the need to educate drivers about anticipating, recognising and minimising risk whilst at work, and in particular, on hazardous customer locations such as airports, live rail sites, fuel depots and major highways. Driver skills needed improving to enable them to recognise when hazards and risk factors were potentially coming to a critical turning point – 'an incident waiting to happen'.

The company devised a simple traffic light system "The Rule of Three" which ensured that problems and potential risks are identified and dealt with prior to an incident.

- GREEN – No problems
- AMBER – Proceed with caution
- RED – STOP WORK!!!

Where a driver experiences three AMBER conditions it automatically triggers a RED (stop work). With the improved knowledge of managing out-risk the driver can quickly improve a risky situation to a GREEN – safe situation.

A training package which uses actual examples such as the live rail incident has been developed. 12 Drivers are taken, split into teams of three, to answer searching and thought provoking questions about the risks identified in each workplace situation. By getting the teams of drivers to think ahead and manage their every day risk situations, the simple traffic light system allows them to decide when to stop work, when to mitigate hazards and when to proceed safely.

Site Safety Observation booklets have also been introduced which cover a simple "5 Point Risk Assessment" to encourage the driver to question what they are doing and the safety of continuing:

- Identify the hazards
- Decide who might be harmed and how
- Evaluate the risks and decide on the precautions
- Implement findings and record them
- Review assessments, inform and update others.

Drivers are invited to many hands-on Hazard Awareness tool box talks throughout the year, which cover all aspects of good safe working practice.

The intention is to change the culture and attitude of drivers, with a view to actively promoting a safer working practice and to empower every individual to 'Think Safe - Work Safe - Stay Safe'.

BENEFITS

- Drivers better able to recognise risks in the workplace
- Drivers are able to assess the risk and what action they should take
- The mindset and behaviour of the drivers towards safety issues improved.

HazOp Risk assessment decision tool

Lafarge Cement Limited > Cauldon Works, Stoke on Trent > 01538 308000

DESCRIPTION

Cauldon suffered an explosion in the electrostatic precipitator during light-up after the 2009 shutdown. The HSE investigation identified that the incident could have been avoided if a HazOp study on the kiln feed elevator project had been carried out.

Cauldon's approach to HazOp had been to only use this when dealing with hazardous substances or fuels. The Cauldon team agreed that a tool was needed to identify the level of risk assessment required on future projects. An excel spreadsheet was developed to use as a scoring system to identify what level of risk assessment should be used.

The tool has been used for all recent projects and has led to HazOp being conducted on a formal basis. It also highlighted that specialist knowledge was needed for certain projects and that the facilitation of a HazOp needs a level of competence that was not currently available on site.

The tool developed is based on 18 questions, each question being answered 'yes' scores one point, the final score determining the level of risk assessment required. The HSE judged that the tool satisfactorily identified the level of assessment needed. The tool, when used retrospectively on the project that indirectly led to the precipitator explosion, showed that a HazOp would have been needed and would have identified a number of specific issues relating to other equipment in the process.

BENEFITS

Improvement to safety by:

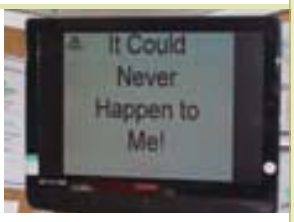
- A check list of relevant safety questions prior to work commencing
- A facility for any 'no' answers to be clearly identified in a well documented system to support the decision
- On completion of the work, a form to identify relevant questions to ensure the working area is left safe, clean and green
- The form is user friendly.

Greater efficiency has also been achieved:

- The form has been designed to incorporate basic information i.e. purchase order numbers to ensure the contractor is working with an order number
- The booklet is in triplicate enabling the contractor to have a copy ensuring the unique number can be followed-through on the invoice.

"It could never happen to me" – customer safety presentation

Aggregate Industries > Express Asphalt > 01455 285200



DESCRIPTION

Following the roll-out of a customer safety campaign it became apparent that many visitors to the company's sites still believed that the rules and practices in place did not apply to them. Previous attempts at promoting the message both on site signs and in written rules were not entirely effective. In the case of Express Asphalt, a division within Aggregate Industries that primarily supplies the collect-asphalt customer, it became apparent that this was still a common perception when discussing safety issues with gangs collecting from the company's plants.

It was decided to create a hard hitting and realistic presentation to be given to customers on a national basis. It was agreed to produce the information via a continually playing screen within the weighbridge areas which would be seen every day by every visitor and member of staff.

The presentation displays a number of images, some very graphic, that remind people of the injuries and serious accidents that can occur when site safety rules are ignored. The presentation is played at all 21 sites shown on a constant loop in full view of visiting customers – in weighbridges, next to drinks facilities, welfare units etc – acting as a powerful and compelling reminder for the individual of the critical need for personal safety.

The campaign has cost no more than £200.00 per site.

BENEFITS

Customers, visitors and staff alike have been made fully aware of the dangers of not adhering to simple rules within the company's sites. The campaign, along with the company's ongoing customer 'stay safe' programme has been given as the prime reason for a 45% reduction in customer incidents. The campaign has also resulted in greater dialogue with customers who have reacted very positively.

Removable crusher house roof system

HIGHLY COMMENDED

ON VIDEO

Hillhouse Quarry Group > Hillhouse Quarry > 01292 313 311

DESCRIPTION

During the design and build of a new crushing plant at Hillhouse Quarry, the question of how to achieve safe access to the secondary crusher was raised. This can be an issue with crushers located within buildings when it may be necessary to remove both roofs and sheeting to enable access to and the lifting of large crusher parts.

This entry highlights the need for the design of a safe and easily removable crusher house roof system. The roof solves the perennial problem of gaining access to the cone crusher to carry out maintenance tasks and manganese liner changes.

The new design ensures no operatives or contractors need to work from ladders when unfastening bolts internally, or when unbolting beams and/or sheeting that form part of the roof structure.

A small team from the quarry worked on the design with the main contractor to eliminate the many hazards of this task and the new roof is currently being commissioned.

The design incorporates pedestrian access on to the crusher house roof from a surge bunker walkway which feeds the crusher. A small vertical access ladder with protection rings descends from the surge bunker walkway on to the crusher house roof. The roof has an all-round walkway with handrails on both sides of the platform giving safe access to the removable section of the roof.

The removable section has permanent lifting points at the four corners which allow the safe fixing of lifting chains, which can now be carried out from the walkway platform.

When the removable section of the roof is lifted to the ground, it leaves a square gantry with handrails all round. This enables a signaller to position themselves on the roof in full view of the crane operator and give clear instructions. Previously, communication between the signaller and crane operator was via a two way radio.

This design removes all the previous risks associated with the removal of crusher house roofs and eliminates the use of cherry pickers/man baskets making the task much safer and more efficient.

BENEFITS

- The risks from working at height have been minimised and the crusher can be maintained more efficiently
- It is no longer necessary to work from ladders inside the crusher building
- The lifting activity is safer since the crane lifting points located on the roof are easily accessible from behind a handrail on a walkway
- The use of cherry pickers has been eliminated
- Operators are in a safer environment when working on the crusher roof.

Safer sampling at ground level

CEMEX UK > Logistics, National Initiative > 07795 051761

HIGHLY COMMENDED

DESCRIPTION

CEMEX UK have a fleet of over 120 bulk powder tankers utilised for the delivery of cement and other related powdered products. Loading is either through the rear loading point or hatches on the top of the tanker.

In 2004, following a number of serious incidents involving falls from vehicles, CEMEX made the decision to remove the access ladders from the tankers. The only permitted access to the top of the tankers would be via safety platforms on each site.

During 2009, CEMEX's commercial team secured the business of a major new customer. The contract required the driver to take a sample of cement from the tanker on the site prior to discharge. Although the customer's site had a gantry which would enable the driver to anchor himself via a safety harness once they were on top of the tanker, there was no means for the driver to actually access the top of the tanker.

Various options were considered to overcome the problem, including re-locating an access platform from one of CEMEX's sites; to taking a sample from a tap on the silo as the driver was discharging; but this would mean taking a sample from a pressurised pipe – a potential high risk activity in itself. The general consensus of opinion, after consulting with drivers, engineers, tank suppliers, management and the customer, was that the driver should remain on the ground, thus eliminating the need to work at height.

The idea of a sampling point appeared to be the best solution and the logistics engineering team was tasked with coming up with a design for a modification to the tanker which meant that the driver could take a sample safely at ground level. The simple modification shown was made to two tankers and has been highly successful.

BENEFITS

- Eliminates the driver working at height
- Avoids taking samples from the tanker whilst the vehicle is under pressure
- Relationship building with the customer, providing a safe solution to suit all
- The solution has demonstrated to drivers that cost does not come before safety.

Innovation to prevent a fall from height

Lafarge Aggregates & Concrete UK > Wivenhoe Coating Plant > 07740 563363

DESCRIPTION

The task of changing screen meshes on the coating plant, made it necessary to open one of the stone bin hatches to gain access to the underside of the screen deck. The potential hazard created by the open hatch was spotted and reported as a Near Miss. It was recognised that any future repair work on the stone bins would also require the hatches to be guarded.

