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How much recognition is given to the compliance of manufacturing machinery when it enters service or is altered? Bill Treddenick is compliance director at Lorien Engineering Solutions and he gives a snapshot of where many companies are, and the sensible steps needed to provide the essential safety foundations to a food and drinks manufacturing business.

Food and drinks manufacturers are required to do a lot when it comes to operational controls on their businesses. Hygiene, quality, efficiency/cost, customer service, environmental standards are all vying for attention. From working within manufacturer's organisations we can see that even client visits can distract most of the management team, and people often need to cover a range of functions, such as Quality, Environment, Health & Safety managers. So it's not surprising that aspects such as machine safety certification and explosive atmospheres are occasionally overlooked.

Lorien's involvement comes at a time when either investment in new plant or facilities is needed, production lines are relocated, or when production efficiency isn't what it should be. Working predominantly in the food, drinks and pharma sectors, we often act as 'line integrators', providing a complete design and management service to clients. As a result, Lorien are often requested to undertake CE Marking, PUWER and DSEAR work on behalf of clients.

The vast majority of food and drink manufacturers use production line equipment that can, if poorly designed or installed, cause injury to those working with it or maintaining it. Good safety outcomes start with the suppliers of equipment, and companies buying new production plant should expect this to be the case. This is why the European Union introduced the Machinery Directive, and the UK Parliament the Machinery (Safety) Regulations. This is often referred to as "CE Marking".

All is not straightforward however, and purchasers of equipment must critically verify that what they are buying meets the safety requirements once it is installed – and that the supplying companies are complying with the regulations

Many purchasers also fail to recognise that by buying various machines to form a line that they then are classed as the designers, and need to “CE mark” the entire line. It is here where manufacturing companies can run out of suitable expertise to complete the task, so it is often overlooked or by-passed. The truth is that it is neither complicated nor expensive to obtain a ‘certificate of conformity’ for the entire production line. What is required is a good knowledge of the machine safety regulations, and someone with knowledge critically assessing what manufacturers of the equipment are providing in terms of documentation. If done early enough, any deficiencies of the equipment can be rectified by the suppliers within the original supply contract, and while they have labour on site.

What comes as a surprise is that many equipment manufacturers and importers seem to pay lip service to the regulations. At Lorient we often find CE certificates copied from one type of machine to another, with only the serial number and name changed, certificates of incorporation offered for stand-alone machines (that will be incorporated into nothing), and CE labels fixed to plant but no certificate accompanying it. We see inexperienced (or inattentive) suppliers supplying to inexperienced customers, and the result is that machinery certification and safety measures are not what they need to be.

The wicket keepers in all this tend to be the factory SHE / QEHS managers and maintenance engineers, who are asked to provide PUWER documentation for the equipment. We recently reviewed a high-speed rotary labeller installed in a factory. The labeller had a CE plate and a certificate, but you could very easily touch the rotating parts with your hands through large gaps in the guarding. As it was practically new, the factory engineer quite rightly felt aggrieved that he was now expected to make the machine safe to comply with PUWER! The supplying company in this case was convinced to replace the guarding at no cost, and to revise the certificate of conformity. It should also be noted that PUWER is retrospective legislation; the aims are to “*Ensure that work equipment is used without risks to health and safety, regardless of its age, condition or origin.*” This means that all equipment, or “*Any machinery, appliance apparatus, tool or installation used at work*”, must be reviewed.

A further issue appears to be hitting home in the food and drinks industry is explosion protection. DSEAR (Dangerous Substances and Explosive Atmospheres Regulations 2002) is a legal requirement in the UK and is made under the EU Chemical Agents and Explosive Atmospheres Directives. This is concerned with the minimum requirements for improving safety and health protection of workers potentially at risk from explosive atmospheres.

Dangerous substances are any substances used or present at work that could, if not properly controlled, could cause harm to people as a result of a fire or explosion. They can be found in many workplaces and include such items as solvents, paints, varnishes, flammable gases such as liquid petroleum gas (LPG) and the processing of powders such as organic materials. This last category involves the processing, storage and movement of a surprising range of products, including powdered bulk food ingredients such as dried milk, coffee, cereals, cocoa, tea, starch, flour, citric acid and sugar. Almost any powdered foodstuff of a chemically organic nature will do, with custard powder being the favoured product for many science teachers to attract attention.

From 1st July 2003, all new food equipment installed in potentially explosive atmospheres was required to conform to ATEX 95, the directive that covers all EU member states. In the UK, ATEX 95 is implemented through DSEAR. However, from 1st July 2006 the regulations were extended to all existing processing plants – i.e. equipment put into in use before 2003.

What this means is that from July 2006, Health and Safety Executive inspectors have been at liberty demand to see your factory's Explosion Protection Document (EPD). An EPD proves that you have undertaken a competent assessment of the risk and severity of explosions from gases, vapours and dusts. You must have assessed those areas where explosions could occur and have classified or zoned them according to their size, the severity and likelihood of an explosion, and its persistence.

Bill Treddenick, Lorien's compliance director says, "Of the three sets of regulations, DSEAR appears to be the most widely misunderstood and under-implemented amongst food and drink companies, whereas Machine Safety and PUWER are generally known about – the problems here lie in the quality of execution.

"We get the feeling that companies have been reluctant to get involved with these issues, thinking that it will be like opening a Pandora's box on cost. The truth is that the Management of Health, Safety at Work Regulations 1999 have obliged employers to assess and reduce risks (including explosive releases), so this should not be new news. In general, companies that have invested in and maintained their equipment have little to fear from ensuring that they have competently reviewed plant and documented this."

Ends.

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NOTES TO EDITORS

Lorien Engineering Solutions is an engineering design and project management organisation, and is a division of Contracting Solutions Group (Holdings) Limited.

Based in Lichfield, the company has a staff of 70 specialists who design and deliver manufacturing projects and consultancy services in the brewing, drinks, food and pharmaceutical industries. The business was formed in 1985.

Working for many of the world's top manufacturing organisations within the UK and overseas, Lorien Engineering Solutions was recently presented with the Order of Distinction for a second year, for occupational health and safety in the construction by RoSPA (Royal Society for the Prevention of Accidents) after winning 16 consecutive Gold awards.

Consulting services from the company relating to this article includes compliance assistance (CE Marking, PUWER, DSEAR, CDM regulations, Occupational Health & Safety).