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# Why is machinery safety still so topical at the moment?

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## What's the Driver?

Equipment operators, i.e. owner, purchaser and/or provider, continue to recognise that machinery safety is not solely the manufacturers responsibility and a significant aspect of managing risk in the workplace resides with the operator. This recognition is partially driven by statistics such as published fatalities (11 in 2019/20<sup>1</sup>) and associated RIDDOR<sup>2</sup> injuries (2445 in 2019/20<sup>1</sup>) that are the result of human interaction with machinery. This continued level of harm is driving machinery safety requirements as an industry hot topic at the moment.

We all recognise that there are hazards with machinery, but we do not necessarily recognise what the hazards are or that when they exist what safeguards are in place to ensure that the risk to personnel is being managed correctly. Safeguards such as fixed guards, moveable guards, safe systems of work and safety instrumented functions (SIFs) all need to be designed and implemented correctly. More importantly, they need to be maintained and operated in accordance with relevant equipment standards, manufacturer instructions and operator procedures to ensure the safeguards applied are effective; in other words, managing the *'hierarchy of controls'* to prevent harm to people.

## What does industry require?

Industry requires providers of work equipment to ensure that they maintain the safety of personnel operating such machinery and in meeting the company's obligations against relevant national legislation and expected industry good practice. As an example, in the UK, this would be in accordance with the Provision and Use of Work Equipment Regulations (PUWER) and Management of Health and Safety at Work Regulations. Regardless of the geographic location and legislative requirements, essentially operators of equipment need to recognise the *'residual risks'* that the manufacturer of the

equipment transfers over to the operator for them to manage regarding the specific application and environment into which it is installed.

Any legislative compliance requirements will require that any such machinery is designed and installed against the requirements for any conformity assessment declarations e.g. within Europe and the UK this will be CE/UKCA marking and the necessary certification that supports this compliance. There is also the need to ensure training and overall competency assurance for personnel operating and maintaining the risk from such equipment is an active part of the company's strategy.

### **As an Operator of such Machinery, what should you be doing?**

When purchasing new equipment, it is essential to recognise that the operator will always need to establish safe systems of work for its operation and also during maintenance. The safe management of equipment should take into account any recommendations from the manufacturer regarding the management of any residual risk during all times where interaction with the machine is necessary. This risk then needs to be proactively managed during its use or when it is being maintained. Recognition of hazards during the technical bid analysis and residual risk handed over from manufacturers within their equipment manuals will give an overall view of the task.

The operator also needs to recognise that the incorporation of this equipment into an existing system or working environment will generate new hazards that are not under the control of the manufacturer. Here the operator will need to carry out a suitable risk assessment and identify how those additional hazards are being managed as part of overall safety.

For existing equipment, the operator needs to recognise which equipment needs to be part of a formal '*periodic review*'. A review of the asset register should be the starting point to determine which pieces of equipment fall under this remit. Once established, any regular review schedule should consider any changes to the safeguards that are (should be) in place and any changes in working practices (modifications, expansions, human factors, etc.) that have occurred from operating experience or manufacturing changes since the last review. Legacy equipment should be judged by current standards on safeguarding (both mechanical and instrumented) and remediated where necessary to keep them up to date and appropriate for their intended use.

The company should have a policy and strategy in place to address the needs of the applicable regulations and/or standards to identify the required approach to existing and new equipment. This is to ensure that a consistent, demonstrable, and sustainable approach is taken to ensuring machinery and the associated safeguards and being managed properly. In addition, the operator needs to arrange for the training and competence of personnel interacting with such machinery and such training should be regularly updated e.g. refresher training in line with this policy. The associated safe systems of work practices should also be regularly audited and assessed to ensure the risk is being actively managed.

### **Summary**

Machinery safety requirements are not necessarily onerous to apply, however the real issue we have found is that operators do not readily recognise the type and impact of hazards present that put personnel at greater risk for when they interact with the machine in some way, whether that be during operations or maintenance practices. This type of requirement is not just a simple guarding survey, there is much more to this than operators may recognise, including the documented need for risk assessment, design verification, operation, inspection, testing and maintenance to ensure essential health and safety requirements are being maintained.

In most cases, machinery arrives from the manufacturer with the correct physical and safety interlocks applied, however over time, such safeguards can be significantly impacted by human factors and changes in operational plant configurations i.e. re-purposing, unauthorised modifications, system

defeats, removal of physical guards, changes in programmable logic, lack of inspections, testing and maintenance leading to inoperable safeguards.

A proactive operator should have a machinery safeguard policy in place and be able to easily demonstrate an asset register exists containing the essential information available to substantiate correct operation, safe systems of work and equipment maintenance. This will be further supported with records of proper management of change, inspection, testing and maintenance being available to justify that machinery safeguards are being managed to prevent harm to people for when personnel go to interact with such equipment.

### **References.**

1 - [www.hse.gov.uk/statistics/tables](http://www.hse.gov.uk/statistics/tables)

2 – RIDDOR - Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR)

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