Some form of barrier was necessary to prevent an operator from stepping into the open hatch, but due to the restricted space, it could not be a permanent fixture. As the screen deck is at the top of the coating plant mixing tower, the design would need to remain in-situ in the screen house rather than create the manual handling issue of carrying barriers up and down the plant.

A collapsible frame was designed with a hinged frame and drop-down legs. The entire frame can be folded up and secured against the wall when not in use, ensuring that the access way is not compromised during normal operation. When deployed, the upright legs swing down to support the frame and prevent access to the hatch area.

This elegant solution provides a moveable barrier, which is safely stowed in the area where it is required.

BENEFITS

All staff members entering the restricted area can now safely operate on the screen deck having a fixed barrier to prevent a fall from height.

Removable platform for working on a radial conveyor head

Lafarge Aggregates & Concrete UK > Boroughbridge RMP > 01423 324203

DESCRIPTION

Working on the head drum of the radial conveyor at Boroughbridge Readymix Plant was difficult. The only way to service the drum was to fill the bins and use them as a working platform. The platform created was unstable and required the use of either a safety harness or the creation of temporary barriers around the platform each time maintenance was required. Working on the head drum was hindered by poor accessibility.

To overcome this problem, a new central working platform was created using a combination of both permanent and removable grids and barriers. The design was developed by an internal team and the plant's local maintenance contractor, RMS Concrete Plant Specialists.

The solution included walkway grids which were fitted over the centre bin, the sand hopper, with two removable middle sections ensuring the hopper could still be filled with sand. A locked entrance gate, access ladder and hand rails were fabricated around the rear half of the hopper and removable hand rails were used for the front half.

When the head of the radial conveyor requires maintenance, the conveyor is positioned in the middle of the sand hopper and isolated to prevent either the conveyor or radial drive from starting. Competent persons, using safety harnesses with fixed lanyards, access the new grid via the gate. They install the two removable middle sections of the grid, which are stored on the permanent grid, to create a solid floor. The removable handrails are then fitted, creating a safe, stable and secure working platform with good working room around the head drum. Once the work has been completed, the system is reversed.

BENEFITS

A safe and more efficient working environment for the maintenance work on the head of the radial conveyor has been created, minimising the risks of a fall from height.

Restricted access platforms

Hanson UK > Needingworth Quarry > 01487 849026

DESCRIPTION

Servicing, repair and maintenance and inspection of the two feeders within the feed tunnel had always been very difficult, not least due to the fact that the wall was curved, the walk-way was narrow and access to work at the required height was very restricted. A floor-standing trestle did not take into account the curvature of the tunnel. It also left unprotected space at the rear of the person working and, as a portable item of access, it was not as stable as a rigid fixed structure.

A simple solution was found whereby an easy-to-erect, collapsible working platform was fixed to the wall, whilst still allowing it to swivel up and outwards. It also included drop-down floor supports and removable hand rails.

BENEFITS

The platform reduces the typical manual handling issues that go with portable equipment. It also reduces falls from height and increases the safe working area. It is now used for all access issues and is considered by the site staff and maintenance contractors to be a welcome improvement.

Reducing risks from working at height

ON VIDEO

Leiths (Scotland) Ltd > Head Office > 01224 876333

DESCRIPTION

The team at Leiths (Scotland) Ltd has devised a range of solutions to risks associated with working at height which include:

- A small, removable stair to gain access to the refuelling point on a mobile crane
- A mobile platform that allows safe access to the top of a 2.5 metre high concrete culvert mould
- A mobile access stair for safe access and egress whilst working on articulated lorry decks
- A mobile platform used by personnel when working on the lorry deck.

BENEFITS

- The risks from working at height have been significantly reduced
- Involvement of the work force in the development and championing of these solutions.

Reducing the risk from Stanley Knives – a collaborative approach

AWARD WINNER

ON VIDEO

Tarmac Limited > West Region > 07702 63572

DESCRIPTION

Following a number of injuries (none incurring lost time) involving working with conveyor belting using a Stanley Knife, Tarmac decided a review was necessary. Two contractors, Vulcan Conveyors and Rema Tip Top (both having been involved with these incidents) were asked to look at how safety could be improved. The objective was to develop a safe system of work that minimised the use of a Stanley Knife and, when it was necessary to use one, enhanced the level of control and protection for the user.

The study concluded:

- The only task requiring the use of a Stanley Knife was the splicing of a conveyor prior to vulcanising
- The type of knife to be used was agreed
- A straight edge with an upturned angle that provides protection to the non-cutting hand when scoring the belt prior to splicing was developed
- Tarmac will use a glove with a level 5 cut rating and a Kevlar forearm sleeve on the non cutting hand, these gloves can be also be used when undertaking the remaining tasks. An acceptable alternative is a chainmail gauntlet with the addition of a non-slip glove over the gauntlet
- A training programme to support the safe system of work has been developed.

BENEFITS

- The risk of injury from Stanley Knives has been reduced
- A standard, safe system of work which helps with training and monitoring of the task has been developed
- The process achieved the 'buy-in' of all those involved.

Controlling contractors at sea

RUNNER UP

ON VIDEO

Britannia Aggregates > m.v. Britannia Beaver > 07802 255967

DESCRIPTION

A number of initiatives have been undertaken to highlight potential hazards on the Britannia Beaver and to ensure that contractors who board the vessel have a formal induction. The initiatives include:

- Hazardous areas are demarcated by red paint on hand rails and gates
- Gates are fitted with warning notices explaining the hazard
- Contractors are alerted to the hazardous areas during their induction
- Contractors cannot enter unless they are escorted by a crew member and have been authorised by the Master or Chief Engineer.

BENEFITS

These initiatives have facilitated the effective management of the risks to both the crew and contractors. A potentially confusing array of hazards has been made clear in a simple manner and contractors no longer enter hazardous areas inadvertently.

Cast iron cone maintenance

Tarmac Limited > Borras Quarry > 07702 933550

HIGHLY COMMENDED

DESCRIPTION

The replacement and maintenance of the cast iron cone on the sand plant was a risky task. The job was laborious and time consuming. A review, undertaken by the operators on-site, looked at how the replacement process could be made safer and more efficient.

The solution was to develop a 'quick changeover' process. This has been achieved by manufacturing a special cradle on a set of runners. The cradle supports the cone whilst it is unbolted. Once the bolts have been removed, the cone can be wheeled out and then lowered to the ground, enabling quick and safe replacement to be made. The process is then reversed to install the cone.

BENEFITS

The replacement of the cone is a much safer and faster operation. Manual handling has been reduced by 95% and the downtime for this activity is less than a quarter of the time previously required.

Before the new process was adopted, this task took four men up to four hours to complete, the task can now be completed by two men within 45 minutes.

Confined space examination camera

Hanson UK > Anglia Concrete > 07976 696569

DESCRIPTION

A specially made camera is being used in Hanson's Anglia concrete region for initial routine inspection of confined spaces. The equipment has been designed to inspect cement silos, aggregate bins, truck mixer barrels and other similar areas where there is no danger of an explosive atmosphere, but where entry is potentially hazardous.

The equipment consists of a CCTV camera on an extendable lightweight pole, along with high intensity LED lighting, coupled to a rechargeable, portable power pack and an integral colour monitor.

The equipment was designed by VUE Ltd, a regular provider of other CCTV equipment to the business. The brief consisted of:

- A colour camera for clear definition
- An extendable pole to give viewing control in deep sections
- Lightweight, to minimise manual handling in awkward spaces
- Not reliant on mains power to eliminate trailing cables
- A lighting module for use in dark spaces.

BENEFITS

The need for personnel to enter potentially hazardous, confined or awkward spaces for routine inspection work has been eliminated.

If an entry is required, internal conditions will have been established, assisting in risk assessment and planning a safe system of work.

Lockout safety pin

Aggregate Industries > Holmescales Quarry > 01566 772392

DESCRIPTION

Isolation surveys at Holmescales Quarry highlighted concerns about the battery isolators that were fitted to mobile crushing and screening plant. These types of isolator are commonly used throughout the industry and are fitted to hundreds of this type of machine.

The manufacturers' fitting instructions recommend that when fitting the lockout lever kit you must use a 5/16 or 8mm diameter shackle lock. Unfortunately, this recommendation is part of the packaging and can be easily lost; it may not be communicated to the operator locking off machines, or not provided when a machine is on hire.

When carrying out the survey it was highlighted that all of the Holmescales staff and the majority of Aggregate Industries' sites have been issued with smaller diameter ie: 6mm brass shackle locks, causing the concern to be raised.

When applying a smaller diameter padlock or hasp it was found that the isolation switch could be energised. It only required a minimum amount of travel along the shackle to energise power to the starter.

It was decided that an engineering solution would be used to overcome the problem rather than replacing all battery isolators with a different design, or replacing padlocks and hasps which fit other types of isolator. A simple lockout safety pin was designed, fixed and located next to the isolator with a multi-purpose function that would allow more than one person to lock off the machine without the use of a multi hasp.

The pin is fixed in a permanent location. Once installed, there is no travel on the lockout device ensuring complete confidence that the isolator could not be switched on. The safety pin, including chain and split rings, has been ISO certified.

