

July 1st 2003 - are you ready?



The ATEX Directives have been a source of some confusion and debate since they were announced in the 1990s. Manufacturers are gearing up to take advantage but end users also need to be aware of the Directives and their implications before they become mandatory in July 2003. Here, Editor Mike Nash provides a brief guide to the basics of ATEX.

There are two ATEX Directives (ATmosphere Explosive), one of which places burdens on suppliers and the other on end users. These are mandatory New Approach Directives and comprise:

- **ATEX Directive (94/9/EC)** (known as ATEX 100a and ATEX 95) allows movement throughout the European Union (EU) by harmonising technical and legal aspects of equipment and protective systems for use in potentially explosive atmospheres. The Directive has been in existence through statutory regulations in the UK since March 1996 since when manufacturers have been in a transitional period.
- **ATEX Directive (1999/92/EC)** (also known as ATEX 137) covers health and safety of workers potentially at risk from exposure to explosive atmospheres. The Directive places the burden of responsibility on the employer/end user, a fact not particularly well-known in the UK as there are no corresponding UK statutory regulations although the Health & Safety Executive (HSE) intends to combine the requirements of ATEX 137 with the Chemicals Agents Directive (CAD).

Both Directives come fully into force (when the transition period ends) on July 1st 2003.

ATEX Directive (94/9/EC)

This Directive covers all equipment and protective systems for hazardous areas and is not restricted to electrical equipment but also includes mechanical. It applies to potentially explosive areas below ground, on the surface and on offshore fixed facilities. Some equipment, designed for use outside these areas, is also covered by the Directive where these are necessary for, or contribute to, the safe functioning of the plant and protective systems in hazardous areas. Implemented in 1996 through the *Equipment and Protective Systems Intended for Use in Potentially Explosive Atmosphere Regulations*, the Directive nevertheless does not affect equipment which is already installed and in

use. At present, under the 1996 regulations, products 'not placed in the market' are exempt from the Directives - this applies to products or equipment made by companies for their own use or by a manufacturer specifically for one or a group of end users.

During the transition phase, manufacturers have had a choice to comply with the Directive or, up until July 1st 2003, with existing directives and national regulations. Vendors will then have to comply with the Directive (all previous ATEX directives being repealed) in order to place equipment and products on the market.

Marking and ATEX-compliance

All equipment and protective systems must be marked legibly and indelibly with name and address of manufacturer, CE mark and number of Notified Body, designation of series or type of equipment, specific explosive protection 'Ex' hexagon logo, year of manufacture and serial number.

Hazardous area equipment covered by ATEX will not only need to comply with ATEX itself but also any other applicable directives (such as the EMC Directive or Low Voltage Directive etc) for CE marking. At present, as ATEX compliance is only advisory, some hazardous area equipment may be CE marked through compliance with other mandatory directives. Hence, CE marking does not necessarily prove ATEX compliance. Certificates of conformity under older directives will be invalid as of July 1st 2003.

ATEX (94/9/EC) compliance

Under the Directive manufacturers must design and test components to prevent production or release of explosive atmospheres.

Manufacturers must take account of every possible electrical/non-electrical source of ignition. Electrical equipment is well covered, but no standards cover non-electrical equipment. The Comité Européen de Normalisation (CEN) is currently developing standards for such equipment.

For electrical equipment in categories 1, M1 and category 2, compliance involves a Conformity Assessment Procedure and full certification of the equipment by an EC-Notified Body such as Sira Test & Certification or the EECS. Manufacturers of category 1 and M1 products must also have quality assurances checked or products verified by a notified body. Makers of category 2 and M2 electrical equipment can choose to have their quality assurance systems assessed by a notified body or perform their own conformity assessment with tests undertaken by the Notified Body. For category 2, M2 non-electrical equipment and category 3 equipment (zone 2/zone 22 use only), the manufacturer has to maintain technical documents. Such equipment may meet the requirements without having been subjected to full certification procedures, hence users and buyers of Category 3 equipment should check with the supplier.

Stocks and spares

Under the current 1996 UK regulations, products held in stock by a manufacturer that are no longer available are also exempt as are those imported from foreign users.

Such equipment is scheduled to be included under ATEX 100a. However, the industry was unimpressed with proposals appearing in January 2001. Numerous arguments, such as old and non-compliant stock being scrapped if not 'taken into service' (even though compliant under current legislation) were put forward. Another concern was end users holding stocks for their own use, which could also be non-compliant.

There is a very real danger that site operators and equipment users may be at risk from non-availability of critical equipment after June 2003 and need to ensure proper spares stocks. Many have argued that the onus of compliance has surreptitiously switched from the manufacturer to the user.

Equipment manufacturers obtaining a Conformity Assessment for ATEX certification

purposes may, through slight changes to design standards or continual product development, change the equipment design. Often, this will make no difference but if the replacement design is not completely compatible, and either will not mechanically fit or is not electrically identical, the end user may need to buy, as a spare or replacement unit, equipment to the old design. Normally, equipment suppliers would continue to make equipment to the old design available for several years. But this will no longer be possible, because the equipment manufacturer or supplier will not be able to supply goods after July 2003 which do not comply with the ATEX Directive and it will often no longer be possible or practical to obtain ATEX Certification for the old design.

The consequence is that equipment users are unable to obtain direct replacement spares for existing equipment and that the new item offered may require significant alterations to equipment or plant systems in order to be electrically and/or mechanically usable. The upshot could be a significant adverse impact in terms of cost and plant disruption. However, stocks and spares held on site (or where there is no supply activity involved) and where the equipment does not require any modification before installation will not be required to comply retrospectively with the ATEX Equipment Directive before installation.

The Department of Trade and Industry (DTI) has recognised that there will most probably be high costs incurred for larger manufacturing companies. However, it believes that smaller companies will not suffer greatly and has maintained its position that the requirements of the Directive be met.

ATEX Directive (1999/92/EC)

This Directive places the burden of compliance on site operators and employers. In general 1999/92/EC is covered by the Health and Safety at Work Act. However, there are specific points which will need to be addressed. In practice, much of the work will simply involve collation of existing documents and procedures. The Directive requires that measures are taken to ensure that work in explosive atmospheres can be carried out safely (Article 5) and these



measures must be co-ordinated with other employers (if there are several employers serving the same site) under Article 6. Implementation in the UK is under the Health and Safety Executive (HSE) and applicable regulations will be combined with those covering the Chemical Agents Directive (Directive 98/24/EC). These will be called the Dangerous Substances and Explosive Atmospheres Regulations (scheduled for publication in the Summer of 2002).

Documentation required

An explosion protection document must be drawn up under Article 8 which should be regularly updated. It is essentially a risk assessment document which should demonstrate:

- determination and assessment of explosion risks
- that adequate measures will be taken to attain Directive aims
- places and areas classified into zones
- places where the minimum requirements (see Annex II of the Directive) will apply
- that the workplace and work equipment, including warning devices, are designed, operated and maintained with due regard for safety
- that (in accordance with Directive 89/655/EEC) arrangements have been made for the safe use of work equipment.