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Clwyd Associates Ltd
www.clwydassociates.co.uk

Health and Safety Bulletin

Lock Out Tag Out (LOTO)

Articles in this newsletter:

Useful contacts:

HSE website
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Environment Agency website:
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Although most task risk assessments focus on operational tasks, the highest risk activities for most businesses occur during the adjustment, cleaning or maintenance of machinery. In most cases, this involves the removal or bypassing of safety devices (such as guards and interlocks) and direct exposure to dangerous parts of machinery.

In order to manage this risk and comply with legislation, most employers develop and implement LOTO or isolation procedures to remove the source of energy before safeguards are removed.

Identifying energy sources

In order for LOTO to be effective the workers applying it need to have an understanding of the types of energy that are associated with the equipment. For many simple machines the only source of energy may be electricity and the supply may simply be through a plug, but in more complex situations there may be multiple sources of energy such as hydraulics (energy supplied through liquid under pressure, for example raising the forks on a forklift truck), pneumatics (energy supplied through gas under pressure, such as compressed air) or potential energy (the energy something has due to its position, for example a raised dock leveler or entry gate).

Workers also need to understand that some energy sources are not fully isolated by just turning off the source – for example, most compressed air systems include receivers which store the air under pressure once it has been produced by the compressor. Therefore turning off and isolating the compressor does not fully remove the energy since there is still compressed air stored in the receiver.

What steps does LOTO consist of?

Most organisations use the pneumonic “SILT” to formulate their LOTO procedure.

- Stop - is about shutdown procedures. The process used to stop a machine before it undergoes work without the safety devices in place can help to reduce risk. For example, a machine which is connected to a steam supply does not cool immediately the steam supply valve is closed. Following a shutdown procedure may reduce the cooling down time and therefore reduce downtime and risk
- Isolate – there are often different forms of isolation. An electrical supply can be isolated from a piece of equipment by turning off the isolator but it can also be isolated by removing the fuse and/or completely disconnecting the electrical supply. Workers need to understand the risks associated with the work to make the correct decision about the form the isolation should take
- Lock off – the isolation needs to be secured in position by everyone who is at risk. This often involves each individual applying a padlock (to which they hold the only key). Sometimes the worker needs to apply an isolation device such as a valve handle cover too. This is also the point at which a tag should be applied to the lock identifying who it belongs to and why it has been applied
- Test – the final step is for each individual to check the isolation is effective. This may be as simple as pressing the start button or may involve more technical procedures such as electrical testing for dead

Conclusion

Maintenance, adjustment and cleaning are the activities involving the highest risks in engineering and manufacturing – but these activities are not limited to these types of business. Whenever safety devices are removed or bypassed, employers must have a safe system of work for people to follow to manage the level of risk.

Recently issued/revised health and safety information:

- RR1077 Safe storage of wood pellet and wood chip fuel http://www.hse.gov.uk/research/rrpdf/rr1077.pdf
- RR1079: Access to and work on flatbed vehicles http://www.hse.gov.uk/research/rrpdf/rr1079.pdf
- RR1078 The use of vehicle structure in load securing on heavy goods vehicles http://www.hse.gov.uk/research/rrpdf/rr1078.pdf
- ORR Developing and maintaining staff competence http://orr.gov.uk/__data/assets/pdf_file/0016/4264/developing-and-maintaining-staff-competence-rsp1.pdf
- Around the block – risks for retail businesses http://aroundtheblock.worksafe.govt.nz/

Clean Air? – Take Care! Campaign

The Clean Air? - Take Care! Campaign is a new joint initiative between the British Safety Industry Federation (BSIF) and the Health & Safety Executive (HSE) aimed at reducing occupational respiratory disease

The objective of the campaign is to encourage employers and workers to consider

- whether there may be airborne contaminants in their workplace
- the control measures they should consider implementing to minimize the risk of inhaling any with health implications (following the hierarchy of control)
- information about the factors that should be considered if personal protective equipment (such as respirators) are required and how to choose the right type of equipment for the exposure involved.

There is a website containing resources at http://www.bsif.co.uk/campaigns-projects/clean-air-take-care/ - this includes a downloadable leaflet, poster and presentation.

Case Law update

This issue focuses on cases where accidents have occurred because of the failure to lock off equipment

Cammell Laird Shiprepairers and Shipbuilders were fined **£400,000** with **£7,638** costs after an employee suffered fractures and crush injuries to his right hand while cleaning and repairing a lathe. During the work he decided to clean the shafts and couplings and wrapped an emery cloth around the lead screw and turned the lathe on. As the machine began to run his right hand was pulled in to the moving parts. The Court found that a system of lock off, which would have prevented reconnection of the power to the machine, had been identified and was outlined in the written health and safety management system but had not been properly communicated to employees or implemented

Two men were permanently disfigured when a capacitor from the distribution board fell onto a live conductor creating a short circuit and electrical arcs between the live busbars and the earthed metalwork of the distribution board (a "flashover"). The men were severely burned on the face, neck and arms by the flashover. Their employer was fined **£20,000** and the controller of the site **£24,000**. After the case, an HSE spokesman stated "It was reasonable to undertake the work while the distribution board was switched off which would have reduced the risks so far as was reasonably practicable and prevented the accident. Live work should only be undertaken if it is unreasonable to make the conductors dead and suitable precautions are taken to prevent injury"

McCain Foods (GB) was fined **£800,000** with costs of **£12,831.51,** after an employee nearly lost his arm when it became entangled in machinery. The 34-year-old employee was working on a bypass conveyor, which carried potatoes, when he decided to check a bearing that had previously collapsed and damaged the head roller. As he leaned down and around to look at the bearing, his right arm was dragged in to the conveyor belt, causing a traumatic near-amputation. Although his arm was saved, the employee now has limited movement in his hand.

About Clwyd Associates…

We are a management consultancy, focusing on health and safety and SAP based in the Midlands.

We employ consultants with at least 15 years practical experience backed up by recognised professional and academic qualifications - ensuring our clients receive first class service.

LOTO Safe Systems of Work

With engineering/manufacturing backgrounds, Clwyd Associates employees have a lot of experience in:-

- Developing safe system of work lock off procedures that fit with the resources available within a business
- Creating lock off procedures and point of use diagrams for specific machinery to provide targeted guidance
- Providing training for those who need to follow the lock off system, including competence assessment
- Auditing existing lock off systems to assess how well they comply with legal standards and the effectiveness of their implementation

For more information, contact us at enquiries@clwydassociates.co.uk

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