BENEFITS

- Compliance with companies isolation lock off procedures
- Location of the safety pin next to the battery isolator for quick and easy installation
- No need for staff to carry multi hasps
- Financial cost saving to the site/company in not having to replace battery isolators or provide multi hasps for battery lock off
- Operator/maintenance staff are confident that the machine has been correctly locked off.

Lightweight swinging arms to remove trailing cables

Aggregate Industries > Greystone Quarry > 01566 772392

DESCRIPTION

Trailing electric cables were a potential trip hazard in the workshop at Greystone Quarry.

To overcome this problem, two lightweight swinging arms were fabricated and installed. The arms carry 110V power cables, a socket and switch. The socket enables power tools to be connected to the electric supply without cables trailing across the workshop floor.

The swinging arms are located three metres off the floor to ensure they do not create any overhead restriction. They have been designed to be used at any angle to accommodate machines and equipment of different widths. The arms are brightly painted to make them highly visible. When not in use they can be swung back to sit against the workshop's side walls.

BENEFITS

The swinging arm has removed the slips, trips and fall hazards created by trailing cables and improved the working environment.

'Apprentice safety reps'

Hanson UK > Cement Division > 01628 774100

AWARD WINNER

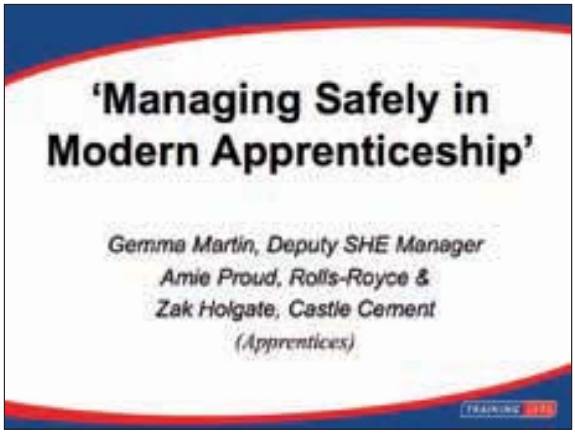
ON VIDEO

DESCRIPTION

Hanson Cement's Ribblesdale works has introduced a new element to the works' health and safety ethos and in the process has coined a new phrase – 'Apprentices Safety Rep'.

As part of an initiative run by Training 2000 to raise awareness of health and safety issues at work, an apprentice delivered a very powerful presentation to colleagues at Ribblesdale works.

The apprentices brought a fresh approach and a new attitude to safety at Ribblesdale and both the apprentice presenter and the works manager at Ribblesdale were invited to represent young people at the works as 'Apprentices' Safety Reps'. They joined the main works safety committee and became involved in the various tasks undertaken by other Reps.



BENEFITS

The appointment of the Apprentices' Safety Reps has been so successful that the stereotypical image of the young employee as an additional risk burden has changed into a genuinely important and effective safety asset for the business. Ribblesdale's engineering manager confirms that the level of trust the whole workforce has developed in the apprentices cannot be better demonstrated than by the fact that the original apprentice has recently delivered the first module of the electrical isolation training to the whole workforce.

Tea-time toolbox talks

Golder Associates (UK) > Attenborough House > 01159 371111

RUNNER UP

DESCRIPTION

Many of the company's site projects are relatively short - sometimes only a few days, based on different sites and with different contractors and clients involved each time. As a result, opportunities are missed to attend local safety briefs or toolbox talks which are invaluable for increasing the knowledge of the workforce. To help prevent this, the company has introduced a weekly 'teatime talk' in its offices. Based on a toolbox talk, a short 10 to 15 minute presentation is given on a safety topic. Talks are tailored to be topical and to broaden knowledge of other areas that staff occasionally will work in. Representatives from all levels of the company, from board members to technical staff and business support are invited to these talks.

BENEFITS

- Since its introduction in September 2009, the programme has gone from strength to strength, allowing senior staff to show leadership in the promotion of health and safety and giving younger staff an opportunity to get involved and learn about new aspects of work
- Innovations and lessons learned are shared across the business in an informal way
- improving the culture of the organisation at all levels and in all areas.

Establishing the GAP – proactive emergency scenario analysis

HIGHLY COMMENDED

CEMEX UK > Surfacing, Northern Region > 01845 528022

DESCRIPTION

From the implementation of the Construction Design & Management Regulations (CDM) there has been a requirement for documented Risk Assessment and Method Statements, produced to ensure that all site operations are completed safely to a known method that minimises risk and ensures the safest method of undertaking a given task.

To uncover any weaknesses, random emergency scenarios were undertaken on sites across the country to expose the good and bad within the company's systems and people. The overall aim of the exercise was to promote a true understanding of where the company is and the GAP between there and where it should be.

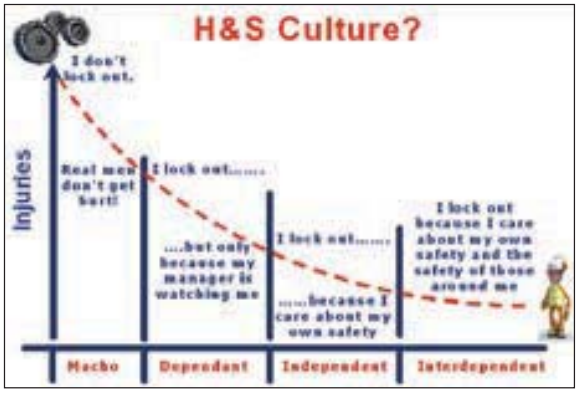
In the emergency scenarios, a number of site operatives (subcontractors included) were classed as 'dead' as a result of 'Incident X'. The site team was instructed to act as they would in a real situation., with a senior manager/director appointed to investigate in the manner of the police or an HSE officer.

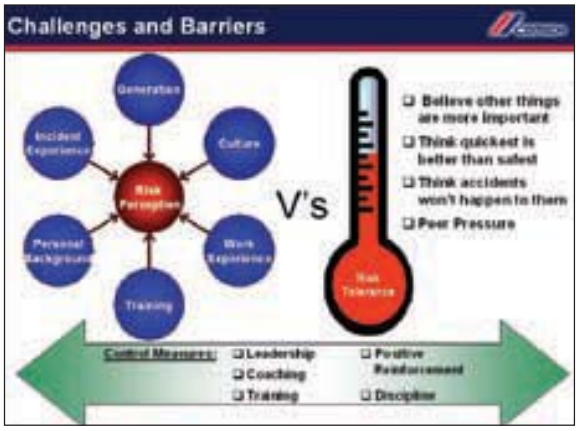
Such drills are used as an opportunity to measure the resilience of the company's procedures under scrutiny. From the findings, GAP analysis identifies the true situation.

This internal exposure produced an 'awakening' that for many is only experienced when they are involved with a real accident. To overcome the GAP established from the results, leadership programmes and training initiatives have followed and extensive rounds of emergency drills are planned to ensure continuous improvement throughout 2010.

BENEFITS

The site culture is changing. Site management and their teams are challenging senior manager(s) to visit them and find fault. This is driven from a belief that the site team is not only acting correctly, but also has a desire to find that "hidden issue" and therefore improve safety even further. The net result is a team commitment to safer working.





Employee safety days

Tarmac Limited > Colchester Quarry > 07793 165642

HIGHLY COMMENDED

DESCRIPTION

As host of the 2009 South East Quarries and Landfill Group (SEQLG) safety day, Tarmac Region 4 decided to extend the event for a further three days, enabling as many Tarmac operational staff as possible to attend. With a focus on worker involvement, the event involved quarry safety inductions, emergency muster points and first aid points.

Teams of delegates were given a series of presentations, demonstrations and discussions, covering the following important safety messages:

- Fault finding and guarding
- Pump safety
- Working at height
- Mobile plant
- First aid
- Manual handling
- PPE
- Emergency drills (Urban Search & Rescue Team).

The event was a resounding success with approximately 90% of the region's operational staff attending.

BENEFITS

- Significant improvement with interaction between different operational departments
- A heightened sense of camaraderie and solidarity across the groups
- A reiteration of company standards, best practices and 'what good looks like'
- Staff to come forward and speak up with confidence.

Quarry workplace safety days

Midland Quarry Products > Cliffe Hill Quarry > 07968 5440

HIGHLY COMMENDED

DESCRIPTION

A programme of safety, health and quality events was held over two days in early January 2010 covering a variety of industry related topics.

Topics covered included:

- Network Rail safety bus
- Silica management
- Rule of three
- Safe isolation
- Work at height
- Mobile plant.

A workbook contains the day's itinerary and a test of understanding for each topic station is carried out.

Attendees are split into teams representing a cross section of trades and risks.

Over 120 quarry/asphalt operatives and contractors attended the safety days.

BENEFITS

Improved both the individual and team attitudes to safety, changed behaviour and raised awareness of the selected topics presented on the day. The MD's challenge was to raise the safety profile on their sites by challenging unsafe acts and behaviour.

