Counterfeit Safety Helmets

The BSIF have been made aware that counterfeit and sub-standard helmets believed to be of Asian origin and marked under the brand name “Burly” and “MkII” have found their way onto the international market.

These helmets are copies of the well known MKII safety helmet; a product manufactured by JSP in the UK and should not be confused as being one and the same.

The “Burly” helmets do not meet the requirements of the British and European Standard, EN397.

They are extremely dangerous; they must not be worn and should be destroyed immediately.

Please see the images of the counterfeit “Burly” helmets below showing the under peak markings and the instruction leaflet.

Radio Communications during Crane-age Operations

A 3m³ concrete skip was being lowered down the pump shaft under the control of a Pit Bottom Banksman using the Weldex 200t crawler crane. The skip was stopped and concrete was being discharged, the crane operator moved his sun visor and dislodged the radio attached to it causing it to fall to the floor of the cab. After being picked up the channel setting was changed onto another live channel. The crane operator followed the instruction for a different crane until stopped by the crash radio.

Once the crane had been stopped, it was found that two boards and one climbing tube had been damaged on the slipform, which were replaced. A thorough examination of the slipform was carried out and there were found to be no defects.

The breakdown in communications due to the change in channel occurred as the radio was not properly secured and in part by the operator not following the “stop & check” procedure with the change in banksman and in terms of dropping the radio.

Safety Infringements of Electrical & Associated Items

Recently there have been a number of safety related incidents caused by safety mechanisms for electrical equipment and associated items being deliberately tampered with.

In slightly different circumstances any of these could have had serious safety implications.
Eye Protection

Eye injuries in the workplace are very common. Statistics show that up to 2,000 people injure their eyes at work each day. About 1 in 10 injuries require one or more missed workdays to recover from. Of the total amount of work-related injuries, 10-20% will cause temporary or permanent vision loss.

Experts believe that the right eye protection could have lessened the severity or even prevented 90% of eye injuries in accidents. There are three things you can do to help prevent an eye injury:

1. Use the appropriate eye protection for the task being undertaken.
2. Use machine guarding, work screens, or other engineering controls.
3. Wear eye protection on site as instructed at all times and ensure your eye protection is approved and in good condition.

The type of safety eye protection you should wear depends on the hazards in your workplace. If you are working in an area that has particles, flying objects or dust, you must at least wear safety glasses with side protection (side shields). If you are working with chemicals, you should wear goggles. If you are working near hazardous radiation (welding, lasers, or fibre optics) you must use special-purpose safety glasses, goggles, face shields, or helmets designed for that task.

Earthworks Incident

There was a recent incident at an interface between earthworks and ground works activities where during discharge of a load of backfill, a large piece of lime stabilised material rolled down an existing spoil heap into a hollow, striking a colleague working on a pipe connection causing serious injuries requiring hospitalisation.

All operations were ceased, and a review of all activities was undertaken to confirm suitable and adequate control measures were in place to provide a safe system of work.

Flygt Pump Exploded Following Installation

A recent incident at a wastewater pumping station highlighted the installation of the pump had not been carried out in accordance with the requirements of atmosphere explosive (ATEX) certification and was not being operated in accordance with the manufacturer’s instructions for an ATEX certified pump. Also the pump motor was being operated with no effective electrical overload protection as required by BS7671 ‘Requirements for Electrical Installations’.

A large electrical arc occurred within the motor terminal chamber as a result of a damaged supply cable; this led to a loss of a motor winding connection. Along with the lack of electrical and thermal protection, this caused a massive increase in pressure along with extensive burning within the terminal chamber above the motor stator. This dramatic increase in internal pressure and partial release of the stator fixing caused failure of the stator housing. The stator housing, cooling jacket and terminal chamber were then propelled upwards out of the pump chamber.

360 Excavator Damages Vehicle

A sub-contractor vehicle was damaged by a 3 Tonne 360 excavator whilst trying to attach a hydraulic breaker that was in the back of the vehicle. The excavator suddenly moved when the engine was switched on. The incident is currently under investigation. However, initial findings have highlighted:

- The isolation lever was engaged but did not isolate the offset boom floor pedal.
- The pedal was stuck in the engaged position.
- When the ignition was switched on the offset arm swung into the side of the vehicle.

