

Man and machine

The new EU Machinery Directive will come into force on 29 December. Tony Reynolds, Compliance Consultant at Lorien Engineering Solutions in Lichfield, UK, discusses the implications for manufacturers of machinery, system integrators and end-users.

Significant changes will come into force in December impacting on all machine manufacturers, system integrators and those importing machinery from outside the EU.

The Machinery Directive 2006/42/EC will supersede current legislation, and has been implemented by the UK through a Statutory Instrument (SI 2008 No 1597 – The Supply of Machinery Regulations 2008). It clarifies ambiguities, extends the scope with new Essential Health and Safety Requirements (EHSRs), explains conformity procedures and redefines its relationship with other EU Directives.

Manufacturers of partly completed machinery will have additional duties placed on them and must now formally issue a *Declaration of Incorporation*, create a technical file and supply comprehensive assembly instructions stating how to incorporate the machine.

Duties on machine importers have also been expanded, as they will need to have a technical file based in Europe, with the location identified on the *Declaration of Conformity/Incorporation*.

Manufacturers of machinery from outside the EU must now include the name and address of the person responsible for compiling and retaining the technical file in the *Declaration*. This must be a person residing in the European Community. This applies to both machinery and partly completed machinery.

Devil in the detail

The technical file must detail the design, manufacture and operation of the machinery and be compiled in one of the official community languages. It needs to contain all the technical information required to demonstrate compliance with the EHSRs, including design calculations, drawings, test notes, certificates, list of European standards used, documented risk assessment processes, instructions for use and assembly, and the *Declaration of Conformity/Incorporation*.

This information must be kept by the authorised representative for 10 years following the date of manufacture or after the last unit has been produced for series manufacture.



The EC *Declaration of Conformity* must state the place and date of the declaration, as well as the name and address of the person authorised to compile the technical file.

Step changes

New EHSR developments include –

- **1.1.6 Ergonomics** – this states that, under the conditions of intended use, discomfort, fatigue, and physical and psychological stress faced by the operator must be reduced to the minimum possible. Manufacturers will therefore need to consider how the equipment will be used and ensure that control panels are laid out logically, display panels are easily viewed, seating is ergonomically designed and that operators of all shapes and sizes can use the machinery.

As an example, manufacturers could fit gas struts to allow heavy fixed guarding to be raised easily to clear jams. Guarding protects operators and maintenance staff from hazardous moving parts that are likely to cause injury, from ejection of materials and from electrical parts at high voltage.

- **1.1.7 Operating Positions** – contains information regarding the operating position and potential hazards in the machinery, from exhaust gases through to

the operator's working conditions.

- **1.1.8 Seating** – for operators working on machinery when sitting down. Designers must reduce machine vibrations to as low as reasonably possible.

- **1.4.2.1 Fixed Guards** – this EHSR now states that fixing systems must remain attached to the guards or the machinery when the guards are removed. It also states that guards must be fixed by systems that can be opened or removed only with tools and, where possible, guards must be incapable of remaining in place without their fixings. Manufacturers will have to revisit their designs to guard machines.

- **1.5.16 Lightning** – machinery needs to be protected against the effects of lightning while being used and must be fitted with a system for conducting the electrical charge to earth.

Accountability

The new Machinery Directive brings together a number of important technical and administrative changes. It appears that enforcement agencies across Europe will now have a legal contact who is liable should any incident occur.

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