'Injury Prevention Tours'

Lhoist UK > Company > 01298 768602

ON VIDEO

DESCRIPTION

An IPT is a proactive, team-based attempt to identify hazards or situations that may lead to accidents or environmental incidents, agreeing suitable actions in advance, to minimise the potential or the effects of an incident. Ideally the IPT is performed by a multidisciplinary team. Members can be from management, supervisory team or the operations/maintenance team. Personnel do not have to be particularly familiar with the area under assessment, the concept being that 'another pair of eyes' can identify aspects that those working in the area every day do not see.

There are various strategies that can be employed but the following simple methods are recommended:

- Make the people working in the area aware of your presence when conducting the IPT
- Ask them for their input regarding safety or environmental issues
- Watch them doing a work activity (e.g. loading a tanker, performing a maintenance task)
- Whilst observing, conduct a Job Safety Analysis, checking such things as the PPE compliance measures are being employed to minimise risk, etc
- Tour the area under assessment and identify areas that do not meet expected standards – eg guarding, bunding, housekeeping
- Check for availability of safety equipment for fire or first aid.

Discuss the findings amongst the team and agree appropriate actions for improvement.

BENEFITS

- Identify hazards or situations before they occur
- 'Fresh eyes' may identify hazards current operators overlook
- Involve all strata of the workforce to engage in safety issues
- Visible method of demonstrating the importance the company places on safety matters.

Group-wide avoidance of slips, trips and falls

Brett Group > 07764 822475

ON VIDEO

DESCRIPTION

Slips and trips are recognised as the greatest causes of incidents and are top of the 'near misses' submitted across the Group.

A multi-faceted approach was taken to eliminate these types of incident. In addition to the traditional tool-box talk, the company ensured that its behavioural SHE system concentrated on slips and trips throughout January and SHE alerts were issued across all businesses.

The main thrust was a poster campaign involving Brett people carrying out best practice with appropriate and highly relevant tag lines and images used, along with the key messages of 'hold on', 'tidy up', 'look out' and 'don't slip up'.

The poster campaign was very successful, particularly at engaging the workforce and as a result, a similar campaign for 2010 for musculoskeletal injuries is planned.

BENEFITS

- Everyone had a heightened awareness of the issue of slips and trips and was engaged by the campaign
- The campaign significantly contributed to the company gaining their first RIDDOR free year in 2009.

Leadership initiative starts at the top

Hanson UK > Nationwide > 01454 332535

DESCRIPTION

A new, informal accident investigation process built around the principles of 'visible felt leadership' has empowered supervising operators from the shop floor to take immediate corrective actions with the delegated authority of the CEO. This approach has helped to focus attention on workplace hazards and led to a step change in both attitude and performance.

Previously, lessons learned from accidents and appropriate improvement action plans often took time to identify, agree and implement, increasing the chances of reoccurrence. Formal panels of inquiry also tended to involve responsible managers rather than front line supervisors and could be oppressive and stifle open discussion.

Under the new process, every lost-time incident is notified immediately to the CEO. As soon as possible a face-to-face meeting is held with the injured person's supervisor to discuss the accident in detail, and what measures could be taken to prevent its reoccurrence. This gives supervising operators a chance to discuss in an open and frank manner with the CEO relevant issues and to agree improvement action plans which they are empowered to carry out.

As a result, an agreed action plan can be put into operation immediately.

The result could be an engineering solution, a training procedure or simply a more effective process. The immediate supervisor has full authority to implement an effective solution and take full ownership. He then reports back on actions taken to provide a safe working environment for his colleagues.

The process has led to major improvements in site safety, some having been rolled out company-wide.

A lost time incident at Criggion quarry in Shropshire, lead to every operator completing a survey of their machine. Some 550 returns were collated from which common issues were identified resulting in major improvements in both equipment and attitude. This action led to the MPA carrying out industry-wide research resulting in guidelines for safe access and egress which are now being discussed internationally - (Safer by Design).

Two lost time incidents at Bulls Lodge quarry in Essex resulted in overload units being fitted to the motors of fork-lift trucks in the aggregate bagging plant to prevent them being driven at excessive speed or lifting above their capacity. Suppliers Linde were approached for the modifications to be made. The results are being evaluated with a view to fitting them as standard.

Concrete barriers were proposed to segregate pedestrian walkways from working areas with all site operatives being issued with a two-way radio to avoid approaching mobile plant to contact the driver. This is now the standard practice across all Hanson UK sites with fork lift trucks.

BENEFITS

- Such initiatives have lead to a safer working environment and underpin the core message promoted throughout the company that 'safety matters'
- This approach has enabled Hanson to rapidly evaluate incidents and quickly implement solutions that are driven at the site level.

How to practice an emergency drill

Tarmac Limited > Mancetter Quarry > 07872 672691

DESCRIPTION

In November 2009, the quarry ran an emergency drill involving five employees and around 20 members of the Warwickshire Fire and Rescue Service. The event had been arranged between site management and the fire service without the knowledge of the quarry's own employees.

A mock drill was run, with a team consisting of a fitter, a quarry operative and a lab technician.

At 14:15 hrs with no prior warning, they were handed a situation card and the group was told to follow the cards given to them and act as they would in an emergency situation.

Two dummies were used, one with a broken leg was lying on a platform and another was suspended by a harness from one of the top levels of the plant.

Members of the team were timed on the effectiveness in calling a first aider and the emergency services, once they had decided that they could not gain safe access to the harnessed dummy. When the emergency services had been called, the team remained attentive to the dummies and did everything that would be expected of them in a real situation.

A sentry was in place to direct the rescue services to the incident's location and the fire services then provided a mock exercise.

This was the first time that the fire service in the area had used a quarry site for an exercise, and the first time that a 'level 3, working at height exercise,' had been completed outside of their own station. The fire services were impressed with the professional approach shown by everybody and the acting first aider claimed it to be a very useful experience to test the emergency procedure in a practical situation.

BENEFITS

- All site employees were made fully aware of the emergency plan and what part they would play in ensuring it was effective
- A close liaison with the local emergency services has been developed with potential benefits in training and in improving the fire brigade's knowledge of the site
- Developing site employees''buy-in' to safe procedures on site.

Bitumen handling and storage – behavioural improvements

AWARD WINNER

ON VIDEO

Aggregate Industries > Bardon Asphalt (Midlands) > 07802 276158

DESCRIPTION

Aggregate Industries set a target of zero incidents involving bitumen handling. To help achieve this, a bitumen working group (BWG) involving personnel from the asphalt business, HSEQ, engineering, training and personnel was formed.

The group identified that:

- There was an inconsistent approach to the calculation of bitumen storage capacity. These inconsistencies included the calculation of a tank's theoretical design capacity, safe working capacity, usable capacity (ullage), and whether the calculation was made using weight or volume
- The periodic 'Authority to Discharge' (ADT) reports from the bitumen suppliers were highlighting unacceptable level of incidents involving alarm activations
- Bitumen related incidents were leading to employee injuries.

The group also recognised that changing the behaviour of employees involved in asphalt production would be key to achieving the goal of zero incidents.

The following initiatives involving both management and operatives were put in place:

Bitumen Discharge Permit

A Bitumen Discharge Permit (BDP) was formulated and trialled at a number of asphalt plants. The Refined Bitumen Association (RBA) was consulted since it was considered important to have co-operation from both the bitumen suppliers' delivery drivers and contract transport drivers.

Completion of the BDP ensures that plant operatives overseeing the discharge process are:

- Physically establishing and recording current tank content
- Recording tank and flange numbers to avoid confusion
- Checking tank gauge and alarm functionality
- Questioning the need for possible split delivery
- Confirming that there is sufficient ullage to discharge safely
- Ensuring the emergency shower has been checked that day
- Confirming that site management have calculated the Safe Working Capacity in accordance with RBA recommendations.

By running through the permit checklist and entering details or ticking boxes, the site operative is carrying out a risk reduction exercise that will improve the safety of bitumen deliveries and prevent environmental pollution from spillages.

If a site fails to present a valid BDP to the delivery driver, then the driver should refuse to discharge the load and leave the site. This has been communicated to all the bitumen suppliers through the RBA.

BDP was implemented at all Aggregate Industries' asphalt producing sites within the UK. The initiative is now being considered by the MPA Working Group for adoption as 'Best Practice' for the asphalt industry. One of the independent asphalt suppliers has agreed to implement the BDP throughout their organisation.

Bitumen handling and storage – behavioural improvements (continued)

Bitumen Delivery Signs

New signs have been installed at every bitumen delivery point which:

- Define potential hazards
- Specify PPE requirements
- Identify the location of spill kit and shower
- States RBA site status
- Provides details of each tank
- Includes laminated RA/SSOW and emergency procedural documentation.

Bitumen Self Audit Check sheet

- New audit check sheet has been produced and implemented at all asphalt sites
- All sites have completed the 2009 audit and these were collated into a summary report
- HSEQ department to be requested to audit compliance during site visits.

Emergency Alert Systems

- Systems such as the introduction of pull wires to be included in a 'Best Practice' document and circulated to all asphalt sites for consideration/implementation.

Bitumen Ground Based Pumping Systems

- A standard and guidance has been produced for the procurement and installation of ground mounted transfer pumps.

Package for Future Reference

- All information relating to bitumen delivery and handling to be included in a Holcim FPE (Fatality Prevention Element) document/presentation for use by new or replacement managers.