360 Excavator Damages Vehicle

An operative was cutting back 32mm thick reinforcement bars that were protruding from recently constructed piles, using petrol driven Stihl Saw. As he
was cutting through a bar, he was unaware that he was being doused with fuel that was escaping from the petrol filler cap. Sparks generated from the cutting, ignited the petrol, which in turn set fire to his right trouser leg and his hi-visibility jacket. The injured person has been diagnosed with serious burns to his right leg and is to remain in hospital pending skin graft surgery.

**MEPW Failure**

A recent incident identified a potential design fault with a vehicle mounted MEWP. The failure involved a pivot pin which connected a steadying arm to the basket to keep the basket vertical. The pin had failed some time previously but had not been identified on inspection as only the ends are visible under normal conditions and these were still in place.

A jolt to the basket resulted in the failed pin springing free from the housing (Fig 1) allowing the basket to tip (Fig 2).

**Vehicle Security**

There have been several instances where keys have been found left in vehicles during the independent audits undertaken by the Highways Agency. On one occasion a works van had the engine still running. It is not just theft that we are trying to prevent. Highways Agency sites are often close to public areas and this puts a higher status on the issue. There has been a fatality in the past due to theft of a site vehicle with the keys left in and we don’t want a repeat of this.

This safety alert is being issued as a reminder that leaving keys in vehicles or plant can lead to them being used by drivers or operators who are not authorised, competent, legal or familiar with their controls. It could also lead to the theft of vehicles from site – which has happened in the past!

**War Against Winter**

The Esholt site has taken the hazardous conditions that winter weather brings seriously. They have looked at ways to keep operatives and visitors to site safe. The team have introduced new signage to warn of freezing temperatures and improved gritting methods to keep access paths slip free.

Winter working can be challenging, even with mild winter conditions the potential for accidents increases. When snow and ice hit sites the risks become far more hazardous adding to the dangers within our working environment. Ice cannot always be seen and therefore risks of slipping are increased and a covering of snow can hide numerous hazards.

Esholt has introduced a special sign at the entrance of the site. When the temperature drops to freezing the sign has a circular section with segments that turn blue which allows everyone to know there is a risk of ice. This is a simple visual way to communicate the icy conditions.

The site has also invested in a ‘Walk-along Grit Spreader’. The grit spreader saves individuals carrying bags of grit and shovelling this around pathways. It is quicker and gives an even spread of grit to effectively cover areas people need to walk and work.

**Ineffective Lifting Beam End Stops**

A recent Significant Near Miss highlighted the importance of checking lifting beams and trolleys. Whilst lifting a filter feed pump the trolley front wheels passed the stops at the end of the beam.

Fortunately, the back two wheels jammed, stopping the whole trolley falling off the lifting beam which was 4 metres high.
On investigation, as well as the stops on the beam being too narrow, the trolley is of a portable type which is adjusted by turning the centre screw and not locked in position. Therefore, each time the chain block is removed and re-attached there is a risk of inadvertently adjusting the width of the trolley. The trolley shown left uses spacers and lock nuts to set and lock the trolley width which is more robust and recommended for permanent installations.

**Injury to Excavator Slinger**

After lifting and positioning a section of pipe into position the excavator operator tracked backwards and in the process travelled over the foot of the slinger/signaller working with him.

The IP returned to work two days later with a bruised foot.

**Mobile High Pressure Steam Cleaners**

There is the potential for serious injury to employees, when using mobile high pressure / high temperature steam cleaners. In order to prevent serious incidents, it is essential to consider the hazards and ensure that appropriate controls are in place before you allow members of your team to operate this equipment.

A recent incident occurred when an employee was using a high temperature steam cleaner to wash a Simon Hartley Aquabelt. Whilst undertaking this activity, the employee directed the spray jet at the plant and hot water (140C) deflected back towards him and came into contact with his hand and wrist. The employee received steam burns (see picture) which resulted in him being absent for several days while it healed.

**Screw PS Sump Flood on Power Off**

Work has been ongoing at old Whitington to refurbish the Intermediate Screw PS as part of the FFD scheme. There are four existing screw pumps being replaced under the contract sequentially. Three screws had already been replaced with the final fourth screw pump replacement ongoing when the near miss occurred.

The screw pump had been isolated for work to be carried out by closing the penstock in the wet well, locking it off and pumping out the screw side for work to commence. The existing screw had been removed and work just been completed to install and grout the bottom bearing when the near miss occurred.

