

## LEGAL USE OF PERSONAL PROTECTIVE EQUIPMENT AND ASSESSMENTS OF RISK

NEIL THOMAS

Department of mechanical & manufacturing engineering  
University of Glamorgan  
Pontypridd, near Cardiff, Wales, United Kingdom

### INTRODUCTION

When selecting personal protective equipment (ppe), and assessing its suitability, employers will be concerned with its ability to provide adequate protection. Usually less attention is paid to ergonomics and to the risks created by the ppe itself. There is increasing legal emphasis on applying ergonomics to improve the health and safety of workers in hostile environments.

### THREE RELEVANT EUROPEAN DIRECTIVES

1. Use by workers of personal protective equipment (ppe) (1) - by 31 December 1992
2. PPE Product Directive (2) - by 1 July 1992
3. The Framework Directive to encourage improvements in the safety and health of workers (3) - by 31 December 1992.

Directive (1) requires employers to assess risks, to select ppe which gives the necessary protection and is suitable for the worker. All ppe must also "take account of ergonomic requirements". Information instruction and training in the use of ppe must also be provided.

The complementary Product Directive (2) requires testing of products and the use of a "CE" mark for products to conform for legal sales in the market. These include any device or appliance designed to be worn or held for protection against any safety or health hazard, specifically fire, heat, cold, radiation, noise and unbreathable atmospheres.

The Framework Directive (3) requires designated competent personnel or external services to assess risks. Included is an evaluation of risks to the safety and health of workers in the choice of work equipment and other work factors. Subsequent UK proposed Regulations require the assessment of risks to be in writing, if there are more than four employees.

The assessment (from 1) should involve any risks which the ppe itself may create. Associated guidance published by the UK Health & Safety Executive (HSE) states that the assessment should be in writing in certain cases. These include complex ppe or ppe in high risk situation e.g. some diving equipment. Industry is concerned that varying legal instruments, specifying risk assessments, require different approaches and records. A unified approach is needed urgently.

### RISK ASSESSMENT TECHNIQUES

Specific enquiries within UK industries, ranging across chemical and metal manufacture, suggest that ppe risk assessments are vague and limited in scope. As a rule, the risks created by the ppe itself appear not to be evaluated.

The UK Health & Safety Executive (HSE) has pointed out (4) that there is no general formula for rating risks in relative importance. However, five systems were listed, together with a simplified method of estimating relative risk viz :

$$\text{RISK} = \text{HAZARD SEVERITY} \times \text{LIKELIHOOD OF OCCURENCE}$$

Quantitive risk assessment techniques may be used as a basis for decisions in more complex industries.

A risk survey table to help select suitable ppe is provided in the use of ppe Directive (1). This has 294 boxes to be checked, based upon 'workplace risks' - physical, chemical and biological - against the parts of the body endangered. After defining risks, non-exhaustive guide lists of more than 150 activities and related ppe items, can be compared.

Stubbs (5) has suggested that ergonomics should be given away to others for them to undertake much of the ergonomics themselves. The knowledge and methods of ergonomics should be transferred to others who are closer to the places where changes have to be made. A European Ergonomic Directive was recommended for general applications, instead of the various pieces of specific legislation. Associated European Directives on manual handling and display screen equipment also require assessments of risk in the working environment.

There is a need for clarity. The Framework Directive (3) requires employers, after risk evaluation, to consider the person's capabilities when tasks are entrusted to a worker. It has been highlighted (6) that a ppe programme shifts responsibility from management to employees - a possible "exploitation of the workforce". In addition the Directive (3) requires consultation and participation of workers - to take part in a balanced way.

### THE EUROPEAN 3-ZONE RATING SYSTEM

A clear method to assess risks is wanted. In European standards on ergonomics (7) a 3 zone rating system has been established. This could provide a useful basis for the use of ppe. The red/yellow/green system defines the yellow zone as conditionally acceptable. Here user (wearer) guidelines may be needed for specially trained/selected groups who use the equipment, possibly for a specified maximum time. Examples are given where ppe may be used when impairments of safety or functions are likely.

### CONCLUSION

Ergonomists in different countries have already developed this technique above for the assessment of risks. Similar international cooperation could also focus the yellow zone upon ppe. As a consequence the use of ppe could become both legal and ergonomic!

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