BENEFITS

Benefits following the formation of the Bitumen Working Group include:

- Positive engagement and consultation with asphalt plant management and operatives on the initiatives proposed
- Managers verifying all the relevant information needed to calculate safe ullage, not 'guesstimating'
- Tanker drivers confident that all calculations have been correctly undertaken and that safeguards are in place to avoid incidents
- Procedures in place to effectively deal with 'split loads'
- Plant managers and operatives better informed with easy access to relevant information
- The ability to monitor information and ADT reports from the bitumen suppliers and respond as appropriate ensuring information disseminated to all sectors
- The ability to evaluate new applications and equipment using the expert knowledge within the group
- BWG participants more effective contributors in external working groups.

Clearing bridged stone in tunnel feeders

AWARD WINNER

ON VIDEO

Aggregate Industries > Duntilland Quarry > 01698 870811

DESCRIPTION

Bridging in the three tunnel feeders below the primary surge pile was a continual problem. The tunnel has a 3 metre diameter and the openings into the feeders are a metre square. Attempts to control the problem by operating the primary jaw crusher at a maximum 180 - 185mm setting provided no guarantee that the chutes would not bridge.

Once a bridge has formed, there were three methods for getting the bridged stone to drop into the feeders.

- Battering the side of the feed chutes with 14lb hammers gave rise to manual handling issues
- Inserting poles 3 metres long up through the mouth of the feeder until contact was made with the bridged stone. The operator would then fish around with the pole until the bridged stone dropped. The pole method exposed operators to the risk of nipped fingers, sprained wrists and other injuries
- The final resort was to remove the surge pile and clear the blockage from above, this process involved moving thousands of tonnes of stone.

In 2008, the quarry management team with a local engineering company investigated an engineering solution to provide the following:

- Could be installed in a restricted space
- Could reach into the feeder without endangering operatives
- Could react quickly so that the weight of falling stone when the bridged stone dropped would not bend the tool.

A hydraulic arm with fast acting retraction was installed through a 45 degree hole drilled through the reinforced concrete and into the surge pile in one of the three feeders. This worked for 60% of the bridges but still required physical un-bridging for the others.

A double armed tool was designed for use in the second feeder with the arms angled at 30 and 45 degrees. This approach has proved successful in more than 95% of the bridges in that feeder.

BENEFITS

- The development and installation of the hydraulic arms in the tunnel feeders has significantly reduced the potential for injury when the feeders bridge
- The workforce morale has improved
- The increased speed with which bridges can be cleared has improved production.

Redesign of batch heater thrust assemblies

HIGHLY COMMENDED

ON VIDEO

Midlands Quarry Products > Cliffe Hill Asphalt Plant > 015302 30530

DESCRIPTION

In the original design for the Quadretec (now Mixlance) batch heater, the thrust wheel assemblies were positioned underneath the batch heater drum. Any maintenance, such has greasing or changing the wheel assemblies, had to be undertaken when the drum had stopped.

The thrust wheel assembly weighs approximately 25kgs and is an awkward shape to lift and position. This work was carried out by the fitter who had to crawl into a tight space and operate whilst lying on his side. Maintenance on the wheel assembly created manual handling and trapping hazards and was undertaken in a restricted work area.

When maintenance was required, the heater had to cool down before the wheel assembly could be accessed, adding to the plant downtime.

When the batch heater was being replaced, the opportunity to reposition the thrust wheel assemblies was an important safety issue. In consultation with Mixlance, the manufacturer, a new design was agreed. The thrust wheels are now positioned on the outside of the batch heater drum making them easily accessible from the walkway and enabling greasing and wheel changes to take place safely.

BENEFITS

- The manual handling and trapping risks associated with working on the thrust wheel assembly have been removed
- The wheel assemblies now run cooler reducing wear on the bearings and the frequency of replacement
- The wheel assemblies can be changed safely and immediately without having to wait for the heater to cool down resulting in less downtime
- Tarmac has implemented a programme of changing all batch heater wheel assemblies to the new, safer design at a cost of £7,000.

Before

After

Paving machine tracking isolation switch

HIGHLY COMMENDED

CEMEX UK > Surfacing National Initiative > 07771 510269

DESCRIPTION

Clearing small amounts of material that can be spilled at the front of a paver when a delivery vehicle pulls away, is essential to ensure a consistent, uninterrupted operation which is free from potential defects. Therefore, an operative is required to clear the material from the front of the paving machine. However, from the driving position of the paver, visibility of the space directly in front of the machine can be inhibited, particularly when the 'wings' of the receiving hopper are raised after the delivery vehicle has pulled away. The operative is therefore exposed to the potential hazard of the driver moving forward whilst he is working at the front of the machine.

CEMEX Surfacing was the first to develop a system whereby the safety of the workspace in front of the machine is controlled by the individual who is carrying out the work in this area.

Switches have been fitted to all company paving machines on both sides of the receiving hopper, which, when activated, isolate the traction of the paver and prevent any forward movement. This allows the operative to clear any material from the area in front of the receiving hopper and push rollers in a safe environment. Forward movement of the paving machine can only be resumed once the isolation mechanism has been deactivated.

Detailed training for all operatives was carried out covering the improved safe system of work, with regular toolbox talks used to reaffirm the importance of using the system.

Frequent Visible Felt Leadership tours and audits continue to be carried out to assess the effectiveness of all safety features.

BENEFITS

Since the introduction of the switches, there have been no incidents or reported near misses involving operatives working in front of the paver. CEMEX Surfacing has actively encouraged the implementation of the isolation switches across the road surfacing industry through the sharing of system details to other contractors via the recently established MPA Safety Forum 'Working Group – Contract Surfacing'.

Signature blasts to reduce and control ground vibration

HIGHLY COMMENDED

ON VIDEO

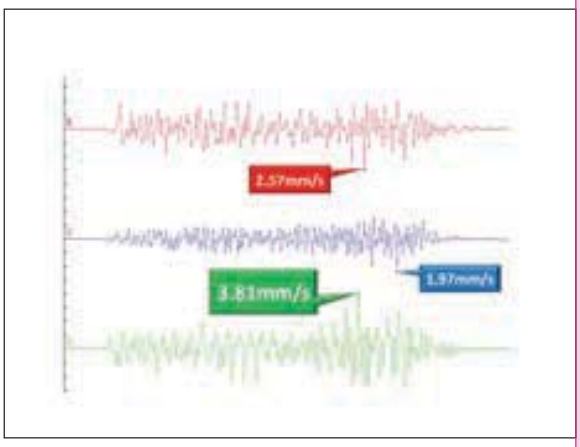
EPC-UK > EPC - Explosives > 01773 520723

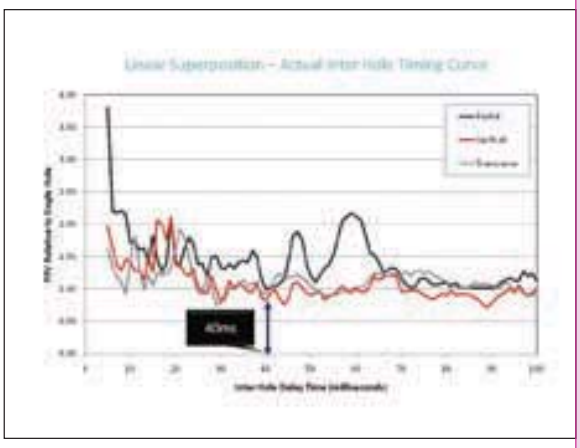
DESCRIPTION

The use of electronic detonators to reduce and control the levels of ground vibration from blasting is becoming more popular. However, switching detonation systems is no guarantee of achieving the desired result. The major asset of any electronic detonator system is its flexibility in allowing the user to select bespoke delay timings with finite precision and accuracy, but exactly what timing should the shot firer select?

EPC-UK has developed a methodological approach to derive the optimised delay timings for any given site. This approach requires the firing of a signature blast. This is a single shot hole, loaded with the normal amount of explosive and having a burden equal to that normally used at the quarry. This blast is simultaneously monitored at all properties, buildings and structures which have been identified as being sensitive receivers.

The resulting vibration traces capture the seismic characteristics of the geology and the individual response of the monitoring location, hence it is termed a 'signature blast'. This data is then used to seed a linear superposition model - a mathematical algorithm that calculates the optimum inter-hole delay time. This is used as the seed data for a second linear superposition model that derives the optimised inter-row delay time. The final outputs are the values that the shot firer can use to design the blast to minimise the levels of vibration.





BENEFITS

This protocol has been successfully used to reduce and control the levels of ground vibration at eight quarries across the United Kingdom. This has resulted in:

- Leaving safer faces through controlled blasting
- Leaving safer rockpile profiles for appropriate digging and loading
- Minimising the environmental impact of blasting
- Reducing blasting complaints
- Improving the relationships between operator and neighbour
- Releasing reserves that would otherwise be sterilised
- Improved blasting efficiencies
- Maintaining compliance with planning conditions.