The power to part of the site was switched off by Yorkshire Water Operations as part of a new Triad energy saving scheme. The message that this was going to happen wasn’t passed on to the construction team. As a result of the power being switched off, all the screw pumps stopped and flows to the PS Wet Well from the upstream works continued to fill the wet well. The water level rose above the top of the closed penstock and flooded the area where the work on the fourth screw had been carried out washing away the grout. No one was in the area at the time.

**Legal Enforcement of Personal Responsibilities**

GBM have been made aware via receipt of an external alert regarding a Health and Safety Executive (HSE) formal prohibition notice being served on an individual for failure to fulfil his personal responsibilities as a foreman.

The issue was in relation to the cutting of concrete products without the use of dust suppression. The HSE Inspector deemed that as company procedures were in place and the foreman was aware of these and the foreman was also aware that operatives were not following this same procedure.

This alert is not about exposure to silica dust...... it is a timely reminder to all that Health and Safety is....
everyone’s responsibility, and that times are changing in the way that the HSE carry out their interventions.

You are reminded of Section 7 of the Health and Safety at Work etc. Act 1974: General duties of employees at work.

It shall be the duty of every employee while at work to take reasonable care for the health and safety of themselves and of other persons who may be affected by his acts or omissions at work.

You are also reminded to review your employer’s policies and handbooks that outline your personal responsibilities for health and safety and to understand that you are personally accountable and may face a penalty for failure.

New legislation has been introduced: The Health and Safety (Fees) Regulations 2012. These Regulations put a duty on HSE to recover its costs for carrying out its regulatory functions from those found to be in material breach of health and safety law. The hourly rate, currently £124 per hour, referred to as Fee for Intervention (FFI) commences from the moment the HSE step foot on site and includes the time spent writing reports and any subsequent research or investigation. Fee for Intervention can be applied to duty holders under the Health and Safety at Work etc Act.

The foreman concerned may not only face disciplinary action from his employer, but may be subject to the recovery of fees associated with the HSE visit and subsequent investigation.

Quick Hitch Partial Failures

Barhale suffered a second partial failure of a double locking quick-hitch. Both these quick hitches rely on maintaining the hydraulic pressure to lock both front and rear pins.

The first event occurred at the Kettering site in October 2012 where a pipe lifter attachment became detached from the rear jaw because pressure had been released owing to excessive wear to ‘o’ rings and the accessory was not compatible with the hitch. The attachment only detached from one pin on the hitch.

On 7th January 2013 at Ashford, a machine was using a breaker when the rear jaw opened partially releasing the attachment.

Again the attachment only detached from one pin on the hitch. It is suspected that ‘score marks’ on the hydraulic ram led to a hydraulic leak.

Scald Due to Hot Fluid from Pump

A recent no lost-time injury highlighted the importance of considering residual hazards when working on pumps.

A fitter whilst moving a pump within a dry well had correctly isolated the pump, but when lifting the pump a small amount of hot fluid escaped from the bowl and spilt onto the fitter’s hand. The fluid permeated the fabric on the back of the glove resulting in a scald to the back of the hand, which subsequently required hospital treatment.

The reason for lifting the centrifugal pump was that the inlet had blocked with the pump continuing to run. As there was no flow the resulting friction led to a build-up of heat within the pump and fluid. It was found that the fitter had been wearing fabric-backed gloves; the fluid was therefore able to pass through the glove and scald the skin.

As a result of the investigation, the functional and specific risk assessments for this task will be reviewed to include control measures in relation the residual hazards of heat and hot fluids within isolated pumps.

The glove selected was not suitable for waste water related activities as it was not liquid proof.

Slips on Ice

Two similar incidents occurred recently resulting in serious injuries to those involved and both were classified as reportable major injuries under the RIDDOR requirements.

One of our security officers was carrying out their routine patrol on a client site. The conditions of the surface around the site were icy at the time, however, some parts of the site had been gritted. While on patrol our colleague happened to slip and fall in a place that hadn’t been gritted properly. Consequently the accident resulted in our colleague sustaining two fractured ribs.
The second incident occurred on the same client site and involved one of our cleaning supervisors. Our colleague was travelling on foot from one building to another when they slipped on ice and fell to the ground. Aside from the small patch of ice our colleague slipped on, the surface conditions were generally free from ice. The accident resulted in a fractured wrist.

**Toxic Gas Rooms – Locking of Shutdown Buttons**

Toxic gas rooms designed to store chlorine, sulphur dioxide and ammonia gases are provided with external push buttons for emergency operation of the shut down and ventilation systems. This briefing asks managers to ensure that these buttons are always available for use in an emergency.

Ventilation and Chlorguard shutdown buttons are situated on the external walls of all toxic gas rooms. These are provided to operate the shutdown safety features. It is imperative that these emergency buttons remain operational at all times and can be operated immediately if required. Inspections have revealed that on a number of sites these buttons are padlocked closed. These padlocks should be removed immediately.

**Roadside Safety**

Whilst attempting to safely move away from a jetting operation situated near some traffic lights, our engineer waited for the traffic lights to change to red and then assisted the driver of a Jetvac to move from the roadside verge into the main traffic flow. Whilst this operation was underway, the lights changed to green and the traffic then began to approach the Jet vac as it left the verge. The first two cars saw the manoeuvre and slowed down to a stop in order to allow the tanker to turn around. Our engineer was in the highway gesturing for the traffic to stop when a car began revving his engine violently. Our engineer heard the screaming of wheels as the third car back pulled out past the first two cars and struck our engineer on the arm. The car sped away without stopping.

In this instance, a witness saw the incident and gave full details of the car’s registration and the events as they happened.

When working on the roadside in such circumstances, it is essential that all vehicle movements are undertaken when adequate time is available for the manoeuvring of the vehicles into normal traffic flow.

Whilst this incident was clearly the result of an impatient motorist, the fact remains that there was not enough time available at this point to restore the tanker into the main carriageway. The engineer went to hospital and after a check up, was discharged.

**Multi Plug Adaptors**

Multipoint extensions can be found in most homes and workplaces, these items can be useful when used correctly but are liable to overheat and can cause fires when misused or damaged.

Square Multi Plug Adaptors are readily available from DIY Shops and Electrical Retailers. This type of adaptor is particularly hazardous as the weight of the plugs & leads attached to it can put strain on the Multi Plug at the socket, causing it to be displaced creating a poor connection which can cause overheating and fires.

During a recent visit to a GBMJV site a Square Multi Plug Adaptor similar to that shown below was being used in the Canteen. It had a Kettle, Microwave and Battery Charger connected.

The weight of the plugs & hanging leads had put a strain on the Square Multi Plug Adaptor and caused it to become loose. Also the electrical load could be exceeded had the kettle and microwave been in use at the same time!

**Blood Poisoning Can Kill**

An employee has recently suffered from blood poisoning after he cut his hand. Even small cuts that become infected can cause blood poisoning (Sepsis) and can kill.
The body’s immune system goes into overdrive, setting off a series of reactions that can lead to widespread inflammation (swelling) blood clotting and death.

Symptoms usually develop quickly and include:
- a fever or high temperature over 38C (100.4F)
- chills
- a fast heartbeat
- fast breathing

It is mandatory to undertake a risk assessment for work activities that must include appropriate glove selection.

If you are cut ensure the wound is properly cleaned with hot running water and soap without delay. Once clean use a plaster / bandage and keep the area free from contamination. Be aware of the symptoms of blood poisoning and see your doctor without delay if the wound becomes swollen or unduly sore or painful.

**Working in Close Proximity to Underground Services**

A recent site incident highlights the need for thorough planning prior to works taking place in the vicinity of underground services. A construction operative was using a pneumatic handheld breaker when he struck a live low voltage (LV) underground electrical cable. He was subsequently taken to hospital suffering from 18% burns, predominately to his legs, hands and forearms and is currently recovering at home. The LV cable was clearly marked and identified in the Permit to Break Ground. The working gang had received briefings to confirm the existence of the cable and the protection measures to be applied. The excavation was being undertaken in the pavement, adjacent to the kerb bedding.

Some of the issues highlighted as a result of the investigation were:
- There was no approach made to asset owner to request either isolation or diversion of the LV cable.
- The utility providers were not consulted to check that the drawings held were the most recent copies.
- The excavation activity did not stop when a kerb bedding obstruction was encountered to determine the way forward.
- Services had not been positively identified as they were located

**What should Designers do?**

It is a fundamental duty of Designers under the CDM Regulations 2007 to ensure that any risks from underground or overhead services, and the impact they can have on working methods, have been taken into account and foreseeable hazards eliminated or risks reduced as far as is reasonably practicable. Therefore:
- When conducting initial site surveys look for indications of buried services, such as the presence of lamp-posts, illuminated traffic signs, gas service pipes entering buildings, covers, pipeline marker posts, evidence of reinstated trenches etc. However, be aware that even if there are no such indications this does not mean there are no buried services.
- Always contact Statutory Undertakers for up-to-date utility information.
- Always contact www.Linesearch.org to confirm the presence of any Major Accident Hazard Pipelines.
- As part of the early design works the service owner /operator should be approached to discuss options for diversion, isolation or protection of services.
- Where new services such as electrical or gas supplies are being installed, risk can be reduced by not installing or commissioning...
them until the adjacent construction works have been completed.