Excess water removal system for field conveyors

CEMEX UK > Manor Pit Quarry > 07771 885844

DESCRIPTION

A new field conveyor system was installed within Manor Pit Quarry to access newly acquired reserves. The design specification did not include covers. However, the long conveyor run collects large amounts of water during periods of heavy rain or snow. Whilst the conveyor is operating continuously this is not an issue, but when the conveyor has been stationary, for example first thing in the morning or after a lunch break, the following problem arises: On starting the conveyor, the water travels along the conveyor to be deposited in the under-road tunnel, flooding it. It is deposited here because the 5m drop in height provides a large impact force as the water hits the lower conveyor, allowing it to spread beyond the natural curve of the belt.

A primitive de-watering system was tried but it discharged water onto the operator and relied upon the operator maintaining excessive pressure on a moving belt, placing them at risk of a manual handling injury.

To solve this problem, a fixed de-watering system shaped to the belt profile was designed and installed at one of the normal de-watering points. It is simple in design being counterbalanced enabling it to be manoeuvred into position with little force from the operator (one finger will bring it into position from either side of the belt). Once down, it is locked into place with a bolt. The operator is then free to de-isolate, activate the system and start the belts in a controlled manner away from the mechanism and discharge water.

The de-watering points have been carefully chosen so that water can be diverted easily into the drainage system around the dig. This reduces the potential for both an environmental discharge of solids and erosion by the water causing a slip, trip, and fall hazard adjacent to the conveyor.

BENEFITS

The new system provides the following benefits:

- Reduced risk of manual handling injury
- Reduced risk of muscle strain or impact injury due to caught equipment "snatching" the operator
- It can be easily used by operators and incorporated into existing safe systems
- It allows the disposal of water to be controlled, avoiding plant and working environment defects which either create a hazard or require remedial work.

These units have now been recognised as best practice in the region and are being installed at other locations.

Preventing hazardous working in a pre-heater tower

Lafarge Cement Limited > Aberthaw > 01446 752400

DESCRIPTION

There is a high risk of injury when unblocking the cyclones located in the pre-heater tower at Aberthaw Works. This is due to the nature of the material creating the blockage. Blockages mainly occur when material (kiln feed) is introduced to the cyclones at the start-up of the kiln or following a short stop. It is not possible to see the cone section of the cyclones and establish if material is already blocking the outlet. If the kiln feed is introduced into the cyclone when it is blocked, the cyclone can fill with material. It requires many hours of manual labour to remove the material and can also expose the operators to very hot dust.

The cyclones are pre-heated using fossil fuels which raise the air temperature to 1000º C in the lower cyclone and 400º C in the top cyclones. The kiln feed is introduced at the top of the pre-heater tower and falls through the four cyclones where it meets hot gases moving in the opposite direction. The kiln feed becomes very hot and highly fluid during this process.

The following method was devised as a preventative aid to reduce the potential for blockages.

Prior to introducing the feed, a ball is inserted at the top of every cyclone by one operator and a second operator, who is situated at the base of the cyclone, listens for the ball hitting a metal plate. If the ball is heard he signals that the cyclone is clear and the process is then repeated for the other cyclones. If the ball is not heard, the process is repeated up to three times (in case the ball has lodged itself in the wall of the cyclone). If after these attempts the ball is still not heard, the process is stopped and the cyclone is opened up for inspection. This is a risky operation and can only be carried out by trained personnel.

BENEFITS

The benefits of introducing the drop ball test has been a significant reduction in the number of cyclone blockages. This simple test has also reduced the potential for operators to be exposed to the hot fluid-like 'dust'.

Bitumen pressure safety system

Aggregate Industries > Stoke Express Asphalt > 01455 285200

DESCRIPTION

A breaking news alert in March 2009 highlighted a situation where pressure had built up in a bitumen tank due to a blocked vent pipe. Following the alert, an automated warning system was installed to highlight if this issue should occur at this site.

Pressure gauges of 1bar max pressure were fitted via a 20mm bore steel pipe to a spare flange at the top of the bitumen tank. These have been mounted at the front of the tank where the driver can monitor them during a delivery. In addition, a pressure sensor has been fitted in the pipeline which is linked to the bitumen alarm system and is set to alarm at 0.75 bar. This will only be activated during normal deliveries if the vent pipe is blocked. A valve and a connector have been fitted to the pipework to test the system.

Testing of the system has been added to the plant preventative maintenance schedule and instruction on the system is given to delivery drivers on induction.

BENEFITS

The system gives a simple visual and audible warning if the vent pipe is blocked resulting in a pressure build-up in the bitumen tank. This enables the driver to stop the delivery, removing the potential risk to both the driver and other employees from hot bitumen escaping under pressure due to a blocked vent pipe.

Safe bitumen handling at Hillwood Quarry

Tarmac Limited > Hillwood Quarry > 07725 142019

DESCRIPTION

Tarmac's new coating plant at Hillwood Quarry incorporates a wide range of safety features. The bitumen delivery system has a single fill point and, rather than taking pressurised delivery from a delivery vehicle, the plant features a suction pump that empties bitumen from the vehicle's tank.

Other key safety features are:

- A two-way intercom allowing clear communication between the delivery driver and the plant operator
- Dual high level alarms and digital tank level indication with 'traffic light' visual indication
- Suction pump emergency stop
- Improved CCTV and lighting
- A frost-proof safety shower complete with an alarm that sounds on activation
- A one-way system around the coating plant for all traffic
- Designated parking areas for delivery vehicles and safety barriers around the delivery area
- A combination of handrails and a warning sign with flashing lights that are actuated while the fill pump is in use to keep pedestrians clear from the bitumen delivery area
- A standard operating procedure to allow the ultimate high level alarm to be tested manually to ensure the system is always fully operational.

The new bitumen delivery system was set up in conjunction with health & safety and delivery personnel from Nynas, the company's bitumen supplier, to ensure the best configuration.

BENEFITS

- Minimal risk of high pressure, high temperature bitumen escaping from the fill point
- The plant operator can both see and communicate with the delivery driver at all times
- Emergency stop and an alarm on the safety shower if a problem arises
- One-way and a separate parking area keeps all other traffic away from deliveries
- Pedestrians, even on the 'blind' side of the plant, are made aware of bitumen deliveries.

Packer reel support improves lifting area safety

RUNNER UP

ON VIDEO

Lafarge Cement Limited > West Thurrock Marine Terminal > 07971 668969

DESCRIPTION

The lifting of paper reels for the cement bagging operation was previously carried out by a forklift truck lifting a pallet of three reels up to a height of three metres. The reels were then placed on the upper pallet area through a forklift gate and manually manoeuvred into place.

The introduction of a paper reel lifter, reel supports, permanent barriers and floor markings have eliminated several hazards and risks.

BENEFITS

- Using reel supports prevents the possibility of reels falling over and eliminates all manual handling of reels
- The introduction of reel lifting tackle eliminates the hazards of a forklift truck lifting reels three metres in the air
- Permanent barriers make working on the upper platform safer
- A hatched area clearly defines the lifting zone
- Floor barriers prevent people from walking into the lifting area.

Acetylene bottle cabinet dowsing system

HIGHLY COMMENDED

CEMEX UK > Marine > 02380 720236

DESCRIPTION

Fires involving oxyacetylene bottles have resulted in many fatalities or serious injuries. When ruptured, compressed acetylene bottles and their components can be propelled some distance at high speed. A fire involving acetylene cylinders causes major disruption, and the risk of explosion remains for up to 24 hours, unlike all other gases which are safe once the initial fire has been extinguished. Because of these risks an exclusion zone of up to 200 metres radius will be set up around the incident every time these cylinders are in danger of exploding at a fire.

At sea, the potential hazard from an oxyacetylene cylinder is greater as the crew may need to deal with a fire without the assistance of the emergency services.

CEMEX Marine has developed a simple but effective acetylene bottle dowsing system using sprinklers in the acetylene bottle storage cabinets.

BENEFITS

The fitting of a simple sprinkler dowsing system into each acetylene bottle cabinet provides the following benefits:

- Enables a quick response by the crew or emergency fire services and allows effective cooling to be activated and maintained locally at each location where these cabinets are situated.
- Enables the crew/emergency services to respond and provide effective cooling of the bottles in a fire Incident, reducing the risk of injury to workers/emergency fire officers and the public in the workplace.
- Enables the crew emergency fire services to remain at a safe distance from the cabinets involved in the incident, yet still provide effective cooling of the compressed gas bottles.
- Allows the crew/emergency services more time to evacuate the incident location and immediate area, in the event of a serious fire incident involving acetylene bottles.

Blocks manual handling trolley

HIGHLY COMMENDED

ON VIDEO

Hillhouse Quarry Group > Technical Services > 01292 313311

DESCRIPTION

Previously, test blocks of up to 30 kg had to be carried to, and then lifted into, the crusher. A system was required to remove these awkward manoeuvres.

A block manual handling system has been designed to carry and feed concrete blocks into the compressive strength testing crusher. The system is wheeled so that the block can be transported with minimal effort. When the system is in position, the wheels can be locked and the block can be slid into the crusher jaws. This requires little effort as the block sits on rollers.

BENEFITS

The risk of a manual handling injury associated with feeding concrete blocks into the crusher has been removed totally.

Refilling of water bowser

HIGHLY COMMENDED

Tarmac Limited > Borras Quarry > 07702 933550

DESCRIPTION

The handling of water pipes creates a potential manual handling hazard each time the water bowser has to be refilled. With such heavy and cumbersome pipes, the procedure was reviewed and an engineering solution put in place to eliminate the handling element in the operation and automate the process.

The tractor operator can control and automatically lower the bowser fill pipe into the cone and pump water into the bowser.

BENEFITS

Elimination of manual handling activity reduces the of risk of injury whilst carrying out the task and eliminates the risk of slips, trips and falls.

The filter bag

CEMEX UK > Wenvoe Concrete Plant > 07789 945322

HIGHLY COMMENDED

DESCRIPTION

The Wenvoe Concrete Plant has found a perfect way both to reduce disposal costs and to recycle concrete residue.

A one tonne bulk bag is placed in an empty intermediate bulk container. The unit can be positioned under a conveyor wash-out system or truck mixers can discharge wash-out into it. In both cases, the water drains away leaving the concrete residue in the bag.

Once full, the material in the bag consolidates producing a one tonne block - ideal for use as edge protection or to recycle. The bags are easily removed by mechanical means and stored.

BENEFITS

- Reduces manual handling
- Reduces waste costs
- Providing an ideal way of recycling.

Lifeboat fall prevention strops

Britannia Aggregates > m.v. Britannia Beaver > 07802 255967

DESCRIPTION

A series of fatality alerts were related to the accidental release of lifeboats when drills were being undertaken. However, it was not possible to retro-fit bolts to the existing configuration to prevent this occurring again.

Pier Rigging of Gillingham were asked to design and fit safety strops for use during lifeboat drills.

Nylon was used to avoid problems associated with the rusting of wire strops. The strength and length of the strops and the sizing of the shackles were all considered in the design phase. The new strops will only allow the lifeboat to fall four centimetres at the maximum; whether from the stern of the vessel, at the embarkation deck or at the waterline.

Risk assessments and method statements have been re-written to ensure a safe management system and the crew have been trained over a period of four weeks, in the use of the safety strops. Several drills have been performed and the system has been proved to be effective. The strops do not interfere with the release of the lifeboat in the event of a real emergency, as they are removable.

BENEFITS

The risk of multiple fatalities from the uncontrolled descent of the ship's lifeboat during drills has been removed.

Oil drum 'Safelift'

Tarmac Limited > Shoreham Wharf > 07968 893487

DESCRIPTION

When 205 litre oil drums are delivered on a pallet to Shoreham Wharf, they have to be moved into the oil store and on to the spill trays. These drums weigh over 200kgs and require two to three people to move. The manual handling issues were identified as a hazard. An A-Frame lifting beam and barrel clamp to lift the oil drums into oil store was designed and installed.

BENEFITS

- Significant reduction of manual handling risks.

Safer sampling of material

CEMEX UK > Building Products, Wick Floors > 01179 373740

DESCRIPTION

The technical department is required to take daily samples from the materials delivered, to ensure that the standards in the quality plan are met.

Loads are delivered on various vehicles and a sample is required from each. The technician obtains a sample either by leaning into the ground hopper immediately after a delivery, using a bucket to scoop out material; or by placing a bucket in the flow of material being discharged from the body of the vehicle. The technician has to be available at the exact time of the delivery, often involving the suspension of other duties.

A risk assessment review highlighted the need to eliminate this practice. A means of sampling from a safe position and without the technician being present immediately after a delivery, was required.

The solution consisted of a 600mm length of box section; this length ensured the supply of the correct quantity of material required for testing. A hole was cut into the angled side of the ground hopper and the sampling chute attachment welded in place. At the bottom of the box section chute, a small manual clamshell door operating system was used to allow the technician to discharge the sample material into his bucket safely.

The technician can now retrieve the material by placing a bucket on a fixed stand below the discharge chute. The clam door is operated by removing a spring loaded safety catch allowing the material to fall directly into the bucket. The technician can retrieve the sample at his convenience.

BENEFITS

- Eliminate risk of a person falling into the hopper whilst sampling
- Eliminate dust exposure to the person taking a sample as product is tipped
- Manual handling improvements
- Operator is clear of the vehicle removing the risk of being hit by the vehicle/tailgate
- A sample can be taken at any time.

Bulk fibre addition system

CEMEX UK > Dove Holes Quarry > 01298 77531

DESCRIPTION

VIATEX is a thin surface course asphalt developed by CEMEX. It is made up of aggregates, filler, bitumen binder and cellulose fibres. The bitumen binder gives the material long term durability, and the addition of the cellulose fibres ensures the stability of the material.

Historically, the fibres were purchased in 15kg bales, and then fed into the process manually via an overhead hopper. The hopper required constant feeding by the operator during production. The fibre was dusty and the process was a monotonous, repetitive task. The process was controlled by using job rotation and rest periods. The management wanted to eliminate the task completely to avoid the risk of a manual handling or repetitive strain injury.

A large hopper that fitted on top of the existing feed hopper was installed. The large hopper was fed using 400 kg bags of fibre via a telehandler with a purpose designed lifting frame. The new hopper needs only to be filled every 100 tonnes of production.

BENEFITS

- Eliminated the manual handling
- Eliminated a repetitive task
- Isolated people from the dust coming from the fibres
- Made the operation more efficient.

Retro-fitting Respirable Crystalline Silica (RCS) engineering

HIGHLY COMMENDED

CEMEX UK > Cowieslinn Quarry > 01721 730251

DESCRIPTION

In 2006, the Health and Safety Commission (HSC) set a new workplace exposure limit (WEL) for Respirable Crystalline Silica (RCS) of 0.1mg/m^3. The COSHH assessment at Cowieslinn Coating Plant identified that the overall respirable dust fraction has a higher than average respirable crystalline silica content.

The assessment also highlighted:

- Control cabin operators were at particular risk
- The current control measures by which exposure can be prevented were not suitable
- Additional engineering controls were necessary
- Use of personal protective equipment and respiratory protective equipment were adequate but were seen as the last form of defence.

It was necessary to reduce the exposure to dust of those who recorded at the top end of the exposure limits during personal monitoring, and who had previously been identified as being at particular risk, whilst carrying out daily operations from within the control room.

Following further monitoring and analysis by ventilation engineers, a small air handling unit was fitted on top of the cabin. The unit supplies clean pre-filtered air (with a heating element) into the cabin, which keeps the working environment under a positive pressure and helps prevent dust being drawn in through leaky seals.

The predicted reduction in the quantity of total inhalable dust, respirable dust and respirable crystalline silica measured over an eight hour time weighted average period is 50% or below that of the recognised workplace exposure limit.

Continued and regular air static sampling and personal monitoring will, in conjunction with manometer pressure drop monitoring, ensure we maintain the design efficiency and recognise when filters require renewal.

BENEFITS

Substantial reductions in dust exposure levels which will:

- Reduce ill health amongst employees and those visiting our site
- Ensure legal compliance
- Fulfil our moral responsibilities as a caring organisation
- Improve working conditions and thus reduce worker turnover
- Improve productivity due to lower levels of ill health.

Noise reduction programme

CEMEX UK > Wickwar Quarry > 07909 890419

HIGHLY COMMENDED

DESCRIPTION

An environmental noise consultant was employed at Wickwar Quarry to help reduce the noise levels.

The priority was to reduce the noise from the exhaust stack on the coating plant. An attenuator was fitted to the stack to reduce the amplitude of a signal. This achieved a significant reduction in noise levels.

As any dominant noise source is attenuated, all other sources become relatively more significant. A series of other improvements were also made:

- An insulated building was erected around the burner on the coating plant
- Extensive noise insulation and screening of the primary crusher in the quarry achieved a 67% reduction of noise levels
- All mobile plant on site was fitted with "white noise" alarms rather than the bleeper type, the noise of which can travel long distances
- The new dump-truck was fitted with a noise insulating rubber liner to its skip to reduce noise whilst being loaded and discharging into the crusher etc.
- The dryer vessel was replaced and the new dryer was insulated to reduce noise
- The coating plant filler blower was silenced by building a bespoke cabinet.

BENEFITS

- Significant reduction in noise on site
- Improved employee working conditions
- Removed a causal factor for both stress and raised systolic blood pressure
- Removed a causal factor in work accidents (noise masks hazards and warning signals and impedes concentration)
- Improved relationship with local residents.

Waste recycling from a mill tramp metal diverter chute

CEMEX UK > Cement, Tilbury plant > 01375 856268

DESCRIPTION

Clinker from the Tilbury mill tramp metal diverter chute was dropped onto the floor and then swept up by the operator. Although the drop area was protected by a barrier, it looked untidy and gave rise to airborne dust.

The material now falls into a hopper which is emptied by forklift truck. Once the material has been scanned with a hand held metal detector and the tramp metal removed, the good clinker goes back in to the system.

BENEFITS

- Reduction in manual handling
- Improved housekeeping with less work
- Reduction in the levels of airborne dust
- Improved recycling of clinker with reduced waste
- Reduced risk of slips and trips with clinker balls.