- Residual hazards must be evaluated by the design teams to determine if they are ‘significant’ as described in the CDM Regulations i.e. difficult to manage, unusual, not likely to be obvious to a competent contractor or designer.
- Utility information shall be transposed onto design drawings to enable any potential issues to be identified and evaluated accordingly.
- Any high pressure, high voltage, Major Accident Hazard pipelines etc., must always be followed through as significant.
- Significant utility hazards must be communicated to the follow-on designers and contractors in the most effective way, this is usually through annotations on the construction drawings.
- Hazards on drawings must be clearly annotated in the standard MWH format as follows.

Contactor Accident & Incidents Reports

The employee slipped down a set of stairs whilst holding onto the handrail on both sides. As he slipped, and while still holding the handrail, the little finger on his left hand was bent backwards on top of the upright section of the handrail. This caused a break to the bone in his hand between the knuckle and the wrist.

The employee was working with another operator to clear rag from the sludge screen, using rakes to transfer the rag. During this task he felt a twinge in his lower back which was later diagnosed as a trapped nerve.

While waiting at traffic lights, the HSE Inspector witnessed an operative use a Stihl saw to cut tarmac without any dust/water suppression. When questioned as to why no dust/water suppression was used the operative answered that the attachment had broken the previous day, had not been replaced, and that he was instructed to carry out the task by his supervisor.

Following relining of 30 metres of 6” sewage main from a point in the garden to the house, fumes were smelt. A doctor was called to the child who was suffering from headaches. Further work to reline a second section of the main has been stopped until the investigation is completed.

The contractor slipped on a frosty footpath slab and fell, catching his back on one of the steps to the adjacent chamber.

Whilst setting up a discharge hose to off-load sludge, the employee was closing a Bauer coupling handle, when he caught his right thumb on the jubilee clip that holds the hose to the coupling. The clip cut through his glove and caused a deep cut to the right thumb.

Having replaced a sliding vent valve, the contractor still had his finger in the opening when he reconnected the air supply, which caused the valve to close and slice off the tip of his finger. Following treatment at hospital the contractor returned to work on the same day.

Contactor Near Miss Reports

Whilst using a Hiab crane to move pumps, the crane hit and broke an external light fitting and bulb. The crane operator and another operator were in the vicinity at the time.

The cleaner was using a floor cleaning machine which began to leak. The cleaner then attempted to turn the machine over to find the fault. However, the equipment was still plugged into the wall socket and had not been electrically isolated.

A contractor was observed carrying out a jetting operation without wearing a hard hat, ear defenders or a face visor.

Highways inspector reported that a contractor had incorrect Traffic Management in place for works near to a bend. With no safety zone, lead-in or exit tapers, no cones on site, insufficient directional arrows and no courtesy board.

When the employee stepped off the ramp onto what he thought was a concrete apron, it did not hold his weight and caused him to lose his footing. He slid a short way down the incline towards the deep sludge lagoon. He managed to stop himself a couple of metres short of the lagoon.

A contractor was seen working on top of the Chemical Store without protection against falling from height.
Grontmij would like to thank the following clients and contractors who regularly send us safety alerts/updates which we use to compile this newsletter; this however in no way implies that any of these companies were involved in any of the events reported.

Aecom
Anglian Water
Balfour Beatty
Barhale WSP
Black & Veach
Carillion
Coast to Coast (C2C)
Costain
Environment Agency
Forkers Ltd
Galiford Try
Gammon Construction
GBM
Halcrow Group
Health & Safety Executive
Highways Agency
J Brown Construction
Jacobs
Magnox Ltd
Morrison Construction

May Gurney
Morgan Sindall
MVB
National Grid
Network Rail
NMC Nomenca
North Midland Construction
Northumbria Water
Plowman Craven
Scottish & Southern Energy
Scottish Power Utilities
Scottish Water Solutions
Severn Trent Water
Speedy
Thames Water
Structural Safety Ltd
The Construction Plant Hire Association
Wessex Water
United Utilities