Noise reduction solution

Tarmac Limited > Sandside Quarry > 07843 069849

DESCRIPTION

Sandside Quarry is situated on the Kent estuary overlooking the Lake District. The quarry boundary is only 60m away from 40 luxury apartments. The asphalt plant in the quarry is 150m from the apartments.

The noise level monitored in the asphalt plant, especially around the burner and exhaust fan, were a cause for concern. A reading of 97db was recorded.

It was necessary to reduce the noise levels for the benefit of both the local residents and the workforce.

A steel-framed building was constructed around the burner and fan. It was designed to reduce the noise level by 10bd(A). The outside of the building had a box profile and the inside was lined with a fire resistant Rockwool held in place with steel mesh. Improved access was created for the servicing and maintenance of the burner.

BENEFITS

- Noise levels were reduced by 17db to 80db
- Improved environment for the workforce
- Reduced noise pollution for local residents
- Positive feedback from local residents and improved relationship with the community
- Helped the plant to continue its 24 hour operation
- Workforce engaged with the programme and were keen to find solutions to other problems.

Mixer safe working platform

RUNNER UP

ON VIDEO

Tarmac Limited > Cauldon Low Asphalt > 07702 933550

DESCRIPTION

Safe access underneath the mixer is required for specific tasks such as replacing wear plates within the mixer. This had normally been a time consuming and awkward task.

A portable working platform on runners that can be moved in and out of place very quickly was designed to address this issue. A standard operating procedure has been drawn up that details all safety precautions to be taken prior to instigating repairs.

BENEFITS

Operatives now have safe working access and work is completed in a much more timely manner.

Safe access and egress for maintenance and housekeeping

HIGHLY COMMENDED

Hanson UK > Bradford Asphalt Plant > 01274 606479

DESCRIPTION

Bradford Asphalt plant had a problem with distance-guarding that covered eight feed bins running to the main feed conveyor. Since the whole section had to be isolated via a Castell key, it did not allow frequent cleaning and maintenance of the individual belts. This resulted in significant dust and material build-up throughout the week. The occupational hygiene dust surveys showed that the levels were approaching the workplace exposure limit. To maintain housekeeping standards and comply with legal requirements under COSHH, production had to be halted to ensure safe working.

A further safety issue was that maintenance on the feeder or belts had to be undertaken at height. Operatives were using step ladders since there was insufficient space to use lifting equipment. A solution was sought that would allow independent access to each of the feeders/transfer belts for maintenance and/or cleaning and to provide close-guard protection when running.

An innovative, dual-function guarding and access system has now been designed and installed at the plant. The new design features a heavy duty lattice platform at either side of the feeder/belt, hinged at the base. When the feeder/belt and collect conveyor are operational they are in the vertical position and provide close-guarding protection. This allows access to the area to clean up dust accumulation/spillages from around and under the belts while the feeders remain operational.

If maintenance is required on any of the feeders/belts, they are isolated and locked off using personal clasps, and the appropriate platforms are lowered and locked to provide a working platform. Handrails are slotted into the fixings around the circumference of the platform and a purpose-made metal ladder hung onto the platform side, with a protective chain across the ladder head when people are working on the platform. A metal bridge has also been made to span the collection conveyor and allow safe access to identical platforms on the far side of the belt. When work is complete, the platform reverts back to the vertical position to act as a close-guard, isolation is removed and the feeder re-started.

A new industrial vacuum provides an improved level of reach under the belt, reducing both manual handling and the incidence of increased airborne RCS. Attachments purchased with the vacuum allow suction to be carried out in advance, removing the problem of a build-up of fine 'ledge dust' usually disturbed during maintenance.

BENEFITS

The site team has taken great satisfaction in solving a long standing problem. The solution was found by taking everyone's ideas into account and ensuring good communication at all levels. The main benefits are:

- The safety and health issues associated with the operation have been improved
- Repairs to the bins are easier and more efficient
- The team feel in control of the timing of repairs and housekeeping.

Safe access to an elevated task

Lafarge Aggregates & Concrete UK > Higham Coating Plant, Newmarket > 07740 563363

DESCRIPTION

At Higham Coating Plant the burner is situated in an elevated position, very close to the hot elevator, leaving only a small passable gap between the two components. When undertaking monthly burner servicing, access was achieved by using a scaffold tower with a fall restraint system. There were safety concerns regarding this form of access particularly as a contractor had reported a near miss when servicing the burner.

In seeking a solution to these issues, a conventional fixed platform was discounted because it would have caused further problems with the build-up of material.

The chosen solution was to design and install a permanent fixed handrail and support system within the void between the elevator and burner. The design allows the floor boards of the platform to be removed during day-to-day activities of the plant - allowing access for cleaning in and around the bottom of the elevator and preventing a build up of spillage on the platform itself.

The supports were designed to be the same dimensions as the scaffold tower assembly to allow rapid assembly as well as quick and easy removal. The fixed handrails and supports are left in situ permanently and, when access is required, it is a simple task to add the working platform.

BENEFITS

- Access to the area maintained for housekeeping
- Safe fixed and enclosed platform can be put in place in seconds should emergency access be required
- Very low maintenance
- The solution was low cost
- Contract engineers feel they are working in partnership with Lafarge.

Safe access to bulldozers

CEMEX UK > Berkswell Quarry > 07711 111506

DESCRIPTION

Safe access to bulldozer cabs and engine compartments is an industry-wide problem that organisations have struggled with for years. Due to the nature of the design of a bulldozer, the cab can only be accessed by climbing onto the track pads which are uneven and often covered in debris making them a slip and trip hazard. It is important to maintain three points of contact at all times due to these difficult access conditions. It has been proven that three points of contact cannot be maintained with the current handle arrangement fitted by the manufacture, particularly when egress is made from these machines.

A safe system to access and egress the bulldozer whilst maintaining three points of contact was required which would not be damaged by debris on the tracks when the machine was in operation.

The solution was simple, effective and installed with minimal cost to the business. The front access handle was extended on each side of the machine into a trombone shape which could then be easily reached from the ground and held while climbing onto the tracks. The access footholds on the blade arms were moved forward to a lower track position reducing the need to stretch.

This system has been circulated within CEMEX UK and has been fitted to other bulldozers. Finning, the agent for CAT, has visited the site and been provided with the modification details.

BENEFITS

- Access and particularly egress has been improved on the bulldozer fleet by ensuring that the driver can maintain three points of contact
- The risk of slip and trips particularly in wet or icy conditions has been reduced
- A simple and cost effective solution
- Retro-fitted across the fleet
- Manufacturing agent Finning has show interest in adopting the system
- Morale boost for team members in seeing their ideas implemented and recognised by the management team.

Editor's note

For latest advice, readers are recommended to visit www.Safequarry.com and click on the 'Safer by Design' button.

SAFER BY DESIGN Mobile Plant

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Safer by Association

A premier service for MPA members

Initiated by a specialist task force from the MPA Health & Safety Committee, the 'Safer by Association' package is scalable, generic and focused, principally for the benefit of the independent MPA Members. The site audit-based scheme will assist members in their quest to deliver a safer, healthier industry, with the ultimate aim of achieving Zero Harm.

- A leading edge site safety assessment tool with optional third party evaluation
- For existing and potential new members across all product sectors
- Designed to save you money through safer, more efficient operations
- Helps compliance with legislation by identifying deficiencies in your H&S system
- Provides access to industry best practice and pooled resources of MPA Members
- Compares your H&S system against industry best practice and legal requirements
- Free tools, advice and resources
- The kudos of a 'Safer by Association' certificate
- Opportunity to progress through 'bronze', 'silver' and up to 'gold' status
- Optional third party evaluation at agreed rates by competent auditors identified by MPA

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SAFER BY DESIGN Mobile Plant

Safer by Design

An Initiative for Europe & beyond

Recent surveys in Germany & UK have shown that design-related factors are one of the most important root causes of injury. MPA took the leading role is bringing together a consortium of organisations with the common aim of reducing ill-health & injuries to plant operators & maintainers.

Systemic Shortcomings

Whilst strongly supporting national, European and international Standards, it is apparent that the majority of new mobile plant placed legally on today's market, in compliance with the EU Machinery Directive, is not considered to reach the levels of health and safety required by many major users.

Voluntary Best Practice Guidance for Mobile Plant

Voluntary best practice Guidance has been developed that defines the minimum acceptable ranges of safety features for new and re-engineered mobile plant. Focusing, initially, on loading shovels; excavators; bulldozers; dumptrucks; and mobile crushers & screens, the Guidance is divided into 5 categories:

Access systems • Visibility • Security • Maintenance • Environment/ Welfare/Health

For each of these categories, a range of criteria identifies, for each machine group and size, whether an individual criterion is "Industry expectation"; "Optional"; or "Not applicable".

Proactive Mitigation of Risk

'Safer by Design' spreadsheets available on the industry's international health and safety website, http://www.Safequarry.com present a user-friendly, interactive approach to guiding Manufacturers, Suppliers, Users, Regulators - and, importantly, the workforce - as to best practice.

Editor's note: Display material supporting the MPA's Safer by Association service and 'Safer by Design' initiative. For more information on 'Safer by Design' go to www.Safequarry.com and click on the button.

SAFER BY DESIGN Mobile Plant

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